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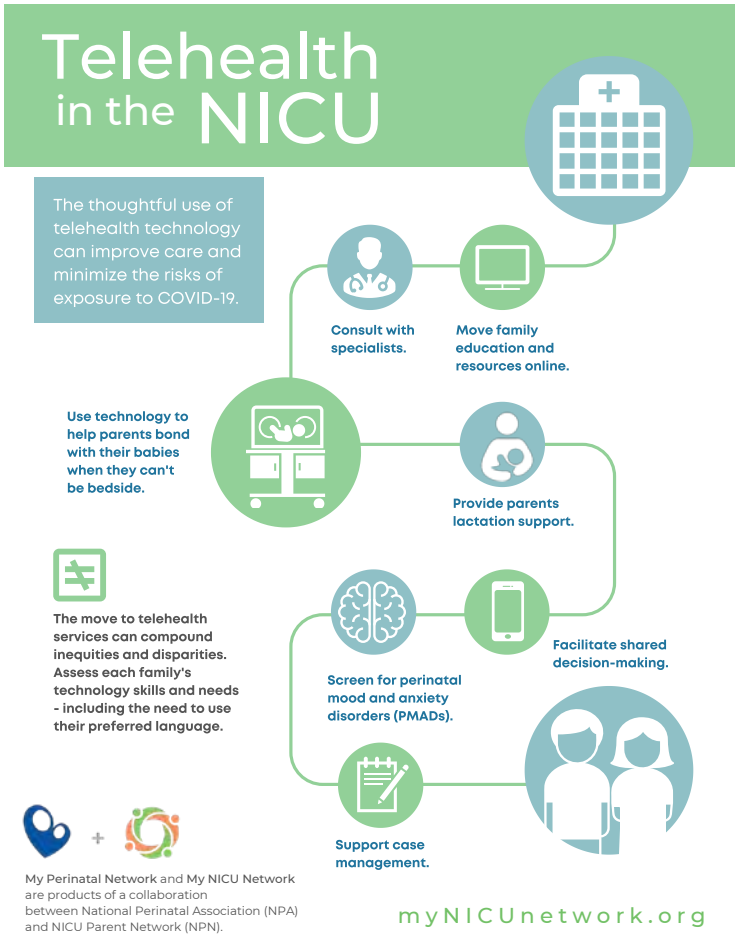
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Pictured: Baby Kole with his Dad

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Accuracy of a Wireless Vital Sign Monitoring Platform in an Inpatient Pediatric Post-acute Care Facility

Carla Cangemi, MD, Ross Sommers, MD, Robert Koppel, MD

"While wireless patient vital sign monitoring has become increasingly prevalent in adult inpatient settings, similar applications for the pediatric population are still limited. (3) Our research project aimed to compare the reliability and accuracy of our wireless vital sign monitoring platform against a conventional wired vital sign monitoring system in a pediatric inpatient setting."

Introduction:

Continuous vital sign monitoring in pediatric patients presents unique challenges, primarily due to the movement restrictions imposed by conventional wired monitors and the tendency of infants to dislodge wired leads. (1,2) While wireless patient vital sign monitoring has become increasingly prevalent in adult inpatient settings, similar applications for the pediatric population are still limited. (3) Our research project aimed to compare the reliability and accuracy of our wireless vital sign monitoring platform against a conventional wired vital sign monitoring system in a pediatric inpatient setting.

"This comparative study was conducted at the St. Mary's Pediatric Rehabilitation Hospital 105-bed inpatient pediatric rehabilitation facility, comparing continuous pulse oximetry vital sign data, including saturation as a percentage and pulse rate in beats per minute (BPM), between the hospital's conventional wired pulse oximeter (Masimo Rad 97 FDA XX) and wireless pulse oximetry data collected through the Firstday Healthcare wireless platform."

Methods:

This comparative study was conducted at the St. Mary's Pediatric Rehabilitation Hospital 105-bed inpatient pediatric rehabilitation facility, comparing continuous pulse oximetry vital sign data, including saturation as a percentage and pulse rate in beats per minute (BPM), between the hospital's conventional wired pulse oximeter (Masimo Rad 97 FDA XX) and wireless pulse oximetry data collected through the Firstday Healthcare wireless platform. The wireless devices used in this study included the Aulisa Guardian Angel GA 1001 FDA and the Viatom CheckMeO2 devices FDA XX, with data transmitted to a proprietary tablet application connected to the hospital's Wi-Fi network.

Additional metrics assessed in the study included network uptime and the percentage of time during which data were available from both monitoring modalities. Exclusion criteria for participation included parents who did not consent to the trial.

The agreement between the vital sign measurement data was evaluated using correlation analysis, root-mean-square differences, and Bland-Altman analysis. The study was conducted with IRB approval from [Institution Name].

"A total of seven patients were enrolled in the study, with a combined 205 hours of continuous monitoring. Notably, there was no network downtime during the monitoring period."

Results:

A total of seven patients were enrolled in the study, with a combined 205 hours of continuous monitoring. Notably, there was no network downtime during the monitoring period. Accurate data from both systems were available for 92% of the intended study intervals, and all measurements had matching value comparisons.

The correlation coefficients were 0.72 for saturation data and 0.96 for pulse rate data, indicating stronger agreement in pulse rate measurements between the two monitoring systems.

The average pulse rate (BPM) was 90.4 with wireless monitoring, compared to 91 with conventional monitoring ($p < 0.001$), with an average root-mean-square (RMS) difference of 4.5 BPM between the two systems.

The average oxygen saturation (SpO_2) was 97.2% with wireless monitoring compared to 97.3% with conventional monitoring ($p < 0.001$), with an average RMS difference of 1.3.

Bland-Altman analysis demonstrated:

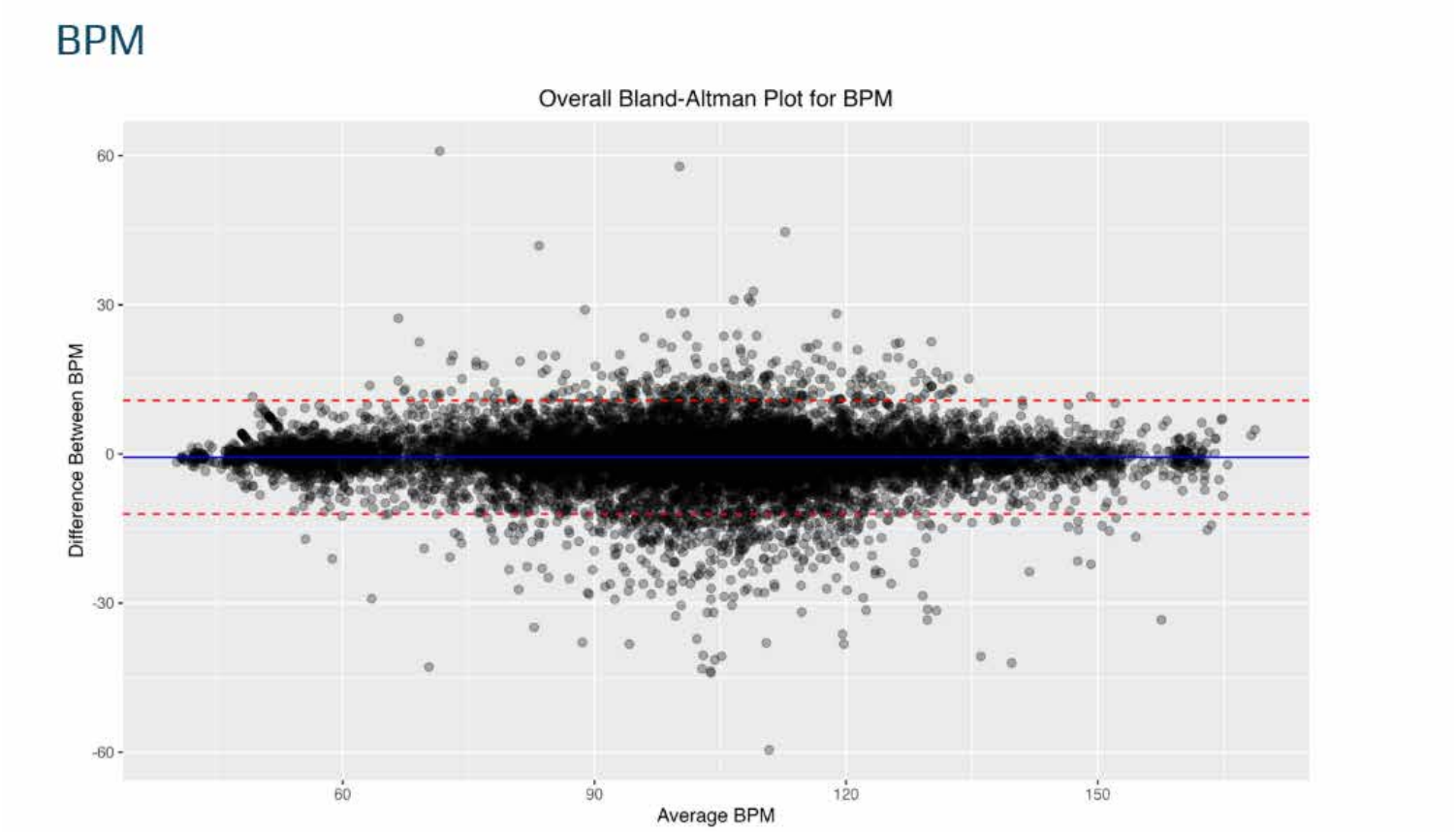
- For BPM: a mean difference of -0.66, a standard deviation of 5.8, and limits of agreement ranging from -12 to 10.7.
- For saturation (SpO_2): a mean difference of -0.27, a standard deviation of 1.4, and limits of agreement ranging from -3.1 to 2.6.

Variables	Correlation Coefficient	Root mean square	p-value
BPM	0.96	4.5	0.001
SpO_2	0.72	1.3	0.001

Discussion:

Overall, the results showed a stronger correlation for pulse rate data than for saturation data. The root-mean-square (RMS) results met the accuracy requirement of ±10% or ±5 bpm, whichever is greater, as defined by IEC 60601-2-2.

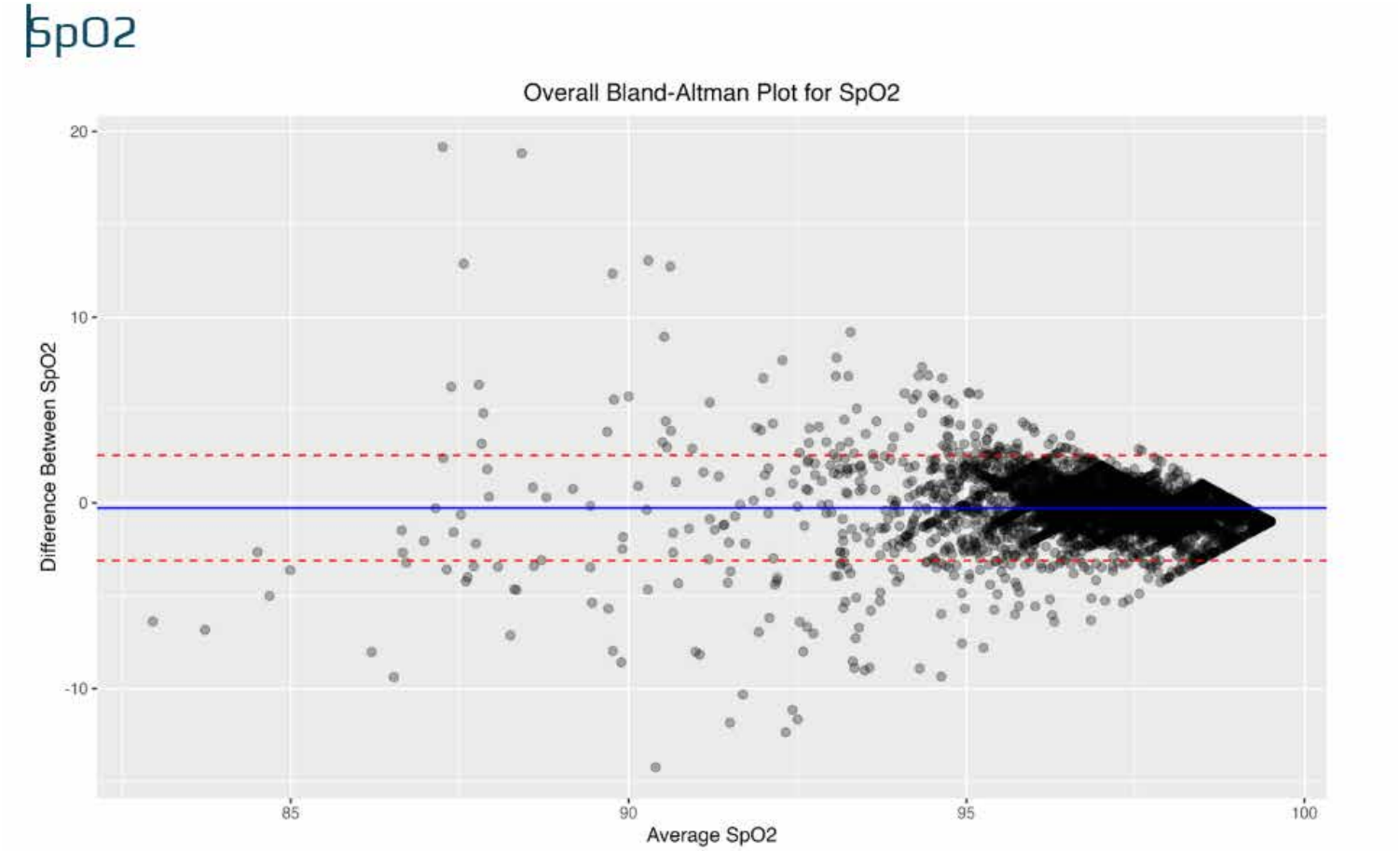
In both Bland-Altman analyses, the mean difference values were close to zero, with the majority of data points falling within the limits of agreement. However, for saturation data, as values approached 100%, measurements clustered closer to the mean difference line, indicating higher accuracy between monitoring modalities at higher saturation levels. This finding aligns with previously reported trends in the literature. (4)



"Matched saturation and pulse rate data were available for 92% of the intended study period, while data were unavailable for the remaining 8% due to sensor detachment. Although Firstday Healthcare's saturation sensors are wireless from the patient to the monitor, they still include a cable connecting the extremity sensor to the hardware component, which remains a potential point of detachment."

Matched saturation and pulse rate data were available for 92% of the intended study period, while data were unavailable for the remaining 8% due to sensor detachment. Although Firstday Healthcare's saturation sensors are wireless from the patient to the monitor, they still include a cable connecting the extremity sensor to the hardware component, which remains a potential point of detachment. This challenge is particularly relevant in the pediatric population, as children frequently dislodge cabled sensors, leading to data gaps and interruptions in monitoring. (5) The use of newer wireless, adhesive, and cable-free reflective saturation sensors may help mitigate this challenge by allowing for alternative placement sites that are less dependent on extremities, thereby preserving mobility and hand function while ensuring more consistent data collection. (6)

Prolonged wireless vital sign monitoring has the potential to benefit multiple pediatric use cases, particularly for patients with complex medical conditions requiring continuous observation. (7)



In this study, patients in the inpatient departments of St. Mary's Healthcare System frequently moved between various therapies and educational sessions, highlighting the need for a mobile and reliable monitoring system.

"A subset of these patients requires chronic respiratory support, including tracheostomy and mechanical ventilation, making continuous vital sign monitoring essential due to their increased risk of clinical deterioration during the monitoring period. (8) This imbalance contributes to a high rate of false alerts, primarily due to poor signal quality and motion artifacts associated with continuous photoplethysmography (PPG) saturation monitoring. (9) False alerts not only burden caregivers but may also lead to alarm fatigue, potentially delaying response to actual clinical events. (10)"

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"To address these limitations, continuous electrocardiographic (ECG) monitoring could provide a more reliable alternative, reducing false alarms while maintaining continuous surveillance. Furthermore, incorporating heart rate variability (HRV) analytics alongside additional vital sign metrics, such as continuous temperature monitoring, may enhance early detection of clinical deterioration. (11)"

To address these limitations, continuous electrocardiographic (ECG) monitoring could provide a more reliable alternative, reducing false alarms while maintaining continuous surveillance. Furthermore, incorporating heart rate variability (HRV) analytics alongside additional vital sign metrics, such as continuous temperature monitoring, may enhance early detection of clinical deterioration. (11) When combined with artificial intelligence (AI) tools, these multi-parametric monitoring strategies could improve predictive accuracy, enabling earlier intervention before acute decompensation occurs.

By shifting from a reactive to a proactive approach, integrating advanced monitoring technologies into pediatric inpatient care could significantly improve patient outcomes, particularly for medically complex children at heightened risk for clinical deterioration. Future studies should explore the feasibility, accuracy, and clinical impact of AI-driven, multimodal monitoring systems in this population.

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Disclosure: *Authors have indicated an affiliation with Firstday and Northwell Health*

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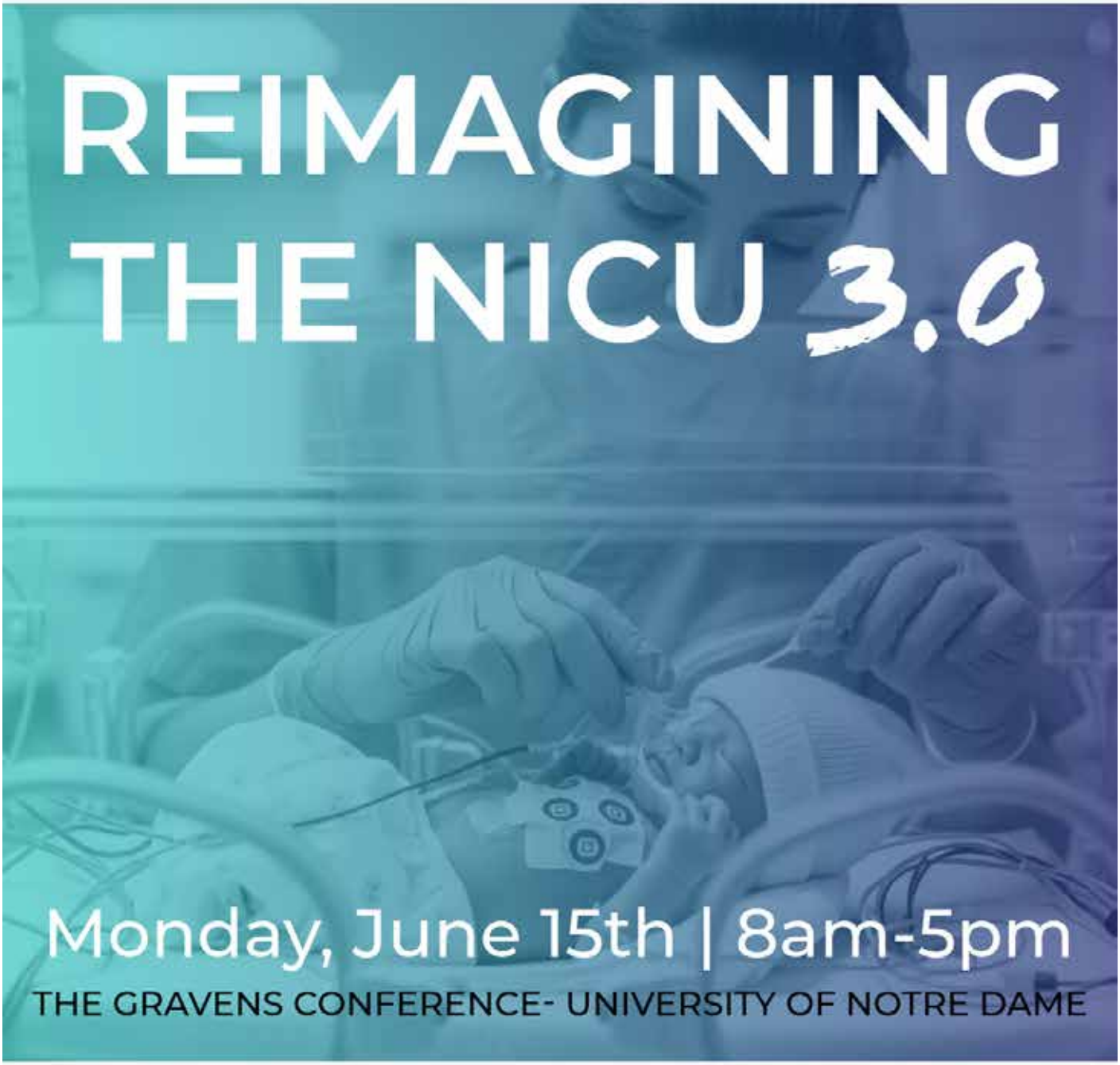
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Book Review—Through the Window

Howard Cohen, MD

Though I spent 23 years of my career at OSF Medical Center in Peoria, Illinois, and though I thought I knew a lot about our field's historical roots and evolution, I'm embarrassed to admit I knew only a little about the historical significance of the place where I worked. Now, thanks to a new book, I do.

Illinois had led the way in the care of premature infants in the U.S., beginning with the first premature infant station in the U.S. at Sarah Morris Children's Hospital in Chicago, established by Dr. Julius Hess in 1922. He also organized a citywide premature baby program, including sharing incubators and arranging transports. Subsequently, supported by the Illinois Department of Public Health, this regional care program expanded to the rest of the state, including premature baby stations in Peoria and Springfield.

"Illinois had led the way in the care of premature infants in the U.S., beginning with the first premature infant station in the U.S. at Sarah Morris Children's Hospital in Chicago, established by Dr. Julius Hess in 1922."

The Sisters of the Third Order of Saint Francis at OSF Saint Francis Medical Center in Peoria, Illinois, had long recognized the need to create the "Premature Station," which they first opened in 1942. Locally interested pediatricians were very supportive; they, especially trained nurses, provided the care and the necessary changes.

Thirty years later, Dr. Tim Miller, the first neonatologist, arrived to develop the Neonatal ICU following his fellowship. Several years later, one of the priests providing spiritual services in the unit remembered that a film had been made there in the late 1940s. When two copies were retrieved from the hospital archive,

"Several years later, one of the priests providing spiritual services in the unit remembered that a film had been made there in the late 1940s...it had been produced by the Children's Bureau in Washington, D.C., in 1947 to publicize a new federally mandated public health program focused on the care of premature babies across the United States."

Dr. Miller could see that it had been produced by the Children's Bureau in Washington, D.C., in 1947 to publicize a new federally mandated public health program focused on the care of premature babies across the United States.

Now, 80 years after the Premature Station opened, Dr. Miller engaged Monica Vest Wheeler, a local author, to interview existing staff, parents, and patients to develop an authentic look at the workings of a Neonatal ICU. These interviews were enhanced by an extensive review of the hospital archives and its wealth of photographs from earlier periods. The result is a wonderful book, Through the Window, which includes many remarkable archival photos and a more general chronology and evolution of premature babies and neonatal intensive care, as documented in other publications well known to neonatal caregivers.

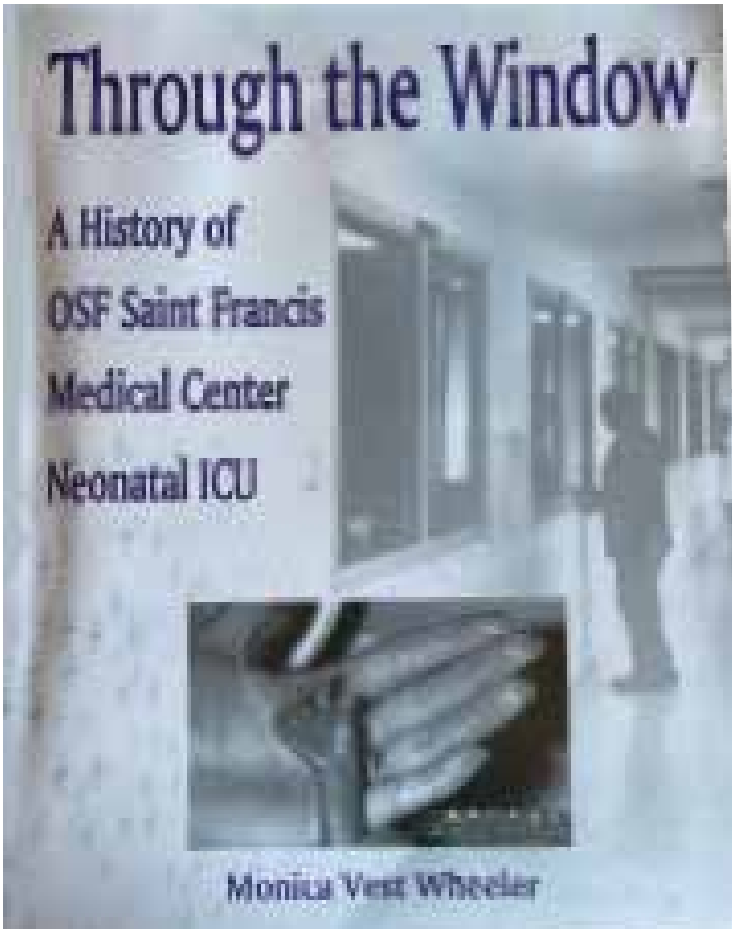
"Now, 80 years after the Premature Station opened, Dr. Miller engaged Monica Vest Wheeler, a local author, to interview existing staff, parents, and patients to develop an authentic look at the workings of a Neonatal ICU. These interviews were enhanced by an extensive review of the hospital archives and its wealth of photographs from earlier periods. The result is a wonderful book, Through the Window, which includes many remarkable archival photos and a more general chronology and evolution of premature babies and neonatal intensive care, as documented in other publications well known to neonatal caregivers."

Several lesser-known innovations are brought to light—including those related to the remembered film entitled *The Starting Line*. The remarkable 20-minute film, available via the link below, documents the systemic approach to incubator care and transport and may be one of the earliest examples of regionalized health care—especially in a rural area of the country. Additionally, two other innovative components of care are elucidated. The first was the use of a helicopter to transfer a newborn to the Premature Station, a cooperative effort brought to fruition by Sister Andre (now Shannon Perry) and the local newspaper owner. The second was the development of the state's first NNP program by Dr. Miller's first partner, Dr. William Hayden. He had done his fellowship with

Stanley Graven at the University of Wisconsin and replicated the NNP training curriculum he helped create there.

"Several lesser-known innovations are brought to light—including those related to the remembered film entitled The Starting Line. The remarkable 20-minute film, available via the link below, documents the systemic approach to incubator care and transport and may be one of the earliest examples of regionalized health care—especially in a rural area of the country."

Hopefully, the publication of this book will stimulate others to share the histories of regional efforts to bring programs to areas outside of large urban settings including rural transport as an integral component; and give much deserved recognition to the many practioners who every day have provided services and support to the patients and families inside these units and seen "Through the Window" of Neonatal ICUs.



A link to the digital copy of the 1947 film *The Starting Line* can be accessed below.

https://www.youtube.com/watch?v=Es06IQIKzeM

Those interested in obtaining a copy of the book Through the Window can communicate with the author, Monica Vest Wheeler.

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Disclosures: *The author has no stated disclosures:*

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Informed Consent at Antidepressant Drug Initiation in Adolescents and Women of Childbearing Age

Laura Farach, MD, Erin Barnett, PhD

Abstract:

Decisions made at the time of antidepressant initiation hold significant long-term implications for reproductive health. Existing American College of Obstetrics and Gynecology (ACOG) guidelines recommend counseling about antidepressant use during pregnancy, yet these discussions often occur only after conception, leaving many patients without timely information. Despite the recognized potential for antidepressant dependence and withdrawal, particularly after prolonged use, the latest American Psychiatric Association (APA) guidelines offer limited tapering instruction, even as evidence shows that discontinuation often requires slow, individualized, hyperbolic tapering over months to years. ACOG guidelines recommend not stopping antidepressants solely due to pregnancy, but most women will attempt to do so and risk destabilization. This paper argues for standardized informed consent at the initiation of antidepressant therapy, ensuring that patients receive transparent, evidence-based information about the reproductive risks, the potential for long-term dependence, and the need for careful planning to support tapering prior to conception if a drug-free pregnancy is desired. Upstream counseling promotes patient autonomy, reduces avoidable maternal-infant risks, and aligns clinical practice with ethical standards. Given the responsibility of neonatologists to improve neonatal outcomes linked to antidepressant associated conditions, they share in the responsibility to advance the shift toward standardized informed consent at antidepressant initiation to safeguard maternal and neonatal outcomes better.

"Upstream counseling promotes patient autonomy, reduces avoidable maternal-infant risks, and aligns clinical practice with ethical standards. Given the responsibility of neonatologists to improve neonatal outcomes linked to antidepressant associated conditions, they share in the responsibility to advance the shift toward standardized informed consent at antidepressant initiation to safeguard maternal and neonatal outcomes better. "

Increasing Antidepressant Prescribing:

A large-scale study of privately insured women in the United States from 2006-2011 found that 10.3% of pregnant women were dispensed one psychotropic medication during pregnancy, most commonly antidepressants (1). These numbers are poised to increase as antidepressant dispensing rates continue to rise in adolescent girls and young women, especially post the COVID-19 pandemic (2). While increasing rates of mood and anxiety disorders are often cited, other factors contribute. The overmedicalization of distress, expansion of unproven screening programs, and the expansion of diagnostic labels drive rising antidepressant prescribing (3). A recent *Wall Street Journal* report describes pharmaceutical companies paying young women influencers to advertise their personal use of antidepressants on social media, reframing these medications from stigmatized treatment to a healthy lifestyle accessory and possibly leading to unwarranted prescribing (4). As antidepressant use expands and begins earlier in the life course, initial prescribing decisions, often made in pediatric settings, take on lasting implications for future reproductive health (5). These trends carry important policy implications, underscoring the need for clearer standards around antidepressant initiation, length of treatment, counseling, and informed consent for adolescents and women of childbearing potential.

"Conceptualizations of depression, and by extension its treatment, have shifted substantially over the past several decades. In the early 1990s, depression was largely viewed as an episodic condition that often resolved without pharmacologic intervention (6). By the late 1990s, however, it was increasingly viewed as a chronic disease, a reframing that supported the expansion of indefinite maintenance pharmacotherapy (6)."

Length of Therapy:

Conceptualizations of depression, and by extension its treatment, have shifted substantially over the past several decades. In the early 1990s, depression was largely viewed as an episodic condition that often resolved without pharmacologic intervention (6). By the late 1990s, however, it was increasingly viewed as a chronic disease, a reframing that supported the expansion of indefinite maintenance pharmacotherapy (6). This shift fostered

a common analogy comparing depression to diabetes, implying antidepressants should be continued indefinitely, like insulin (7). The analogy, however, is fundamentally flawed. First, major clinical guidelines do not recommend lifelong antidepressant therapy; instead, they advise time-limited treatment, six to twelve months after remission (8). Second, unlike diabetes, depression lacks an objective biomarker to define disease presence, complicating claims that it requires permanent pharmacologic correction (7). The commonly held patient belief that depression is due to a serotonin deficiency has no scientific validity (9). Third, patient preferences frequently diverge from the chronic-use model: many individuals wish to discontinue medication once symptoms improve, when adverse effects emerge, or when they desire a drug-free pregnancy. Finally, the assumption that discontinuation necessarily precipitates relapse of the underlying condition rests on contested evidence and overlooks alternative explanations for symptom recurrence, including withdrawal phenomena (10). "Relapse prevention" studies that show higher relapse rates after discontinuation frequently fail to distinguish true relapse from withdrawal, especially given their rapid tapering protocols and the similarity between withdrawal and depressive symptoms (11). Notably, peak "relapse" often occurs around eight weeks after stopping—precisely when withdrawal is expected to be more intense (10). Together, these considerations highlight the need for individualized treatment planning.

An Overlooked Dimension: Antidepressant Dependence and Withdrawal:

A crucial, often missing element in discussions about antidepressant use in adolescents and young women of reproductive age is the development of physical dependence and the potential for withdrawal syndromes that occur upon discontinuation. All antidepressants are associated with withdrawal syndromes, reflecting physiological adaptation to long-term drug exposure (11). The symptoms of withdrawal syndrome (typically emotional and physical) overlap with those of relapse of the underlying condition (typically emotional), resulting in physicians mistaking withdrawal symptoms for relapse when patients stop their antidepressant (11). When antidepressants are stopped after short courses of use (8-12 weeks), withdrawal is mild and self-limited (12). However, half of US antidepressant users have been taking these medications for more than five years, and long-term use is sometimes associated with a significant risk of severe, prolonged, and functionally impairing withdrawal syndrome (11,13,14,19,21).

Emerging evidence over the past decade suggests that, while the true incidence of severe withdrawal remains uncertain, estimates range from 3% to 25% (14,15), a range that warrants caution and anticipatory counseling. The previous APA clinical guidelines related to depression provided limited practical tapering guidance and still recommend reducing doses over "several weeks" (8), a timeframe now recognized as inadequate for many long-term users (11,13,19). PET imaging studies demonstrate that serotonin transporter occupancy (SERT) remains high even at low doses and declines non-linearly as doses are reduced. In clinical practice, this translates into a need to taper gradually to low subtherapeutic doses in a hyperbolic fashion, meaning that the lower the dose, the smaller the reduction (11). Studies of hyperbolic tapering strategies have shown higher rates of successful discontinuation compared with conventional tapers (16). England and Australia have adopted this more cautious hyperbolic tapering approach in their medical guidelines (17,18), but US national guidelines have not yet been updated to reflect the need for slower tapering. Without updated tapering guidance, many patients rely on online peer-support forums (19). Analysis of these forums demonstrates that for some people, successful tapering may take months to years rather than weeks and that success involves individualized, hyperbolic tapering (19). These realities have major reproductive implications. If women are not informed about the need for this type of tapering, they may falsely believe that discontinuation is not possible, limiting their ability to plan a medication-free pregnancy.

Why Relapse vs Withdrawal Matters for Policy:

Professional guidelines often emphasize the danger of relapse when antidepressants are discontinued, and this framing heavily influences recommendations around pregnancy. For example, ACOG advises against withholding or discontinuing medications for mental health conditions due to pregnancy status alone, citing high relapse risk and potential maternal-fetal consequences (20). In randomized discontinuation trials in non-pregnant individuals, patients are randomized to placebo or continued medication. Patients in the placebo arm are more likely to relapse (20). Because withdrawal symptoms overlap with relapse, these trials are criticized for confounding the two (21). These studies are fraught with problems: medication is stopped abruptly, rather than tapering slowly to mitigate withdrawal; relapse monitoring occurs immediately following discontinuation where withdrawal is more likely; relapse monitoring occurs for brief periods, thus missing recovery from withdrawal; there is no systematic assessment for withdrawal symptoms, so without explicitly asking about physical withdrawal symptoms which could help distinguish withdrawal from relapse, all new emotional symptoms are assumed to be relapse (21). There is further criticism because many of the discontinuation trials use "enriched designs," randomizing only prior responders (22). Excluding those who do not respond to antidepressants may inflate the benefit of continuing antidepressants. Therefore, rather than experiencing relapse, many who stop antidepressants may be developing withdrawal symptoms, which are then misdiagnosed as relapse, keeping patients on long-term, unneeded medication. This methodological blind spot has genuine perinatal implications: patients who conceive while taking antidepressants may face a false choice between continuing indefinitely or risking destabilization. Had this counseling occurred at drug initiation, patients could have planned a slow, deliberate taper before conception, reducing the withdrawal-related destabilization that often occurs when rapid tapering is attempted during pregnancy.

Current Controversy Surrounding Antidepressant Use During Pregnancy:

On July 21, 2025, the FDA convened an expert panel to examine the potential risks of exposure to selective serotonin reuptake inhibitors (SSRIs) during pregnancy for both mothers and fetuses (23). Some panelists advocated stronger warning labels better to inform the public about these risks (23). Others cautioned against discontinuing antidepressants, citing the high likelihood of relapse and the potential serious consequences from untreated maternal depression, which can negatively affect both mother and infant (23). Experts argue that antidepressant risks are lower than the risks of untreated depression (23).

Professional societies responded to the concerns raised by the FDA panel and uniformly recommended continued antidepressant

use during pregnancy. For example, the Society for Maternal-Fetal Medicine (SMFM) and the American College of Obstetricians and Gynecologists (ACOG) strongly criticized the concerns raised by certain FDA panelists regarding SSRI use during pregnancy, calling the claims unsubstantiated and inaccurate and reaffirming its support for the use of SSRIs as effective and safe treatments during pregnancy (24, 25). They asserted that existing data consistently show that SSRIs are not associated with congenital anomalies, fetal growth problems, or long-term developmental issues. Additionally, they noted that discontinuing antidepressants increases the risk of relapse of an underlying condition, thus raising the risk of postpartum depression (24). Dr. Steven Fleischman, president of ACOG, emphasized that, in contrast, untreated depression poses major risks to both mother and infant, including substance use, preterm birth, preeclampsia, low birth weight, impaired bonding, limited engagement in care, and even suicide (25). Huybrechts et al, addressing concerns regarding purported associations between SSRI exposure and outcomes such as autism spectrum disorder and congenital heart defects, noted in the *New England Journal of Medicine* that these associations are largely explained by confounding by indication, specifically, the underlying maternal depression, and reaffirmed that current evidence does not support a causal link between SSRIs and these outcomes (26).

"On the other side of the controversy, critics of SSRI use in pregnancy point to emerging evidence suggesting potential adverse neurodevelopmental effects. These concerns draw, in part, on findings from animal studies and human neuroimaging research demonstrating structural brain changes associated with prenatal SSRI exposure (27)."

On the other side of the controversy, critics of SSRI use in pregnancy point to emerging evidence suggesting potential adverse neurodevelopmental effects. These concerns draw, in part, on findings from animal studies and human neuroimaging research demonstrating structural brain changes associated with prenatal SSRI exposure (27). Most recently, Zhang et al. conducted a meta-analysis of thirty-seven studies and identified prenatal antidepressant exposure as a significant predictor of autism spectrum disorder, theorizing that disruption of fetal serotonin signaling may interfere with neural crest migration and cortical organization (28). A 2025 article concluded that adolescents exposed to SSRI antidepressants in utero exhibited higher anxiety and depression symptoms than unexposed adolescents and had greater activation of the amygdala and other limbic structures when processing fearful faces (29). At present, there is no clear resolution to this debate; the underlying maternal condition often confounds the evidence. Important questions remain regarding the long-term neurodevelopmental effects of prenatal antidepressant exposure. The existence of credible, unresolved scientific debate underscores the need for transparent counseling at drug initiation. For reproductive planning, patients deserve to know not only what is established, but also where uncertainties remain.

Undisputed Maternal and Fetal adverse outcomes of SSRI use in pregnancy

Despite the strong stance for continuing antidepressant therapy during pregnancy, professional clinical guidelines still emphasize the importance of balanced counseling for patients about both the risks and benefits of treatment (25). ACOG recommends that clinicians be prepared to discuss psychopharmacologic options for perinatal mental health conditions when indicated, including potential effects on both the mother and fetus. Counseling should include the well-established, non-controversial risks associated with antidepressant use in pregnancy, such as the increased risk of persistent pulmonary hypertension of the newborn (PPHN), poor neonatal adaptation syndrome (PNAS), and, for serotonin norepinephrine reuptake inhibitors (SNRIs), an increased risk of preeclampsia and spontaneous abortion. Antidepressant exposure in utero has additionally been associated with higher rates of neonatal intensive care unit (NICU) admissions (25). Guidelines recommend using the lowest effective dose and avoiding polypharmacy to reduce fetal exposure (25). However, these conversations typically occur after conception (25).

"Despite recommendations to the contrary, a registry cohort study revealed that about 75% attempt to stop their antidepressants during pregnancy and that 12% reinstate later in pregnancy (29). Recent research presented at the Society for Maternal-Fetal Medicine reported that women who discontinued antidepressants during pregnancy experienced a marked increase in emergency department visits for behavioral health reasons (31)."

Most Women Attempt to Stop Antidepressants During Pregnancy:

According to data from the Centers for Disease Control, the rate of unintended pregnancy in 2019 was 41.6%, a rate that all but guarantees many patients will not receive anticipatory counseling before pregnancy occurs (30). Despite recommendations to the contrary, a registry cohort study revealed that about 75% attempt to stop their antidepressants during pregnancy and that 12% reinstate later in pregnancy (29). Recent research presented at the Society for Maternal-Fetal Medicine reported that women who discontinued antidepressants during pregnancy experienced a marked increase in emergency department visits for behavioral health reasons (31). Importantly, it is still unclear whether the pregnant women who discontinued their antidepressants were experiencing withdrawal symptoms or a true relapse of their underlying condition. Consistent with survey studies showing

that long-term use of antidepressants (>24 months) is associated with severe withdrawal syndrome, the need for reinstatement in pregnancy was also associated with longer pre-pregnancy antidepressant use (13, 31).

Paternalism is the Current Dominant Ethical Perspective in Mental Health Clinical Interactions:

While many clinicians strive to provide comprehensive, patient-centered counseling, structural and cultural patterns within psychiatry have historically leaned toward paternalistic models of care (33). This perspective prioritizes clinician judgment over patient agency, implicitly assuming that patients are unable to weigh risks and benefits in accordance with their own values and life circumstances. Although clinicians may avoid difficult conversations to be compassionate, honest disclosure enhances autonomy and avoids the paternalistic dynamic that can leave patients feeling dismissed. As a result of non-disclosure, information about treatment uncertainty, duration, dependence, and withdrawal is often minimized or withheld at the point of prescribing. When critical information about risks is minimized or omitted, the result, intentional or not, is a restriction of women's reproductive autonomy. In a landscape where reproductive rights are increasingly constrained, transparent antidepressant counseling becomes not only an ethical imperative but a matter of reproductive justice. Ethical medical practice requires that respect for autonomy—not paternalistic beneficence—be the prevailing framework. Patients have a fundamental right to understand the potential short and long-term implications of antidepressant therapy so they can make informed decisions consistent with their preferences, especially in contexts where overprescribing is well-documented and alternative effective non-pharmacologic alternatives may exist.

"Despite recommendations to the contrary, a registry cohort study revealed that about 75% attempt to stop their antidepressants during pregnancy and that 12% reinstate later in pregnancy (29). Recent research presented at the Society for Maternal-Fetal Medicine reported that women who discontinued antidepressants during pregnancy experienced a marked increase in emergency department visits for behavioral health reasons (31)."

WHO -Guided Reforms in Mental Health Treatment:

The World Health Organization (WHO) urges a shift in health policy away from routine, long-term reliance on psychotropic medications, emphasizing instead a person-centered, rights-based approach that prioritizes non-pharmacologic therapies (34). They highlight growing concerns about long-term harm, rising prescription rates, incomplete disclosure of adverse effects, including serious withdrawal upon discontinuation, and the risks of polypharmacy (34). To address these problems, they recommend psychiatric medications be prescribed cautiously, with full transparency about risks and with robust support for gradual, individualized tapering (34). The WHO suggests that updated national guidelines must be developed by independent committees that include individuals with lived experience and that are free from pharmaceutical company influence. These guidelines must emphasize alternatives such as lifestyle interventions, psychological therapies, and social or economic support as part of comprehensive care (34). Training programs should equip clinicians to manage withdrawal; educational materials should be provided to patients about medication effects and the possibility of withdrawal; and support should be offered for the tapering process (34). The WHO notes that evidence for psychotropic medications is inconsistent, reinforcing the need for transparent counseling and safer discontinuation (34). They focus on the reality that withdrawal symptoms can be far more severe than traditionally acknowledged and are frequently misinterpreted as relapse, underscoring the urgent need for transparent counseling and safer discontinuation practices (34).

"Regardless of whether physicians prescribe antidepressants, all specialists who provide care to adolescents and women of childbearing age or their children must share in the responsibility for ensuring that patients (and when appropriate, parents) at drug initiation understand the potential pregnancy-related risks of antidepressant therapy."

A Cross-Specialty Responsibility:

Regardless of whether physicians prescribe antidepressants, all specialists who provide care to adolescents and women of childbearing age or their children must share in the responsibility for ensuring that patients (and when appropriate, parents) at drug initiation understand the potential pregnancy-related risks of antidepressant therapy. Neonatologists manage the health complications that result from the use of antidepressants during pregnancy. Neonatologists manage severe respiratory failure from persistent pulmonary hypertension, which carries a significant 4-33% mortality rate (35) and serious, long-term morbidity complications such as neurodevelopmental delays, hearing impairment, and chronic lung disease (36). Further, although severe neonatal adaptation requiring mechanical ventilation is uncommon, it has been documented in population-based studies. Delayed neonatal adaptation, defined as a 5-min Apgar score <5, resuscitation at birth, or NICU admission for respiratory distress, occurs in 11.2% of infants exposed in the late trimester to antidepressants vs 4.4% of those unexposed; risks are dose- and specific drug-dependent (37). For neonatologists and perinatologists to truly improve neonatal and maternal outcomes, a strong commitment to thorough and transparent

informed consent is indispensable.

Proposal: Standardize Informed Consent at Initiation:

Formal, standardized informed consent guidelines should be implemented at the time an antidepressant is first prescribed, particularly for adolescents and women of childbearing age. As concluded in a recent Psychiatric Times article on antidepressant withdrawal, it is time for "genuine informed consent before the first prescription is written" (38). Too often, discussions about reproductive risk, treatment duration, and the challenges of discontinuation occur only after pregnancy or after long-term dependence has already occurred. Informed consent at the initiation of care would move these conversations upstream, aligning clinical practice with ethical standards and patient-centered care. This consent process should include, at a minimum, clear counseling on the following:

1. Patients should understand that a chemical imbalance does not cause depression.
2. The established, undisputed maternal and fetal risks of antidepressants are outlined in existing ACOG guidelines.
3. The current uncertainty centers on the long-term efficacy and risks for both mothers and infants.
4. The risk of physical dependence, including discussion about the increased risk after long-term use (>24 months of therapy).
5. The potential need for lengthy, hyperbolic tapering when discontinuation is desired.
6. Evidence-based non-pharmacologic alternatives.

"The debate over SSRIs in Pregnancy has focused on weighing the risks of untreated depression against medication risks. Nevertheless, for patients who may wish to lower their dosage, decrease polypharmacy, or for those in remission who have developed physical dependence and may require lengthy, hyperbolic tapering to mitigate withdrawal syndrome, the counseling comes too late. We need to move the conversation upstream, to the moment of drug initiation, before pregnancy is even on the horizon."

In addition, to prevent severe withdrawal syndromes, and as recommended by the WHO, national guidelines must be updated to recommend individualized, hyperbolic tapering to subtherapeutic doses, and physicians must be adequately educated to provide this care. Standardized informed consent at drug initiation reinforces patient autonomy, supports reproductive life planning, and may reduce unnecessary long-term prescribing driven by incomplete disclosure or direct-to-consumer pharmaceutical marketing. Most importantly, it equips patients with the information needed to make decisions consistent with their values before pregnancy occurs, when those decisions can still be made deliberately.

Conversation Upstream

The debate over SSRIs in Pregnancy has focused on weighing the risks of untreated depression against medication risks. Nevertheless, for patients who may wish to lower their dosage, decrease polypharmacy, or for those in remission who have developed physical dependence and may require lengthy, hyperbolic tapering to mitigate withdrawal syndrome, the counseling comes too late. We need to move the conversation upstream, to the moment of drug initiation, before pregnancy is even on the horizon. The solution is to standardize informed consent at antidepressant initiation. Doing so equips adolescents and women of reproductive potential with clear information about perinatal risks, the possibility of dependence and withdrawal, non-pharmacologic treatment options, and patient-centered family planning where realistic tapering scenarios are discussed. This approach advances patient autonomy, reduces avoidable harm to mothers and infants, and ensures that, when pregnancy occurs, it occurs in a stable context, not a crisis. As clinicians who witness firsthand the downstream consequences of perinatal psychopharmacology, neonatologists have an ethical obligation to call on neonatal professional organizations to issue policy statements and guideline updates recommending standardized, transparent informed consent when antidepressants are first prescribed.

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Which Infants are More Vulnerable *to Respiratory Syncytial Virus?*

RSV is a respiratory virus with cold-like symptoms that causes 90,000 hospitalizations and 4,500 deaths per year in children 5 and younger. It's 10 times more deadly than the flu. For premature babies with fragile immune systems and underdeveloped lungs, RSV proves especially dangerous.

But risk factors associated with RSV don't touch all infants equally.*

*Source: Respirator Syncytial Virus and African Americans

Caucasian Babies	Risk Factor	African American Babies
11.6%	Prematurity	18.3%
58.1%	Breastfeeding	50.2%
7.3%	Low Birth Weight	11.8%
60.1%	Siblings	71.6%
1%	Crowded Living Conditions	3%

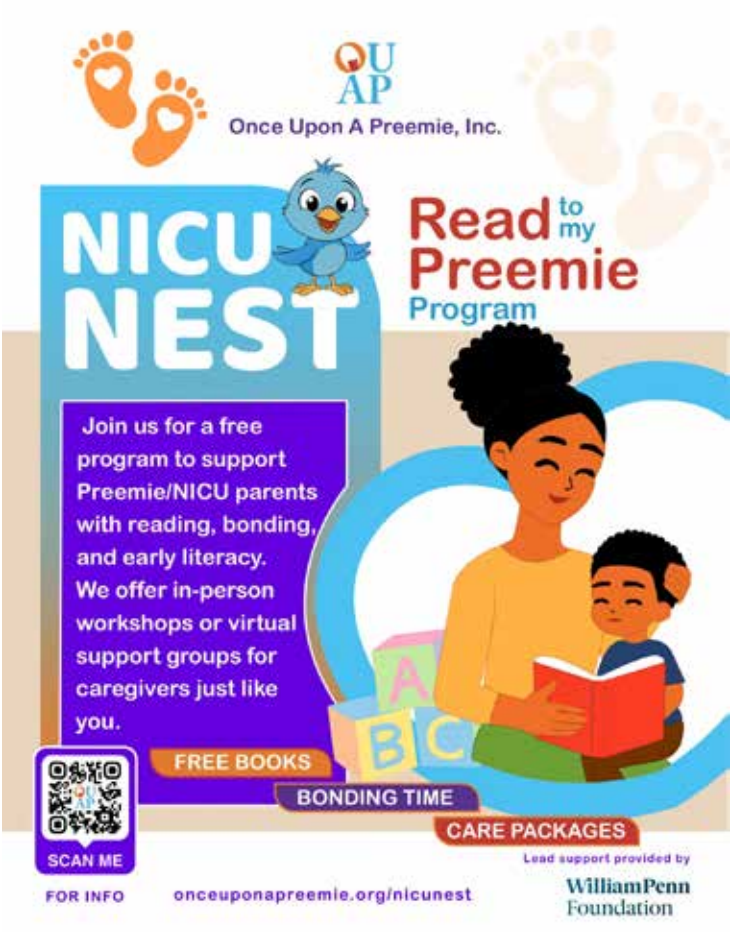
AFRICAN AMERICAN BABIES bear the brunt of RSV. Yet the American Academy of Pediatrics' restrictive new guidlines limit their access to RSV preventative treatment, increasing these babies' risk.

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Consentimiento Informado al Iniciar un Tratamiento con Antidepresivos en Adolescentes y Mujeres en Edad Reproductiva

Laura Farach, MD, Erin Barnett, PhD

Resumen:

Las decisiones tomadas en el momento de iniciar los antidepresivos tienen implicaciones significativas a largo plazo para la salud reproductiva. Las directrices existentes del Colegio Americano de Obstetricia y Ginecología (American College of Obstetricians and Gynecologists -ACOG) recomiendan asesoramiento sobre el uso de antidepresivos durante el embarazo, aunque estas conversaciones suelen ocurrir solo después de la concepción, dejando a muchas pacientes sin información oportuna. A pesar del potencial reconocido de dependencia y del síndrome de abstinencia causado debido a los antidepresivos, especialmente tras un uso prolongado, las últimas directrices de la Asociación Americana de Psiquiatría (American Psychiatric Association-APA) ofrecen una instrucción limitada sobre la reducción gradual, aunque la evidencia muestra que la suspensión a menudo requiere una reducción lenta, individualizada e hiperbólica durante meses o años. Las directrices de ACOG recomiendan no dejar los antidepresivos únicamente por el embarazo, pero la mayoría de las mujeres intentarán hacerlo y corren el riesgo de desestabilización. Este artículo aboga por un consentimiento informado estandarizado al inicio de la terapia antidepresiva, asegurando que las pacientes reciban información transparente y basada en la evidencia sobre los riesgos reproductivos, el potencial de dependencia a largo plazo y la necesidad de una planificación cuidadosa para apoyar la reducción gradual antes de la concepción si se desea un embarazo sin medicamentos. El asesoramiento al principio promueve la autonomía del paciente, reduce los riesgos evitables materno-infantiles y alinea la práctica clínica con los estándares éticos. Dada la responsabilidad de los neonatólogos de mejorar los resultados neonatales relacionados con condiciones asociadas a antidepresivos, estos comparten la responsabilidad de avanzar hacia el consentimiento informado estandarizado en la iniciación de antidepresivos para proteger mejor los result:ados maternos y neonatales.

"Dada la responsabilidad de los neonatólogos de mejorar los resultados neonatales relacionados con condiciones asociadas a antidepresivos, estos comparten la responsabilidad de avanzar hacia el consentimiento informado estandarizado en la iniciación de antidepresivos para proteger mejor los result:ados maternos y neonatales."

Aumento de la prescripción de antidepresivos:

Un estudio a gran escala con mujeres cubiertas con seguro de salud privado en Estados Unidos entre 2006 y 2011 encontró que el 10,3% de las mujeres embarazadas recibieron un medicamento psicotrópico durante el embarazo, siendo los más comunes antidepresivos (1). Estas cifras están a punto de aumentar siendo que las tasas de dispensación de antidepresivos continúan aumentando en adolescentes y mujeres jóvenes, especialmente tras la pandemia de COVID-19 (2). Aunque a menudo se cita el aumento de las tasas de trastornos del estado de ánimo y de ansiedad, otros factores contribuyen. La sobremedicalización de la angustia, la expansión de programas de cribado no probados y la ampliación de las etiquetas diagnósticas impulsan el aumento de la prescripción de antidepresivos (3). Un informe reciente *del Wall Street Journal* describe que las empresas farmacéuticas pagan a jóvenes influencers para que anuncien su uso personal de antidepresivos en redes sociales, reinterpretando estos medicamentos de un tratamiento estigmatizado a un accesorio de estilo de vida saludable y posiblemente conduciendo a prescripciones injustificadas (4). A medida que el uso de antidepresivos se expande y comienza más temprano en la vida, las decisiones iniciales de prescripción, a menudo tomadas en entornos pediátricos, adquieren implicaciones duraderas para la salud reproductiva futura (5). Estas tendencias tienen importantes implicaciones políticas, subrayando la necesidad de estándares más claros sobre el inicio de antidepresivos, la duración del tratamiento, el asesoramiento y el consentimiento informado para adolescentes y mujeres con potencial fértil.

"Sin embargo, a finales de los años 90, se consideraba cada vez más una enfermedad crónica, una reformulación que apoyaba la expansión de la farmacoterapia de mantenimiento indefinida (6)."

Duración de la terapia:

Las conceptualizaciones de la depresión, y por extensión su tratamiento, han cambiado sustancialmente en las últimas décadas. A principios de los años 90, la depresión se consideraba en gran medida una condición episódica que a menudo se resolvía sin intervención farmacológica (6). Sin embargo, a finales de los años 90, se consideraba cada vez más una enfermedad crónica, una reformulación que apoyaba la expansión de la farmacoterapia de mantenimiento indefinida (6). Este cambio fomentó una analogía común que compara la depresión con la diabetes, implicando que los antidepresivos deben continuarse indefinidamente, como la insulina (7). Sin embargo, la analogía es fundamentalmente errónea. En primer lugar, las principales guías

clínicas no recomiendan la terapia antidepresiva de por vida; en su lugar, aconsejan un tratamiento limitado de seis a doce meses después de la remisión (8). En segundo lugar, a diferencia de la diabetes, la depresión carece de un biomarcador objetivo que defina la presencia de la enfermedad, lo que complica las afirmaciones de que requiere una corrección farmacológica permanente (7). La creencia comúnmente aceptada por el paciente de que la depresión se debe a una deficiencia de serotonina no tiene validez científica (9). En tercer lugar, las preferencias de los pacientes suelen divergir del modelo de uso crónico: muchas personas desean suspender la medicación una vez que mejoran los síntomas, cuando surgen efectos adversos o cuando desean un embarazo sin medicamentos. Finalmente, la suposición de que la interrupción necesariamente precipita la recaída de la condición subyacente se basa en evidencia controvertida y pasa por alto explicaciones alternativas para la recurrencia de los síntomas, incluidos los fenómenos del síndrome de la abstinencia (10). Los estudios de "prevención de recaídas" que muestran tasas de recaída más altas tras la suspensión frecuentemente no distinguen la recaída verdadera del síndrome de la abstinencia, especialmente dado sus protocolos de reducción rápida y la similitud entre síntomas de abstinencia y depresivos (11). Cabe destacar que el pico de "recaída" suele ocurrir alrededor de las ocho semanas después de dejarlo, precisamente cuando se espera que el síndrome de la abstinencia sea más intenso (10). En conjunto, estas consideraciones ponen de manifiesto la necesidad de una planificación individualizada del tratamiento.

Una dimensión pasada por alto: dependencia y abstinencia de antidepresivos:

Un elemento crucial, y a menudo ausente, en las discusiones sobre el uso de antidepresivos en adolescentes y mujeres jóvenes en edad reproductiva es el desarrollo de dependencia física y la posibilidad de síndromes de abstinencia que se producen al suspenderlos. Todos los antidepresivos están asociados con síndromes de abstinencia, reflejando la adaptación fisiológica a la exposición prolongada a medicamentos (11). Los síntomas del síndrome de abstinencia (normalmente emocionales y físicos) se solapan con los de la recaída de la condición subyacente (normalmente emocional), lo que lleva a que los médicos confundan los síntomas de abstinencia con recaída cuando los pacientes dejan de tomar antidepresivos (11). Cuando se suspenden los antidepresivos tras tratamientos cortos (8-12 semanas), la abstinencia es leve y autolimitada (12). Sin embargo, la mitad de los usuarios de antidepresivos en EE. UU. llevan más de cinco años tomando estos medicamentos, y el uso prolongado se asocia con un riesgo más alto de síndrome de abstinencia severo, prolongado y funcionalmente incapacitante (11,13,14,19,21).

La evidencia emergente de la última década sugiere que, aunque la verdadera incidencia de la abstinencia severa sigue siendo incierta, las estimaciones oscilan entre el 3% y el 25% (14,15), una incertidumbre que en sí misma merece precaución y asesoramiento anticipatorio. Las anteriores guías clínicas de la APA relacionadas con la depresión ofrecían una orientación práctica limitada sobre la reducción gradual y aún recomiendan reducir las dosis durante "varias semanas" (8), un plazo que ahora se reconoce como insuficiente para muchos usuarios a largo plazo (11,13,19). Los estudios de tomografía por emisión de positrones (TEP) demuestran que la ocupación del transportador de recaptación de serotonina (SERT) se mantiene alta incluso en dosis bajas y disminuye de forma no lineal a medida que se reducen las dosis. En la práctica clínica, esto se traduce en la necesidad de reducir gradualmente a dosis subterapéuticas bajas de forma hiperbólica, lo que significa que cuanto menor es la dosis, menor es la reducción (11). Los estudios sobre estrategias de reducción hiperbólica han mostrado tasas más altas de descontinuación exitosa en comparación con las reducciones convencionales (16). Inglaterra y Australia han adoptado este enfoque más cauteloso de reducción hiperbólica en sus guías médicas (17,18), pero las directrices nacionales estadounidenses aún no se han actualizado para reflejar la necesidad de una reducción más lenta. Sin una guía actualizada sobre la reducción gradual, muchos pacientes dependen de plataformas en línea que consisten en personas sin formación profesional. (19). El análisis de estas plataformas demuestra que, para algunas personas, la reducción exitosa puede llevar meses o años en lugar de semanas, y que el éxito implica una reducción individualizada e hiperbólica (19). Estas realidades tienen importantes implicaciones reproductivas. Si no se informa a las mujeres sobre la necesidad de este tipo de reducción gradual, pueden creer erróneamente que no es posible dejar el antidepresivo, limitando su capacidad para planificar un embarazo sin medicación.

¿Por qué importa distinguir entre la recaída del trastorno original con la abstinencia de antidepresivos?

Las guías profesionales suelen enfatizar el riesgo de recaída cuando se suspenden los antidepresivos, y este enfoque influye mucho en las recomendaciones sobre el embarazo. Por ejemplo, ACOG desaconseja retener o suspender la medicación para trastornos de salud mental solo por el estado de embarazo, citando un alto riesgo de recaída y posibles consecuencias materno-fetales (20). En ensayos aleatorizados de interrupción de personas no embarazadas, los pacientes se asignan aleatoriamente a placebo frente a continuación de la medicación. Los pacientes en el grupo placebo tienen más probabilidades de recaer (20). Debido a que los síntomas de abstinencia se solapan con la recaída, estos ensayos son criticados por confundir ambos fenómenos (21). Estos estudios están llenos de problemas: la medicación se detiene de forma abrupta, en lugar de reducirse lentamente para mitigar los síntomas de abstinencia; El seguimiento de recaídas ocurre inmediatamente después de la interrupción, cuando es más probable la abstinencia; El seguimiento para detectar recaídas ocurre durante periodos muy breves, lo que puede impedir distinguirla adecuadamente del síndrome de abstinencia; No existe una evaluación sistemática de los síntomas de abstinencia, por lo tanto, al no preguntar específicamente sobre los síntomas físicos de abstinencia que puedan ayudar a distinguir la abstinencia de la recaída, se asume que todos los nuevos síntomas emocionales son recaída (21). Hay más críticas porque muchos de los ensayos de interrupción utilizan "diseños enriquecidos", randomizando solo a los que responden antes (22). Excluir a quienes no responden a los antidepresivos puede falsamente inflar el beneficio de continuar con los antidepresivos. Por lo tanto, en lugar de recaer, muchos que dejan los antidepresivos pueden estar desarrollando síntomas de abstinencia que luego se diagnostican erróneamente como recaída, manteniendo a los pacientes con medicación innecesaria a largo plazo. Este punto ciego metodológico tiene implicaciones perinatales reales: las pacientes que conciben mientras toman antidepresivos pueden enfrentarse a una falsa

elección entre continuar indefinidamente o arriesgarse a la desestabilización. Si este asesoramiento se hubiera producido al inicio del tratamiento, las pacientes podrían haber planeado una reducción lenta y deliberada antes de la concepción, reduciendo la desestabilización relacionada con la abstinencia que suele ocurrir cuando se intenta reducir rápidamente durante el embarazo.

Controversia actual en torno al uso de antidepresivos durante el embarazo:

El 21 de julio de 2025, la FDA convocó a un panel de expertos para examinar los posibles riesgos de la exposición a inhibidores selectivos de la recaptación de serotonina (ISRS) durante el embarazo tanto para madres como para fetos (23). Algunos ponentes defendieron etiquetas de advertencia más estrictas para informar mejor al público sobre estos riesgos (23). Otros advirtieron contra la suspensión de los antidepresivos, citando la alta probabilidad de recaída y las posibles consecuencias graves de la depresión materna no tratada, que puede afectar negativamente tanto a la madre como al bebé (23). Los expertos sostienen que los riesgos de los antidepresivos son menores que los riesgos de la depresión no tratada (23).

Las sociedades profesionales respondieron a las preocupaciones planteadas por el panel de la FDA y recomendaron de forma uniforme el uso continuado de antidepresivos durante el embarazo. Por ejemplo, la Sociedad de Medicina Materno-Fetal (Society for Maternal-Fetal Medicine o SMFM) y el Colegio Americano de Obstetras y Ginecólogos (American College of Obstetricians and Gynecologists -ACOG) criticaron duramente las preocupaciones planteadas por ciertos panelistas de la FDA respecto al uso de ISRS durante el embarazo, calificando las afirmaciones de infundadas e inexactas y reafirmaron su apoyo al uso de ISRS como tratamientos eficaces y seguros durante el embarazo (24, 25). Afirmaron que los datos existentes muestran de forma consistente que los ISRS no están asociados con anomalías congénitas, problemas de crecimiento fetal, ni problemas de desarrollo a largo plazo. Además, señalaron que dejar de tomar antidepresivos aumenta el riesgo de recaída de una enfermedad subyacente, incrementando así el riesgo de depresión posparto (24). El Dr. Steven Fleischman, presidente de ACOG, enfatizó que, en contraste, la depresión no tratada conlleva riesgos importantes tanto para la madre como para el bebé, incluyendo el consumo de sustancias, el parto prematuro, la preeclampsia, el bajo peso al nacer, el deterioro del vínculo, la participación limitada en la atención e incluso el suicidio (25). Huybrechts et al, abordando preocupaciones sobre supuestas asociaciones entre la exposición a ISRS y resultados como el trastorno del espectro autista y los defectos cardíacos congénitos, señalaron en el *New England Journal of Medicine* que estas asociaciones se explican en gran medida confundiendo por la indicación terapéutica, específicamente, la depresión materna subyacente, y reafirmaron que la evidencia actual no apoya un vínculo causal entre los ISRS y estos resultados (26).

Por otro lado, los críticos del uso de ISRS en el embarazo señalan evidencias emergentes que sugieren posibles efectos adversos en el neurodesarrollo. Estas preocupaciones se basan, en parte, en hallazgos de estudios en animales e investigaciones en neuroimagen humana que demuestran cambios estructurales cerebrales asociados con la exposición prenatal a ISRS (27). Más recientemente, Zhang et al. realizaron un metaanálisis de treinta y siete estudios e identificaron la exposición prenatal a antidepresivos como un predictor significativo del trastorno del espectro autista, teorizando que la interrupción de la señalización fetal de serotonina podría interferir con la migración de la cresta neural y la organización cortical (28). Un artículo de 2025 concluyó que los adolescentes expuestos a antidepresivos ISRS intrauterino presentaron síntomas de ansiedad y depresión más altos que los no expuestos y tuvieron una mayor activación de la amígdala y otras estructuras límbicas al procesar rostros temerosos (29). Actualmente, no hay una resolución clara a este debate; la evidencia a menudo se ve desconcertada por la condición materna subyacente. Quedan preguntas importantes sobre los efectos neurodesarrollativos a largo plazo de la exposición prenatal a antidepresivos. La existencia de un debate científico creíble y sin resolver destaca la necesidad de un asesoramiento transparente en la iniciación de la medicación. Para la planificación reproductiva, los pacientes merecen saber no solo qué está establecido, sino también dónde persisten las incertidumbres.

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Resultados adversos del uso de los antidepresivos durante el embarazo que son aceptados:

A pesar de la postura firme de continuar con la terapia antidepresiva durante el embarazo, las directrices clínicas profesionales siguen enfatizando la importancia de un asesoramiento equilibrado para los pacientes sobre los riesgos y beneficios del tratamiento (25). ACOG recomienda que los clínicos estén preparados para discutir opciones psicofarmacológicas para las condiciones de salud mental perinatal cuando sea necesario, incluyendo los posibles efectos tanto en la madre como en el feto. El asesoramiento debe incluir los riesgos bien establecidos y no controvertidos asociados con el uso de antidepresivos durante el embarazo, como el aumento del riesgo de hipertensión pulmonar persistente en el recién nacido (HPPN), el síndrome de adaptación neonatal (SAN), y para los inhibidores de la recaptación de norepinefrina y serotonina (IRSN), un mayor riesgo de preeclampsia y aborto espontáneo. La exposición intrauterina a los antidepresivos también se ha asociado con tasas más altas de ingresos en la unidad de cuidados intensivos neonatales (UCIN) (25). Las directrices recomiendan usar la dosis efectiva más baja y evitar la polifarmacéutica para reducir la exposición fetal (25). Sin embargo, estas conversaciones suelen ocurrir después de la

concepción (25).

"A pesar de las recomendaciones en sentido contrario, un estudio de cohorte en el registro reveló que alrededor del 75% intenta dejar sus antidepresivos durante el embarazo y que el 12% los reincorpora más tarde en el embarazo (29)."

La mayoría de las mujeres intentan dejar los antidepresivos durante el embarazo:

Según datos de los Centros para el Control y la Prevención de Enfermedades (Centers for Disease Control-CDC), la tasa de embarazos que no fueron planeados en 2019 fue del 41,6%, un momento que prácticamente garantiza que muchas pacientes no recibirán asesoramiento anticipado antes de que ocurra el embarazo (30). A pesar de las recomendaciones en sentido contrario, un estudio de cohorte en el registro reveló que alrededor del 75% intenta dejar sus antidepresivos durante el embarazo y que el 12% los reincorpora más tarde en el embarazo (29). Investigaciones recientes presentadas en la Sociedad de Medicina Materno-Fetal informaron que las mujeres que suspendieron los antidepresivos durante el embarazo experimentaron un marcado aumento en las visitas a urgencias por motivos de salud conductual (31). Es importante destacar que aún no está claro si las mujeres embarazadas que dejaron de tomar antidepresivos tenían síntomas de abstinencia o una recaída real de su condición subyacente. En consonancia con estudios de encuestas que muestran que el uso prolongado de antidepresivos (>24 meses) está asociado con un síndrome de abstinencia severo, la necesidad de reinstauración durante el embarazo también se asoció con un uso prolongado de antidepresivos antes del embarazo (13, 31).

El paternalismo como la perspectiva ética dominante actual en las interacciones clínicas de salud mental:

Aunque muchos clínicos se esfuerzan por ofrecer asesoramiento integral y centrado en el paciente, los patrones estructurales y culturales dentro de la psiquiatría históricamente se han inclinado hacia modelos paternalistas de atención (33). Esta perspectiva prioriza el juicio del clínico sobre la agencia del paciente, asumiendo implícitamente que los pacientes no pueden valorar riesgos y beneficios de acuerdo con sus propios valores y circunstancias vitales. Aunque los clínicos pueden evitar conversaciones difíciles para mostrar compasión, la honestidad refuerza la autonomía y evita la dinámica paternalista que puede hacer que los pacientes se sientan ignorados. Como resultado de la falta de divulgación, la información sobre la incertidumbre del tratamiento, la duración, la dependencia y la abstinencia suele minimizarse o retenerse en el momento de recetar. Cuando se minimiza u omite información crítica sobre los riesgos, el resultado, intencionado o no, es una restricción de la autonomía reproductiva de las mujeres. En un entorno donde los derechos reproductivos están cada vez más restringidos, el asesoramiento transparente sobre los antidepresivos se convierte no solo en un imperativo ético, sino en una cuestión de justicia reproductiva. La práctica médica ética exige que el respeto a la autonomía—no la benevolencia paternalista—sea el marco predominante. Los pacientes tienen un derecho fundamental a comprender las posibles implicaciones a corto y largo plazo de la terapia antidepresiva para poder tomar decisiones informadas acordes con sus preferencias, especialmente en contextos donde la sobreprescripción está bien documentada y pueden existir alternativas no farmacológicas eficaces.

"Independientemente de si los médicos recetan antidepresivos, todos los especialistas que prestan atención a adolescentes y mujeres en edad fértil o a sus hijos deben compartir la responsabilidad de garantizar que los pacientes (y, cuando corresponda, los padres) en el inicio del tratamiento comprendan los posibles riesgos relacionados con el embarazo de la terapia con antidepresivos."

La Organización Mundial de la Salud (OMS o World Health Organization) - Reformas guiadas en el tratamiento de la salud mental:

La Organización Mundial de la Salud (OMS) aboga por un cambio en la política sanitaria, alejándose de la dependencia rutinaria y a largo plazo de medicamentos psicotrópicos, enfatizando en su lugar un enfoque centrado en la persona y basado en los derechos que priorice terapias no farmacológicas (34). Destacan preocupaciones crecientes sobre los daños a largo plazo, el aumento de las tasas de prescripciones, la divulgación incompleta de efectos adversos, incluyendo una retirada grave tras la interrupción, y los riesgos de la polifarmacéutica (34). Para abordar estos problemas, recomiendan que los medicamentos psiquiátricos se prescriban con cautela, con total transparencia sobre los riesgos y con un apoyo sólido para una reducción gradual e individualizada (34). La OMS sugiere que las directrices nacionales actualizadas deben ser desarrolladas por comités independientes que incluyan a personas con experiencia vivida y que estén libres de la influencia de las compañías farmacéuticas. Estas directrices deben enfatizar alternativas como intervenciones en el estilo de vida, terapias psicológicas y apoyo social o económico como parte de una atención integral (34). Los programas de formación deben capacitar a los clínicos para gestionar la abstinencia; se deben proporcionar materiales educativos a los pacientes sobre los efectos de los medicamentos y las posibilidades de abstinencia; y se debe ofrecer apoyo para el proceso de reducción progresiva (34). La OMS señala que la evidencia sobre los medicamentos psicotrópicos es inconsistente, lo que refuerza la necesidad de asesoramiento transparente y una suspensión más segura (34). Se centran en la realidad de que los síntomas de abstinencia pueden ser mucho más graves de lo que se reconoce tradicionalmente y a menudo se malinterpretan como

recaída, destacando la necesidad urgente de asesoramiento transparente y prácticas de descontinuación más seguras (34).

Una responsabilidad de diversas especialidades:

Independientemente de si los médicos recetan antidepresivos, todos los especialistas que prestan atención a adolescentes y mujeres en edad fértil o a sus hijos deben compartir la responsabilidad de garantizar que los pacientes (y, cuando corresponda, los padres) en el inicio del tratamiento comprendan los posibles riesgos relacionados con el embarazo de la terapia con antidepresivos. Los neonatólogos gestionan las complicaciones de salud derivadas del uso de antidepresivos durante el embarazo. Los neonatólogos gestionan insuficiencia respiratoria grave debido a hipertensión pulmonar persistente en el recién nacido, que conlleva una tasa de mortalidad significativa del 4-33% (35), y complicaciones graves y de morbilidad a largo plazo, como retrasos en el neurodesarrollo, deterioro auditivo y enfermedades pulmonares crónicas (36). Además, aunque la adaptación neonatal severa que requiere ventilación mecánica es poco común, está documentada en estudios basados en poblaciones. La adaptación neonatal tardía definida como una puntuación Apgar de 5 minutos < o= a 5, la reanimación al nacer o el ingreso en la UCIN por dificultad respiratoria ocurre en el 11,2% de los lactantes expuestos en el trimestre final a antidepresivos frente al 4,4% de los que no fueron expuestos; Los riesgos son dependientes de la dosis y del fármaco específico (37). Para que los neonatólogos y perinatólogos mejoren realmente los resultados neonatales y maternos, es indispensable un fuerte compromiso con un consentimiento informado exhaustivo y transparente.

Propuesta: Estandarizar el consentimiento informado al iniciar un antidepresivo:

Las directrices formales y estandarizadas sobre consentimiento informado deben implementarse en el momento en que se receta por primera vez un antidepresivo, especialmente para los adolescentes y las mujeres en edad fértil. Como concluyó un reciente artículo de Psychiatric Times sobre la abstinencia de antidepresivos, es hora de un "consentimiento informado genuino antes de que se escriba la primera receta" (38). Con demasiada frecuencia, las discusiones sobre el riesgo reproductivo, la duración del tratamiento y los desafíos de la suspensión ocurren solo después del embarazo o después de que ya se haya producido una dependencia prolongada. La implementación temprana del consentimiento informado fomentaría un dialogo anticipado sobre estos aspectos, alineando la práctica clínica con los estándares éticos y la atención centrada en el paciente. Este proceso de consentimiento debería incluir, como mínimo, asesoramiento claro sobre lo siguiente:

1. Los pacientes deben entender que la depresión no está causada por un desequilibrio químico.
2. Los riesgos ya establecidos en las guías existentes de ACOG que no son debatidos.
3. La incertidumbre actual en torno a la eficacia a largo plazo y los riesgos a largo plazo tanto para madres como para bebés.
4. El riesgo de dependencia física, incluyendo la discusión sobre el aumento del riesgo tras un uso prolongado (>24 meses de terapia).
5. La posible necesidad de una reducción prolongada e hiperbólica cuando se desea la descontinuación.
6. Tratamientos alternativos sustentados en la evidencia que no son farmacológicos.

Además, para prevenir síndromes de abstinencia graves, y según lo recomendado por la OMS, las directrices nacionales deben actualizarse para recomendar una reducción individualizada e hiperbólica a dosis subterapéuticas, y los médicos deben estar adecuadamente formados para proporcionar esta atención. El consentimiento informado estandarizado en la iniciación del medicamento refuerza la autonomía del paciente, apoya la planificación de la vida reproductiva y puede reducir la prescripción innecesaria a largo plazo impulsada por una divulgación incompleta o marketing farmacéutico directo al consumidor. Lo más importante es que proporciona a las pacientes la información necesaria para tomar decisiones coherentes con sus valores antes de que ocurra el embarazo, cuando esas decisiones aún pueden tomarse de forma deliberada.

"El debate sobre los ISRS en el embarazo se ha centrado en sopesar los riesgos de la depresión no tratada frente a los riesgos de la medicación. Pero para los pacientes que pueden querer reducir la dosis, disminuir la polifarmacia, o para aquellos en remisión que han desarrollado dependencia física y pueden necesitar una reducción prolongada e hiperbólica para mitigar el síndrome de abstinencia, el asesoramiento llega demasiado tarde. Necesitamos mover la conversación, al momento de la iniciación del medicamento, antes incluso de que el embarazo esté en el horizonte."

Conversación antes de la primera receta de antidepresivo:

El debate sobre los ISRS en el embarazo se ha centrado en sopesar los riesgos de la depresión no tratada frente a los riesgos de la medicación. Pero para los pacientes que pueden querer reducir la dosis, disminuir la polifarmacia, o para aquellos en remisión que han desarrollado dependencia física y pueden necesitar una reducción prolongada e hiperbólica para mitigar el síndrome de abstinencia, el asesoramiento llega demasiado tarde. Necesitamos mover la conversación, al momento de la iniciación del medicamento, antes incluso de que el embarazo esté en el horizonte. La solución es estandarizar el consentimiento informado en la iniciación de los antidepresivos. De este modo,

los adolescentes y las mujeres con potencial reproductivo cuentan con información clara sobre los riesgos perinatales, la posibilidad de dependencia y abstinencia, opciones de tratamiento no farmacológicos y planificación familiar centrada en el paciente, donde se discuten escenarios realistas de reducción gradual. Este enfoque fomenta la autonomía del paciente, reduce los daños evitables a las madres y a los bebés, y garantiza que, cuando ocurre el embarazo, se encuentre estable, no en una crisis. Como clínicos que presencian personalmente las consecuencias posteriores de la psicofarmacología perinatal, los neonatólogos tienen la obligación ética de pedir a las organizaciones profesionales neonatales que emitan lineamientos oficiales y actualizaciones de directrices recomendando un consentimiento informado estandarizado y transparente cuando se recetan los antidepresivos por primera vez.

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Las opiniones expresadas en este artículo son exclusivamente de los autores y no representan las opiniones ni las políticas de ninguna institución o sociedad profesional. Los autores no informan de conflictos de interés.Se utilizó una herramienta de IA para gramática, ortografía, tono y claridad.

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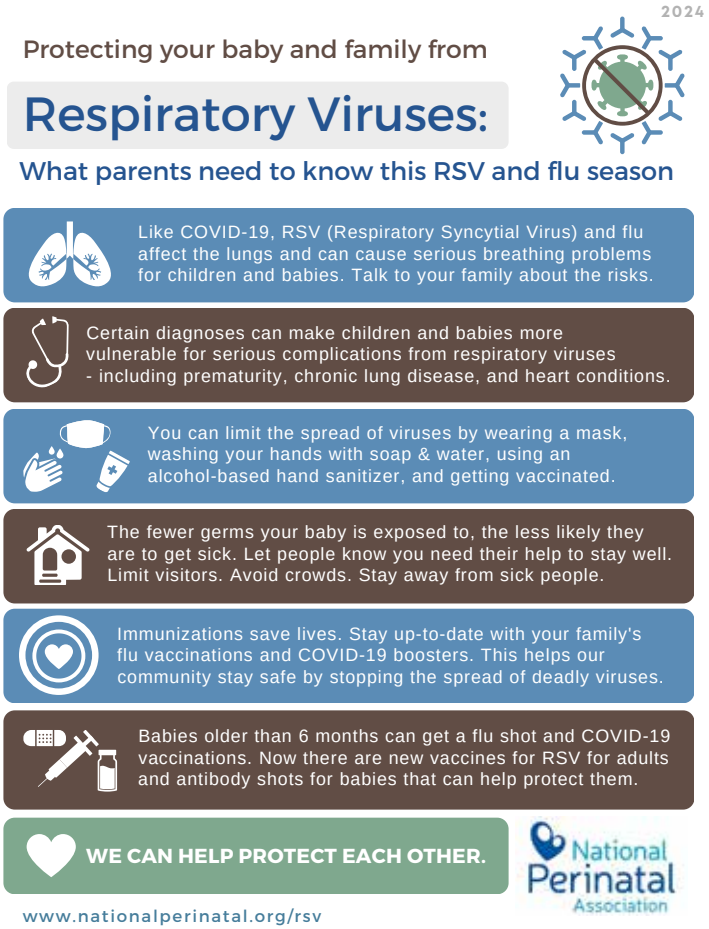


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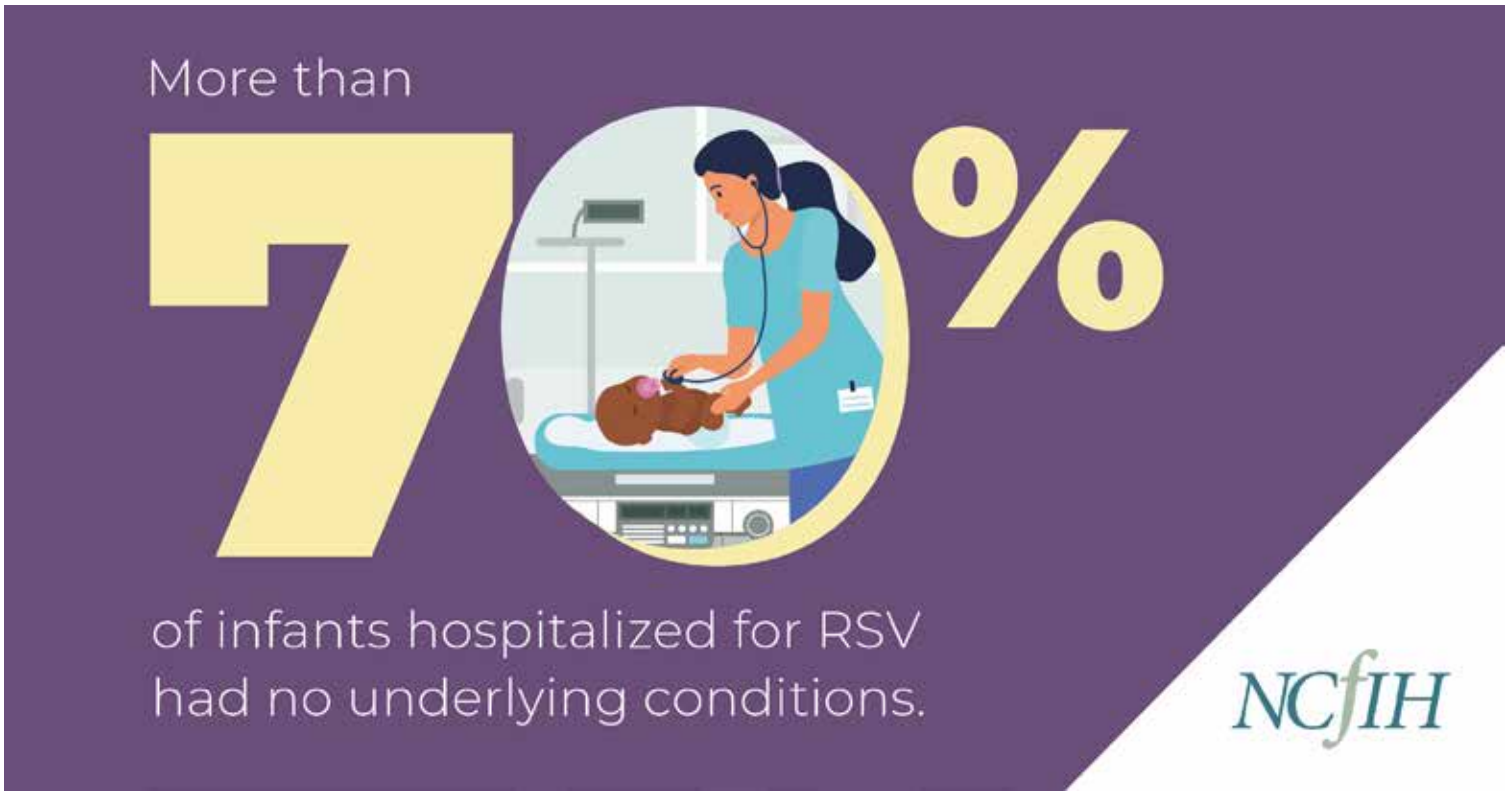
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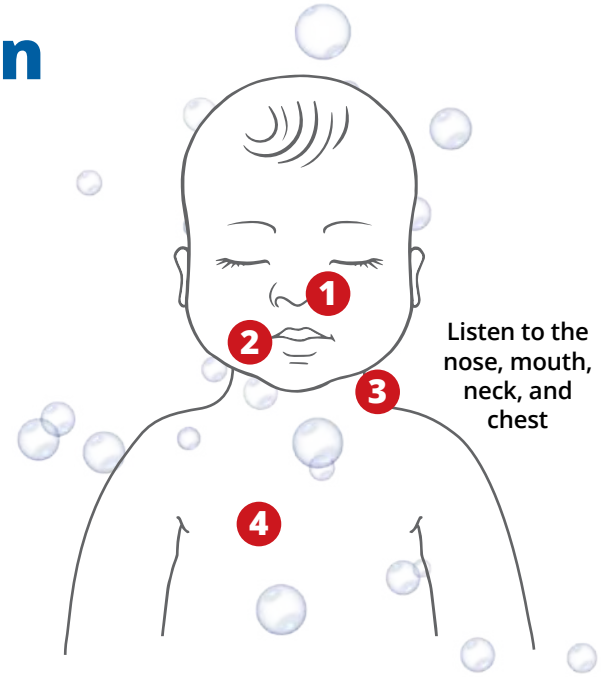
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Auscultate **all four areas** during every assessment



QUICK ASSESSMENT WORKFLOW

Listen for characteristic bubbling throughout the system.

1. **NOSE**: Equal flow + bubbling = Good
2. **MOUTH**: No flow = Good
3. **NECK**: Good flow = Patent airway
4. **CHEST**: Bubbling = CPAP delivered

1 NOSE

Ascultate over nasal bridge

Desired results

Should hear equal flow
Good flow + bubbling = patent

Troubleshooting

Poor flow = prongs malposition
No flow/bubbling = prongs out, mouth leak, or circuit issue
Check circuit flow/prongs
Confirm correct prong size

2 MOUTH

Ascultate over mouth

Desired results

Should hear NO flow
Mouth should be closed

Troubleshooting

If leak present: Use Baby Chin Band / Strap
If intermittent bubbling: reposition Chin Band

3 NECK

Ascultate over larynx / trachea

Desired results

Should hear good flow
Airway patency indicator

Troubleshooting

If no bubbling: Check for secretions
Suction: as needed
Check: for neutral neck position

4 CHEST

Ascultate lung fields bilaterally

Desired results

Should hear bubbling
CPAP delivery confirmed

Troubleshooting

If no bubbling: Check for secretions and airway patency
Suction: as needed
Check: for neutral airway position
Reposition: chin strap

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Recent Changes in National Guidance Regarding Perinatal Hepatitis C Virus (HCV) Exposure Merit Heightened Awareness Across Neonatal Practice

Shaina Khan Lodhi, MD, Emily Batton, MD

" In 2023, recommendations were updated to advise that infants born to mothers with HCV infection undergo nucleic acid amplification testing (NAAT) for HCV RNA between 2 and 6 months of age, rather than waiting until 18 months for antibody-based testing. This revision, issued by the CDC, reflects an evidence-informed response to a persistent systems-level problem: substantial loss to follow-up under the previous strategy, with a resulting burden of delayed or entirely missed diagnoses."

Recent changes in national guidance regarding perinatal hepatitis C virus (HCV) exposure merit heightened awareness across neonatal practice. In 2023, recommendations were updated to advise that infants born to mothers with HCV infection undergo nucleic acid amplification testing (NAAT) for HCV RNA between 2 and 6 months of age, rather than waiting until 18 months for antibody-based testing. This revision, issued by the CDC, reflects an evidence-informed response to a persistent systems-level problem: substantial loss to follow-up under the previous strategy, with a resulting burden of delayed or entirely missed diagnoses.

Under earlier guidance, clinicians relied on anti-HCV antibody testing at or beyond 18 months of age to avoid false-positive results attributable to passive transplacental transfer of maternal antibody. While scientifically sound in theory, this delayed testing model proved operationally fragile. Many exposed infants, particularly those in socioeconomically vulnerable populations, do not reliably return for evaluation at 18 months. In contrast, attendance rates for routine well-child visits are substantially higher during early infancy, particularly between 2 and 6 months of age. Aligning HCV testing with these earlier encounters increases the likelihood that exposed infants will be successfully evaluated.

The shift toward early RNA-based testing represents a pragmatic recalibration. By performing HCV RNA testing at 2–6 months, clinicians can directly detect active viral replication and establish infection status with far greater temporal proximity to birth. NAAT testing has been available for several years, and modern nucleic acid amplification technologies demonstrate excellent sensitivity for early detection of HCV RNA. In addition to enabling earlier diagnosis, this approach may also confer cost-saving benefits by utilizing a single test via NAAT, as opposed to the traditional anti-HCV test that reflexes to HCV RNA testing. Although spontaneous viral clearance can occur in a proportion of infants during early childhood, early identification permits stratified follow-up, documentation of clearance when it occurs, and clear delineation of those who require ongoing hepatologic surveillance.

Importantly, while direct-acting antiviral therapies are currently approved only for children aged 3 years and older, earlier diagnosis remains clinically meaningful and can inform future medical care. Early confirmation of infection facilitates structured longitudinal monitoring of hepatic function, growth, and development. It enables timely referral to pediatric infectious disease or hepatology specialists. It provides clarity to families who might otherwise remain uncertain about their child's status for years. Moreover, it supports anticipatory guidance and strengthens continuity within the medical home—critical in populations at risk for fragmented care.

" It provides clarity to families who might otherwise remain uncertain about their child's status for years. Moreover, it supports anticipatory guidance and strengthens continuity within the medical home—critical in populations at risk for fragmented care."

From a systems perspective, this updated recommendation calls for improved communication between obstetric, neonatal, and primary care teams, and for deliberate tracking mechanisms to ensure RNA testing is completed within the recommended window. It underscores the importance of embedding HCV exposure follow-up into Neonatal and Pediatric well child-care workflows and provides the opportunity for timely diagnosis prior to birth-hospitalization discharge if the infant remains admitted to the neonatal intensive care unit (NICU) at 2 months of age. In this respect, the policy change is not merely a laboratory adjustment, but a quality-improvement opportunity aimed at reducing disparities and closing care gaps.

For neonatal clinicians, awareness of this revised testing timeline is essential. Earlier RNA testing aligns clinical practice with real-world patterns of follow-up, mitigates the risk of undiagnosed chronic infection, and enhances care coordination for a vulnerable cohort. As with many advances in neonatal medicine, the evolution in HCV screening reflects not only scientific progress

but also a commitment to practical implementation, recognizing that recommendations must function effectively within the lived realities of families and healthcare systems alike.

"As with many advances in neonatal medicine, the evolution in HCV screening reflects not only scientific progress but also a commitment to practical implementation, recognizing that recommendations must function effectively within the lived realities of families and healthcare systems alike."

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Providing and promoting dialogue among healthcare professionals with the expectation of shared excellence in the systems that care for women and children.

Merchak Monthly Neonatal Case Challenge Page
February 2026 Edition

Assaad Merchak, MD

"We are pleased to present the January edition of the Merchak Monthly Case Challenge, designed to foster ongoing education and excellence in neonatal care. Each month, clinicians are invited to test their knowledge, engage with real-world scenarios, and compete for prizes."

Welcome Back:

We are pleased to present the February edition of the Merchak Monthly Case Challenge, designed to foster ongoing education and excellence in neonatal care. Each month, clinicians are invited to test their knowledge, engage with real-world scenarios, and compete for prizes.

"We are pleased to present the February edition of the Merchak Monthly Case Challenge, designed to foster ongoing education and excellence in neonatal care. Each month, clinicians are invited to test their knowledge, engage with real-world scenarios, and compete for prizes."

Last month, Case Recap: Neonatal Hyperkalemia:

Last month's challenge featured the case where you had to deal with symptomatic neonatal hyperkalemia. Margret is a 6-day-old female, born at 26 weeks GA via vaginal delivery due to preterm labor. Her mother's serology is negative, and she received one dose of antenatal steroids. Margaret received exogenous surfactant therapy, conventional ventilation, trophic donor breast milk feeds, TPN support via UVC, and Caffeine. Last 36 hours, Margret had increased frequency of desaturations requiring increased vent support, so she was placed on broad-spectrum antibiotics. Repeat blood culture is growing *Klebsiella pneumonia*. Margaret's urine output is diminished, and now, she is having frequent episodes of bradycardia. Her electrolytes are as follows: Na 128 mEq/L, K 7 mEq/L, CL 108 mEq/L, Bicarb 14 mEq/L, Glu 50 mg/dl, BUN 40 mg/dl, Creatinine 2 mg/dl, Ca 7 mg/dl.

" Last 36 hours, Margret had increased frequency of desaturations requiring increased vent support, so she was placed on broad-spectrum antibiotics. Repeat blood culture is growing Klebsiella Pneumonia. Margaret's urine output is diminished, and now, she is having frequent episodes of bradycardia."

Key Learning Points:

- A wide range of drugs can cause hyperkalemia by various mechanisms. Digoxin and propranolol shift potassium from intracellular to extracellular space, while spironolactone decreases renal potassium excretion. Furosemide causes hypokalemia due to increased renal losses.
- Sodium Polystyrene Sulfonate (Kayexalate) use is contraindicated in preterm neonates or term neonates with bowel obstruction or ileus, intestinal hypomotility, or at risk for necrotizing enterocolitis.
- The number of studies on the acute management of hyperkalemia in neonates is limited, and most

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recommendations are based on adult literature.

For more details, visit the previous case presentation:

https://www.takethequiz.us/prior-case-presentation

Congratulations

The gift card winner for last month's challenge is klsiu, QEH, Hong Kong

This month's Challenge: Margaret has an AKI

This month's case focuses on Neonatal Acute Kidney Injury

Sneak peek Challenge question: True or false: Most therapeutic measures for NKI in neonates are evidence based

Test your knowledge and participate in the challenge by visiting:

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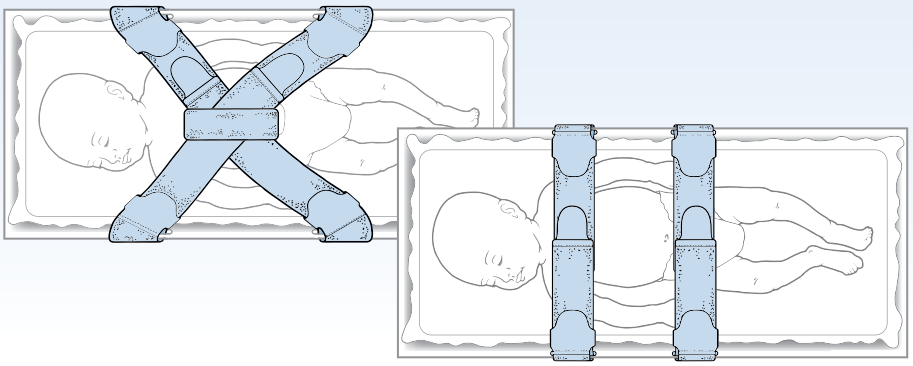


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Historical Perspective—Three Hearts and the Hypoplastic Left Heart Syndrome

Joseph B. Philips, III, MD, FAAP

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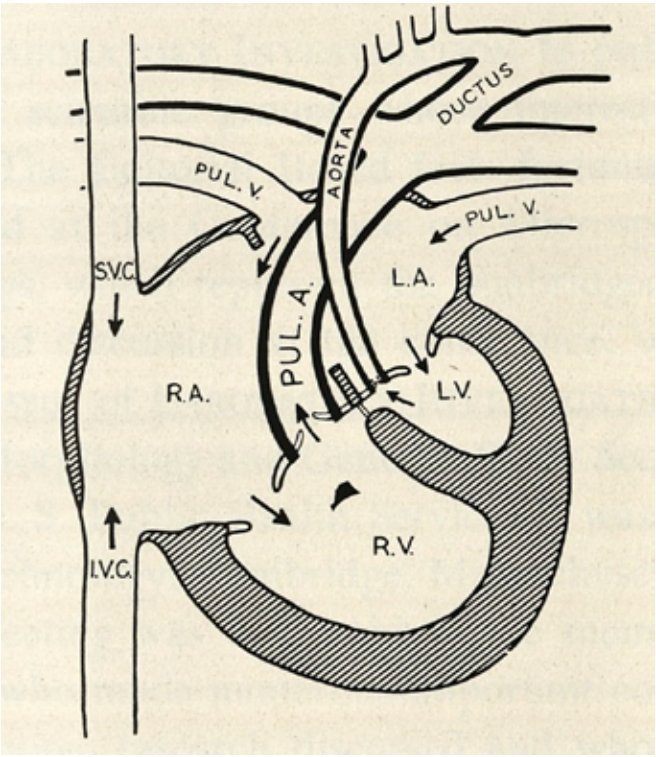
At some time in the mid-1980s, we cared for three infants with hypoplastic left heart syndrome (HLHS). At that time, we counseled families that there were three choices for how to proceed—comfort care, palliative surgery with the Norwood procedure, or cardiac transplantation. Each family chose a different pathway. The family that chose comfort care was given a private room, active treatment was discontinued, and the baby died quickly in its mother's arms. I do not recall what happened to the baby that had the Norwood procedure. I vividly recall the third baby. A heart became available from an infant with anencephaly whose family wished to donate its organs. This has been a subject of considerable debate, which I will discuss later, as these babies are not brain dead, so harvesting of their organs kills a living person. The family was insistent, and the heart was a match, so a surgeon was dispatched when the baby was dying to collect the heart, which was then transplanted. Unfortunately, the heart developed "stone heart" upon reperfusion, and the baby died on the operating table. (1) Much has changed in the years since.

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Early Descriptions and Surgical Management:

Lev was among the first to describe what came to be known as HLHS. A 1942 publication showed an image of HLHS with a minuscule aorta that did not connect to the diminutive left ventricle but instead functioned as a reverse-flow coronary artery, giving off normal coronary arteries. (2) (See Figure 1.) He then described 40 cases, calling them "hypoplasia of the aortic tract complexes…. classified according to the degree of aortic hypoplasia." (3) In a review of 101 cases, Noonan and Nadas attributed the term hypoplastic left heart syndrome to Lev. However, I find no mention of the term in his reports, so most credit Noonan and Nadas with coining the name. (4) Only six of their cases survived more than a year, and they concluded, "Surgical correction of this anomaly has not been attempted. Theoretically, an aortic or synthetic graft could be constructed to bridge the defect, and the ductus could be divided. The high incidence of associated ventricular septal defects and the occasional association with mitral atresia reported in the literature would make such an operation difficult.

Figure 1. Cartoon of hypoplastic left heart syndrome showing a tiny aorta and left ventricle. (3)



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Since the right ventricle supplies the descending aorta, pulmonary hypertension is a constant finding and would complicate surgical repair. For these reasons it seems unlikely that this lesion, even if diagnosed, could be successfully corrected by surgical means in most cases. Nevertheless, in view of the uniformly fatal outcome, operation should be considered if such a diagnosis is established."

Saied and Folger subsequently categorized HLHS as being in two categories: "There are 2 clinical groups of patients. The diagnosis in group I can be established in an infant with cardiorespiratory distress combined with feeble or absent pulses in the presence of a hyperactive precordium. The diagnosis in patients of group II is more difficult because they have fair to good peripheral pulses and may be older when first seen, often making hemodynamic study necessary." (5) They also speculated that "the prognosis is virtually hopeless at present. Palliation may be accomplished by surgical creation of an atrial septal defect concomitant with pulmonary arterial banding distal to the patent ductus arteriosus." Microangiography of the pulmonary vasculature revealed tortuosity, indicative of significant pulmonary hypertension, a complication that could also complicate efforts at surgical palliation or correction. (6) Sinha and colleagues then reported autopsy findings in 30 cases and recommended banding of the pulmonary arteries to reduce pulmonary overcirculation. (7)

Caylor and associates developed a palliative operation whereby the ascending aorta was anastomosed to the right pulmonary artery, followed by banding of both pulmonary arteries distal to the anastomosis. (8) Short-term results were good, but I suspect the child eventually developed pulmonary hypertension as a result of the high pulmonary pressures despite the banding. Two years later, in 1972, others reported a palliative operation in two infants using a tubular synthetic graft between the descending aorta and the main pulmonary artery, followed by distal banding of the two pulmonary arteries. (9) The authors stated that the children were doing well at 18 and 36 months, respectively, but I suspect they also ultimately developed pulmonary hypertension.

Doty et al. developed an operation using a tubular anastomosis between the proximal pulmonary artery and a calibrated opening to achieve balanced flow between the pulmonary and systemic circulations. (10) The child died suddenly at 12 weeks of age, and the autopsy revealed stenosis of the calibrated opening. Other palliative operations were also proposed, but none resulted in long-term survival, leading to cardiac transplantation becoming the preferred operation in the 1980s. (11)

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Cardiac Transplantation:

Dr. Leonard Bailey (Figure 2) and colleagues at Loma Linda University in California pioneered cardiac transplantation in the newborn. Orthotopic xenografting of newborn lamb hearts into

Figure 2. Dr. Leonard Bailey with Joe Kiani, CEO of Masimo. Photo courtesy of Mitchell Goldstein, MD.



14 size-matched newborn goats provided the impetus to attempt transplantation in human infants. (12) Next came the bombshell report of Baby Fae, into whom Bailey's group transplanted a baboon heart. (13) She only survived 20 days, but the genie was out of the bottle, and cardiac transplantation in babies with HLHS was off and running. A detailed discussion of the immune response and possible ways to control rejection of xenografts followed. (14) Dr. Bailey also discussed the immunological, philosophical, and societal implications of xenografting, concluding that, in his opinion, the procedure was justified, also proposing that xenografting could function as a 'bridge' to orthotopic transplantation while waiting for a human donor. (15) In 1988, the group reported on 14 infants who had received hearts from deceased babies, with 11 (78%) survivors, but also commented that "the 'Achilles' Heel' of infant heart transplantation is donor organ availability." (16) Cardiac catheterization studies at a mean of 17 + 5.6 months post-transplantation in five survivors revealed excellent hemodynamics. (17)

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As mentioned previously, infants with anencephaly have been considered as donors for hearts to transplant. The ethical issue has also been reviewed. An effort to improve the quality of organs obtained at the death of anencephalic babies evaluated the impact

of providing intensive care from birth versus only when death was imminent found that intensive care from birth was not beneficial. (18) Bailey, however, argued passionately that anencephalic infants could greatly enhance the availability of transplantable organs and that the greater good should trump the ethical issues surrounding harvesting their organs prior to natural death. (19)

A major advance in the availability of hearts for transplants came with the use of ABO-incompatible organs. West and colleagues reported that 10 infants who had not yet developed ABO isohemagglutinin antibodies and received ABO-incompatible hearts had outcomes similar to those receiving compatible hearts. (20) Wait list mortality using this strategy fell from 58% to 7% because hearts became available much sooner. A large review using data from the Pediatric Heart Transplant Society registry published in 2020 showed that ABO incompatible listing rose from 49% in 2010 to 72% in 2017 and that 18.6% of 1,288 who received a transplant had an incompatible one. (21) It was also found that waitlist times were shorter for those receiving incompatible transplants with similar survival to those getting compatible hearts.

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A significant problem for infants awaiting cardiac transplantation is the necessity of maintaining patency of the ductus arteriosus to maintain systemic blood flow. This is typically done using a continuous prostaglandin E_1 (PGE_1) infusion. (22) The downsides of prolonged PGE_1 infusion include the need to maintain vascular access for the duration of treatment, which increases the risk of infection and loss of viable vascular access, plus the long-term untoward effects associated with the infusion, including electrolyte abnormalities, apnea, pyloric stenosis, and painful periosteal overgrowth. (23) Alternatively, stenting of the ductus has also been reported. (24)

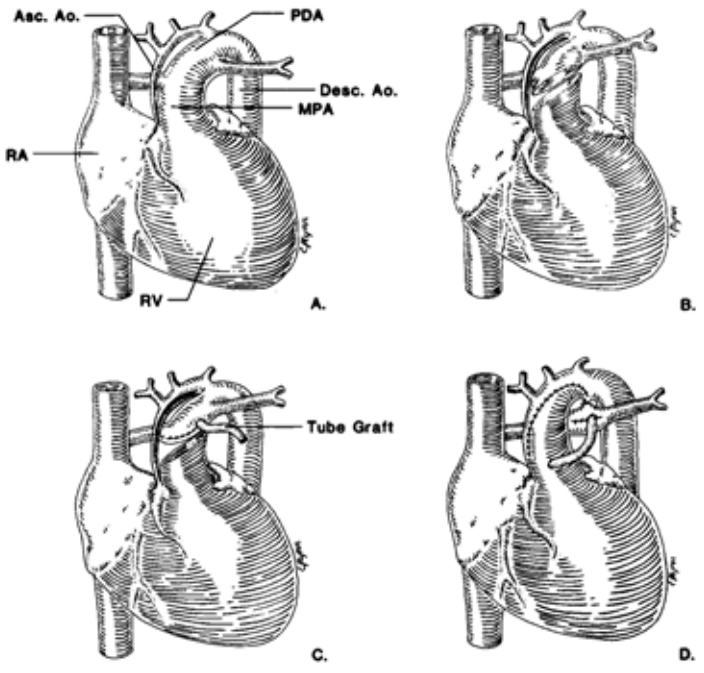
The advent of staged palliative repair of HLHS beginning in the 1980s, with continued improvements over the next decades, led to a reduction in the use of cardiac transplantation as a primary option. A study using data from the Pediatric Heart Transplant Society found that the percentage of HLHS patients among all pediatric patients listed for transplant declined from 27% in 1993 to 14.4% in 1998. (25) While mortality rates declined over the study, they remained about 20% in the latter years, while palliative surgery survival rates, as discussed next, steadily rose. Another large report from 2009 found that mortality while waiting for a heart was higher the lower the patient's weight at listing, being about 25% for those weighing 2–5kg when listed and 18% for those weighing 5–10kg when listed. (26)

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Staged Palliative Surgery:

The era of surgical palliation of HLHS effectively began when Dr. William Norwood introduced his eponymous operation as a case report in the *New England Journal of Medicine* in 1983. (27) As shown in Figure 3 below, the operation consists of transecting the main pulmonary artery and oversewing the distal portion,

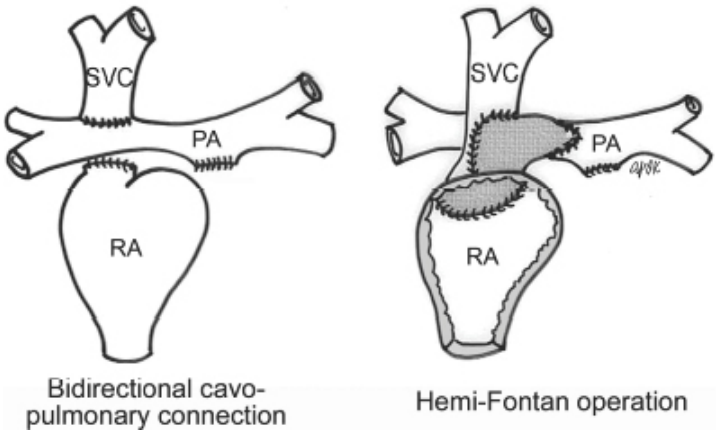
Figure 3. The first stage of the Norwood procedure. Figure A shows the heart before surgery. The main pulmonary artery is transected, and the ascending aorta and arch are incised (B). The distal pulmonary artery is closed, and a graft is placed (C). The proximal pulmonary artery is anastomosed to the ascending aorta, and the graft is completed (D). (27) Used with permission.



incising the ascending aorta and arch, anastomosing the proximal pulmonary artery to the aorta, creating a shunt between the aorta and the pulmonary artery (modified Blalock-Taussig shunt), and ligating the ductus arteriosus. Dr. Norwood then performed a second surgery 16 months after pulmonary artery pressure had become minimal, wherein he removed the shunt, anastomosed the right atrium to the right pulmonary artery, and created an interatrial baffle to shunt blood from the left atrium to the right ventricle through the atrial septal defect.

The Norwood procedure leaves the right ventricle as the pumping chamber for both the pulmonary and systemic circulations, which has the long-term disadvantages of ventricular overload and the need to balance flow between the high-resistance systemic circulation and the low-resistance pulmonary circulation. The staging process to full palliation began with the introduction of the Glenn operation, in which the superior vena cava (SVC) is anastomosed to the right pulmonary artery, allowing passive blood flow to the right lung. (28) This and further operations must be performed well after the Norwood, when pulmonary vascular resistance is minimal. While helpful, the original Glenn operation permanently disrupts the pulmonary circulation and carries a high incidence of superior vena cava syndrome. Azzolina and colleagues modified the procedure by anastomosing the SVC to the right pulmonary artery without disrupting it, giving rise to what is known as the bidirectional Glenn. (29) An alternative to the bidirectional Glenn is the hemi-Fontan, which also uses the SVC to provide pulmonary blood flow using a slightly different approach (Figure 4). (30)

Figure 4. Cartoons illustrating the bidirectional Glenn and hemi-Fontan operations. (30)



The final stage in the palliative repair is the Fontan operation, which allows both SVC and inferior vena cava blood to perfuse the pulmonary circulation (Figure 5). (31, 32) Norwood reviewed the success rate of staged palliation using the hemi-Fontan as a bridge to the Fontan operation and reported that of 61 patients who completed the surgeries, there were only 6 early and 3 late deaths. (33)

A further development was the introduction of the Sano procedure, in which a non-valved conduit is placed from the right ventricle to the pulmonary artery, rather than the aorta-to-pulmonary artery shunt used in the classic Norwood operation. (34) This procedure has the advantage of eliminating diastolic flow from the systemic to the pulmonary circulation, thereby limiting pulmonary overcirculation and systemic steal. A large, multicenter, randomized, controlled trial comparing outcomes found transplant-free survival to be greater with the Sano procedure than with the modified Blalock-Taussig shunt (Figure 6). (35) However, complication rates were somewhat higher with the Sano operation.

Figure 5. The completed Fontan operation. (32) CC BY-NC-ND 4.0.

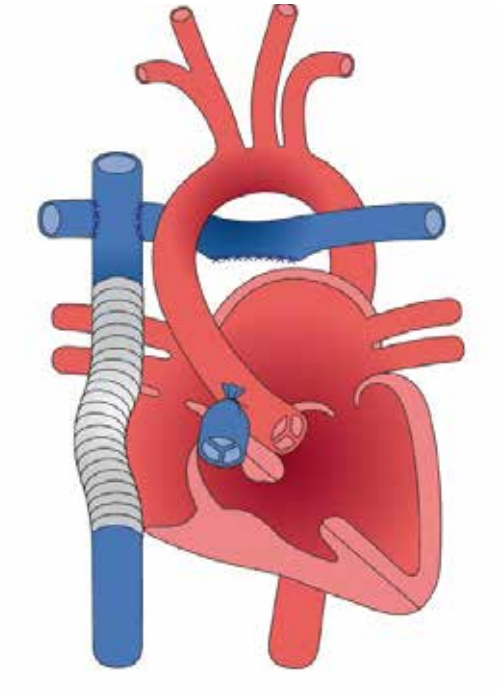
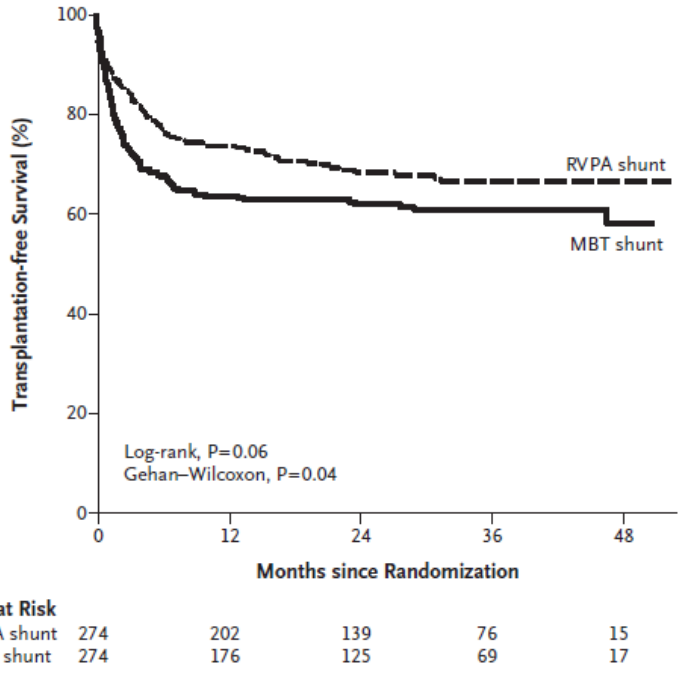


Figure 6. Transplant-free survival following the Sano procedure (RVPA shunt) versus the modified Blaylock-Taussig shunt (MBT shunt). (35) Used with permission.

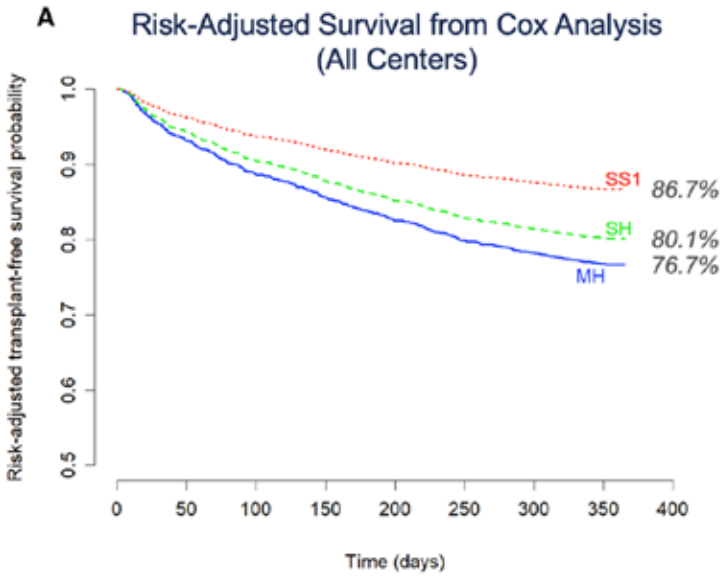


Infants with atypical HLHS morphology tend to do worse than those with the more common phenotypes. (36) This, plus other unfavorable risk factors, has led to the development of hybrid alternatives to the stage one Norwood procedure. Surgical stenting of the ductus arteriosus to maintain patency, along with banding of the pulmonary arteries and atrial septectomy or septostomy, was reported in 1993. (37) This process has since been modified to use a hybrid method of ductal and atrial septum stenting via cardiac catheterization plus surgical banding of the pulmonary arteries, thus avoiding the need for cardiopulmonary bypass. (38)

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A further strategy is to use a so-called medical hybrid procedure, which is surgical banding of the pulmonary arteries and maintenance of ductal patency with prostaglandin E_1 prior to the Norwood procedure. (39) This allows the Norwood operation to be done later with better metabolic post-operative outcomes. A large study comparing one-year outcomes of 2013 infants undergoing the Norwood operation to 133 receiving surgical hybrid management and 277 receiving medical hybrid management found that one-year transplant-free survival was similar in the surgical and medical hybrid groups but inferior to that of the Norwood group (Figure 7). (40)

Figure 7. Cox proportional hazards regression analysis survival curves comparing Norwood surgical stage 1 (SS1) transplant-free survival to surgical hybrid (SH) and medical hybrid (MH) management. (40) CC BY-NC-ND 4.0.



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The authors noted, however, that infants receiving hybrid treatments were typically at a higher risk than those getting the Norwood operation. Neurodevelopmental outcomes at six months of age for patients receiving the Norwood operation were compared with those having surgical hybrid procedures and no differences were found between the groups despite the hybrid group having more babies with birthweights less than 2,500g (14.6% vs. 4.2%, p=0.01) and more infants with chromosomal anomalies (19% vs. 8.2%, p=0.04). (41) A small subset of infants with HLHS have anomalies that make surgical palliation untenable. Recent publications have shown that some of these babies can be saved with a combination of hybrid palliation plus a ventricular assist device as a bridge to cardiac transplantation. (42, 43) A 2025 publication documented remarkable improvements in long-term survival from the 1980s into the current era with a leveling off of improvement over the past two decades. (44) Transplant free survival rose from 23% in the earliest era to over 60% in the latter eras. A majority of survivors also ranked their quality of life as good or excellent.

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Other Possible Strategies:

Some infants have borderline hypoplastic left ventricles, which have led to strategies to attempt to achieve two-ventricle circulation. (45) This consists of several different approaches in the newborn period, including stage 1 Norwood without atrial septostomy, hybrid bilateral pulmonary artery bands and ductal stenting, or a full catheterization procedure with ductal stenting

and placement of flow restrictors in the pulmonary arteries. If subsequent evaluations predict adequate left ventricular size and function, then a biventricular repair is performed. Balloon dilatation of aortic stenosis during fetal life has been attempted with limited success. (46) Three of 14 fetuses that had successful procedures had 2-ventricle circulation at birth.

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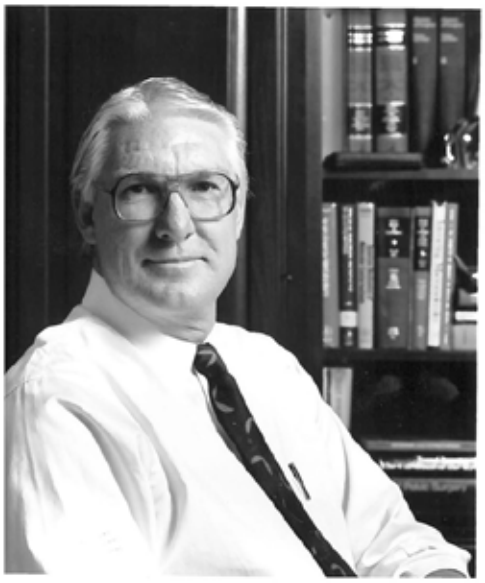
Stem cell therapy may be beneficial, although studies are currently small. A comprehensive review of stem cell therapy in HLHS was recently published, suggesting that this treatment may be promising in the future. (47) A phase 1 trial comparing 8 controls to 8 infants receiving autologous stem cells harvested during the initial Norwood operation and injected into the myocardium during phase 2 surgery did not show an improvement in right ventricular function but did show improvements in secondary outcomes, including reduced death or transplant and improved quality of life. (48) A phase 2 study of intracardiac progenitor cell injection in infants with single ventricle physiology, 6 of 17 of whom had HLHS, showed improved measures of cardiac function, reduced fibrosis, improved somatic growth, and quality of life at 3- and 12-month follow-up. (49) Finally, efforts at bioengineering heart pumps are ongoing and one day may prove beneficial in improving outcomes for infants with HLHS.(50, 51)

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William I. Norwood Jr., M.D.:

This review would be incomplete without a discussion of Dr. Norwood's life. He was born in Los Alamos, New Mexico, in 1941, where his father was a scientist working on the Manhattan Project, which led to the development of the atomic bomb. (52) After high school, he attended the Air Force Academy but dropped out after two years and enrolled in medical school at the University of Colorado. His surgical residency was served at the University of Minnesota Medical School before moving to Harvard in 1976 to work with the legendary Aldo Castaneda, MD. Dr. Norwood (Figure 8) remained on the faculty at Harvard, where he developed his groundbreaking procedure. He moved to the Children's Hospital of Philadelphia in 1984, where he served as Chief of Pediatric Cardiac Surgery. In 1994, he moved to Geneva, Switzerland, where he remained for 3 years before establishing the Nemours

Figure 8. William I. Norwood, M.D. (60)



Cardiac Centre in Wilmington, Delaware. It was there that he ran afoul of the regulations related to informed consent and Institutional Review Board approval for experimental devices and was summarily fired in 2004 and escorted from the building by an armed guard. (53, 54) He remained active in global advocacy and mentorship after his retirement.

Early in his career, Dr. Norwood traveled to Krakow, Poland, with Project Hope, where he performed many surgeries and trained local physicians, making Krakow a major center for congenital heart surgery. (52) Dr. Norwood held periodic family gatherings for his former patients, as shown in Figure 9, with kids in Poland wearing red T-shirts with the statement "S/P Norwood, hope and miracle." (55) Dr. Norwood was one of over 18,000 people who died from COVID-19 in a single week in December of 2020. (56) His death spawned numerous obituaries and memorial publications describing his enormous contributions. (52, 55, 57–59) His Legacy obituary has numerous testimonials from parents and patients thanking him for his lifesaving work. (59)

Figure 9. Dr. Norwood (grey-haired) at a family gathering in Poland. The red T-shirts say "S/P Norwood, hope and miracle." (55) Used with permission.



Conclusion:

So, here we are four decades after the three babies I described at the beginning of this article. Outcomes have vastly improved, and most survivors report good or excellent quality of life. This is a testament to the tireless efforts of Drs. Bailey and Norwood, as well as countless others who have led these advances.

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Will your PRETERM INFANT *need* EARLY INTERVENTION *services?*

Preterm infants are:

2x more likely to have developmental delays

5x more likely to have learning challenges



1 in **3** preterm infants will require support services at school

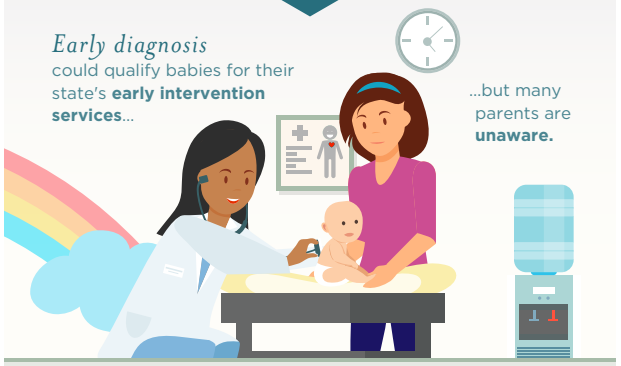


Early intervention can help preterm infants:

- Enhance language and communication skills
- Build more effective learning techniques
- Process social and emotional situations
- Address physical challenges
- Prevent mild difficulties from developing into major problems

Early diagnosis could qualify babies for their state's **early intervention services**...

...but many parents are **unaware.**





NICU staff, nurses, pediatricians and social workers **should talk** with NICU families about the challenges their baby may face.

Awareness, referral & timely enrollment in early intervention programs can help **infants thrive** and grow.



NCIH National Coalition for Infant Health

Protecting Access for Premature Infants through Age Two

www.infanthealth.org

Visit **CDC.gov** to find contact information for your state's early intervention program.

Maternal Vaccines:

WHAT YOU **NEED** TO KNOW

CDC-Recommended Vaccines for Pregnant Women



	COVID	FLU	RSV	TDAP
Does it protect baby?	+	+	+	+
Does it protect mother?	+	+		
Is there an immunization for baby after birth?			+	



Vaccines given to pregnant women **are safe and effective.**



Maternal vaccines help the body create antibodies that can be passed to your baby and help protect them when they are born.





Talk with your health care provider to learn more about protecting yourself and your baby.

LEARN MORE ▶

NATIONAL COALITION for Infant Health

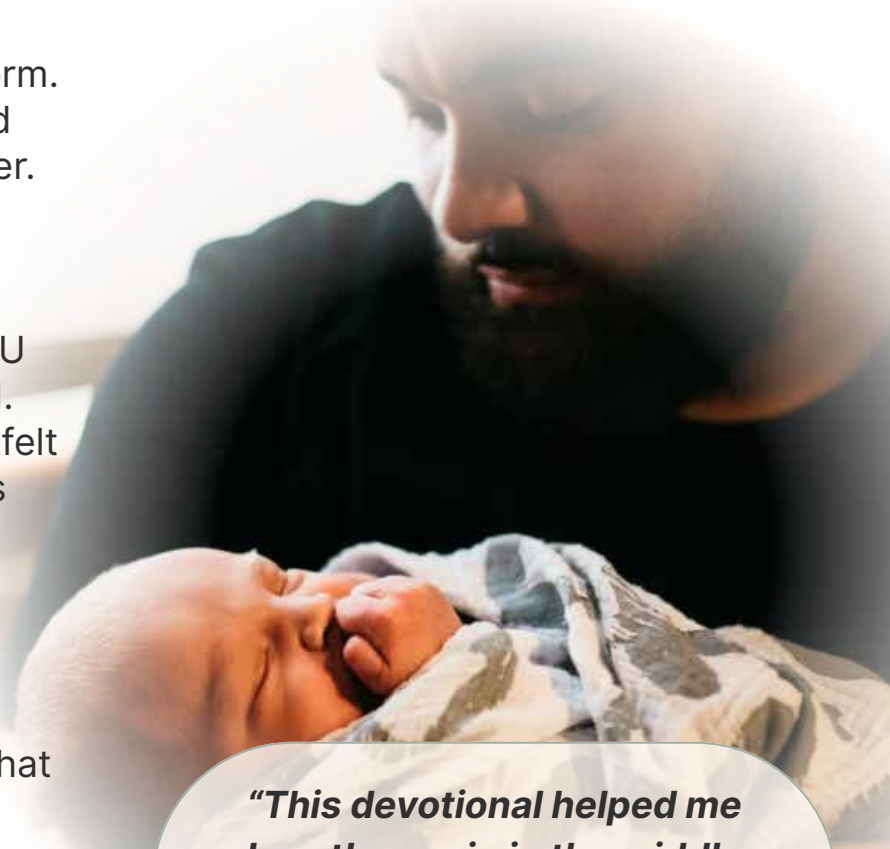
When hope feels distant, let His words anchor your heart.

A 30-Day Devotional for NICU Parents

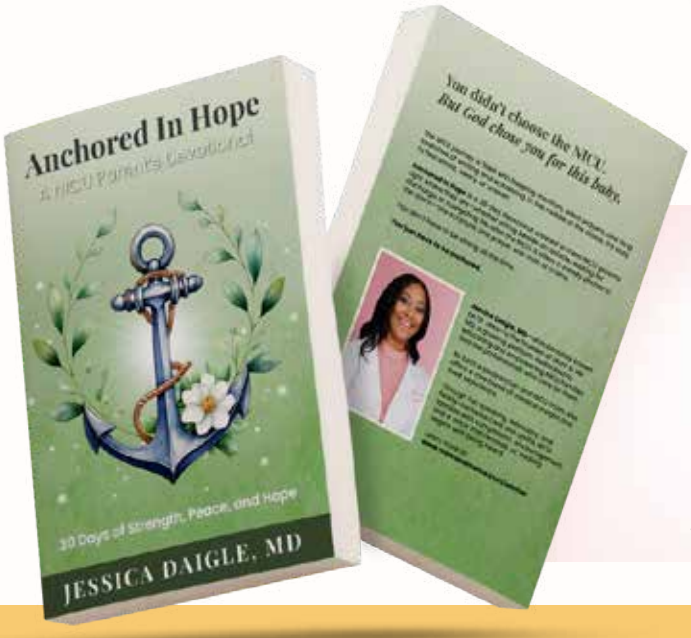
The NICU journey can feel like a storm. One filled with uncertainty, fear, and long nights that blur into one another. But even here, *you are not alone*.

Anchored In Hope was written by Dr. Jess, a physician and fellow NICU mom who knows this road firsthand. Through 30 days of scripture, heartfelt reflections, and guided prayers, this devotional helps NICU parents find calm, courage, and connection with God when life feels overwhelming.

Inside these pages, you'll feel **seen**, **understood**, and gently reminded that **hope is still present**. *Even here*.



"This devotional helped me breathe again in the middle of our NICU storm."
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Sodium–Chloride Physiology and Acid–Base Balance in Preterm Infants

Noel D Tan, MD

"Disturbances of sodium and chloride balance are among the most common biochemical abnormalities in preterm infants, yet they are frequently misinterpreted when assessed using conventional laboratory paradigms."

Abstract:

Disturbances of sodium and chloride balance are among the most common biochemical abnormalities in preterm infants, yet they are frequently misinterpreted when assessed using conventional laboratory paradigms. Serum sodium concentration primarily reflects water balance rather than total body sodium stores, while chloride load strongly influences acid–base status through its effect on the strong ion difference (SID). Developmental immaturity of renal tubular function leads to sodium wasting, limited bicarbonate conservation, and reduced capacity to excrete chloride loads, allowing total body sodium depletion and hyperchloremic metabolic acidosis to coexist. These disturbances follow predictable physiologic pathways that affect growth, renal mineral handling, and bone mineralization. Accurate assessment therefore requires integrating sodium intake and growth, urine sodium trends, and the sodium–chloride–bicarbonate relationship rather than relying on single laboratory values.

Management should ensure adequate sodium for growth while minimizing chloride load and using metabolizable anions such as acetate or citrate when supplementation is required.

Introduction:

Sodium and chloride are the principal extracellular ions, and together they determine both extracellular volume and acid–base equilibrium. In preterm infants, interpretation of these electrolytes is uniquely challenging because renal immaturity, rapid growth requirements, and common neonatal intensive care practices alter their handling. Serum sodium concentration is often assumed to reflect sodium sufficiency, while bicarbonate and pH are used to judge metabolic status. Both assumptions are incomplete. Serum sodium measures the concentration of sodium in plasma water rather than total body sodium stores, and bicarbonate reflects underlying strong-ion relationships rather than acting independently. Accurate interpretation, therefore, requires understanding how sodium, chloride, water balance, and SID interact in the developing kidney and growing infant.

Developmental Renal Physiology of Sodium, Chloride, and Bicarbonate:

Renal tubular function in preterm infants is developmentally immature, and the handling of sodium, chloride, and bicarbonate does not mature in parallel. Each ion follows distinct transport pathways and maturational timelines, producing characteristic patterns of sodium wasting, chloride retention, and limited bicarbonate conservation during early life.

Sodium reabsorption occurs primarily in the proximal tubule and thick ascending limb through active transport processes that are incompletely developed in preterm infants. Reduced activity of sodium–hydrogen exchange and basolateral sodium–potassium ATPase limits the capacity to reclaim filtered sodium. Consequently, urinary sodium losses remain relatively high even when total body sodium is depleted, predisposing growing preterm infants to sodium deficiency.

Chloride handling differs because much chloride reabsorption occurs passively with sodium and water movement rather than through tightly regulated active transport. When chloride intake is high through saline, chloride-dominant parenteral nutrition, or sodium chloride supplementation, the immature kidney has limited capacity to excrete the excess chloride load without disturbing electroneutrality. Serum chloride, therefore, tends to rise relative to sodium, producing a reduced SID. Thus, sodium is readily lost, whereas chloride accumulates when intake is high.

Bicarbonate reabsorption is also developmentally limited. Proximal tubular bicarbonate reclamation depends on carbonic anhydrase activity and sodium–hydrogen exchange, both of which are reduced in preterm kidneys. The renal threshold for bicarbonate is therefore lower, and conservation is less efficient. Even without chloride excess, preterm infants are predisposed to mild metabolic acidosis; when hyperchloremia is present, the kidney cannot adequately increase bicarbonate to offset the reduced SID.

These maturational differences create a characteristic physiologic pattern: sodium is lost relatively easily; chloride is retained when intake is high; and bicarbonate conservation is limited. The combined effect is a tendency toward sodium depletion coexisting with chloride-dominant low-SID metabolic acidosis.

"These maturational differences create a characteristic physiologic pattern: sodium is lost relatively easily, chloride is retained when intake is high, and bicarbonate conservation is limited. The combined effect is a tendency toward sodium depletion coexisting with chloride-dominant low-SID metabolic acidosis."

Hyperchloremia and the Strong Ion Difference:

Hyperchloremia in preterm infants most often reflects cumulative chloride exposure from saline administration, chloride-dominant parenteral nutrition, sodium chloride supplementation, and fortified enteral feeds. The physiologic consequence of chloride excess is a reduction in SID, approximated clinically by the difference between sodium and chloride. As chloride rises disproportionately relative to sodium, SID narrows. To maintain electroneutrality, the hydrogen ion concentration increases and the bicarbonate concentration decreases until a new equilibrium is reached, producing a hyperchloremic metabolic acidosis. This process

represents a chloride-driven shift in acid–base balance rather than true bicarbonate loss.

Clinical Progression of Hyperchloremia:

Hyperchloremia typically develops gradually rather than producing abrupt clinical deterioration. Early changes include rising chloride levels, narrowing SID, and declining bicarbonate, while pH remains near normal due to respiratory compensation. With persistent chloride exposure, bicarbonate remains chronically low. Chronic low-grade acidosis reduces proximal tubular phosphate reabsorption, leading to renal phosphate wasting and declining serum phosphorus. Alkaline phosphatase rises as a marker of impaired mineralization, and bone buffering of excess hydrogen ions promotes calcium and phosphate release. In advanced stages, biochemical osteopenia and impaired weight gain may emerge. Hyperchloremia represents a continuum from electrolyte imbalance to metabolic bone disease.

"Hyperchloremia typically develops gradually rather than producing abrupt clinical deterioration. Early changes include rising chloride levels, narrowing SID, and declining bicarbonate, while pH remains near normal due to respiratory compensation."

Serum Sodium Versus Total Body Sodium:

Serum sodium concentration is determined primarily by the ratio of sodium to free water rather than by total body sodium content. Variations in water intake, insensible losses, and renal water handling can raise or lower serum sodium independently of sodium stores. Dilutional hyponatremia may occur despite adequate sodium, while true sodium depletion may develop despite normal or only mildly low serum sodium in preterm infants with renal salt wasting. Clinically, sodium deficiency often manifests as suboptimal growth despite adequate caloric intake. Serum sodium alone cannot define sodium sufficiency.

Urine Sodium and the Asymmetric Diagnosis of Sodium Depletion:

Urine sodium provides insight into renal sodium handling, but its interpretation in preterm infants is developmentally constrained. In mature kidneys, low urine sodium indicates renal conservation and supports sodium depletion, whereas normal or high urine sodium suggests adequate sodium excretion. In preterm infants, tubular immaturity limits sodium reabsorption, and urinary sodium losses may remain elevated despite depleted body stores. Consequently, urine sodium interpretation is asymmetric: low urine sodium supports total body sodium depletion, but normal or high urine sodium does not exclude it.

Growth trajectory becomes a critical physiologic indicator of sodium adequacy in this population.

The Sodium–Chloride Relationship in Acid–Base Interpretation:

Because sodium and chloride together determine SID, interpretation of bicarbonate abnormalities requires evaluating these ions simultaneously. Low bicarbonate in preterm infants may arise from chloride-dominant low-SID acidosis, true bicarbonate loss, or renal compensation for chronic respiratory alkalosis. Chloride-dominant states are identified by disproportionate elevation of chloride relative to sodium with reduced SID. In true bicarbonate loss, the sodium–chloride relationship remains largely preserved. In respiratory alkalosis, both ions remain in proportion, and SID remains normal, while bicarbonate falls as a compensatory renal response. Distinguishing among these mechanisms depends on recognizing whether chloride is disproportionately high relative to sodium.

Interaction of Sodium Depletion and Hyperchloremia:

A common neonatal scenario is the coexistence of sodium depletion and chloride-dominant acidosis. A preterm infant with renal salt wasting may have low total body sodium and poor growth while simultaneously receiving chloride-rich fluids or sodium chloride supplementation. Sodium replacement with sodium chloride in this context corrects sodium deficit but further increases the chloride load and worsens SID-mediated acidosis. Recognition of the combined disturbance is therefore essential: sodium is required for growth but should be provided with a metabolizable anion such as acetate or citrate rather than chloride.

Reliable Indicators of Sodium and Chloride Status:

Because serum sodium and pH may remain normal despite disturbance, physiologic markers must guide assessment. Persistent elevation of chloride relative to sodium, together with chronically low bicarbonate, identifies clinically meaningful hyperchloremia. Declining phosphorus and rising alkaline phosphatase indicate downstream skeletal effects of chronic acidosis. For sodium status, urine sodium trends and growth trajectory provide the most useful indicators when interpreted in a developmental context. Integration of these parameters more accurately reflects underlying physiology than any single laboratory value.

Monitoring in Clinical Practice:

Assessment of sodium chloride physiology in preterm infants requires serial measurement of sodium, chloride, and bicarbonate with calculation of SID over time. Periodic urine sodium evaluation helps assess renal sodium handling, and growth monitoring reflects sodium adequacy for tissue accretion. In infants with persistent low bicarbonate or prolonged chloride exposure, monitoring of phosphorus and alkaline phosphatase identifies evolving skeletal effects. A concerning pattern includes rising chloride levels, narrowing SID, persistently low bicarbonate levels, declining phosphorus levels, and suboptimal growth.

"Assessment of sodium chloride physiology in preterm infants requires serial measurement of sodium, chloride, and bicarbonate with calculation of SID over time."

Mechanism-Based Management:

Management should correct underlying physiology rather than isolated laboratory abnormalities. Sodium deficiency should be treated when suggested by poor growth or renal sodium losses, regardless of serum sodium concentration. Chloride load should be minimized by limiting saline exposure, reviewing parenteral nutrition composition, and avoiding unnecessary sodium chloride supplementation. When sodium replacement is required in the

presence of high chloride or low bicarbonate, sodium acetate or citrate should be used to provide sodium while increasing SID and bicarbonate. Adequate phosphorus and calcium intake should be ensured, as correction of chronic acidosis improves renal phosphate retention and bone mineralization.

When to Intervene:

Intervention is warranted when bicarbonate remains persistently at or below approximately 18–20 mEq/L in association with elevated chloride and a narrowing SID, or when biochemical indicators of bone involvement, such as declining phosphorus or rising alkaline phosphatase, appear. Evidence of poor growth, suggesting sodium depletion, also justifies sodium supplementation. Waiting for abnormal pH or radiographic bone disease is unnecessary, as significant physiologic disturbance may persist despite preserved pH.

"Intervention is warranted when bicarbonate remains persistently at or below approximately 18–20 mEq/L in association with elevated chloride and a narrowing SID, or when biochemical indicators of bone involvement, such as declining phosphorus or rising alkaline phosphatase, appear."

Integrated Physiologic Perspective:

In preterm infants, disturbances in sodium and chloride reflect the interacting effects of renal immaturity, therapeutic exposures, and growth demands. Serum sodium reflects water balance, total body sodium determines growth and extracellular expansion, and chloride relative to sodium determines SID and metabolic acid–base status. Because these processes frequently overlap, sodium depletion and hyperchloremic acidosis often coexist and must be recognized and managed together rather than independently.

"In preterm infants, disturbances in sodium and chloride reflect the interacting effects of renal immaturity, therapeutic exposures, and growth demands. Serum sodium reflects water balance, total body sodium determines growth and extracellular expansion, and chloride relative to sodium determines SID and metabolic acid–base status."

Summary:

Sodium and chloride physiology in preterm infants is best understood through an integrated SID-based framework. Developmental renal immaturity predisposes infants to sodium wasting, limited bicarbonate conservation, and chloride retention under high chloride exposure. The coexistence of sodium depletion and hyperchloremic metabolic acidosis can impair growth and bone mineralization despite often-normal serum sodium and pH. Accurate assessment therefore requires integration of sodium intake, growth, urine sodium, and the sodium–chloride–bicarbonate relationship. Management should simultaneously ensure adequate sodium for growth and minimize chloride load, using acetate or citrate salts when supplementation is required. Early recognition and mechanism-based therapy can prevent downstream metabolic and skeletal complications in this vulnerable population.

Points to remember:

Serum sodium reflects water balance, not total body sodium.

Preterm kidneys waste sodium, retain chloride under high chloride exposure, and incompletely conserve bicarbonate.

Low urine sodium supports sodium depletion, but normal or high urine sodium does not exclude it.

Chloride relative to sodium determines SID and metabolic acid–base status.

Sodium depletion and hyperchloremic acidosis commonly coexist.

The appropriate anion should accompany sodium supplementation; acetate or citrate corrects low-SID states, whereas chloride worsens them.

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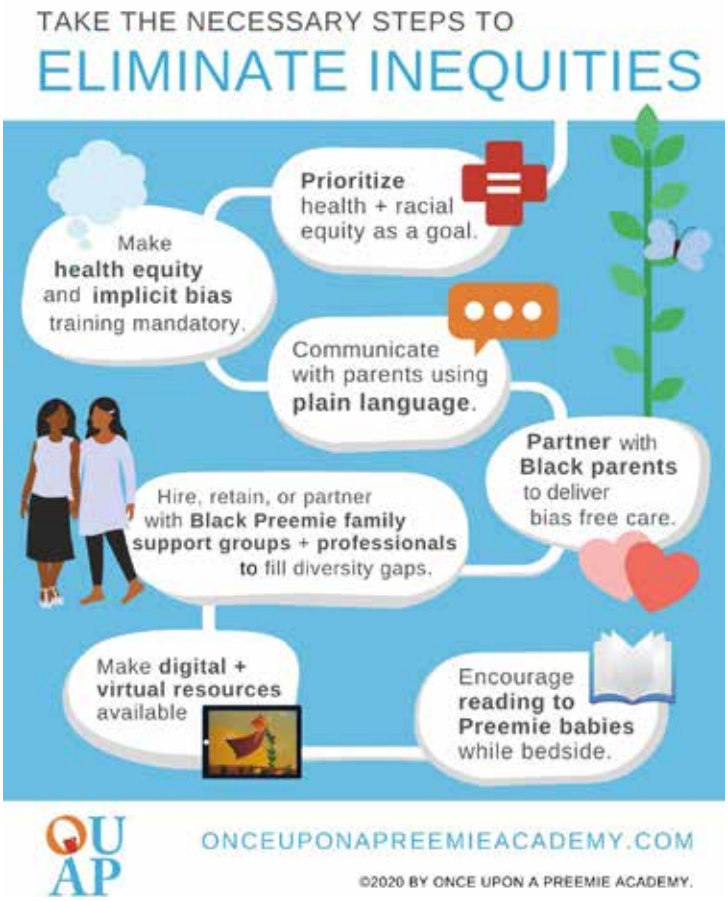
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Neurally Adjusted Ventilatory Assist (NAVA)/Non-Invasive Ventilation (NIV)-NAVA Hope or Hype?

Rob Graham, RRT, NRCP

I dedicate this column to the late Dr. Andrew (Andy) Shennan, the founder of the perinatal program at Women's College Hospital (now at Sunnybrook Health Sciences Centre). To my teacher, my mentor and the man I owe my career as it is to, thank you. You have earned your place where there are no hospitals and no NICUs, where all the babies do is laugh and giggle and sleep.

This is not the column I wanted to write. Many years ago, much of the original research on Neurally Adjusted Ventilatory Assist (NAVA) in the NICU was conducted at the unit where I am employed, and I was eager to use it in the real world.

Respiratory therapy has always been about integrating technology and practice. Sunnybrook's NICU has historically been an early adopter (albeit with healthy scepticism), if not a trailblazer, of all that is new. Sometimes "new" was not "improved", and sometimes acceptance involved much persuasion and a long learning curve.

"In the case of NAVA/NIV-NAVA (N/NN), we came late to the party. From the onset, many of my colleagues and I had reservations. Chief amongst them were the settings we were told (without consultation) to use. The Servo-N's unintuitive layout did not help. In my opinion, between being 'minute dividers' and 'settings above PEEP', Servo ventilators have always been unnecessarily complicated. Reversing the layout of inspiratory and expiratory circuit connections was questionable from the start."

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Regular readers of this column will know that outside the U.S., several modes of ventilation are available to clinicians, thanks to the introduction of machines that offer both conventional and high-frequency oscillation (HFO) modes, including volume-targeted HFO. Although generally considered "off-label", non-invasive HFO (NIVHFO) is used extensively in our NICU, frequently as a first-line post-extubation mode in babies less than 28 weeks corrected post-menstrual age (PMA). It works very well for us, and there is evidence supporting this (1). American clinicians do not have this option; the number of studies using NIVHFO is limited, and evidence favouring NN over non-invasive positive-pressure ventilation (NIPPV) has doubtless driven the widespread adoption of NN (2). Larger studies are required; the "DIVA" study (3) aims to provide greater clarity as to the superiority of NN over NIPPV. (Funding for non-American participation in the DIVA trial is apparently suspended for the foreseeable future. This may delay study completion.)

"What has not been established is whether NN is superior to NIVHFO, and if so, by how much. Unlike the U.S., public healthcare systems must fund equipment, and any technology must demonstrate both economic and clinical advantages. Ballooning costs may prompt private insurance providers to demand similar justification. Without access to the modality in the U.S., the answer to this question will have to be found without American collaboration."

What has not been established is whether NN is superior to NIVHFO, and if so, by how much. Unlike the U.S., public healthcare systems must fund equipment, and any technology must demonstrate both economic and clinical advantages. Ballooning costs may prompt private insurance providers to demand similar justification. Without access to the modality in the U.S., the answer to this question will have to be found without American collaboration. The upfront capital cost of the ventilator itself is just the start. The EDI catheters themselves are very costly and, in practice, rarely last more than 7 days (the manufacturer recommends changing them every 5 days). There is also the cost of an additional ventilator circuit.

Any mode of non-invasive ventilatory support invariably results in gastric distention ("CPAP belly"), which increases with support pressure. This may aggravate reflux, create feeding intolerance, mask necrotising enterocolitis, and increase blood work and X-rays, often unnecessarily. Synchronisation has been shown

to decrease overall pressure (3), which should reduce gastric distention, but in practice this may not be the case.

"Leaving the feeding tube open to air provides venting for gastric air, which is important during non-invasive support. Unfortunately, the inner diameter of a 6 Fr EDI catheter is 0.8 mm, considerably smaller than the 1.2 mm diameter of a standard 6 Fr catheter. This represents a 5-fold increase in resistance not just to air, but also to feeds, quite possibly negating any benefit of synchronisation."

Leaving the feeding tube open to air provides venting for gastric air, which is important during non-invasive support. Unfortunately, the inner diameter of a 6 Fr EDI catheter is 0.8 mm, considerably smaller than the 1.2 mm diameter of a standard 6 Fr catheter. This represents a 5-fold increase in resistance not just to air but also to feeds, quite possibly negating any benefit of synchronisation. A second gastric catheter (usually 5 Fr) may be inserted alongside the EDI catheter to facilitate bolus feeds, but not only is this not without risks (especially in tiny babies), it also increases the patency of the gastric sphincter, which is quite likely already relaxed by caffeine.

Without a second feeding tube, the increased resistance of the EDI catheter feeding port may necessitate the use of a pump. This has nutritional consequences as some nutrients adhere to the extension tube lining or remain in the feeding syringe. This results in significantly less fat and other nutrients being delivered to the baby (4).

The 0.9 mm inner diameter of a 5 Fr feeding tube has over 3 times the resistance of a standard 6 Fr one. Combined, this still represents almost double the resistance of a single, standard 6 Fr gastric catheter. Furthermore, the combined diameters of both are 3.67 mm, 1 mm more than a standard 8 Fr. An 8 Fr EDI catheter has an inner diameter of 1.2 mm, resulting in half the resistance to flow without the potential risk of a second catheter.

Perhaps the most contentious issue my colleagues and I have with NN is the recommended "apnea" setting of 2 seconds. Babies do not breathe regularly every 2 seconds or less; 2 seconds does not meet the definition of apnea. A more appropriate term would be "backup delay." It is worth noting that during backup ventilation in NN, breaths are not synchronised, essentially delivering NIPPV. Typical backup parameters are a rate of 30-40, an inspiratory time of 0.5 seconds (1:1 I:E ratio or less), and a peak inspiratory pressure at least 10 cmH_2O above PEEP. It stands to reason that the more time spent in backup mode, the more gas will enter the stomach. In my albeit limited experience, this has been the rule rather than the exception.

Setting the "apnea" time to 2 seconds, rather than 5, results in backup mode being activated approximately 5 times more often. While the number of "significant" events (defined by "heart rate 90 beats/min or oxygen saturation 90% lasting 10 seconds") decreases (5), just how clinically significant these events, as defined, are, is debatable. Target oxygen saturation in our NICU is 88-92% (i.e., SpO_2 of 90% is considered normal and acceptable), and a heart rate of 90 is more often than not considered a "dip", with minimal or no intervention provided it does not decrease further or last longer than a few seconds. "Head's paradoxical reflex" may cause the ventilator to cycle out of backup ventilation in some infants (5), but prolonged backup ventilation may also suppress spontaneous respiration in others, creating a vicious cycle.

"When I started in clinical practice, a desaturation not associated with bradycardia was considered insignificant. Very recent research suggests this is not the case. The issue of how low and for how long SpO2 must drop before it becomes physiologically harmful remains unclear. The deleterious effects of simple desaturation and relative hypoxia, and the duration thereof vs. reperfusion injury (or combination of), are also unclear. Both cerebral and organ/gastrointestinal hypoxia may be present without concomitant bradycardia, but the fact that bradycardia increases the physiological significance of desaturations seems intuitively obvious (6)."

When I started in clinical practice, a desaturation not associated with bradycardia was considered insignificant. Very recent research suggests this is not the case. The issue of how low and for how long SpO2 must drop before it becomes physiologically harmful remains unclear. The deleterious effects of simple desaturation and relative hypoxia, and the duration thereof vs. reperfusion injury (or combination of), are also unclear. Both cerebral and organ/gastrointestinal hypoxia may be present without concomitant bradycardia, but the fact that bradycardia increases the physiological significance of desaturations seems intuitively obvious (6).

This brings us to invasive NAVA (IN). While it achieves superior synchronicity, IN is still fundamentally a conventional mode of ventilation. As recently reported in *Neonatology Today,* HFO and jet (HFJV) ventilation are inherently more efficient (Global Ventilatory Efficiency) than conventional modes, the latter being the most efficient. In some circumstances, NAVA is also highly efficient and effective, i.e., when adequate recruitment and alveolar stability are achieved (7).

"Very small infants have unstable alveoli, are extremely prone to gas trapping, and are at risk of air leaks. relative to those of later PMA. It is my practice, and the standard practice in the unit in which I practice, to ventilate these babies using HFO (HFO/VG, a mode unavailable in the U.S.) or HFJV. The incidence of chronic lung disease (CLD) in our patient population has been very low, averaging roughly 10% overall, and roughly 40% in the 22-24 PMA cohort."

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My (and our) experience with invasive NAVA is very limited. It has worked extremely well in 2 babies with severe CLD who did not respond well to other modes, including conventional assist-control with or without volume guarantee. Smaller babies who have been tried on IN because of high FiO_2 have improved temporarily, but then FiO_2 rebounds, and they have been switched back to HFO/VG or HFJV. In these admittedly rare cases, I have observed measurements that contradict others' findings. Airway pressures have been much higher than on HFO or HFJV, sometimes as high as 20 cm H_2O, and tidal volumes have exceeded 10 mL/kg. When the appropriateness of these parameters is questioned, they have been deemed OK because "the baby wants them." I would like to have ice cream at every meal, which hardly makes the prospect healthy.

When lung capacity is inadequate to meet physiological demands, a baby is likely to require high volumes and pressures when managed with NN. Decades of experience have shown us the results, and synchronicity notwithstanding, that does not negate the effects of volutrauma and barotrauma. Furthermore, current evidence does not show a significant reduction in CLD or other outcome measures with IN (8), although there is some evidence of lung protection, as measured by corticosteroid use (9). This may be of benefit in and of itself by avoiding some of the pitfalls of corticosteroid use.

eCLD continues to be a major morbidity within the premature population, although reported rates vary widely depending on the diagnostic criteria used. As the age of viability continues to decrease, the use of supplemental oxygen at 36 weeks corrected PMA as the definition of CLD inadequately reflects outcomes. Proposed grading scales offer greater insight, but reported rates reflect variations in practice and population. A 2021 paper from the Vermont-Oxford group reports the incidence of mild-to-moderate and severe CLD in American centres, with the highest rates at 25 weeks PMA: 51.8% and 7.1%, respectively. By 29 weeks PMA, these numbers fall to 19.7% and 0.8%.

NN shows great promise, but the degree of benefit it provides relative to NIHFO has yet to be determined, and its associated costs may outweigh any benefit. Conversely, the already low CLD rates coming out of the unit in which I practice give IN all the appearance of a solution in search of a problem.

"NN shows great promise, but the degree of benefit it provides relative to NIHFO has yet to be determined, and its associated costs may outweigh any benefit. Conversely, the already low CLD rates coming out of the unit in which I practice give IN all the appearance of a solution in search of a problem."

By all means, seek to improve, but at this time, the best way to prevent CLD remains preventing premature birth. The numbers required to demonstrate superior outcomes in a unit already producing them are high. If it is not broken, fix it at your peril.

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NT

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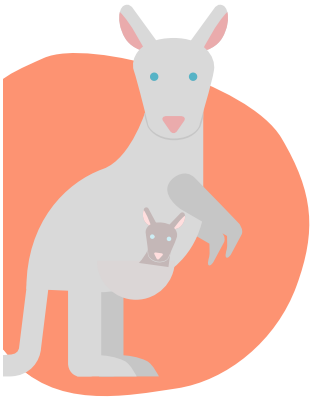
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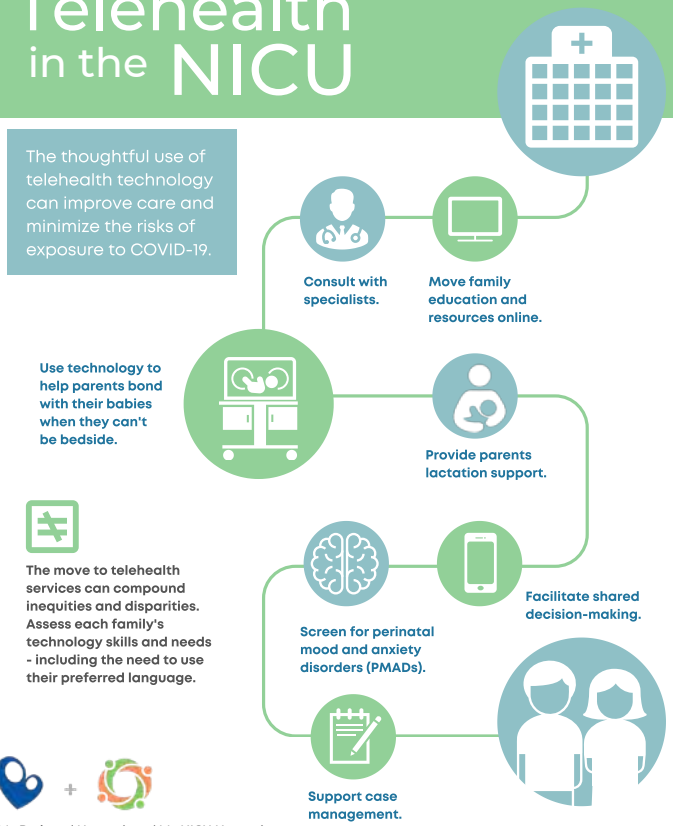
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The Indirect Impact of **RSV**

NCfIH National Coalition for Infant Health
Protecting Access for Premature Infants through Age Two

OVERVIEW



RSV impacts not only infants and young children, but also entire families.

The National Coalition for Infant Health and the Alliance for Patient Access sought to examine the multifaceted burden that RSV places on families and to identify potential policy solutions.

Two surveys were conducted, one of parents who had at least one child contract RSV and one of health care providers who treat infants and children with RSV.

Both surveys were conducted with YouGov, a global public opinion and data company. Parents and providers were recruited from a pool of pre-selected respondents to ensure they met the survey's requirements. Participants received an honorarium.

RSV PARENT SURVEY

340 parents who had at least 1 child sick with RSV



67% of parents said their child was hospitalized for RSV

RSV HEALTH CARE PROVIDER SURVEY

175 health care providers across various pediatric and neonatal subspecialties



67% worked in an outpatient facility

33% worked in a hospital

RESULTS

FINANCIAL BURDEN

More than ⅔ of parents said the costs of RSV posed a financial burden or financial crisis.

7% of parents said they were fired as a result of caring for their child with RSV.

32% of parents reported losing potential income while their child had RSV.

EMOTIONAL BURDEN

68% of parents said watching their child suffer affected their mental health.

69% of parents felt guilty that they could not do more to prevent their child's RSV.

When parents found out there was no treatment for RSV, only supportive care:

- **48%** felt angry
- **46%** felt helpless

SOCIAL BURDEN

43% of parents had never heard of RSV before finding out their child was sick.

54% of parents had to rely on family and friends for sibling care, transportation and other responsibilities.

42% of parents said they struggled to care for their other children when one faced RSV.

RESULTS

PARENT EDUCATION & AWARENESS

86% of providers said they include RSV education as part of routine care.

99% of providers agreed that parents need more information about RSV.

TREATMENT CHALLENGES

Nearly ⅓ of providers have been reluctant to test for RSV because no treatment exists.

48% of providers said it was difficult to decide whether to send an infant or child with RSV to the emergency room.

92% agreed that if an immunization were available, it should be added to the Vaccines for Children program's list of pediatric vaccines.

MISCONCEPTIONS

A majority of providers (60%) explained that around 50% or more of the babies they see hospitalized for RSV were born healthy, despite many people thinking severe RSV only impacts premature infants or those with preexisting conditions.

CONCLUSION

Both surveys highlighted that the burden of RSV extends well beyond its physical symptoms.

The virus may lead to:

- **Long-lasting health challenges** for babies and young children
- **Financial, social and emotional burdens** for families
- **Frustration for providers,** who lack a cure or viable preventive interventions

This burden is not experienced by the few. Most infants and children contract RSV by the time they are two, and challenges that accompany RSV may impact anyone who has been affected.

Moving forward, the many burdens of RSV demonstrate the need for:

- **More RSV education**
- **Research and innovation** for preventive interventions
- **Access to prevention and treatment** for all babies and children

The challenges caused by RSV can reach far and wide, and its indirect impacts often leave families struggling.

infanthealth.org

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AI-Augmented Sales Leadership: Balancing Technology and Human Coaching

Rody Azar, MHA, RRT-NPS, FAARC

"As artificial intelligence (AI) systems increasingly shape forecasting, customer engagement, and performance analytics, a critical leadership question emerges: If algorithms can predict decisions, what remains uniquely human in sales leadership?"

Abstract

As artificial intelligence (AI) systems increasingly shape forecasting, customer engagement, and performance analytics, a critical leadership question emerges: If algorithms can predict decisions, what remains uniquely human in sales leadership? Artificial intelligence is transforming sales organizations at an unprecedented pace, altering how opportunities are evaluated, how customer interactions are analyzed, and how performance insights are generated. Yet despite rapid technological advancement, sales leadership remains fundamentally human. This article examines the emerging paradigm of AI-augmented sales leadership, in which intelligent systems enhance rather than replace leadership judgment, coaching, and decision-making. Drawing on research in human–AI collaboration, algorithmic decision-making, and organizational performance, the paper argues that sustainable competitive advantage will not arise from AI adoption alone but from leaders' ability to integrate intelligent technologies into coaching cultures, decision frameworks, and trust-centered customer relationships. The discussion offers a conceptual perspective for navigating the evolving interplay between machine intelligence and human leadership.

Introduction:

A Leadership Inflection Point: Sales organizations have long been shaped by technological progress. From the introduction of customer relationship management systems to the rise of predictive analytics and digital engagement platforms, each wave of innovation has altered operational processes and managerial practices. Artificial intelligence represents a more profound inflection point. Unlike prior technologies that primarily improved efficiency or data accessibility, AI increasingly influences how judgments are formed, how decisions are framed, and how performance is interpreted.

Leaders now operate within environments where algorithms generate opportunity scores, predict deal outcomes, analyze communication patterns, and recommend next actions. These capabilities introduce not only new efficiencies but also new cognitive dynamics. The central challenge is no longer whether AI will influence sales leadership but how leaders will adapt their decision processes, coaching models, and organizational cultures to coexist with intelligent systems.

Early narratives surrounding AI often emphasized replacement and automation. However, a growing body of research suggests that AI's most consequential impact lies in augmentation. Rather than displacing leadership functions, AI reshapes the informational landscape within which leaders exercise judgment. This distinction carries significant implications for leadership behavior, accountability, and organizational performance.

"Early narratives surrounding AI often emphasized replacement and automation. However, a growing body of research suggests that AI's most consequential impact lies in augmentation. Rather than displacing leadership functions, AI reshapes the informational landscape within which leaders exercise judgment."

***From Automation to Augmentation*:** Traditional automation technologies execute predefined rules. Their purpose is substitution, replacing repetitive human effort with consistent machine execution. Artificial intelligence operates differently. Machine learning systems infer patterns from data, generate probabilistic predictions, and adapt their outputs based on evolving inputs. In doing so, they do not merely automate tasks but participate in decision environments once governed exclusively by human reasoning.

This transition from automation to augmentation fundamentally alters leadership dynamics. Augmentation implies partnership rather than replacement. Intelligent systems excel at pattern recognition, large-scale data synthesis, and statistical inference. Human leaders retain strengths in contextual interpretation, ethical reasoning, and relational understanding. Organizational effectiveness increasingly depends on integrating these complementary capabilities rather than on the dominance of one over the other.

However, augmentation also introduces tension. Algorithms may appear authoritative, precise, and objective, while human judgment is inherently interpretive and situational. Leaders must therefore

navigate the cognitive boundary between computational output and experiential reasoning. Failure to manage this boundary risks either excessive reliance on algorithms or unwarranted dismissal of machine-generated insights.

***Cognitive Risks in Algorithmically Enriched Systems*:** The integration of AI into leadership environments is not without hazards. One persistent risk is algorithmic overconfidence, in which quantitative outputs are given undue authority. Predictive scores and probabilistic forecasts can create illusions of certainty despite underlying uncertainty, incomplete data, or model bias. The apparent precision of numerical outputs may obscure the limitations inherent in statistical inference.

"One persistent risk is algorithmic overconfidence, in which quantitative outputs are given undue authority. Predictive scores and probabilistic forecasts can create illusions of certainty despite underlying uncertainty, incomplete data, or model bias."

Conversely, leaders may exhibit algorithm aversion, rejecting valid algorithmic recommendations following observable errors. Behavioral research demonstrates that individuals frequently tolerate human mistakes more readily than machine errors, even when algorithms outperform human judgment across aggregate outcomes. Such asymmetries in trust reflect psychological biases rather than rational evaluation.

A further challenge arises from the perception of objectivity. AI systems may appear neutral, yet models inevitably reflect the data, assumptions, and institutional contexts from which they emerge. Without critical interpretation, leaders risk conflating algorithmic output with empirical truth. Over time, persistent reliance on automated recommendations may also erode independent reasoning, diminishing leaders' capacity for contextual judgment.

Effective leadership within AI-augmented systems, therefore, requires disciplined skepticism. Leaders must neither surrender judgment to algorithms nor disregard computational insights. Instead, they must cultivate cognitive practices that evaluate AI outputs as informative signals rather than deterministic conclusions.

AI and the Reconfiguration of Sales Coaching: Among leadership functions, coaching is particularly affected by AI's expanding analytical capabilities. Intelligent systems now provide visibility into behaviors and interactions at scales previously unattainable. Conversation analytics, performance pattern detection, and behavioral trend identification enable leaders to observe phenomena that might otherwise remain invisible.

However, visibility does not equate to understanding. Coaching remains a deeply human process grounded in interpretation, empathy, and trust. While AI can identify patterns, it does not assign meaning, diagnose motivational dynamics, or appreciate contextual nuance. Leaders must translate computational signals into developmental conversations that address confidence, adaptability, and situational complexity.

This interplay reveals a central paradox. AI enhances diagnostic capacity but does not replace the relational and interpretive dimensions of leadership. High-impact coaching increasingly depends on leaders' ability to integrate machine-generated visibility with human-centered dialogue. In this sense, AI reconfigures coaching not by displacing leadership but by expanding the informational substrate upon which leadership operates.

Preserving Human Judgment: As intelligent systems exert greater influence over decision-making, leaders must intentionally preserve cognitive agency. AI outputs, though informative, remain probabilistic artifacts shaped by model assumptions and data constraints. Leadership judgment involves contextual reasoning that transcends algorithmic calculation.

Structured interpretive practices have become essential. Leaders must critically evaluate model outputs, consider unobserved variables, and integrate situational factors beyond the reach of algorithms. Organizational norms should clarify when human reasoning supersedes algorithmic guidance, reinforcing accountability and reducing ambiguity. Feedback mechanisms likewise ensure that AI systems evolve through corrective input rather than static deployment.

"Leaders must critically evaluate model outputs, consider unobserved variables, and integrate situational factors beyond the reach of algorithms. Organizational norms should clarify when human reasoning supersedes algorithmic guidance, reinforcing accountability and reducing ambiguity."

Preserving judgment is not merely defensive. It sustains leadership's central function: the capacity to interpret complexity, resolve ambiguity, and guide human performance. Without deliberate safeguards, decision environments risk drifting toward mechanistic determinism at the expense of contextual understanding.

Trust Dynamics and Organizational Implications: AI adoption also reshapes trust relationships within sales organizations. Internally, sales professionals may perceive AI systems as instruments of surveillance rather than as tools for enablement. Such perceptions can generate resistance, anxiety, or disengagement if leaders fail to communicate purpose transparently. Trust is reinforced when AI is framed as developmental support rather than evaluative authority.

Externally, AI-assisted selling influences customer relationships. While intelligent systems enhance personalization and responsiveness, buyers remain sensitive to authenticity and

human connection. Excessive automation risks depersonalization, undermining relational trust. Leaders must ensure that technology amplifies relevance without displacing the human elements that sustain long-term partnerships.

Trust, therefore, emerges as a central leadership concern. AI systems do not operate within social vacuums; they alter psychological and relational dynamics that leaders must actively manage.

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Evolving Leadership Competencies: AI-augmented environments demand expanded leadership capabilities. Data literacy becomes increasingly critical, as leaders must interpret probabilistic outputs and recognize model limitations. Technological judgment involves discerning when algorithmic insights are informative and when contextual reasoning prevails. Cognitive flexibility supports the integration of intuition and computation without overreliance on either.

Ethical awareness likewise assumes greater importance. AI systems may influence evaluations, compensation, and the allocation of opportunities. Leaders must guard against bias amplification and unintended inequities. Coaching sophistication evolves as managers engage behavioral patterns illuminated by AI rather than relying solely on observational impressions.

These competencies reflect not only technological expertise but also adaptive leadership capacity. The challenge is integrative rather than technical.

Rethinking Competitive Advantage: Organizations frequently assume that AI adoption itself confers competitive advantage. Such assumptions overlook the rapid commoditization of technological capabilities. Vendors democratize access, and technical parity emerges quickly. Sustainable differentiation instead arises from leadership execution, cultural adaptation, and decision discipline.

Technology may be replicable, but leadership integration is not. Advantage stems from how intelligent organizations incorporate AI into coaching systems, performance frameworks, and relational strategies. The source of differentiation lies less in the tools deployed than in the human systems that govern their use.

Conclusion:

AI-augmented sales leadership represents a structural evolution rather than a technological upgrade. Intelligent systems expand analytical visibility, yet leadership retains its fundamentally human character. The enduring value of leadership lies in interpretation, contextual judgment, ethical reasoning, and human development, capacities that remain irreducible to algorithmic calculation.

The central challenge for contemporary leaders is therefore not technological adoption but leadership adaptation. As AI capabilities accelerate, leaders must design decision environments, coaching cultures, and performance systems that amplify rather than diminish human judgment.

"Leaders must ask not how AI can replace human functions, but how leadership itself must evolve so that intelligent technologies strengthen trust, preserve agency, and enhance performance."

This challenge invites deliberate reflection. Leaders must ask not how AI can replace human functions but how leadership itself must evolve so that intelligent technologies strengthen trust, preserve agency, and enhance performance. The future of sales leadership will be shaped not by algorithms alone but by leaders' capacity to integrate intelligence with humanity.

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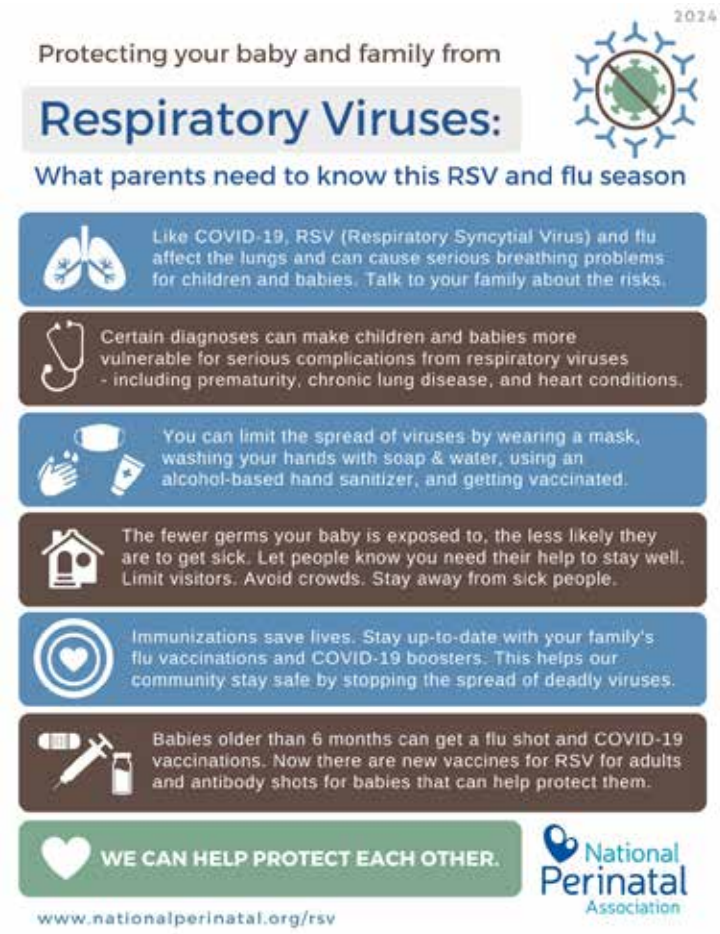
With over 20 years of leadership experience, Rody Azar has built a distinguished track record of driving performance, accelerating growth, and developing high-performing teams. He is widely recognized for his ability to align strategy, execution, and people development to deliver measurable business results. A staunch believer in servant leadership, Rody is passionate about fostering strong, trust-based relationships and cultivating cultures of accountability, engagement, and continuous improvement.

Rody is deeply committed to talent development and human asset optimization, consistently emphasizing the critical role of effective people leadership in achieving sustainable success. Throughout his career, he has successfully coached and promoted leaders into pivotal mid-management and senior leadership roles, directly contributing to organizational performance and long-term shareholder value.

Currently, Rody serves as Vice President of Sales and Clinical at a leading medical device manufacturing company in Orange County, California, where he leads commercial strategy and field execution. In parallel, he holds a Global Sales Enablement leadership role, driving initiatives focused on sales effectiveness, capability development, operational excellence, and scalable performance frameworks across the MENAT, JAPAC, EU, and the US regions.

In addition to his corporate leadership responsibilities, Rody is an Organizational Leadership Coach and a faculty member in clinical education, as a proud Fellow of the American Association for Respiratory Care (AARC), a member of the American College of Healthcare Executives (ACHE), and the California Society for Respiratory Care (CSRC). He is also an author of the CSRC Law and Professional Ethics Course for the 2026–2029 cycle, reflecting his continued commitment to advancing professional standards, ethical practice, and leadership within healthcare.





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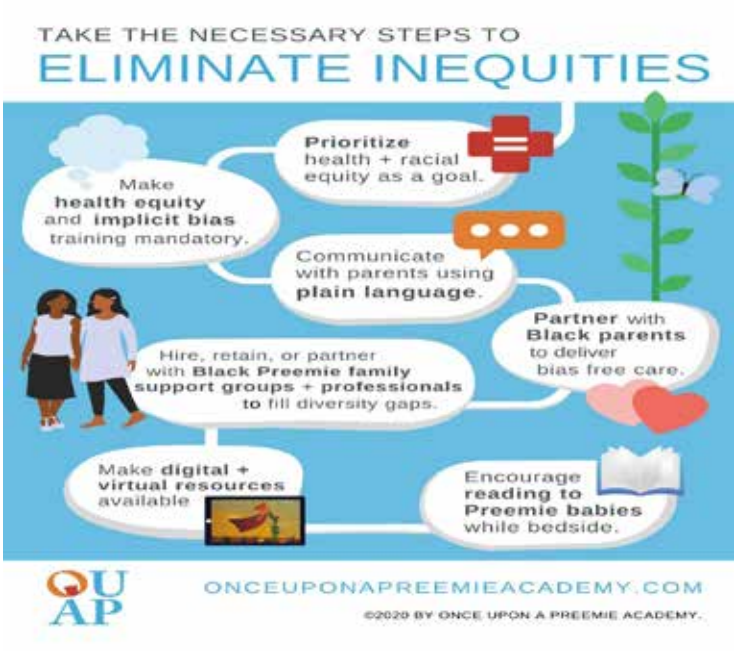
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- Are the baby and family central to the mission, values, environment, practice & care delivery of IFCDC in the unit?
- Are the parents of each baby fully integrated into the team and treated as essential partners in decision-making and care of the infant?
- What are the strategies and measurements used to improve and sustain IFCDC in the unit?

POSITIONING & TOUCH FOR THE NEWBORN

- Are the positioning plans therapeutic and individualized, given the care needs and development of the baby?
- Are the positioning and touch guidelines continually reviewed by the team, including the parents, and adapted to meet the changing comfort needs of the baby?

SLEEP AND AROUSAL INTERVENTIONS FOR THE NEWBORN

- Can the team confidently describe the "voice" or behavioral communication of the baby?
- Are the baby's unique patterns of rest, sleep, and activity documented by the team and protected in the plan of care?

SKIN-TO-SKIN CONTACT WITH INTIMATE FAMILY MEMBERS

- Is the practice of skin-to-skin contact supported and adjusted to the comfort needs of each baby, parent, & family member?
- Are the parents & family members supported to interact with the baby to calm, soothe, & connect?

REDUCING AND MANAGING PAIN AND STRESS IN NEWBORNS AND FAMILIES

- Are parents supported to be present and interactive during stressful procedures to provide non-pharmacologic comfort measures for the baby?
- Are there sufficient specialty professionals to support the wellbeing of the team, including parents, families, and staff? Examples include mental health, social, cultural, & spiritual specialists.

MANAGEMENT OF FEEDING, EATING AND NUTRITION DELIVERY

- Are the desires of the m/other central to the feeding plan? Is this consistently reflected in documentation with input of the m/other?
- Does the feeding management plan demonstrate a feeding & nutrition continuum from in-hospital care through the transition to home & home care?

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Ethics and Wellness: Lessons From the NICU: Reflections on Medicine, Boundaries, and the Life We Live

Mitchell Goldstein, MD, MBA, CML

"Medicine has a way of compressing life's lessons. In the Neonatal Intensive Care Unit (NICU), where the most fragile patients fight their earliest battles, physicians are confronted daily with the limits of control, the unpredictability of outcomes, and the profound resilience of families and caregivers."

Medicine has a way of compressing life's lessons. In the Neonatal Intensive Care Unit (NICU), where the most fragile patients fight their earliest battles, physicians are confronted daily with the limits of control, the unpredictability of outcomes, and the profound resilience of families and caregivers. Over time, these experiences shape not only how we practice medicine but how we understand life itself. (1)

"For those of us who have spent decades in neonatology, caring for premature and critically ill newborns, the NICU becomes more than a workplace. It becomes a lens through which we view relationships, ambition, criticism, uncertainty, and the meaning of well-being. (2)"

Some of the most important insights we gain as physicians are not found in textbooks, residency training, or clinical guidelines. They come from years of watching life unfold at its most vulnerable moments. For those of us who have spent decades in neonatology, caring for premature and critically ill newborns, the NICU becomes more than a workplace. It becomes a lens through which we view relationships, ambition, criticism, uncertainty, and the meaning of well-being. (2)

One of the first lessons many physicians learn, often the hard way, is the importance of maintaining personal boundaries. Medicine is an intensely relational profession. We build trust with colleagues, nurses, respiratory therapists, and families. Trust is essential for teamwork and for compassionate care. However, even in the strongest professional relationships, it is wise to maintain a small portion of one's life as private and protected.

"Parents do not ask questions to test a provider's intellectual rigor; they ask because fear demands reassurance. When faced with responses that are accurate but inconclusive, clinicians often meet their professional standards while failing the family's emotional standards. (1, 2, 4) It is a delicate and dangerous gap."

Physicians sometimes fall into the trap of believing that complete accessibility is a virtue. We answer every message, attend every meeting, and try to solve every problem. Over time, however, this constant openness can erode personal peace. Healthy boundaries are not signs of aloofness or disengagement; they are safeguards that allow physicians to remain emotionally present without becoming overwhelmed. In a field like neonatology, where emotional intensity is unavoidable, protecting one's inner life becomes essential to sustaining a long career. (3)

Another reality that emerges quickly for anyone attempting to improve systems of care is that meaningful work inevitably attracts

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criticism. In academic medicine, new ideas often challenge longstanding traditions. Whether advocating for developmental care in the NICU, promoting family-centered approaches, or questioning entrenched practices, innovators quickly discover that resistance is common.

"Criticism frequently arises not because an idea lacks merit, but because it unsettles established patterns of thinking. People are often most skeptical of concepts they have not yet had the opportunity to understand fully."

Criticism frequently arises not because an idea lacks merit but because it unsettles established patterns of thinking. People are often most skeptical of concepts they have not yet had the opportunity to understand fully. Over the years, many neonatologists who have pushed for changes in ventilatory strategies, neuroprotective care, or family integration into the NICU have encountered this resistance. Nevertheless, progress in medicine has always depended on those willing to persist despite skepticism.

Equally important is the recognition that professional success should never come at the expense of personal health or happiness. Medicine has historically rewarded endurance and sacrifice. Long hours, missed family events, and relentless professional expectations have been worn almost as badges of honor. Over time, the consequences of this culture have become increasingly clear.

"Burnout, depression, and emotional exhaustion are now widely recognized among physicians. The irony is that a profession dedicated to healing others has sometimes neglected the well-being of its own practitioners. No academic appointment, administrative title, or publication record is worth sacrificing physical or emotional health."

Burnout, depression, and emotional exhaustion are now widely recognized among physicians. The irony is that a profession dedicated to healing others has sometimes neglected the well-being of its own practitioners. No academic appointment, administrative title, or publication record is worth sacrificing physical or emotional health. A neonatologist who prioritizes their well-being ultimately provides better care, not only for patients but also for colleagues and trainees who look to them as role models. (4)

In this environment, true strength often emerges not from external validation but from self-reliance. Self-reliance in medicine does not mean practicing in isolation; the NICU is one of the most collaborative environments in healthcare. Instead, it means cultivating the inner confidence that one's principles, training, and judgment provide a stable foundation even when external circumstances shift.

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Neonatologists frequently make complex decisions in uncertain conditions. There are moments when consensus is elusive, when outcomes remain unpredictable, and when criticism may follow regardless of the path chosen. Physicians who have developed a sense of internal steadiness and who trust their preparation and ethical compass are better equipped to navigate these situations.

"Neonatologists frequently make complex decisions in uncertain conditions. There are moments when consensus is elusive, when outcomes remain unpredictable, and when criticism may follow regardless of the path chosen."

Another lesson that gradually becomes clear in medicine is that not everyone will like you. Early in our careers, many physicians seek universal approval. We want to be respected by colleagues, appreciated by administrators, and trusted by families. While these aspirations are understandable, medicine involves difficult decisions that will not satisfy everyone.

Families may struggle with devastating diagnoses. Colleagues may disagree with clinical approaches. Administrators may prioritize metrics that conflict with individual perspectives. Over time, physicians learn that being universally liked is neither realistic nor necessary. What matters far more is integrity, making decisions grounded in evidence, compassion, and honesty. When those principles guide practice, external approval becomes less central.

Life itself rarely follows the tidy professional trajectory imagined during medical school or residency. Careers evolve in unexpected

ways. Opportunities appear that were never part of the original plan. Setbacks occur despite careful preparation. For physicians, flexibility becomes an invaluable skill.

In neonatology, adaptability is part of daily practice. A baby's clinical course can change within minutes. A treatment that seemed promising may prove ineffective. New evidence may challenge longstanding approaches. The physicians who thrive in this environment are those who remain open to learning and are willing to adjust course when new information emerges. This same adaptability proves equally valuable in navigating careers, leadership roles, and personal lives.

"Amid the complexity of medicine, one might wonder where happiness fits. Physicians are trained to analyze problems and anticipate complications, habits that can unintentionally tilt our perspective toward what is going wrong rather than what is going well. Nevertheless, happiness, at least in part, is a matter of perspective."

Amid the complexity of medicine, one might wonder where happiness fits. Physicians are trained to analyze problems and anticipate complications, habits that can unintentionally tilt our perspective toward what is going wrong rather than what is going well. Nevertheless, happiness, at least in part, is a matter of perspective.

Working in the NICU provides daily reminders of this truth. Even in the midst of serious illness, there are moments of extraordinary joy—a premature infant reaching a milestone, a family finally holding their baby after weeks of uncertainty, a team celebrating a small victory that once seemed impossible. These moments do not erase the challenges, but they illuminate them in a different light. Choosing to notice and appreciate them can profoundly shape how physicians experience their work.

"Perhaps the most enduring lesson from decades in neonatology is the importance of focusing on what we can control and letting go of what we cannot. Medicine teaches humility. Despite remarkable technological advances and extraordinary expertise, outcomes sometimes remain beyond our influence."

Perhaps the most enduring lesson from decades in neonatology is the importance of focusing on what we can control and letting go of what we cannot. Medicine teaches humility. Despite remarkable technological advances and extraordinary expertise, outcomes sometimes remain beyond our influence. A neonatologist may provide the best possible care and still face an outcome that no one wished for.

Learning to accept these limits is not easy. Physicians are trained to solve problems and prevent harm. However, peace often begins with recognizing that some aspects of life, biology, chance, and the complex interplay of factors that affect human health remain beyond our control. What remains within our power is how we respond: our dedication to patients, our honesty with families, our support for colleagues, and our commitment to continual learning. (5)

These reflections are not unique to neonatology, but the NICU offers a particularly vivid setting in which they unfold. Caring for the smallest patients reminds physicians daily of life's fragility and resilience. It encourages humility, compassion, and perspective.

In the end, the lessons learned in medicine extend far beyond the hospital walls. Protect your boundaries. Expect criticism when pursuing meaningful change. Guard your health as carefully as you guard your professional responsibilities. Cultivate self-reliance and integrity. Accept that universal approval is neither possible nor necessary. Remain flexible when life changes course. Choose perspectives that allow gratitude to coexist with challenge. Moreover, focus your energy on what truly lies within your control.

"Accept that universal approval is neither possible nor necessary. Remain flexible when life changes course. Choose perspectives that allow gratitude to coexist with challenge. Moreover, focus your energy on what truly lies within your control."

These are not simply professional insights. They are lessons about living well. And, for many neonatologists, they have been learned one fragile life at a time.

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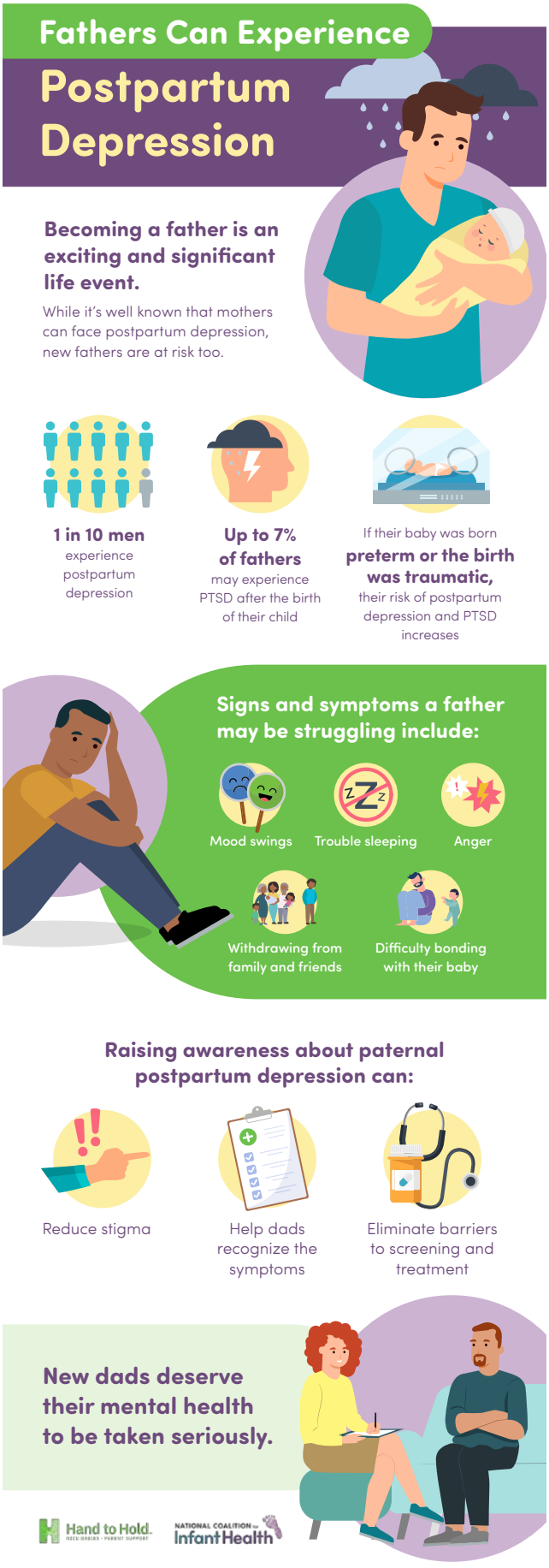
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From the Control Room of a Nuclear Submarine to the Newborn Intensive Care Unit: The Evolution of SBAR

Colonel Robert Erick Ridout, U.S. Army, Retired

HINT AND HOPE SCENARIO (SUBMARINE): The submarine is conducting maneuvers at 500 feet. A junior reactor operator notices that the primary coolant temperature is trending upward, very slowly but steadily. The operator realizes this is an anomaly that could lead to a reactor SCRAM (control rods dropped into the core, triggering an emergency shutdown) if not addressed._The operator feels intimidated by the Engineering Officer of the Watch (EOOW), who is currently focused on an unrelated electrical grid issue. **Operator:** "Chief, the primary coolant temperature seems a little different... it›s moving around a bit. I›m not sure if it›s just a faulty sensor or if we should be worried. Just wanted to let you know."

EOOW (Distracted): "Those sensors fluctuate all the time, Johnson. Keep an eye on it. I›m busy with the bus bar right now."

The Outcome: The operator, having "done their duty" by hinting, returns to their station. They "hope" the Chief checks it later. Meanwhile, the temperature continues to rise, and the cooling system eventually fails, forcing an emergency shutdown that leaves the boat blind and dead in the water during a tactical maneuver.

HINT AND HOPE SCENARIO (NICU): A nurse is caring for a 27-week neonate who has been stable; however, the abdominal assessment has changed slightly over the last few hours. The nurse is worried about NEC but feels intimidated by the attending neonatologist›s reputation for being "short" with staff. **Nurse:** "Dr. Jones, I just wanted to let you know that Baby Smith›s abdomen looks a little firmer today than it did this morning. I›m not sure if it›s just the feeds, but it›s just something I noticed."

Physician (Distracted by a line placement): "Okay, keep an eye on it. Let me know if it changes."

The Outcome: The nurse has "Hinted." They now "Hope" the doctor will order an X-ray or come by to palpate the abdomen. The doctor, busy with a procedural task, mentally files this as a non-urgent observation. The window for early intervention closes, and the infant›s condition deteriorates.

In high-stakes environments, the barrier between safety and catastrophe is often defined by the clarity of the words used to describe it. Nuclear Submarine control rooms and Newborn Intensive Care Units represent high-stakes environments where optimized communication is critical to avoiding failures-to-rescue and nudging the boat or baby towards the objective/wellness. The US Navy has been and remains very intentional about how communication occurs across the Nuclear Submarine Fleet, beginning under Admiral Rickover's leadership in 1949 (1). Admiral Hyman G. Rickover, the architect of the Nuclear Navy, remains the foundational figure for modern high-reliability communication. His leadership of the Naval Reactors program was defined by an uncompromising demand for technical mastery, a total intolerance for mediocrity, and a culture of radical, "closed-loop" accountability.

"In high-stakes environments, the barrier between safety and catastrophe is often defined by the clarity of the words used to describe it. Nuclear Submarine control rooms and Newborn Intensive Care Units represent high-stakes environments where optimized communication is critical to avoiding failures-to-rescue and nudging the boat or baby towards the objective/wellness."

Rickover operated under the principle that in a nuclear submarine, there is no margin for error; an officer›s failure to report a critical detail was not merely an individual oversight but a systemic failure of the entire vessel (2). This culture required that every problem brought to the command center be accompanied by clear critical thinking and a proposed solution. Decades later, this military standard of "problem-ownership" would emerge as the structural DNA for life-saving protocols in clinical environments.

"This culture required that every problem brought to the command center be accompanied by clear critical thinking and a proposed solution. Decades later, this military standard of 'problem-ownership' would emerge as the structural DNA for life-saving protocols in clinical environments."

While Rickover's era established the essential nature of disciplined communication, the transition from military control rooms to hospital wards required a systematic codification of these principles. In the early 2000s, clinical leaders began to recognize that hospitals should strive to become High-Reliability Organizations (HROs), much like nuclear submarines, where hierarchy, noise, and time pressure frequently impede the accurate flow of critical information (3, 4). To address these vulnerabilities, safety initiatives sought to translate military-grade operational rigor into a clinical tool. This endeavor was not merely an attempt to "standardize forms" but a concerted effort to create a structured communication device that could enable medical professionals to synthesize volatile clinical information into clear, actionable directives, regardless of their

clinical "rank."

"In the early 2000s, clinical leaders began to recognize that hospitals should strive to become High-Reliability Organizations (HROs), much like nuclear submarines, where hierarchy, noise, and time pressure frequently impede the accurate flow of critical information. To address these vulnerabilities, safety initiatives sought to translate military-grade operational rigor into a clinical tool. This endeavor was not merely an attempt to 'standardize forms' but a concerted effort to create a structured communication device that could enable medical professionals to synthesize volatile clinical information into clear, actionable directives, regardless of their clinical 'rank.'"

The formal realization of this translation occurred within the clinical laboratories of Kaiser Permanente of Colorado, driven by a multidisciplinary team dedicated to eliminating the "culture of silence" in medicine (5). Dr. Michael Leonard, a physician and patient safety lead, spearheaded the initiative, recognizing that clinical errors often stemmed from communication breakdowns rather than technical deficits. He was joined by Doug Bonacum, an expert in patient safety systems, who introduced the organizational logic of HROs, and Suzanne Graham, a clinical nurse specialist, whose involvement ensured the tool was not just theoretically sound but also practically intuitive for the bedside staff who would most frequently initiate it. This trio treated SBAR (see below) as a behavioral intervention—training staff in its use and reinforcing its role as a mandatory "call to action"—which was later institutionalized globally when the Institute for Healthcare Improvement (IHI) adopted SBAR as a central pillar of the "100,000 Lives Campaign." (5, 6)

Rather than selecting an acronym based on preference, the team arrived at SBAR through a functional analysis of the "language gap" between nursing and medicine. Nurses were historically trained in a narrative, chronological style of reporting, while physicians typically desire a direct, problem-oriented summary. By reverse-engineering successful communication loops from aviation and nuclear operations, the team identified the four distinct cognitive steps required to resolve a crisis: **Situation** (the immediate problem; "the itch" :), **Background** (contextual history), **Assessment** (the clinical analysis/critical thinking), and **Recommendation** (the solution; "the scratch"). The genius of this framework lies in its ability to shift the power dynamic; by mandating a recommendation, the sender is required to own the solution (Rickover), effectively transforming the dynamic from a passive report to an active, collaborative clinical decision (5, 7).

"By reverse-engineering successful communication loops from aviation and nuclear operations, the team identified the four distinct cognitive steps required to resolve a crisis: Situation (the immediate problem; 'the itch' :), Background (contextual history), Assessment (the clinical analysis/ critical thinking), and Recommendation (the solution; 'the scratch'). The genius of this framework lies in its ability to shift the power dynamic; by mandating a recommendation, the sender is required to own the solution (Rickover), effectively transforming the dynamic from a passive report to an active, collaborative clinical decision."

While SBAR provides the structure for safe communication, its implementation in clinical settings often encounters a significant "Policy-Practice Gap." (8) It is an open secret in healthcare that while SBAR is 100% compliant on paper, it is frequently bypassed, truncated, or ignored in the daily, fluid reality of clinical work. In many institutions, SBAR exists as a "check-the-box" requirement for accreditation rather than a lived cultural norm. The primary barrier to its success is the persistence of "Hint and Hope"—a form of low-assertiveness communication where clinicians, fearful of challenging the hierarchy or appearing incompetent, mask their concerns in ambiguous language (9). Psychological Safety factors heavily in this fear of using assertive language. Instead of stating, "The patient is deteriorating," they say, "The patient seems

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"This gamble forces the receiver to decipher the urgency of the situation, a cognitive burden that often leads to catastrophic delays in care. The NICU represents a unique clinical environment where the 'Hint and Hope' gamble carries disproportionate risks. Neonates are physiologically fragile, with little physiological reserve to compensate for delayed intervention."

a little different today." This gamble forces the receiver to decipher the urgency of the situation, a cognitive burden that often leads to catastrophic delays in care. The NICU represents a unique clinical environment where the "Hint and Hope" gamble carries disproportionate risks. Neonates are physiologically fragile, with little physiological reserve to compensate for delayed intervention. In this high-acuity setting, the "Expert Short-Circuit" is common; experienced nurses and neonatologists often rely on shared mental models that allow them to communicate via non-verbal cues or shorthand (10, 11). While this functions during periods of stability, it dissolves instantly when the team composition changes (new hires and/or less experienced caregivers) or when an infant begins a rapid decline. In the NICU, the "Recommendation" phase of SBAR is the most vital intervention against this instability. When a nurse is empowered to move beyond simply reporting data and instead provides a clear clinical recommendation—such as, "I recommend we hold feeds and evaluate the patient for NEC"—they essentially flatten the authority gradient. This transition does not diminish the role of the physician; rather, it elevates the nurse to a clinical partner who owns the problem (team-based care). By mandating the 'A' (Assessment) and the 'R' (Recommendation), the institution transforms a passive, narrative-driven handoff into a high-bandwidth, actionable directive that mirrors the disciplined, closed-loop reporting standards of the naval nuclear program.

"When a nurse is empowered to move beyond simply reporting data and instead provides a clear clinical recommendation—such as, 'I recommend we hold feeds and evaluate the patient for NEC'—they essentially flatten the authority gradient. This transition does not diminish the role of the physician; rather, it elevates the nurse to a clinical partner who owns the problem (team-based care)."

As we were developing the ecosystem of care called POKE, it became clear that SBAR would be a key component to short-circuit "hint and hope" communication, flatten the hierarchy, and provide innumerable interactions where a caregiver's critical thinking could be assessed and enhanced, contributing to that caregiver's professional growth and progress towards Mastery (Figure 1).

Figure 1. SBAR as key component toward Mastery.



With each successive opportunity to use SBAR, the caregiver moved incrementally closer to Mastery, and this became manifest in our embrace of "Leveraging the Genius" that we knew existed at every bedside (Figure 2).

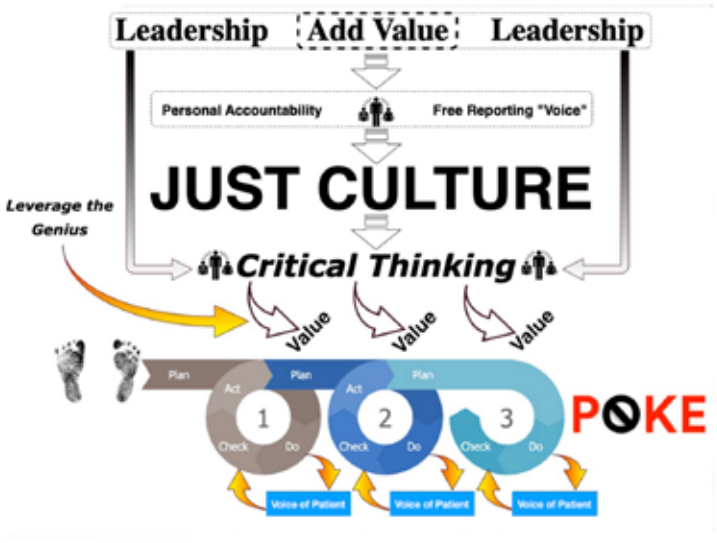
Figure 2. Leveraging the Genius



The daily SBAR interactions provided the perfect opportunity to cultivate a growth mindset towards everyone through thoughtful servant leadership (Figure 3).

The receiver of the SBAR communication took the opportunity to demonstrate that the caregiver is valued and that the caregiver's genius adds value, and then poured value into that caregiver, nudging them towards Mastery (a core element, along with Autonomy and Relatedness, of Self-Determination). Caregivers experiencing daily/relentless opportunities to add value through SBAR and experience being valued tend be highly engaged… which was essential to our goal of patients and caregivers experiencing care delivery free from harm (only experiencing

Figure 3. Cultivating a growth mindset through thoughtful servant leadership.



care that adds value…and is in the service of the newborn brain). A happy secondary gain from the daily practice of valuing each individual and demonstrating how they add value—everyone goes home safe, valued and loved, benefitting their families and the community.

"Caregivers experiencing daily/relentless opportunities to add value through SBAR and experience being valued tend be highly engaged…"

P.S. If we find ourselves drifting back towards the rocky shoals of "hint and hope," I will often say, "That's sounding a little hinty/hopey."

I have included a few training videos we developed to support SBAR adoption:

Hint and Hope expect SBAR: https://youtu.be/sHsArfwfbds

Hint and Hope Coaching SBAR: https://youtu.be/IbkWDZ4pQro

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Disclosures: *The author has no disclosures*

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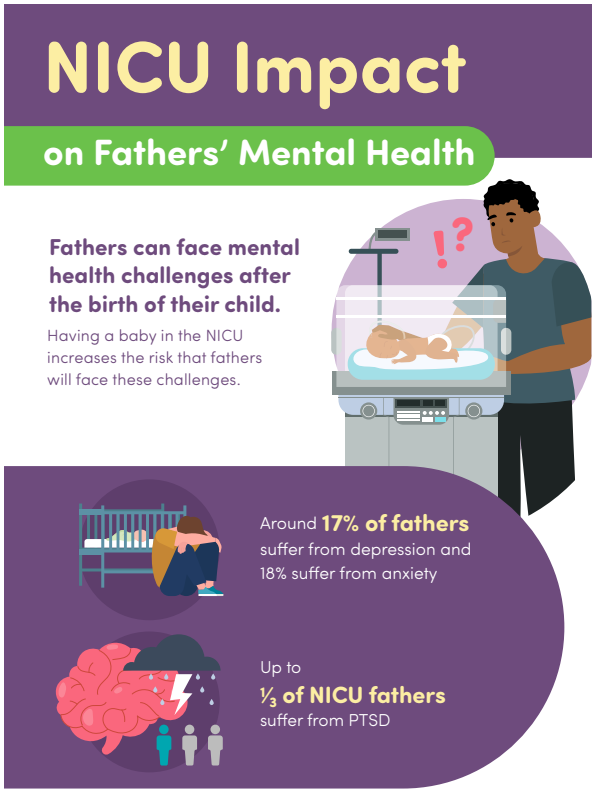


Colonel Robert Erick Ridout, MD, U.S. Army, Retired, FAAP
Clinical Associate Professor, Department of Pediatrics, John A. Burns School of Medicine at the University of Hawai'i at Manoa. Honolulu, Hawaii
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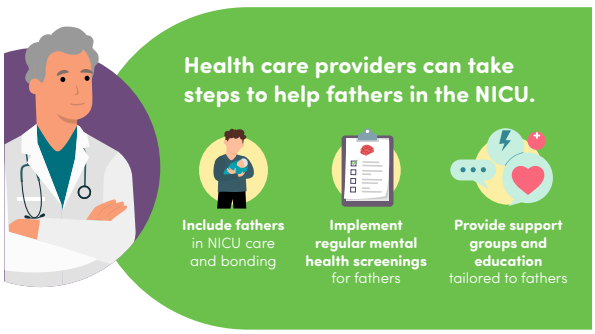
Erick Ridout, M.D., is blessed to be the dad to two amazing kids, granddaddy to three extraordinary grandsons and two granddaughters, and currently serves the babies, their families, and the caregivers in the Newborn ICU in Southwestern Utah and Honolulu, Hawaii, and as Vermont Oxford Network Faculty. Additionally, Colonel Ridout proudly served in the United States Army for 23 years, including 11 years as the State Surgeon for the Nevada Army National Guard. He was among the first Army Medical Corps Officers to become a Lean Six Sigma Green Belt and has applied the learned principles to relentlessly eliminate patient, staff, and organizational harm in all its forms. He has lectured nationwide on Just Culture, Harm Reduction, Value Added Care, and Servant Leadership. He passionately believes that all patients and caregivers deserve to experience care delivery free of harm. To that end, he seeks to influence MEDICINE to embrace the principles of servant leadership and team-based family-centered care, to send all members of the care team home each day feeling Safe, Valued, and Loved, returning to the bedside fully engaged with heart and mind, all the while seeking to only do for the patient and never to the patient.













Brilliant! Dr. Bell bridges the journey from grief to growth. This is classic wisdom on healing from our heartbreaks and ultimately enjoying a fulfilling life.

– Christine Theard, M.D.

Post-Traumatic Thriving

The Art, Science, & Stories of Resilience



Randall Bell, Ph.D.

First Candle: We are Tired of Hearing "No One Told Me"

Alison Jacobson

first candle

Saving babies. Supporting families.

First Candle's efforts to support families during their most difficult times and provide new answers to help other families avoid the tragedy of the loss of their baby are without parallel.

"Each year in the U.S., nearly 3,700 babies die from Sudden Unexpected Infant Death (SUID). Many of these deaths are linked to accidental suffocation in unsafe sleep environments."

March is National Injury Prevention Month, and when it comes to infants, safe sleep is the key to injury prevention.

Each year in the U.S., nearly 3,700 babies die from Sudden Unexpected Infant Death (SUID). Many of these deaths are linked to accidental suffocation in unsafe sleep environments. While true SIDS cases do occur, and research continues, we know many sleep-related deaths are preventable.

The American Academy of Pediatrics has placed Safe Sleep under its Injury Prevention framework, reinforcing that safe sleep is not simply guidance. It is prevention.

At First Candle, we are focused on what changes outcomes.

Through our Let's Talk Community Chats program, trusted community leaders -- doulas, public health workers, pediatric providers, visiting nurses -- have culturally responsive, non-judgmental conversations with families about safe sleep.

"The percentage of parents placing babies on their backs for every sleep increased from 40% to 60% after attending a Let's Talk session."

And we are seeing real behavior change:

- The percentage of parents placing babies on their backs for every sleep increased from 40% to 60% after attending a Let's Talk session.
- The percentage keeping soft objects out of the sleep area increased from 40% to 70%.

When families receive guidance from someone they trust, behaviors shift.

That is why we are more committed than ever to scaling this work, especially as maternal and infant health funding declines nationwide.

"That is why we are more committed than ever to scaling this work, especially as maternal and infant health funding declines nationwide."

Because we are tired of seeing our bereavement support groups grow.

We are tired of reading the agonizing messages from parents who say, "No one ever told me."

Prevention must reach families before tragedy does.

References:

1. https://firstcandle.org/lets-talk-community-chats/

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Disclosure: *The author is the Executive Director and Chief Executive Officer of First Candle, a Connecticut-based not-for-profit 501(c3) corporation.*

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About First Candle:

First Candle, based in New Canaan, CT, is a 501c (3) committed to eliminating Sudden Unexpected Infant Death while providing bereavement support for families who have suffered a loss. Sudden Unexpected Infant Death (SUID), which includes SIDS and Accidental Suffocation and Strangulation in Bed (ASSB), remains the leading cause of death for babies one month to one year of age, resulting in 3,700 infant deaths nationwide per year. It was also the host of the 2025 International Society for the Study and Prevention of Perinatal and Infant Death (ISPID) Conference in Houston from October 7 – 10.



firstcandle

LET'S TALK Community Chats IN THE NICU



We are thrilled to expand our ongoing efforts surrounding safe sleep in the Grady Memorial Hospital NICU by bringing Let's Talk Community Chats to our families. This is especially important given the significantly higher rates of Sudden Unexpected Infant Death in premature babies, and to help expand our work to ensure optimal health to all babies, both in the NICU and after discharge home."

Dr. Mattie Feasel Wolf,
Division of Neonatal-Perinatal Medicine
at Emory University School of Medicine

FEEDBACK FROM LET'S TALK COMMUNITY CHATS IN THE NICU:

- **Nearly all participants (98%) reported an increase in their confidence to apply safe sleep practices, and all also found the breastfeeding information provided to be helpful or very helpful (96%).**
- **Additionally, most participant (98%) felt that the products and recommendations shared were relevant to their needs.**
- **94% percent of respondents reported having a plan for where they would place their baby to sleep upon bringing them home after attending the event.**
- **All participants (100%) shared that they felt comfortable and supported, and that facilitators respected their cultural values.**
- **Almost all participants (82%) who had specific questions indicated that their specific questions and concerns were fully addressed.**

LEARN HOW YOU CAN BRING LET'S TALK TO YOUR NICU.

Email alison@firstcandle.org or scan the QR code for more information

Maternal Vaccines:

WHAT YOU NEED TO KNOW

CDC-Recommended Vaccines for Pregnant Women

	COVID	FLU	RSV	TDAP
Does it protect baby?	+	+	+	+
Does it protect mother?	+	+		
Is there an immunization for baby after birth?			+	

Vaccines given to pregnant women **are safe and effective.**

Maternal vaccines help the body create antibodies that can be passed to your baby and help protect them when they are born.

Talk with your health care provider to learn more about protecting yourself and your baby.

LEARN MORE ▶

NATIONAL COALITION for Infant Health

Telehealth in the NICU

The thoughtful use of telehealth technology can improve care and minimize the risks of exposure to COVID-19.

- Consult with specialists.
- Move family education and resources online.
- Use technology to help parents bond with their babies when they can't be bedside.
- Provide parents lactation support.
- Facilitate shared decision-making.
- Screen for perinatal mood and anxiety disorders (PMADs).
- Support case management.

The move to telehealth services can compound inequities and disparities. Assess each family's technology skills and needs - including the need to use their preferred language.

My Perinatal Network and My NICU Network are products of a collaboration between National Perinatal Association (NPA) and NICU Parent Network (NPN).

myNICUnetwork.org

NT

Advancing Neonatal-Perinatal Care: SONPM Chair Update- February 2026, #2

Clara H. Song, MD, FAAP

"Your more-than-monthly update from SONPM to keep us all connected and informed!"





"r. Deepika Sankaran MD is a physician-scientist and transitional physiology expert at UC Davis, who is an essential planning group member of the Annual Neonatal Resuscitation Symposium in Riley Children's Hospital in Indianapolis."

https://aapneonatal.org/

Happy March ❀ ❁ 🌈

1- SONPM Shout-out 😍: Dr. **Deepika Sankaran** MD is a physician-scientist and transitional physiology expert at UC Davis, who is an essential planning group member of the Annual Neonatal Resuscitation Symposium in Riley Children's Hospital in Indianapolis. https://medicine.iu.edu/pediatrics/specialties/neonatal-perinatal/education/resuscitation-symposium

e2- 2026 **Spring Executive Assembly Session** in Tucson: Virtual meeting access OPEN to all SONPM members on **March 12**, 2026!

We'd love to see you in Tucson at the 2026 Workshop in Neonatal-Perinatal Practice Strategies (WNPPS).

Each year, your SONPM Executive Assembly (EA) meets the day prior to start of WNPPS for an annual report-out from all SONPM groups and liaisons.

For the 1st time ever, **YOU** are all **invited** to register to viewing access to this meeting.

Register for attendee webinar access to the 2026 SONPM EA session: https://aap.webex.com/weblink/register/rfdc5b14229eeea5323ea6ccc0c96778b

Date and time:

Thursday, March 12, 2026 8:00 AM | (UTC-06:00) Central Time (US & Canada)

Join link:

https://aap.webex.com/aap/j.php?MTID=m45629f291ba4ccd389652d0181eab942

Webinar number:

2631 061 0093

3- Call for Proposals for the AAP SONPM **Journal Club**! Due **Mar 6**

The SONPM Journal Club is requesting proposals for content for its monthly Journal Club in the Journal of Perinatology. Articles for submission can be proposed at https://forms.gle/f9fnG7AHDCV-FApqW7.

The deadline for proposals is **Mar 6.**

See the Journal of Perinatology website for examples: https://www.nature.com/jp/articles?type=journal-club

Questions about the Journal Club can be sent to co-editors **Viral Jain**, MD (viral_jain@live.com), **Matthew Rysavy**, MD, PhD (matthew.a.rysavy@uth.tmc.edu), **Mattie Wolf**, MD (mattie.feasel.wolf@emory.edu) or **Brian King**, MD (bking6@bidmc.harvard.edu)

4- From the AAP! New Immunization Resources that include RSV, Influenza, HepB, and more:

https://www.aap.org/en/patient-care/immunizations/maternal-and-infant-immunization-discussion-guides/

5- Seeking **Early Career NRP Instructors** to Join the NRP Steering Committee! Due **March 31**.

If you are interested in applying, please submit your application at https://form.jotform.com/260205200062032. Applications will be accepted through March 31, 2026. The new committee member's term will begin July 1, 2026

6- From the AAP: **2026 AAP Resolution** submissions are OPEN until **April 1**!

Resolution submissions are now open for the 2026 Leadership Conference! All resolutions must be submitted through our online submission form. The deadline for submissions is Wednesday, **April 1**, 2026, at 11:59 pm CT. Relevant resolution information is listed below:

- Online portal submission
- Guidelines for Submitting Resolutions
- Resolution Template
- Resolution Roadmap
- Resolution 1 page infographic
- Resolution 2 page infographic
- District's CFMC Representative

For complete resolution information please visit the Leadership Conference website.

7- 2026 **NRP Grant** opportunity! Due **May 1**

To obtain the NRP Research Grant, NRP Young Investigator Award, NRP Human Factors/Education Grant and Jeanette Zaichkin NRP Nursing Grant Guidelines and view the electronic Intent for Application, **apply here**. (If clicking the link does not take you to the page, copy/paste the URL into your web address bar: https://form.jotform.com/253185470479062).

8- **Coding Corner: Ultrasound Guided Interventional Procedures--**Submitted by David Kanter, MD, MBA, CPC (david.kanter@pediatrix.com) on behalf of the SONPM Coding Committee.

Presentation: The neonatologist would like to better understand coding principles underlying ultrasound-guidance for commonly performed interventional procedures.

Approach: Common interventional procedures can be performed with or without ultrasound guidance, and CPT coding accommodates both approaches as noted in the two tables below. While both US guidance and diagnostic ultrasonography represent point-of-care ultrasonography, ultrasound guidance for an interventional procedure differs from bedside diagnostic ultrasonography which can also be separately billed in the NICU and that will be reviewed in a future Coding Corner.

General principles of documenting use of ultrasound guidance: To support billing of ultrasound guidance, CPT requires *"permanently recorded images of the site to be localized, as well as a documented description of the localization process, either separately or within the report of the procedure for which the guidance is utilized."* (2026 CPT Professional Edition), When procedures are otherwise bundled into the daily global intensive and critical care codes, they are not separately billed on that day of service—regardless whether one utilized ultrasound .

Common Procedures with CPT differentiation based on use of US guidance: All of these are separately billable on the same day billing of global daily intensive or critical care. The **"with US guidance"** CPT codes in this table include both the procedure and the US guidance integrated into a single code:

Intervention	W/ or W/O guidance	CPT
PICC	Without	36568
	With	36572
Thoracentesis	Without	32554
	With	32555
Chest tube	Without	32556
	With	32557
Abdominal paracentesis	Without	49082
	With	49083
Pericardiocentesis	Either with or without	33016
Pericardial drainage catheter	Either with or without	33018

Common Procedures which can be coded along with a generic, non-specific US guidance code: The US guidance codes in this table are separately billable from the primary procedure. To code both the procedure and the US guidance, report both codes together at the same time on the same claim:

Our current SONPM focus goal of Payment Parity for 2024-2026 aligns with the AAP Payment Transformation Agenda.

Action plans for NICU-specific payment advocacy:

1- Payer data transparency =

From SONPM with support from AAP: **Payment Transparency for Neonatal Codes** https://pediatricsupport.com/analysis-of-codes-affecting-neonatology

SONPM and AAP have partnered to aggregate negotiated payment information from 4 common commercial payers for 65 neonatal codes.

In 2022, HHS mandated the public disclosure of machine-readable files of in-network coverage rates for all health plan services. https://www.cms.gov/priorities/healthplan-price-transparency/overview/use-pricing-information-published-under-transparency-coverage-final-rule

Intervention	CPT (not inclusive of US guidance)	Generic, non-specific US guidance code which can apply when using US guidance with any of these procedures. Billed separately in addition to primary procedure	Type of generic US guidance code	Comment
Puncture of VP shunt tubing or reservoir	61070	76942	76942 represents generic US guidance for needle aspiration	Separately billable with global daily code
Subdural tap through fontanelle or suture (initial)	61000			
Subdural tap through fontanelle or suture (subsequent)	61001			
Suprapubic bladder tap	51100			Not separately billable with global daily code regardless of US use.
Lumbar puncture-diagnostic	62270			
Lumbar puncture-therapeutic drainage	62272			Separately billable with global daily code
Peripheral arterial line	36620	76937	76937 represents generic US guidance for vascular access	Not separately billable with global daily code regardless of US use.
UVC	36510			
UAC	36660			

SONPM and AAP purchased the organization of this publicly available information for the benefit of AAP SONPM members. We hope that having this data will serve our members in advocacy efforts and negotiations for optimal and fair payment. https://pediatricsupport.com/analysis-of-codes-affecting-neonatology

2- Coding Education to ensure full payment =

Coding Corner: Submitted by David Kanter, MD, MBA, CPC (david.kanter@pediatrix.com) on behalf of the SONPM Coding Committee.

3- DRG payments for optimal NICU payment=

Upcoming webinar in partnership with Children's Hospital Association

****Fair payment ➔ improved salary:FTE ratio ➔ improved staffing ➔ decreased burnout ➔ increased workforce ➔ maintain health of our profession****

"Ultimately, payor reform will be needed to sustain growth in subspecialty compensation."

- Robin Steinhorn & Satyan Lakshminrusimha.

On behalf of your #SONPMexec comm:

Past Chair Munish Gupta @munishguptamd

Chair Elect Alexis Davis @AlexisDNeoMD

District 1 Rep Wendy Timpson @TimpsonWendy

D2 Shetal Shah @NICUBatman

D3 Sara DeMauro

D4 Misty Good @mistygoodlab

D5 Heather Kaplan

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D7 John Loyd

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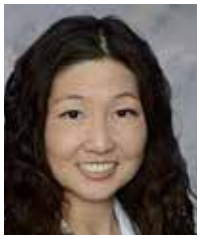
With warm regards,

Clara H. Song, MD, FAAP

Disclosures: No conflicts noted

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Neonatal Intensivist, Southern California Permanente Medical Group
Chair Elect, Communication & Digital Media Chair; Women In Neonatology Steering Committee, All Pathways group Co-Chair: District IX California Chapter 4 Council Representative,
Chair, American Academy of Pediatrics, Section on Neonatal-Perinatal Medicine
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American SIDS Institute
528 Raven Way, Naples, Florida 34110, 239-431-5425, prevent@sids.org

REQUEST FOR RESEARCH GRANT LETTER OF INTENT (LOI)
Submission Deadline March 1, 2026

The American SIDS Institute invites qualified investigators to submit a Letter of Intent (LOI) for a research grant related to sudden unexpected infant death (SUID). Applicants must have a faculty appointment or the equivalent at a U.S. based university, hospital, research institution, or medical examiner office, with one exception. Graduate students enrolled in a postdoctoral program may also apply as the PI, BUT the faculty advisor must be a Co-Investigator, with a biosketch and letter of support included. Topics of interest include, but are not limited to, pathology, physiology, neonatology, cardiology and epidemiology. The intent of this funding opportunity is to support innovative research leading to subsequent extramural grant funding regarding SUID or related causes of sudden unexpected death.

Priority will be given to research proposals related to one of the top ten US research priorities identified by the Global Action and Prioritization of Sudden Infant Death (GAPS) Project. These include:

1. Physiological mechanisms leading to death and how they interact with behavioral risk factors, e.g. prone (front)-sleeping.
2. The role of genetic factors in SUID.
3. Social and cultural factors affecting parental choices in sleep practices and responses to risk reduction campaigns.
4. Role of abnormal or immature brain anatomy and physiology.
5. Systematic collection and sharing of death scene data from SUID and non-SUID deaths to allow better case control studies
6. How infants control oxygen desaturation and arousal to allow a better understanding of SUID mechanisms.
7. Mechanisms for SUID at different ages.
8. Developing and evaluating new ways to make safe sleep campaigns more effective.
9. Identifying specific biomarkers to differentiate between natural causes, accidental asphyxia, and SIDS.
10. Better understanding of the risks of sharing any sleep surface with an infant, notably how it interacts with other factors, including feeding practices, to make it more or less risky.

Proposals related to the study of sudden unexpected intrauterine death, sudden death in children, or sudden death in epilepsy may also be responsive. However, applicants will need to clearly explain how their proposal will advance the understanding of SUID. Although priority will be given to human studies, animal studies may be responsive if justified and related to an animal model relevant to the research priorities listed above. Proposals for the development of new physiologic monitoring equipment or devices to facilitate safe sleep position or reduction of other sleep environment-related risks will not be responsive.

These grant awards are intended to be self-contained studies with a well-defined targeted hypothesis. Budgets may include technical salary support, but principal investigator salary support and indirect costs may not be requested. Awards will be for 2 years and limited to a total of $80,000.

REQUIREMENTS FOR LOI

PROPOSAL

The proposal is limited to **2 pages**. Preliminary data strengthen the proposal but are not required. Each proposal should include the following:

1. Title of LOI proposal and name of P.I.
2. Scientific rationale, specific aim(s) and hypotheses
3. Approach (Methods)
4. Anticipated outcomes; how this research will advance the knowledge base of SUID

IN ADDITION TO 2-PAGE PROPOSAL

Biosketch using NIH format for PI and all Co-Investigators and other Key Personnel
When completing the personal statement section of the biosketch, please name and describe the roles of any mentors who will support you in the work.

SUBMISSION

The LOI including the proposal and other required items should be submitted as a single PDF email attachment to the American SIDS Institute at: research@sids.org.

REVIEW PROCESS

Submitted LOI will be evaluated by the American SIDS Institute Research Advisory Council. In addition to scientific merit, reviewers will also consider:

1. Responsiveness to requirements in this announcement
2. Potential for results leading to subsequent extramural research funding
3. Potential for subsequent peer-review publication

Applicants with well-defined, high priority LOI proposals will be invited to submit a complete research grant application.

AMERICAN SIDS INSTITUTE CONTACT

We encourage inquiries and welcome the opportunity to answer questions from potential applicants. Contact Betty McEntire at bmcentire@sids.org.

Federation of Pediatric Organizations

Executive Office: 6728 Old McLean Village Drive, McLean, VA 22101

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Ann Chahroudi, MD

Call for Nominations for the 2026 Joseph W. St. Geme, Jr. Leadership Award

The death of Joseph W. St. Geme, Jr., MD, in 1986, removed from American pediatrics a leader with vision and selfless dedication to the ideal of excellence. His concern for the patient and the future of health care was well known. Certainly, he was a leader in the forums addressing issues concerning the future of pediatric education and research. It seemed appropriate, therefore, to honor his memory in a manner that would remind present and future generations of pediatricians that one individual can make a difference, and all should try, when the health care of children is at stake.

The member societies of the Federation of Pediatric Organizations established an endowment fund for what is now the Joseph W. St. Geme, Jr. Leadership Award. Dr. St. Geme's stature in pediatrics was reflected by his meaningful participation in all facets of pediatrics as demonstrated by the sponsorship of this award by these societies:

Academic Pediatric Association
American Academy of Pediatrics
American Board of Pediatrics
American Pediatric Society
Association of Medical School Pediatric Department Chairs
Association of Pediatric Program Directors
Society for Pediatric Research

This award was established as an effort on the part of these organizations to honor the life, work, and memory of Joe St. Geme and to memorialize his many contributions to and his aspirations for pediatrics. Many of Dr. St. Geme's friends and colleagues have contributed to this award as well as major contributions from Ross Laboratories, Hoechst Roussel Pharmaceuticals, Inc., Connaught Laboratories, Inc., Merck & Company, Inc., and Mead Johnson Nutrition.

Criteria for Selection

1. The individual must be a pediatrician who is perceived as a role model for others to emulate, as a clinician, an educator, and/or an investigator.

2. The individual must be a leader who has "created a future" for pediatrics and for children and has played an active role in one or more organizations sponsoring this award.

3. The individual should preferably have a record of broad sustained contributions to pediatrics that have had or will have a major impact on child health.

4. The individual must be currently active in pediatrics. **what defines "active" is at the discretion of each of the 7 organizations.*

5. The individual can be a retired member of any of the pediatric organizations sponsoring this award.

6. The individual must **not** be an active FOPO Board member.

Call for Nominations!

Section on Neonatal-Perinatal Medicine Executive Committee: District Representatives from Districts III, VI, and IX

One of the most significant opportunities to engage with the Section on Neonatal-Perinatal Medicine (SONPM) is to serve on the SONPM Executive Committee (EC). The EC consists of one representative from each of the 10 AAP Districts, in addition to chair, chair-elect, past-chair, of-counsel advisor, and AAP section manager (currently Jim Couto). District representatives serve 3-year terms, and are eligible to serve a second term.

District representatives to the EC are responsible for representing all neonatologists working in their AAP districts. The district representative is a liaison between district neonatologists and the SONPM, providing members direct input into SONPM and conveying section activities and opportunities back to the members. More specifically, responsibilities of EC members include the following:

Within executive committee and SONPM broadly:

1. Attend two **required** EC meetings annually, at Scottsdale spring workshop and at NCE;
2. Attend the full SONPM program at Scottsdale spring workshop and NCE meetings annually;
3. Participate in periodic virtual SONPM EC meetings (generally once or twice per month);
4. Review and score abstract submissions to NCE and review poster and oral presentations at NCE meeting, including scoring for SONPM Young Investigator Award;
5. Suggest and select annual SONPM honorary lecturers, including the Cone, Merenstein, Butterfield and Silverman speakers;
6. Solicit and review nominations for annual SONPM awards, including the Apgar, Education, Landmark and Pioneer awards, and select awardees;
7. Participate in planning and execution of national meetings, including section program at NCE, Scottsdale conference, and NeoPREP;
8. Review applications and determine awardees for the Section Strategic Grant Program, currently offered every two years;
9. Review and provide feedback on AAP policy statements, clinical reports, and guidelines as they pertain to newborn care;
10. Participate in and support AAP and SONPM advocacy efforts, including AAP Days of Action;
11. Participate in section committees, groups, and task forces based on interest and need;
12. Participate in SONPM strategic leadership, including implementation of goals of strategic plan; and
13. Participate in SONPM administration, including maintenance and updating of section manual of operations and section budget planning.

Within district:

1. Solicit updates from district members for inclusion in section newsletter twice annually;
2. Allocate annual SONPM district grants by soliciting and evaluating grant proposals;
3. Provide regular updates to district members on relevant aspects of section activities;
4. Provide regular updates to section on district activities and needs of district members;
5. Actively participate in district activities, including attendance at regional conferences; and
6. Encourage AAP and SONPM membership from representative's district, including trainees.

The core executive committee is a productive group! Participation on the executive committee does require a commitment of time and effort, but it is a highly rewarding experience.

SONPM Fellow Education co-Chairs – for Research & Career Conferences

We are in search of a Fellows Research Conference co-Chair!
The SONPM Fellow Education co-Chairs provide primary oversight for the SONPM fellow research and career education conferences. These conferences have been a foundation of SONPM and the neonatology community for decades, and have helped shape careers and collaborations for thousands of neonatal intensivists. They continue to be a highlight of annual SONPM activities. The conferences include the research-focused Perinatal and Developmental Medicine Symposia (three per year, supported by Reckitt/Mead Johnson) and the career-focused Seminars on Neonatal-Perinatal Medicine (two per year, supported by Abbott).

The Fellow Education co-Chairs represent the SONPM at these conferences by providing overall strategic planning, adjusting content and format, and introducing innovations based on fellow feedback and SONPM priorities. Each conference is organized by a planning committee with defined membership and terms; the Fellow Education co-Chairs solicit and select new members of these committees, ensuring appropriate diversity and expertise, and provide support for the planning committees throughout the year. The Fellow Education co-Chairs should be vocal champions for the conferences, leading efforts that align with SONPM, ONTPD, and TECaN to ensure all fellows seek the opportunity for participation.

The Fellow Education co-Chairs serve as liaisons to the SONPM executive committee and other external organizations, and are expected to attend the annual SONPM executive meeting each spring.

The Fellow Education co-Chairs should be familiar with both the research and career conferences, and should have served on the planning committee or faculty for at least one of the respective conferences. The Fellow Education co-Chairs should be an experienced neonatologist with substantial leadership experience, and, for the Research Conference co-Chair, should have an accomplished publication record. To facilitate identification of program committee members and conference faculty, the Fellow Education co-Chair should have a national reputation.

Apply via JotForm. For questions: lnavarro@aap.org or clarasong@me.com

2026.02.05

Letters to the Editor

Letter to the Editor: "Power, Knowledge and Professional Practice"

Dear Editor,

We were fortunate enough to read the manuscript *"Power, Knowledge and Professional Practice,"* which explores how nursing achieves professional power, autonomy, and influence over patient care through the development and application of diverse forms of knowledge. According to the author, this power, autonomy, and influence are continually shaped and constrained by organizational, ethical, and socio-political forces. The author's highly relevant viewpoints on the role of nurses and their positioning within hospital communities address a topic that remains both timely and essential. The manuscript presents a compelling and thoughtful discussion, supported by extensive scholarly analysis and well-integrated theoretical perspectives.

" The author's highly relevant viewpoints on the role of nurses and their positioning within hospital communities address a topic that remains both timely and essential. The manuscript presents a compelling and thoughtful discussion, supported by extensive scholarly analysis and well-integrated theoretical perspectives."

For us, the most notable strength of this paper lies in its ability to move beyond traditional views of power as hierarchical authority and instead conceptualize power as something enacted through daily professional practice. By situating nursing work within sociological and philosophical frameworks, the author effectively demonstrates how power is exercised through a variety of routine yet influential activities such as clinical judgement, documentation, reflective practice, professional regulation, and interprofessional interaction. This framing was particularly impactful for us, as it validates the often-invisible forms of influence that nurses exert within complex healthcare systems.

The manuscript's examination of the various forms of nursing knowledge, such as empirical, experiential, ethical, intuitive, and socio-political, adds considerable depth to the discussion. By recognizing that high-quality nursing care depends on integrating diverse ways of knowing, the paper challenges the dominance of purely empirical models of decision-making.

This has important implications for clinical practice, especially in high-acuity and

uncertainty-driven environments. In these environments, nurses must rapidly synthesize evidence, experience, intuition, and ethical reasoning to ensure patient safety and compassionate care.

Equally impactful is the author's discussion of autonomy and accountability within contemporary healthcare. Rather than presenting autonomy as an absolute or static goal, the paper thoughtfully explores how it is negotiated within interprofessional teams, organizational structures, and medico-legal frameworks. This perspective reflects the realities of modern nursing practice, where expanded responsibilities and advanced roles often coexist with heightened scrutiny and responsibility. The paper, therefore, offers a realistic and balanced account of professional autonomy, one that resonates with both bedside clinicians and nurse leaders.

"This perspective reflects the realities of modern nursing practice, where expanded responsibilities and advanced roles often coexist with heightened scrutiny and responsibility. The paper, therefore, offers a realistic and balanced account of professional autonomy, one that resonates with both bedside clinicians and nurse leaders."

The analysis of advanced practice roles and blurred professional boundaries is especially relevant given current workforce pressures and evolving models of care. By acknowledging both the opportunities and tensions associated with role expansion, the manuscript contributes meaningfully to ongoing debates about the scope of practice, role clarity, and professional identity. Importantly, it underscores the need for strong educational preparation, clear governance, and organizational support if advanced practice roles are to enhance, rather than dilute, professional nursing power.

"Finally, the inclusion of contemporary challenges (such as workforce instability, system strain, and the emergence of artificial intelligence) demonstrates the manuscript's forward-looking relevance."

Finally, the inclusion of contemporary challenges (such as workforce instability, system strain, and the emergence of artificial intelligence) demonstrates the manuscript's forward-looking relevance. By situating these developments within a broader discussion of power and knowledge, the author encourages nurses to engage critically with innovation while keeping safe ethical practice and professional judgement. This approach positions nursing not as a passive recipient of change, but as an active and informed contributor to the future of our healthcare delivery.

Overall, we believe *"Power, Knowledge and Professional Practice"* offers a rich, reflective, and highly relevant contribution to ongoing discussions about nursing professionalism. It encourages nurses to critically examine how knowledge is generated, valued, and applied in practice, while also recognizing the broader systems that shape professional power. We believe this manuscript

will be of significant interest to all medical staff, educators, and leaders seeking to strengthen nurses' voice and overall impact in contemporary healthcare.

Thank you for the opportunity to comment on this important contribution.

Sincerely,

Ustat Sidhu, OMS3

David Yo, OMS3

Lorie Seuylemezian, OMS3

Western University of Health Sciences

Dear Colleagues,

Thank you for your thoughtful and carefully articulated letter regarding the manuscript *"Power, Knowledge and Professional Practice."* Your reflection captures many of the article's central themes and highlights why conversations about professional knowledge, autonomy, and influence remain essential in modern healthcare systems.

"Your reflection captures many of the article's central themes and highlights why conversations about professional knowledge, autonomy, and influence remain essential in modern healthcare systems."

As you note, one of the manuscript's most meaningful contributions is its reframing of professional power. Rather than viewing power solely as hierarchical authority, the author situates it within the everyday practices of clinicians' clinical judgment, documentation, ethical reasoning, collaboration, and reflective practice. In complex care environments such as neonatal intensive care units, where moment-to-moment decisions can have lifelong consequences, these forms of practice-based influence are especially visible and impactful.

"In complex care environments such as neonatal intensive care units, where moment-to-moment decisions can have lifelong consequences, these forms of practice-based influence are especially visible and impactful."

Your emphasis on the multiple ways of knowing in nursing (empirical, experiential, ethical, intuitive, and socio-political) is particularly important. Healthcare increasingly recognizes that high-quality patient care depends on integrating evidence with lived clinical experience, situational awareness, and moral judgment. This multidimensional approach to knowledge reflects the reality of interprofessional practice, where nurses, physicians, therapists, and other clinicians bring complementary perspectives to patient care.

"This multidimensional approach to knowledge reflects the reality of interprofessional practice, where nurses, physicians, therapists, and other clinicians bring complementary perspectives to patient care."

The discussion you highlight regarding autonomy and accountability also resonates strongly in Today's healthcare environment. As professional roles evolve and responsibilities expand, autonomy is rarely absolute; rather, it is negotiated within teams, institutions, and regulatory frameworks. Understanding this dynamic helps foster mutual respect and clearer communication across professions, which ultimately benefits patients and families.

Your comments about advanced practice roles and the blurring of professional boundaries are equally timely. Workforce challenges, expanding scopes of practice, and technological innovations, including the growing presence of artificial intelligence, require thoughtful dialogue about education, governance, and professional identity. As your letter suggests, these developments should be approached not as threats but as opportunities for clinicians to help shape the future of care.

"At Neonatology Today, we strongly believe that meaningful progress in neonatal and perinatal care depends on the voices and insights of the entire healthcare team. Nurses play an indispensable role in the care of infants and families, and scholarly discussions such as the one you highlight help illuminate the intellectual, ethical, and practical foundations of that work."

At *Neonatology Today*, we strongly believe that meaningful progress in neonatal and perinatal care depends on the voices and insights of the entire healthcare team. Nurses play an indispensable role in the care of infants and families, and scholarly discussions such as the one you highlight help illuminate the intellectual, ethical, and practical foundations of that work.

Thank you again for engaging so thoughtfully with this manuscript

and for contributing to the broader dialogue about professionalism, knowledge, and collaborative care.

Sincerely,

Mitchell Goldstein, MD, MBA, CML

Editor in Chief

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Letters to the Editor

Letter to the Editor: "'The Nose Knows': Principles of Nasal Prong Placement and Functional Assessment During Bubble Continuous Positive Airway Pressure Therapy"

Dear Dr. Goldstein and Dr. Merritt:

Thank you for your article in the January 2026 Neonatology Today. It is well written and relevant as many clinical sites utilizing bCPAP will have a better understanding of airflow principles and prong positioning for delivery and maintenance of bCPAP with nasal prongs.

"Thank you for your article in the January 2026 Neonatology Today. It is well written and relevant as many clinical sites utilizing bCPAP will have a better understanding of airflow principles and prong positioning for delivery and maintenance of bCPAP with nasal prongs."

I have taught "The Nose Knows" to many clinicians and will now share with them your article providing the purpose for assessment and corrective actions to be taken for optimal delivery and maintenance of Mean Airway Pressure to optimize bCPAP therapy.

Thank You!

Best regards,

Beth Keifer, RRT

Respiralogics, A Global Respiratory Solutions, Inc Company

3545 Airway Drive Suite 104

Reno, Nevada 89511 USA

Toll Free: 1.855.473.7747

Tel/Fax: 1.775.954.0160

Email: beth.keifer@respiralogics.com

Dear Ms Keifer,

Thank you for your thoughtful and encouraging comments regarding the January 2026 article in Neonatology Today. We are delighted to hear that you found the discussion of airflow principles and nasal prong positioning in bubble CPAP (bCPAP) both relevant and clinically useful.

The teaching concept "The Nose Knows" captures the practical bedside wisdom that often determines the success of noninvasive respiratory support. In many ways, the effectiveness of bCPAP depends not only on the device itself but on careful attention to the interface, prong positioning, and the continuous assessment required to maintain optimal mean airway pressure. As you point out, empowering clinicians with a deeper understanding of these principles can make a meaningful difference in the care of infants receiving this therapy.

It is especially gratifying to know that the article will serve as a resource in your teaching with clinicians. One of the goals of Neonatology Today is to bridge the gap between physiology and bedside practice, and feedback such as yours reinforces the value of sharing practical insights that can immediately improve patient care.

Thank you again for taking the time to write and for your commitment to educating our colleagues in the effective use of bCPAP.

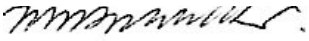
With appreciation,

Mitchell Goldstein, MD

Editor-in-Chief

Neonatology Today

Sincerely,



Mitchell Goldstein, MD, MBA, CML

Editor in Chief

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Letters to the Editor

Letter to the Editor: "Sodium–Chloride Physiology and Acid–Base Balance in Preterm Infants"

Dear Editor,

It was a pleasure to read the article "Sodium–Chloride Physiology and Acid–Base Balance in Preterm Infants" which highlighted the importance of considering chloride when replenishing electrolytes in neonatal patients. The writer had a keen ability of explaining the concept, from the physiological components of electrolyte channels to the bedside patient presentation seen in the neonatal intensive care unit. As medical students, electrolyte management and physiology has always been a complex concept that requires significant effort to understand and apply in the clinical space. However with this article, the concept of significant ion difference and neonatal electrolyte management with caution to hyperchloremic metabolic acidosis has been thoroughly etched into our minds. More importantly, this article highlights the need for better resources that explain important clinical concepts in various specialties that are thorough and comprehensive, yet concise and accessible to all.

"However with this article, the concept of significant ion difference and neonatal electrolyte management with caution to hyperchloremic metabolic acidosis has been thoroughly etched into our minds. More importantly, this article highlights the need for better resources that explain important clinical concepts in various specialties that are thorough and comprehensive, yet concise and accessible to all. "

With the advent of information digitalization, access to experts and master educators like this article writer, have become more readily available. Even so, finding quality information has ironically become a challenge. On one end, there are intricate and elaborate research articles that go into the hyperspecifics of a certain pathophysiology. While such articles effectively contribute to scientific discovery, audiences seeking a cursory understanding of a topic may find themselves inundated by the numerous details within their writing. On the other hand, there are many free resources geared for the general public and not future and current clinicians. These resources are on the other end of the spectrum covering broad ideas, potentially contain inaccurate medical information and do not help shape clinical decision making.

The modern medical student relies on paywalled journals and subscription-based learning platforms, creating structural inequities within medical education and clinical training. Although these resources are high-quality and widely regarded as essential for board preparation and evidence-based practice, their substantial cost places additional financial strain on medical students already living on loans, effectively tying academic success and exam performance to wealth. Paywalled journals further restrict access to primary literature, limiting trainees' ability to independently evaluate evidence and cultivate a diverse fund of knowledge. As clinical reasoning and education become increasingly concentrated within corporate platforms, knowledge risks becoming commodified rather than shared as a professional public good. In contrast, open-access medical information promotes intellectual equity, broader scholarly engagement, and sustainable lifelong learning, ensuring that future clinicians are shaped by merit and curiosity rather than financial power.

"Paywalled journals further restrict access to primary literature, limiting trainees' ability to independently evaluate evidence and cultivate a diverse fund of knowledge. As clinical reasoning and education become increasingly concentrated within corporate platforms, knowledge risks becoming commodified rather than shared as a professional public good. In contrast, open-access medical information promotes intellectual equity, broader scholarly engagement, and sustainable lifelong learning, ensuring that future clinicians are shaped by merit and curiosity rather than financial power."

In summary, the article "Sodium–Chloride Physiology and Acid–Base Balance in Preterm Infants" not only highlights an important concept in neonatal physiology, it also highlights the need for high quality and digestible resources for medical education. Often scientific articles are less focused on education and instead scientific discovery. Such articles are behind paywalls and contain overly specific and experimental details that can inundate readers. Likewise, the abundance of resources for the general public, while often free, may not be accurate or at the level of detail needed for effective medical education. An open collection of similar articles could connect experts with medical learners, raising awareness of difficult to understand issues while also educating the topic effectively, thus ensuring they are effectively addressed in the future.

We appreciate this opportunity to comment on this article, and hope that it inspires many more to follow.

Sincerely,

David Yo, OMS3

Lorie Seuylemezian, OMS3

Ustat Sidhu, OMS3

Western University of Health Sciences

Response from the Editor-in-Chief

Dear Colleagues,

Thank you for your thoughtful and generous letter regarding the article, "Sodium–Chloride Physiology and Acid–Base Balance in Preterm Infants." It is particularly gratifying to hear from medical students who found the discussion of electrolyte physiology—especially the role of chloride and the concept of strong ion difference—both understandable and clinically relevant. One of the central missions of *Neonatology Today* is to bridge the gap between complex physiology and bedside neonatal care, and your response suggests that this goal is being realized.

"One of the central missions of Neonatology Today is to bridge the gap between complex physiology and bedside neonatal care, and your response suggests that this goal is being realized."

You raise an important point about the growing tension in medical education between depth of knowledge and accessibility. Modern trainees are confronted with two extremes: highly technical primary literature that can be difficult to navigate without extensive background knowledge, and simplified online resources that may lack sufficient accuracy or clinical nuance. The challenge for medical education, particularly in subspecialties such as neonatology, is to create materials that maintain scientific rigor while remaining approachable to learners still developing their clinical frameworks.

"Your comments about inequities created by paywalled journals and subscription-based educational platforms are also well taken. The escalating costs associated with medical training already place significant financial burdens on students and trainees."

Your comments about inequities created by paywalled journals and subscription-based educational platforms are also well taken. The escalating costs associated with medical training already place significant financial burdens on students and trainees. When access to high-quality educational resources becomes dependent on expensive subscriptions, the risk arises that knowledge traditionally regarded as a shared professional responsibility becomes restricted by financial barriers.

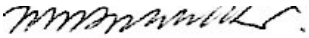
One of the guiding principles behind *Neonatology Today* has been to support the open exchange of knowledge within the neonatal community. By publishing accessible educational reviews, commentaries, and perspectives from clinicians and scientists worldwide, we aim to provide resources that are both scientifically sound and broadly available. Articles such as *"Sodium–Chloride Physiology and Acid–Base Balance in Preterm Infants"* illustrate how complex physiological concepts can be translated into practical insights for clinical care while remaining understandable to learners at multiple stages of training.

Your suggestion that a larger collection of similarly written educational articles could serve as a bridge between experts and trainees is excellent. Indeed, fostering this dialogue between experienced clinicians and emerging physicians is essential for the continued advancement of neonatal care. The future of our field depends not only on scientific discovery but also on our ability to communicate that knowledge clearly and effectively to the next generation.

On behalf of the editorial team, I thank you for taking the time to share your reflections. Letters such as yours remind us that medical publishing should not only disseminate research but also nurture curiosity, understanding, and professional growth.

We hope you will continue to engage with *Neonatology Today*—both as readers and, perhaps in the future, as contributors.

Sincerely,



Mitchell Goldstein, MD, MBA, CML

Editor in Chief

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Letters to the Editor

Letter to the Editor: "Interpretation of Abnormal Newborn Screening Results in Preterm Infants Receiving Parenteral Nutrition"

Dear Editor,

We read with great interest the manuscript entitled "Interpretation of Abnormal Newborn Screening Results in Preterm Infants Receiving Parenteral Nutrition." The authors present a clinically practical and highly relevant framework for addressing an anxiety-provoking challenge in the neonatal intensive care unit (NICU): the interpretation of abnormal newborn screening (NBS) results in medically fragile preterm infants. The manuscript clearly articulates that tandem mass spectrometry-based screening detects biochemical patterns rather than definitive diagnoses. In preterm infants receiving parenteral nutrition (PN), these patterns frequently reflect developmental immaturity, altered metabolic flux, and substrate composition rather than inborn errors of metabolism. Therefore, medical stewardship is critical for the safe and effective use of newborn screening.

"In preterm infants receiving parenteral nutrition (PN), these patterns frequently reflect developmental immaturity, altered metabolic flux, and substrate composition rather than inborn errors of metabolism. Therefore, medical stewardship is critical for the safe and effective use of newborn screening."

The discussion of elevated methionine, tyrosine, C3 acylcarnitine, and phenylalanine within the context of PN composition and immature metabolic pathways provides an elegant integration of physiology, nutrition, and screening analytics. The clarification that elevated tyrosine alone does not define tyrosinemia type I without succinylacetone accumulation is particularly helpful, as is the nuanced discussion of citrulline trends versus isolated ammonia values in distinguishing physiologic immaturity from actual urea cycle pathology. I greatly appreciated the chart at the end of the manuscript for condensing the information into an easily digestible and highly usable format.

We particularly found the author's identification of the single most cost-effective confirmatory test for each common abnormality helpful. These tests offer clinicians a rational pathway that minimizes unnecessary interventions, reduces parental distress, and conserves healthcare resources. This is especially important in light of the well-documented psychosocial impact of false-positive results on families and the downstream burden on healthcare systems.

The manuscript also raises a critical broader consideration: whether current screening thresholds and timing strategies adequately account for the unique physiology of extremely preterm infants. Medicine tends to instill a culture of utilizing all the resources at your disposal, with the standard framework of taking all precautions for the patient's benefit. This manuscript questions whether using all available resources is genuinely beneficial to patients and their families. As newborn screening panels continue to expand, thoughtful calibration of interpretive frameworks for high-risk NICU populations will become increasingly essential. Further, sound clinical judgment is necessary to determine when testing is warranted.

"As newborn screening panels continue to expand, thoughtful calibration of interpretive frameworks for high-risk NICU populations will become increasingly essential. Further, sound clinical judgment is necessary to determine when testing is warranted."

Ultimately, this manuscript reinforces that newborn screening is most effective when paired with thoughtful clinical interpretation rather than reflexive escalation. By reframing abnormal results through the lens of prematurity physiology and parenteral nutrition exposure, the authors advocate for a balanced approach that protects infants from both missed diagnoses and unnecessary interventions. In doing so, they promote a model of neonatal care grounded in precision, stewardship, and clinical discernment. This work serves as a valuable guide for trainees and experienced clinicians alike, encouraging a practice environment where evidence, physiology, and judgment intersect to support both patient safety and family-centered care.

Thank you for the opportunity to comment on this significant contribution. Sincerely,

Lorie Seuylemezian, OMS3

David Yo, OMS3

Ustat Sidhu, OMS3

Western University of Health Sciences

Dear Colleague,

Thank you for your thoughtful and carefully considered letter regarding the manuscript, *"Interpretation of Abnormal Newborn Screening Results in Preterm Infants Receiving Parenteral Nutrition."* Your commentary captures the central tension that clinicians in the neonatal intensive care unit face when interpreting newborn screening results in medically complex preterm infants.

As you note, modern newborn screening, particularly with tandem mass spectrometry, identifies biochemical signatures rather than definitive disease states. In the NICU environment, where physiologic immaturity, exposure to parenteral nutrition, and evolving metabolic pathways are the norm rather than the exception, these signals must be interpreted within a broader clinical context. Your observations highlight an essential point:

abnormal laboratory values in premature infants often reflect developmental physiology and nutritional substrates rather than true inborn errors of metabolism.

"n the NICU environment, where physiologic immaturity, exposure to parenteral nutrition, and evolving metabolic pathways are the norm rather than the exception, these signals must be interpreted within a broader clinical context."

Your emphasis on the manuscript's practical elements is well taken. The discussion of methionine, tyrosine, phenylalanine, and C3 acylcarnitine elevations in the setting of parenteral nutrition is particularly instructive, as is the clarification that isolated tyrosine elevation should not immediately raise concern for tyrosinemia type I in the absence of succinylacetone. Similarly, the distinction between physiologic variation in citrulline levels and clinically meaningful urea cycle pathology represents the kind of nuance that bedside clinicians greatly benefit from. The summary table you referenced was designed precisely for this purpose to translate complex biochemical pathways into clinically usable decision support.

"Your comments also raise an important systems-level question: whether current newborn screening thresholds and timing adequately reflect the physiology of extremely premature infants. As screening panels expand and analytic sensitivity increases, the likelihood of detecting transient biochemical abnormalities will also grow."

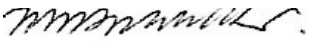
Your comments also raise an important systems-level question: whether current newborn screening thresholds and timing adequately reflect the physiology of extremely premature infants. As screening panels expand and analytic sensitivity increases, the likelihood of detecting transient biochemical abnormalities will also grow. This reality underscores the need for stewardship, ensuring that screening programs achieve their primary goal of early detection of serious disease while minimizing unnecessary testing, parental anxiety, and resource utilization.

Perhaps most importantly, your letter reinforces a message that resonates strongly with Neonatology Today's mission: technology and diagnostics are most valuable when paired with thoughtful clinical judgment. Reflexive escalation of testing does not always serve our patients or their families well. Instead, careful interpretation grounded in physiology, developmental biology, and clinical context allows neonatologists to navigate the delicate balance between vigilance and restraint.

We are grateful for your engagement with this work and for highlighting its implications for clinical practice, trainee education, and healthcare stewardship. Letters such as yours enrich the ongoing dialogue within our field and help ensure that advances in neonatal diagnostics ultimately translate into better, more thoughtful care for the infants and families we serve.

Thank you again for contributing to this important discussion.

Sincerely,



Mitchell Goldstein, MD, MBA, CML

Editor in Chief

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Erratum (Neonatology Today January, 2026

There are no erratum to report for January, 2026

Corrections can be sent directly to LomaLindaPublishingCompany@gmail.com. The most recent edition of Neonatology Today including any previously identified erratum may be downloaded from www.neonatologytoday.net.

NT

Neonatology Today welcomes your editorial commentary on previously published manuscripts, news items, and other academic material relevant to the fields of Neonatology and Perinatology.

Please address your response in the form of a letter. For further formatting questions and submissions, please contact Mitchell Goldstein, MD at LomaLindaPublishingCompany@gmail.com.

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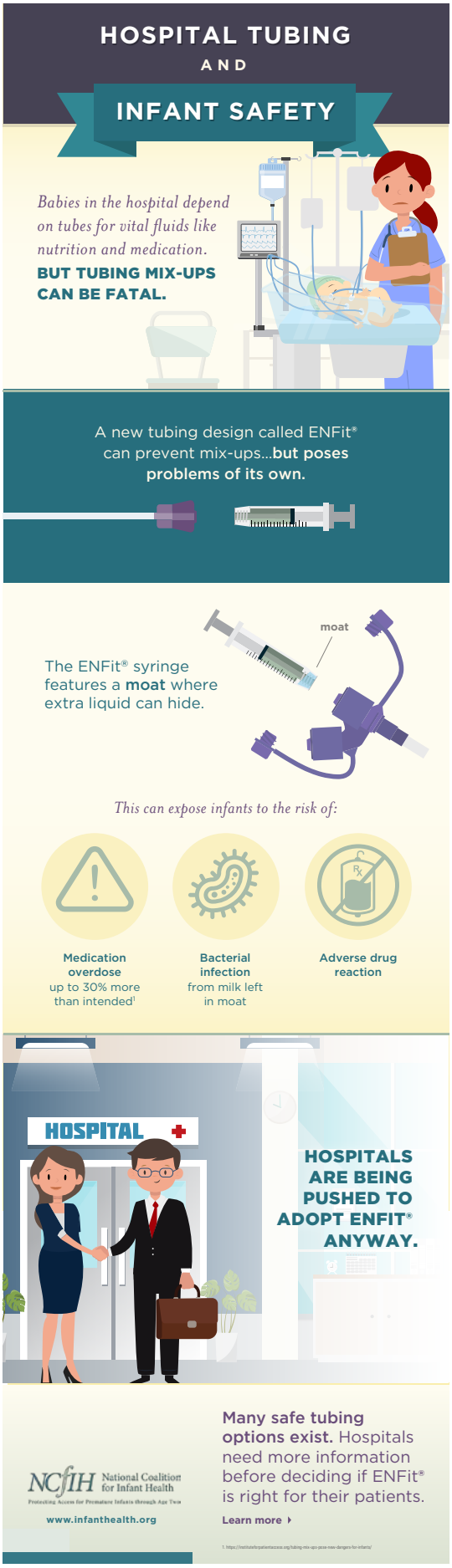
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that clogs their nose and lungs, making it hard to breathe

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101°

which is especially dangerous for babies younger that 3 months

National Perinatal Association

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Why Pregnant and Nursing Women Need Clear Guidance on

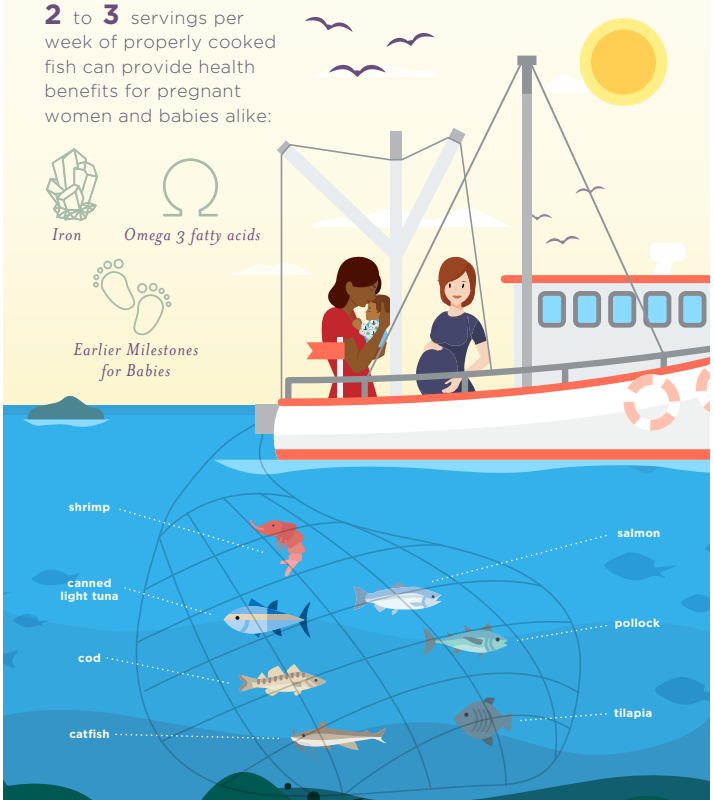
THE NET BENEFITS OF EATING FISH

2 to **3** servings per week of properly cooked fish can provide health benefits for pregnant women and babies alike:

Iron

Omega 3 fatty acids

Earlier Milestones for Babies



But **mixed messages** from the media and regulatory agencies cause pregnant women to sacrifice those benefits by eating less fish than recommended.



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ON FISH CONSUMPTION FOR PREGNANT WOMEN, INFANTS, AND NURSING MOMS.

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Thirteen-year-old Emily Rose Shane was tragically murdered on April 3, 2010 on Pacific Coast Highway in Malibu, CA. Our foundation exists to honor her memory.

In Loving Memory

August 9, 1996 - April 3, 2010

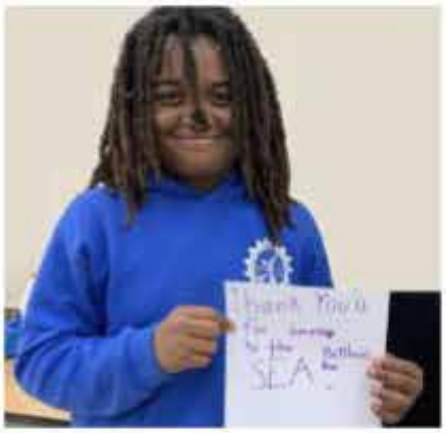


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Make a Difference in the Life of a Student in Need Today!
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Middle School	$3,240

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The Village Son



A Life's Journey

Iranian village to a university professor in the United States of America in this memoir. As a boy, his unruly behavior was sedated by scholastic challenges as a remedy. At age twelve, he left home for junior high school in a provincial capital. At first, a lack of self-esteem led him to stumble, but he soon found the courage to tackle his subjects with vigor. He became more curious about the world around him and began to yearn for a new life despite his financial limitations. Against all odds, he became one of the top students in Iran and earned a scholarship to study medicine in Europe. Even though he was culturally and socially naïve by European standards, an Italian family in Rome helped him thrive. The author never shied away from the challenges of learning Italian, and the generosity of Italy and its people became part and parcel of his formative years. By the time he left for the United States of America, he knew he could accomplish whatever he imagined.

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- Bonding with Your Baby
- Caregivers Need Care Too

Peer Reviewed

Gravens by Design: Couplet Care is the Future for Every NICU

Robert D. White, MD

"Couplet care is a hospital model in which a newly delivered mother and her infant receive care together in the same room. For healthy mothers and term newborns, this approach has been the standard of maternity care for more than three decades. However, paradoxically, when a newborn requires admission to a Neonatal Intensive Care Unit (NICU), separation of mother and infant remains the prevailing norm. In most institutions, NICU admission still entails physical and often prolonged separation at precisely the moment when physiologic stability, parental bonding, and lactation are being established. (1-6)"

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There are, of course, circumstances in which couplet care is not feasible. A mother may require intensive postoperative monitoring, hemodynamic support, or other specialized services after delivery. Alternatively, an infant may need to be transferred to a tertiary or quaternary center for subspecialty care unavailable at the birth hospital. These scenarios, however, represent a minority of potential mother–infant dyads. For the majority of NICU admissions, particularly late preterm and moderately ill infants, the barriers to keeping mother and baby together are more often structural and cultural than medical.

A growing body of literature now documents the medical, developmental, and psychosocial benefits of couplet care in the NICU setting. Improved rates of breastfeeding initiation and continuation, enhanced maternal confidence, reduced parental stress, more stable infant physiologic parameters, and earlier establishment of parent–infant attachment have all been described. These outcomes are not incidental; they are consistent with what we understand about early neurodevelopment, stress biology, and the importance of relational health. With this evidence in hand, the question is no longer whether NICU couplet care is desirable but how best to implement it at scale for most NICU families.

Dozens of hospitals have now operationalized NICU couplet care in varying forms. Two primary structural models have emerged: (1) providing maternal care within the NICU environment and (2) delivering neonatal intensive care services within the postpartum unit. The latter model is most often adopted by Level II NICUs that are geographically contiguous with maternity services and manage lower-acuity populations. The former model, integrating maternal care spaces directly into the NICU, is more typical of larger Level III and IV units where neonatal acuity is higher and advanced monitoring and respiratory support are readily available. Each model carries distinct architectural, regulatory, and operational implications, and thoughtful collaboration among neonatologists, obstetricians, nursing leadership, hospital administrators, and healthcare architects is essential.

Couplet Care Within the NICU:

In the NICU-based model, designated rooms are constructed or renovated to accommodate both adult and neonatal patients. These rooms typically include two fully functional headwalls, one configured for maternal care and one for neonatal intensive care, allowing simultaneous monitoring and treatment. Building codes governing adult inpatient care must be satisfied; this generally requires a sink, a private or directly connected bathroom, appropriate medical gas access, and adequate space for safe clinical workflow. Visual privacy features, such as curtains or partitions, are also important to preserve dignity and comfort.

"In the NICU-based model, designated rooms are constructed or renovated to accommodate both adult and neonatal patients. These rooms typically include two fully functional headwalls, one configured for maternal care and one for neonatal intensive care, allowing simultaneous monitoring and treatment."

Clinical pathways must be clearly defined. Some late preterm infants, for example, a 34-week gestation newborn who does not require supplemental oxygen, intravenous fluids, or invasive monitoring, may remain with the mother in the delivery or recovery suite for an initial observation period. If NICU-level monitoring is indicated thereafter, both mother and infant can be transferred together to a NICU couplet room. Care may be delivered by cross-trained nurses proficient in both neonatal and obstetric care, or by separate NICU and postpartum nurses who practice collaboratively in the same room.

For more acutely ill infants requiring immediate NICU stabilization, initial separation may be unavoidable. However, once the mother is medically stable following delivery, she can be transferred to the NICU couplet room to complete her postpartum care alongside her infant. This approach minimizes the duration of separation while preserving clinical safety.

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Following maternal discharge, several options exist. The dyad may remain together if rooming-in is desired and feasible. Alternatively, the infant may transition to a standard single-family NICU room or, if appropriate, to a multibed care area. Importantly, NICU rooms designed with dual headwalls provide flexibility beyond couplet care. They can accommodate twins, serve as overflow for healthy postpartum dyads during periods of high census, or house two to four "feeder and grower" infants, thereby reducing the risk of sensory isolation for infants whose families visit infrequently.

NICU Couplet Care in the Postpartum Unit:

In smaller or lower-acuity settings, advances in wireless monitoring technology have made it increasingly feasible to deliver certain levels of NICU care directly within the mother's postpartum room. A stable late preterm infant who requires cardiorespiratory monitoring but not invasive support may safely remain in the room where labor and delivery occurred. Neonatal care can be provided by NICU nurses who round in the postpartum unit, while maternity nurses manage maternal recovery, or by cross-trained nurses who oversee both patients.

An adjacent NICU space remains essential for escalation of care should the infant's clinical status change and for infants whose mothers elect not to room-in after discharge. Nonetheless, for appropriately selected dyads, this model allows continuity of contact during a critical developmental window without compromising monitoring or safety.

Implementation Considerations:

For many Level III and IV NICUs, especially those housed in older facilities, full implementation of couplet care may require significant renovation or new construction. Yet in any hospital that maintains an in-house maternity service, future capital planning should anticipate the integration of couplet care spaces. From a contemporary clinical and developmental perspective, there is no compelling medical rationale to routinely separate most mothers and infants simply because NICU-level services are required.

"For many Level III and IV NICUs, especially those housed in older facilities, full implementation of couplet care may require significant renovation or new construction. Yet in any hospital that maintains an in-house maternity service, future capital planning should anticipate the integration of couplet care spaces."

Structural redesign alone is insufficient. Operational readiness demands parallel planning in staffing models, nurse cross-training, monitoring systems, infection prevention protocols, emergency response workflows, and documentation systems. Policies must delineate responsibility for medication administration, rapid response activation, and escalation of care. These logistical components require substantial lead time and institutional commitment.

Where postpartum and NICU units are geographically adjacent and neonatal acuity is compatible, implementation may occur with minimal structural modifications. In such cases, attention to workflow integration, interdisciplinary communication, and family-centered policy development becomes paramount.

Looking Forward:

Experience across multiple institutions now demonstrates that NICU couplet care is feasible, clinically sound, and highly valued by families. Initial hesitancy among staff typically yields to strong support once teams gain familiarity and observe the benefits firsthand: improved breastfeeding outcomes, enhanced parental engagement, and a more humane care environment.

As evidence continues to accumulate, it is conceivable that future building codes and regulatory standards will require the inclusion of couplet care rooms within NICU design. In the interim, forward-thinking hospital leaders should evaluate this model not only for its developmental and psychosocial advantages but also for its strategic value. Hospitals that visibly prioritize keeping families together may strengthen their reputation for family-centered care and potentially increase delivery volumes in competitive markets.

In an era that emphasizes relational health, trauma-informed care,

and neuroprotective strategies, NICU couplet care is not merely an architectural innovation. It is a realignment of intensive care with the biologic and emotional realities of early life.

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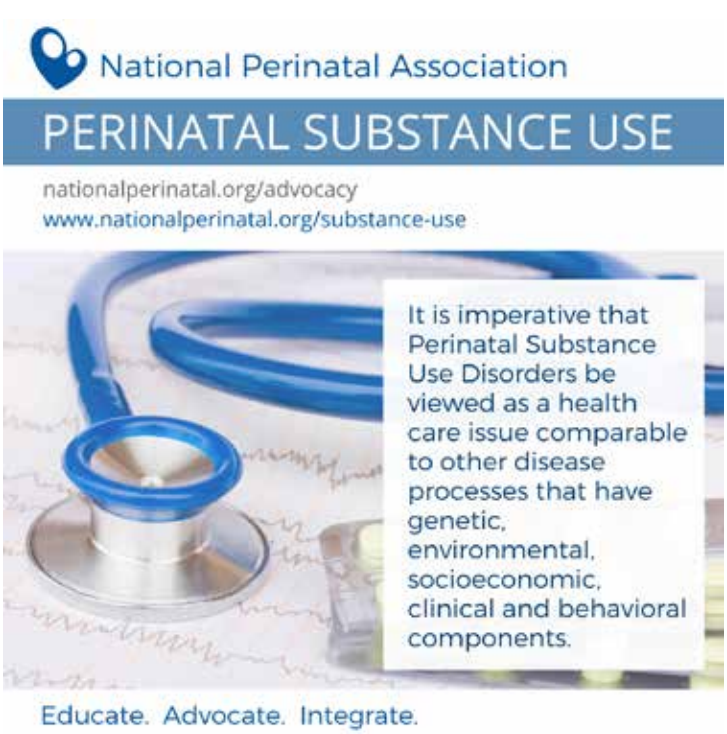
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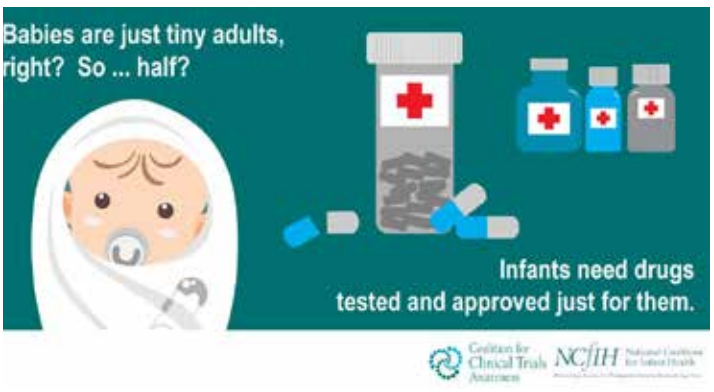
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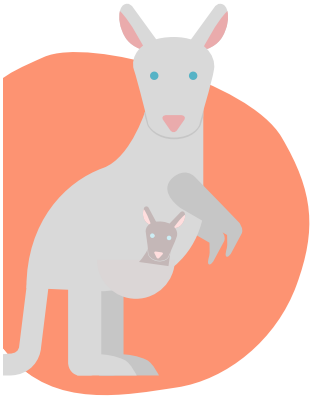






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SKIN-TO-SKIN CARE DURING COVID-19



GET INFORMED ABOUT THE RISKS + BENEFITS

work with your medical team to create a plan

GET CLEAN

WASH YOUR HANDS, ARMS, and CHEST

with soap and water for 20+ seconds. Dry well.





PUT ON FRESH CLOTHES

change into a clean gown or shirt.

IF COVID-19 + WEAR A MASK

and ask others to hold your baby when you can't be there



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Raising Global Awareness of RSV

Global awareness about respiratory syncytial virus (RSV) is lacking. RSV is a relatively unknown virus that causes respiratory tract infections. It is currently the second leading cause of death – after malaria – during infancy in low- and middle-income countries.

The RSV Research Group from professor Louis Bont, pediatric infectious disease specialist in the University Medical Centre Utrecht, the Netherlands, has recently launched an RSV Mortality Awareness Campaign during the 5th RSV Vaccines for the World Conference in Accra, Ghana.

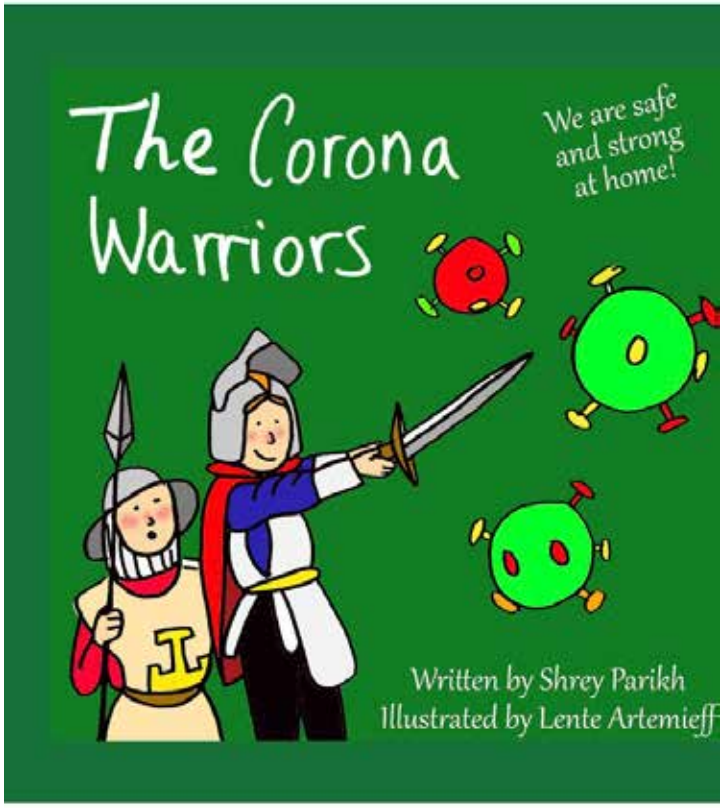
They have produced a personal video entitled "*Why we should all know about RSV*" about Simone van Wyck, a mother who lost her son due to RSV. The video is available at www.rsvgold.com/awareness and can also be watched using the QR code on this page. Please share the video with your colleagues, family, and friends to help raise awareness about this global health problem.

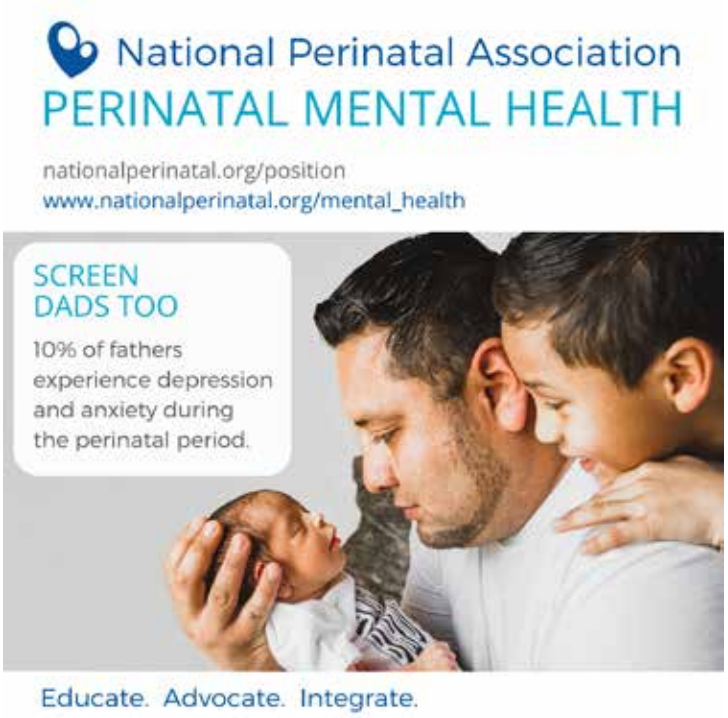


RSV GOLD

A Global Mortality Database for Children with RSV Infection

The RSV awareness video was produced in collaboration with the Bill & Melinda Gates Foundation



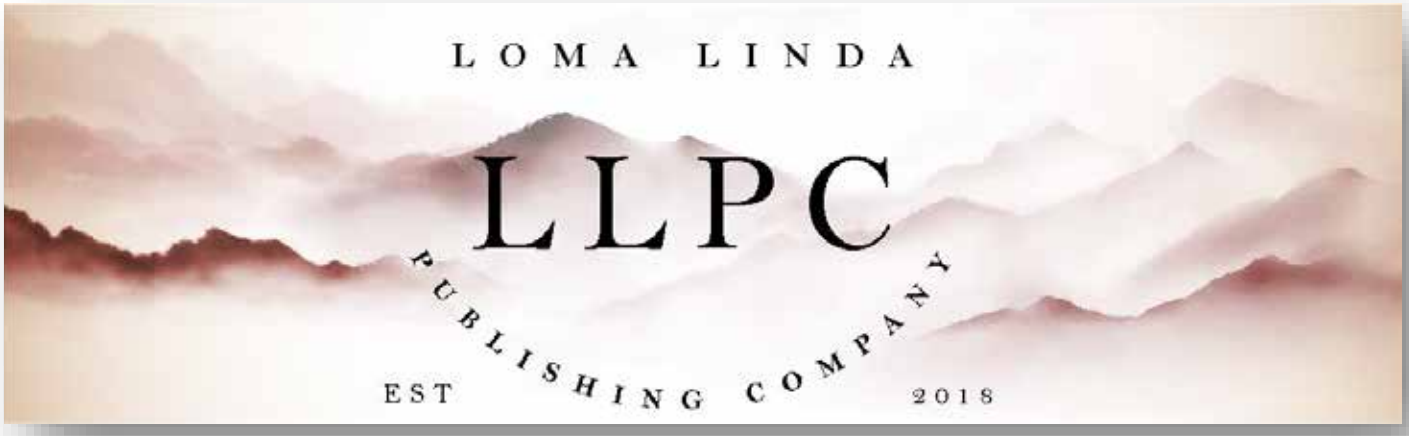


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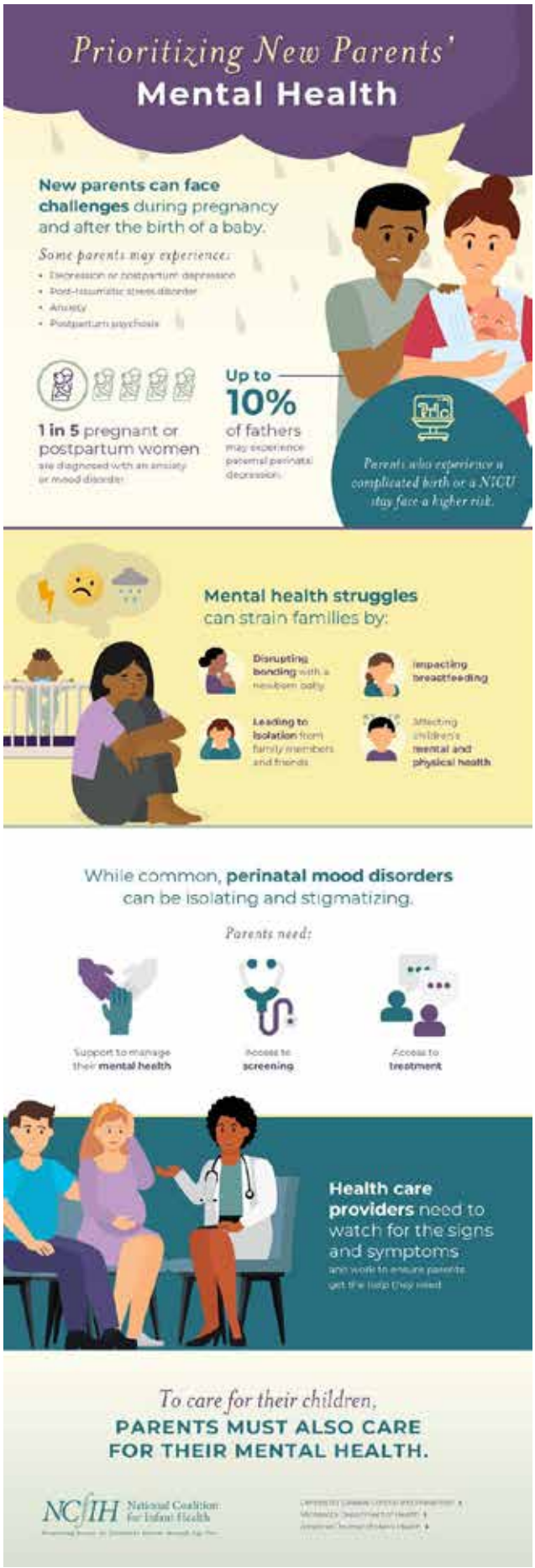
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Use technology like video chat apps to include family members who can't visit the NICU.

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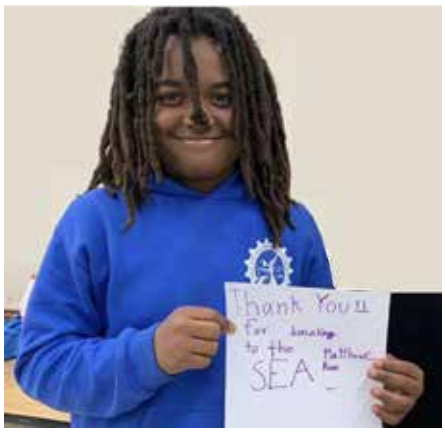


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National Coalition for Infant Health: Protecting NICU Graduates: Why the National Coalition for Infant Health Supports the AAP's 2026 Immunization Schedule

Kristen Santiago, MS, Mitchell Goldstein, MD, MBA, CML

The National Coalition for Infant Health is a collaborative of more than 200 professional, clinical, community health, and family support organizations focused on improving the lives of premature infants through age two and their families. NCfIH's mission is to promote lifelong clinical, health, education, and supportive services needed by premature infants and their families. NCfIH prioritizes safety of this vulnerable population and access to approved therapies.

Few areas of medicine demonstrate the power of prevention as clearly as childhood immunization. For neonatologists, pediatricians, and families whose infants begin life in the neonatal intensive care unit, the stakes are particularly high. The **National Coalition for Infant Health (NCfIH)** strongly supports the **American Academy of Pediatrics (AAP)** 2026 childhood immunization schedule, recognizing that vaccines remain one of the most effective tools we have to protect infants› health, especially those born prematurely or with complex medical conditions. (1, 2)

"The National Coalition for Infant Health (NCfIH) strongly supports the American Academy of Pediatrics (AAP) 2026 childhood immunization schedule, recognizing that vaccines remain one of the most effective tools we have to protect infants› health, especially those born prematurely or with complex medical conditions. (1, 2)"

Modern neonatal care has dramatically improved survival for infants born at the limits of viability. Babies born at 23 or 24 weeks' gestation now survive in increasing numbers, and those born somewhat later often leave the NICU after weeks or months of intensive support. However, survival is only the beginning of the journey. Many of these infants remain medically vulnerable long after discharge, with developing immune systems, chronic lung disease, or other complications that increase their susceptibility to infection.

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For these infants and their families, vaccine-preventable diseases are not theoretical threats. They are real risks that can undo months of progress achieved in the NICU.

"Infants who spend time in the NICU often leave the hospital with fragile physiological reserves. Prematurity itself alters immune function, and conditions such as bronchopulmonary dysplasia, congenital anomalies, or neurologic injury may further complicate recovery. These infants may face repeated hospital visits and remain vulnerable to respiratory and systemic infections during their first years of life."

The Unique Vulnerability of NICU Graduates

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Routine childhood immunizations, therefore, serve as a critical extension of the protective care begun in the NICU. Vaccination helps shield infants from infections that can lead to severe illness, hospitalization, or long-term complications.

The AAP's immunization schedule continues to recommend routine protection against infections such as **Respiratory Syncytial Virus (RSV)**, **Hepatitis A**, **Hepatitis B**, **Rotavirus Infection**, **Influenza**, and **Meningococcal Disease**—all infections that have historically caused significant morbidity in children. For premature infants and those with underlying medical conditions, the consequences of these infections can be particularly severe.

"The AAP's immunization schedule continues to recommend routine protection against infections such as Respiratory Syncytial Virus (RSV), Hepatitis A, Hepatitis B, Rotavirus Infection, Influenza, and Meningococcal Disease—all infections that have historically caused significant morbidity in children"

In the NICU, clinicians frequently witness how quickly respiratory or systemic infections can destabilize fragile infants. Preventing these infections whenever possible is therefore a fundamental goal of pediatric care.

Timing Matters in Pediatric Immunization

The recommended pediatric immunization schedule is not arbitrary. It reflects decades of research into how infants' immune systems develop and when protection against specific pathogens is most needed.

Vaccines are carefully timed to provide immunity at the earliest safe and effective point in a child's development. This timing is particularly important for premature infants, who often face increased exposure to pathogens due to frequent healthcare encounters and underlying medical conditions.

Delaying or skipping vaccines interrupts this carefully constructed protective strategy. Importantly, clinicians cannot predict which infants will develop severe disease after exposure to common pathogens. A virus that causes mild symptoms in one child may result in respiratory failure or hospitalization in another.

For families leaving the NICU, following the recommended vaccination schedule is one of the most effective ways to maintain the protection that intensive neonatal care has worked so hard to achieve.

"The American Academy of Pediatrics develops its immunization recommendations through rigorous review of scientific evidence. Clinical trials, epidemiologic surveillance, vaccine safety monitoring, and real-world effectiveness studies all contribute to these guidelines."

Evidence-Based Recommendations:

The **American Academy of Pediatrics** develops its immunization recommendations through rigorous review of scientific evidence. Clinical trials, epidemiologic surveillance, vaccine safety monitoring, and real-world effectiveness studies all contribute to these guidelines.

This evidence-based process ensures that pediatric immunization recommendations reflect the best available knowledge for protecting children's health. The schedule is updated as new scientific data emerge, new vaccines become available, and disease patterns evolve.

The National Coalition for Infant Health strongly supports this transparent and science-driven approach to pediatric care.

Supporting Families Through Trusted Guidance:

Families of NICU graduates often face an overwhelming transition from hospital to home. During this time, parents must navigate complex follow-up care, developmental monitoring, and sometimes ongoing medical therapies. Questions about vaccines are common, particularly in a public environment where misinformation about immunization can spread easily.

Pediatricians and neonatologists play an essential role as trusted sources of information. Thoughtful conversations between

clinicians and families allow concerns to be addressed with empathy and scientific clarity. These partnerships help parents make informed decisions that protect their children's health.

The NCfIH encourages parents to discuss any vaccine-related questions directly with their child's pediatrician or neonatal care team.

A Shared Commitment to Infant Health:

The remarkable advances in neonatal medicine over the past half-century have transformed outcomes for premature and critically ill infants. Technologies such as advanced ventilation, improved nutritional strategies, and evidence-based developmental care have enabled infants who once had little chance of survival to live.

However, prevention remains as important as treatment.

Vaccination represents one of the most powerful preventive tools available to modern medicine. By protecting infants from serious infectious diseases, vaccines help preserve the gains achieved in neonatal intensive care and support healthy development after discharge.

"Vaccination represents one of the most powerful preventive tools available to modern medicine. By protecting infants from serious infectious diseases, vaccines help preserve the gains achieved in neonatal intensive care and support healthy development after discharge."

The **National Coalition for Infant Health** proudly supports the **American Academy of Pediatrics'** 2026 childhood immunization schedule. For NICU graduates and medically fragile infants, adherence to these evidence-based recommendations helps ensure that the promise of modern neonatal care continues beyond the walls of the NICU. (1, 2)

Healthy beginnings deserve lasting protection, and vaccines help make that possible.

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National Coalition for Infant Health Values (SANE)

Safety. Premature infants are born vulnerable. Products, treatments and related public policies should prioritize these fragile infants' safety.

Access. Budget-driven health care policies should not preclude premature infants' access to preventative or necessary therapies.

Nutrition. Proper nutrition and full access to health care keep premature infants healthy after discharge from the NICU.

Equity. Prematurity and related vulnerabilities disproportionately impact minority and economically disadvantaged families. Restrictions on care and treatment should not worsen inherent disparities.

Corresponding Author



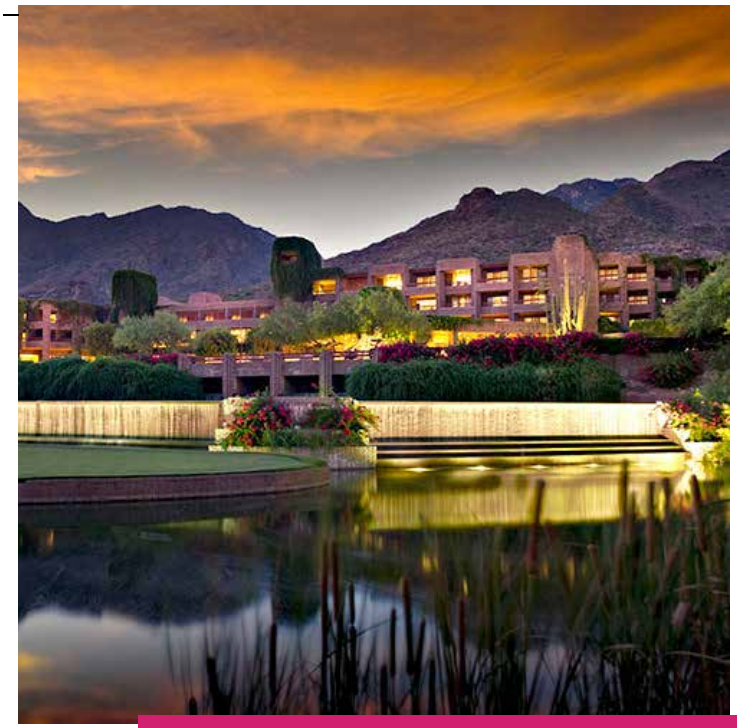
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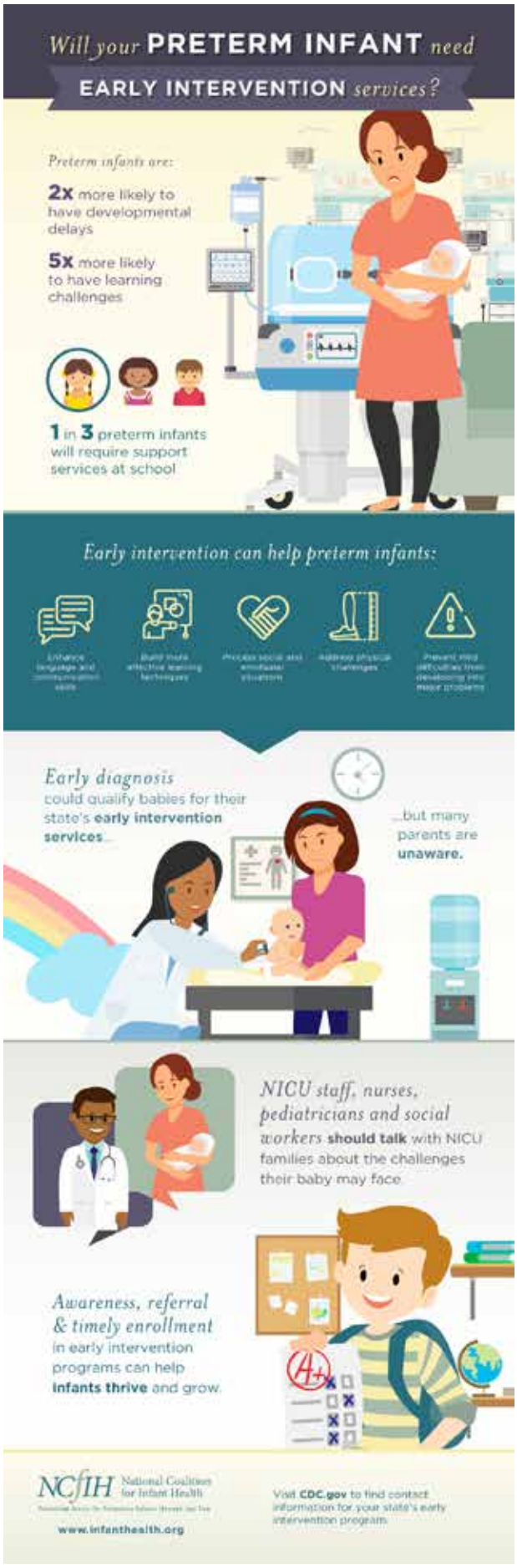
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2026 WORKSHOP ON NEONATAL-PERINATAL PRACTICE STRATEGIES

SAVE THE DATE!

March 13-15, 2026
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Will your PRETERM INFANT need
EARLY INTERVENTION services?
Preterm infants are:
2x more likely to have developmental delays
5x more likely to have learning challenges
1 in 3 preterm infants will require support services at school
Early intervention can help preterm infants:
Early diagnosis could qualify babies for their state's early intervention services...but many parents are unaware.
NICU staff, nurses, pediatricians and social workers should talk with NICU families about the challenges their baby may face.
Awareness, referral & timely enrollment in early intervention programs can help infants thrive and grow.
NCfIH National Coalition for Infant Health
www.infanthealth.org
Visit CDC.gov to find contact information for your state's early intervention program.


WHY INFANTS NEED THE
Vitamin K Shot
Newborn babies need vitamin K to help with proper blood clotting and protect them from vitamin K deficiency bleeding.
This type of bleeding is dangerous and can lead to:
Internal bleeding, including in the brain and other organs
Brain damage
Death
One out of every five babies with vitamin K deficiency bleeding dies.
Babies don't get vitamin K from their moms before they are born.
But vitamin K deficiency bleeding is easily preventable with a shot at birth.
Newborns who do not get a vitamin K shot are 81 times more likely to develop severe bleeding.
The vitamin K shot is:
Safe and effective
Routinely given to newborns
Recommended by the American Academy of Pediatrics
Not a vaccine
Protect infants from life-threatening bleeding with a vitamin K shot at birth.
National Coalition for Infant Health

Your Pregnancy and Substance Use

4 Things you can do to improve your health and lower your risk for complications



Get Prenatal Care

Start early. Go to all your visits. Empower yourself with information so you can make smart decisions. Build relationships with providers who understand Substance Use Disorders (SUDs) and know how to help. Partner with them to reach your goals. But remember, you do not need to be abstinent from substance use to get care. Go now.



Reduce Your Use

There are simple things you can do to limit the harm substances might do.

- Use fewer substances
- Use smaller amounts
- Use less often
- Learn how to use safer

Reducing or quitting smoking is a good place to start. Set your goals, then ask for help.
One of the best things you can do is to stop using alcohol. We know that even small amounts are risky. And when combined with benzos and opioids, alcohol can kill.



Use Medications for Opioid Use Disorder (MOUD) if you are opioid dependent

Methadone and Buprenorphine (Subutex® or Suboxone®) are the "Standard of Care" during pregnancy because they:

- Eliminate the risks of illicit use
- Reduce your risk for relapse
- Can be a positive step towards recovery



Take Good Care of Yourself

You deserve a healthy pregnancy & childbirth.

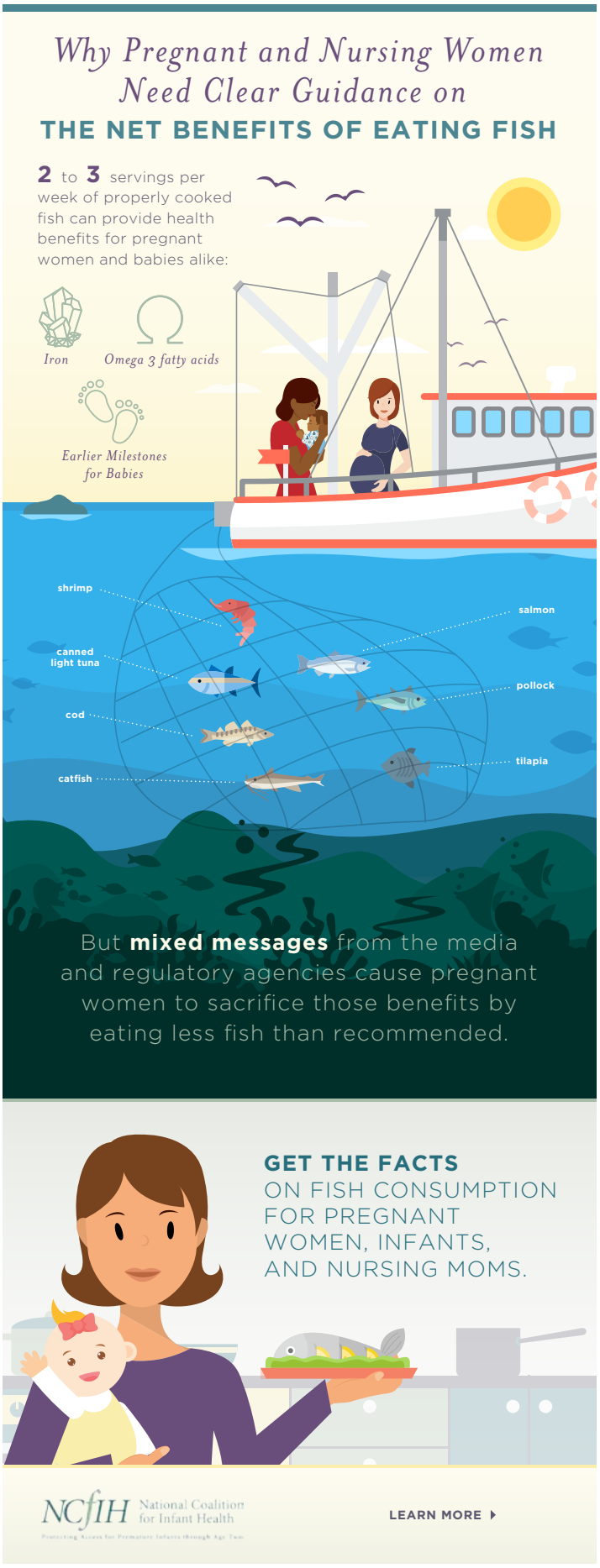
- Eat healthy and take your prenatal vitamins
- Find the right balance of rest and exercise
- Surround yourself with people who care

Your Health Matters

Academy of Perinatal Harm Reduction

National Perinatal Association

www.perinatalharmreduction.org | www.nationalperinatal.org



SHARED DECISION-MAKING PROTECTS MOTHERS + INFANTS DURING COVID-19

KEEPING MOTHERS + INFANTS TOGETHER

Means balancing the risks of...

- HORIZONTAL INFECTION
- SEPARATION AND TRAUMA





EVIDENCE

We encourage families and clinicians to remain diligent in learning **up-to-date evidence**.

PARTNERSHIP

What is the best for this unique dyad?

SHARED DECISION-MAKING

- **S** EEK PARTICIPATION
- **H** ELP EXPLORE OPTIONS
- **A** SSESS PREFERENCES
- **R** EACH A DECISION
- **E** VALUATE THE DECISION





TRAUMA-INFORMED

Both parents and providers are confronting significant...

- FEAR
- GRIEF
- UNCERTAINTY

LONGITUDINAL DATA

We need to understand more about outcomes for mothers and infants exposed to COVID-19, with special attention to:

- MENTAL HEALTH
- POSTPARTUM CARE DELIVERY



NEW DATA EMERGE DAILY. NANN AND NPA ENCOURAGE PERINATAL CARE PROVIDERS TO ENGAGE IN CANDID CONVERSATIONS WITH PREGNANT PARENTS PRIOR TO DELIVERY REGARDING RISKS, BENEFITS, LIMITATIONS, AND REALISTIC EXPECTATIONS.

Partnering for patient-centered care when it matters most.

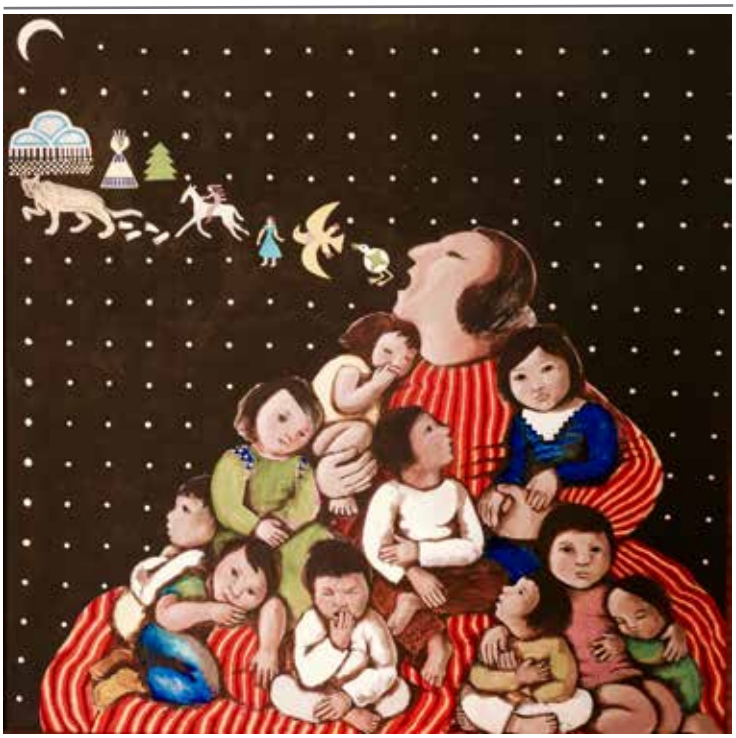
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The Role of the Head Nurse in the Implementation of Infant and Family Centered Developmental Care: Entrepreneur, Innovator, Communicator, Connector, and Provider of Inspiration for Practice Change

Geert Lingier



"The key role of the head nurse/unit manager in promoting IFCDC and creating a NIDCAP Training Center within the neonatal intensive care unit at the University Hospital of Ghent, Belgium, serves as an example of significant practice change."

Overview

Leadership by the head nurse/unit manager in facilitating the implementation of Infant and Family Centered Care (IFCDC) is often unrecognized. The key role of the head nurse/unit manager in promoting IFCDC and creating a NIDCAP Training Center within the neonatal intensive care unit at the University Hospital of Ghent, Belgium, serves as an example of significant practice change. Instead of taking a theoretical model of change as a starting point, concrete personal experiences and roles that are incorporated into daily practice are described. The aim is to provide insight into how leadership, entrepreneurship, and connection significantly contribute to successful implementation, and to inspire managers facing similar processes. (1, 2)

A description of the evolution of the role of the head nurse from clinical expert to an inspiring, facilitating, and strategic manager includes grounding in clinical skills that lead to an understanding of the necessity of implementing IFCDC. Expansion of the leadership role includes believing in one's own team, actively giving employees opportunities to build and share expertise, and developing a culture of shared leadership and evidence-based working. The use of care consultants, working groups, and internal study days strengthened both expertise and team solidarity. (3, 4)

A focus on the importance of the head nurse's entrepreneurial leadership complements clinical expertise and team leadership. Despite budgetary pressure, gaining insight into financial flows, using workload measurement tools, and developing an appropriate financing model enabled continued investment in training and innovation. Strategic alignment with the hospital's mission, vision, and quality models increased support among senior management. (5)

"The head nurse's role in connecting and communicating is highlighted as crucial for sustainable change management. Transparent communication, multidisciplinary involvement, and attention to pitfalls and concerns proved essential to embed IFCDC and NIDCAP principles into daily healthcare practice and create a shared sense of ownership and pride."

The head nurse's role in connecting and communicating is highlighted as crucial for sustainable change management. Transparent communication, multidisciplinary involvement, and attention to pitfalls and concerns proved essential to embed IFCDC and NIDCAP principles into daily healthcare practice and create a shared sense of ownership and pride.

History of the start of a focus on developmental family-centered care using the NIDCAP model at UH Ghent, Belgium

2005–2015: Many projects developed by the development care workgroup: workshops and materials to optimize positioning, handling, and kangaroo care; reduction of light and noise on the ward; skincare; venepuncture and reducing pain, including sucrose protocol for painful interventions

2015–2016: Implementation of evidence-based early feeding assessments

2015–2017: The entire team attends Family and Infant Neurodevelopmental Education (FINE) 1 training; 16 people attend FINE 2 training. 6 nurses and 1 physician are trained as NIDCAP professionals.

2017 onward; All babies born less than 28 weeks receive a NIDCAP observation and discussion of recommendations with parents and caregivers

2019 onward: Efforts to implement the European Foundation for Care of Newborn Initiative (EFCNI) Standards of Care. Working groups examine how the standards can be implemented in the hospital-wide quality model.

2023: Beginning of NIDCAP trainer development with 10 interprofessionals and active representation of the head nurse as an international consultant for the IFCDC Consensus Panel.

2025: Recognition as a NIDCAP training center

A snapshot of key data for the NICU UZ Ghent, Belgium (Level III–IV):

42 beds, of which 12 are in individual FCC rooms

620 admissions per year (50% preterm)

Staff includes 9 Neonatologists, 110 nurses/midwives, and one Psychologist.

"However, the role of the head nurse/unit manager does not include managing theoretical change processes; rather, it involves using concrete examples to demonstrate how implementation can work in a particular NICU."

Background

When preparing and developing a large project, such as a start-up, any practice change involving developmentally supportive, family-centered care can be framed with objectives, project plans drawn, and theoretical frameworks developed from the literature. However, the role of the head nurse/unit manager does not include managing theoretical change processes; rather, it involves using concrete examples to demonstrate how implementation can work in a particular NICU. The theory can be used, often post hoc, to get insight into why a project is or is not implemented in practice.

The intent of the description of the head nurse's/unit manager's development and resulting role is to provide a narrative of what worked. The descriptions and strategies included are intended as inspiration for those facing similar implementation projects.

"As a head nurse, it is first and foremost important to believe in the strength of your own team."

Knowledge background of the nurse manager

In the past, the 'better nurses' often rose to managerial positions. The person who was the most handy and who had the most clinical knowledge was often appointed as head nurse. However, it has become increasingly clear that the role has expanded to include many other competencies.

Inspirational role of a nurse manager

As a head nurse, it is first and foremost important to believe in the strength of your own team. Your own employees should be given maximum opportunities to develop their expertise, and in turn, they should share it within the team. A manager primarily facilitates nurses' growth, embraces the knowledge they develop, and ensures it is shared with colleagues.

In the Ghent NICU, work is conducted across many domains (ventilation, breastfeeding, pain, transport, skin and wound care, resuscitation, developmental care, vascular topics, etc.). The head nurse/unit manager, recognizing the importance of work groups that address clinical care, grants a part-time exemption for a nursing consultant in each care domain. Their role is to follow and document the work group processes and provide training to colleagues, intra- and extramural. The resulting work on the specific care domains is supported not only by the nursing consultant but also by several team ambassadors. In this way, multiple contact persons for various topics are created, and opportunities are offered to different team members. Recognition of evidence-based, high-performance care then spreads within the broader organization. (1–5)

"Additionally, providing inspiration is essential for stimulating employee growth on your team. It is an opportunity both to optimize care quality and for nurses individually to grow and rise above themselves."

Every two years, a symposium for nurses and midwives is developed and offered with significant support from the head nurse/unit manager. These educational programs provide a connection and collaboration towards a common goal within the various care domains of neonatal care. It is a moment to 'shine' as a team and to share the evidence we have acquired with others. This 'study day' can be seen as an example of the department's dynamic culture, which pursues clinical excellence.

"Inspiring and facilitating staff are important, but achieving financial freedom and earning the trust of senior management are necessary. In a context where resources are increasingly scarce and priorities are increasingly focused on direct business results, the role of a head nurse/unit manager as an entrepreneur and innovator is not an obvious choice. However, it is essential to the success of any initiative."

As a unit manager, inspiring is essential to education. For example, looking for relevant topics together and cross-pollinating ideas with each work group is an example of how to provide inspiration. Additionally, providing inspiration is essential for stimulating employee growth on your team. It is an opportunity both to optimize care quality and for nurses individually to grow and rise above themselves. If a manager is not afraid to step outside of their comfort zone, it can lower the threshold for employees to do the same.

Entrepreneurial and innovative role of the nurse manager

Inspiring and facilitating staff are important, but achieving financial freedom and earning the trust of senior management are necessary. In a context where resources are increasingly scarce and priorities are increasingly focused on direct business results, the role of a head nurse/unit manager as an entrepreneur and innovator is not an obvious choice. However, it is essential to the success of any initiative.

Financing as an entrepreneurial skill. Financial autonomy to generate and control income is a key component of the entrepreneurial role of the head nurse/unit manager. To realize this new cultural shift in how a head nurse/unit manager's role is perceived, an individualized, well-thought-out financial plan that generates income (e.g., by organizing symposia and offering training to external partners) is essential. In turn, generating income makes it possible, for example, to send colleagues to international conferences and training courses. It is therefore also the task of a head nurse, as the department's budget holder, to identify, see, and take advantage of financial opportunities.

It is important to have insight into the NICU's financial flows relative to the entire organization. Very often, people complain about deficiencies, which is nothing new and is probably a sore point in every organization. A head nurse/unit manager should try to get a handle on the income and expenses of their department. Demonstrating financial control often ensures that senior management has the confidence to start working with the NICU entrepreneurially. For example, the Ghent NICU, together with the other Flemish NICUs, successfully validated a neonatal measurement instrument and used it to document nurses' workload on a daily basis (WANNNT). The outcome data, along with income from fees and historical hospitalization data for our service, enabled us to predict our unit's budget. Working solely with post-factum data means the head nurse/unit manager is less able to respond quickly to a rapidly evolving context.

"Implementing NIDCAP and IFCDC comes with a significant price tag. When hospitals are under financial pressure, they often quickly reduce non-primary assignments, including training. It is important to demonstrate that the investment in developmental care is profitable in the long term, not only through patient and family outcomes but also by showing the sustainability of quality of care and staff retention."

Innovation as an entrepreneurial skill. An important aspect of the entrepreneurial role is innovation. Head nurses are expected to actively explore innovative solutions and consider opportunities to optimize patient care. Undoubtedly, these opportunities present themselves in every organization.

"The head nurse/unit manager of the NICU must translate the link between the hospital and the developmental care values using concrete examples from clinical practice and present it to the hospital's higher management."

Neonatal care has undergone many developments in recent decades. NIDCAP and IFCDC are receiving increasing attention. It leads, among other things, to better neonatal outcomes, shorter length of stay, fewer complications, and less stress for parents. Sharing the most recent literature on this subject with the hospital's management and higher management while also emphasizing the financial benefits to the hospital can help free up budgets more easily.

Implementing NIDCAP and IFCDC comes with a significant price tag. When hospitals are under financial pressure, they often

quickly reduce non-primary assignments, including training. It is important to demonstrate that the investment in developmental care is profitable in the long term, not only through patient and family outcomes but also by showing the sustainability of quality of care and staff retention. In addition to having self-acquired resources to continue investing in your team's education and training, it ensures a successful start to greater innovation in implementing NIDCAP training and IFCDC standards of care. (1–5)

"The head nurse serves as a connector within change management, linking vision and practice. In a care context that is constantly evolving, the head nurse helps translate changes into reality for the nursing team."

Policy implementation role of the nurse manager

Within the hospital, the mission and vision are periodically adjusted. The individual units and services are asked to align their departmental objectives with the hospital's policy. Keywords of the Ghent University Hospital policy are excellent—daring, people-oriented, and efficient. It does not take much imagination to see that the core IFCDC and NIDCAP values are reflected in these key words in hospital policies. The head nurse/unit manager of the NICU must translate the link between the hospital and the developmental care values using concrete examples from clinical practice and present it to the hospital's higher management.

"Finally, the head nurse/unit manager acts as a role model in the change process. By showing a willingness to change, flexibility, and a constructive attitude, you give the team direction and trust. In this way, the head nurse not only becomes an initiator of change but also a catalyst that connects and strengthens people to achieve these sustainable improvements together."

Each hospital also works around and with an international quality model. The NICU at University Hospital Ghent also strives to meet, as far as possible, the highest standards set by the European Standards of Neonatal Care. Working with 2 different models is not always efficient. As a service, embedding the Neonatal Standards of Care is done as much as possible within the various care domains with the hospital's quality model as the goal. On the one hand, this ensures working on quality in a broad sense, as expected by the hospital, and avoiding 'quality fatigue' by working with parallel models. It is also an opportunity to demonstrate in practice how to translate the hospital's keywords and the organization's central vision into our daily policies.

"The head nurse also plays a central role in communicating key changes. This role goes beyond merely passing on information; it includes actively connecting people, their expectations, and their goals. A head nurse is at the crossroads between the nursing team, the medical staff, and senior management, ensuring that those three worlds are anchored together."

Connecting the role of the nurse manager

The head nurse serves as a connector within change management, linking vision and practice. In a care context that is constantly evolving, the head nurse helps translate changes into reality for the nursing team. This translation is best made in collaboration with stakeholders from the developmental care team, in concrete terms. The multidisciplinary working group on development-oriented care includes NIDCAP professionals who serve as guides. In this way, a bottom-up culture of co-ownership for important projects is cultivated.

Clear and empathetic communication is essential here. A space for dialogue is created; active listening to questions and concerns is employed; and assurance is provided that employees feel heard and involved.

In this way, a team-oriented culture, in which cooperation and interprofessional respect are central, is promoted. In the past, NIDCAP and a developmental care emphasis were often seen as the work of a small number of passionate nurses. A multidisciplinary approach, in which doctors, psychologists and, for example, care consultants are closely involved, provides much more support for this process and increases the likelihood of success.

Finally, the head nurse/unit manager acts as a role model in the change process. By showing a willingness to change, flexibility, and a constructive attitude, you give the team direction and trust. In this way, the head nurse not only becomes an initiator of change but also a catalyst that connects and strengthens people to achieve these sustainable improvements together.

Communicative role of the nurse manager

The head nurse also plays a central role in communicating key changes. This role goes beyond merely passing on information; it includes actively connecting people, their expectations, and their goals. A head nurse is at the crossroads between the nursing team, the medical staff, and senior management, ensuring that those three worlds are anchored together.

Within the team, creating clarity and trust is a priority, and open communication is crucial. In addition, a culture of dialogue is emphasized in which team members, together, are encouraged to help shape the policy on developmental care. Congruence in thinking and acting is essential here. The manager must ensure that the team's vision translates into daily operations in direct patient care: in other words, "make sure that you DO what you SAY".

"Working step by step so that the effort remains manageable for everyone and not forgetting to celebrate the team's successes when reaching milestones are essential to avoiding missteps. In this way, it creates a joint sense of pride with the developmental and family-centered care implementation story, in which even the care for each other as care providers within the team must continue to receive necessary attention."

At the same time, the head nurse is an important communication partner with senior management. Frequent, open, and honest feedback to management about the current state of the change process creates a long-term atmosphere of trust between management and the team. In doing so, the possibility of identifying any additional needs (e.g., additional staff needs) is embedded. SAYING what you DO is therefore not an empty illusion here.

To achieve this, it is also an undeniable asset if senior management wants to delve into the content of the developmental and family-centered care project to a certain extent. The presence of a board member during a feedback session with the Ghent NICU staff made it easier to continue the discussion. In this way, co-ownership of the change project is supported at the higher management level.

As in any organization, organizational change sometimes occurs at the senior management level. Every change and new situation should be proactively used to invite new board members to share the unit's vision and to explain projects within the long-term vision of both the organization and the unit. This approach can ensure that a lot of additional context information is less necessary for specific and/or new questions related to the project.

Pitfalls

Does everything always go perfectly? Not at all. Not everyone is immediately open to change: why would anyone suddenly change something that they have been doing in a certain way for 20 years? Familiar questions are

- "Is there sufficient evidence for changes to this protocol?"
- "Do all those adjustments cost too much money?"
- "Is that profitable?"
- "Is that really a priority now?"
- "Are we not shifting the focus too much to education and training, to project work, which jeopardizes our clinical work in direct patient care?"
- "As a care provider, will I still be able to take my holidays with all those different assignments?"

Thus, we can continue with similar questions for a while.

These are all recognizable concerns in departmental change processes—concerns that can and will come from both the team and senior management and concerns to which head nurses cannot always give an immediate, satisfactory answer. Nevertheless, it is important to stick to basic ideas and evidence, asking the question: "Why and for whom are we doing all this?" which will often help with forward movement. It will be important to stay transparent with the team—even during personal uncertainties—show vulnerability, and, above all, continue to ensure a safe climate in which employees can share their concerns. Working step by step so that the effort remains manageable for everyone and not forgetting to celebrate the team's successes when reaching milestones are essential to avoiding missteps. In this way, it creates a joint sense of pride with the developmental and family-centered care implementation story, in which even the care for each other as care providers within the team must continue to receive necessary attention.

Summary

Successful implementation of a complex and intensive change process, such as the start-up of a NICU-wide infant- and family-centered developmental care program and a NIDCAP Training Center, is not merely the result of a theoretically based project plan but above all of thoughtful and committed leadership in practice. (1, 2) The role of a head nurse/unit manager in this effort is multifaceted: entrepreneurial, innovative, inspiring, facilitating, strategic, connecting, and communicative.

By starting with trust in the team's expertise and growth opportunities, a culture is created that centralizes shared leadership, multidisciplinary collaboration, and evidence-based care. Consciously investing in training, stimulating internal nursing consultancy, and making expertise visible within and outside the department not only strengthens the quality of care but also increases employee involvement and pride. Entrepreneurial leadership within a healthcare context that is increasingly under financial pressure appears to work. Insight into budgets, the use of financial opportunities, and the substantiation of investments with both clinical and economic arguments have proven necessary to make such a change process possible. (3, 4)

Sustainable change can only succeed if it is strategically embedded in the broader mission, vision, and quality structures of the organization. Alignment with hospital-wide policy objectives increased support and prevented fragmentation or 'quality fatigue.' Crucial here is the head nurse's role as a link between the unit and the hospital's management, where transparent communication strengthens trust on both sides. (5)

Finally, the change process is inevitably accompanied by uncertainties, resistance, and pitfalls. By leaving room for concerns, working step by step, and celebrating successes,

a safe learning climate can be created in which change is not experienced as a threat but, hopefully, as joint growth. In this way, the head nurse not only becomes a manager of change but also a driving force behind sustainable, people-oriented care.

"Finally, the change process is inevitably accompanied by uncertainties, resistance, and pitfalls. By leaving room for concerns, working step by step, and celebrating successes, a safe learning climate can be created in which change is not experienced as a threat but, hopefully, as joint growth. In this way, the head nurse not only becomes a manager of change but also a driving force behind sustainable, people-oriented care."

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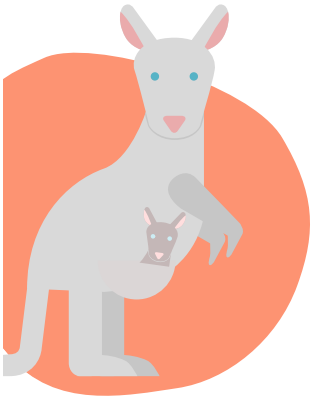
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SUPPORTING KANGAROO CARE

SKIN-TO-SKIN CARE DURING COVID-19



GET INFORMED ABOUT THE RISKS + BENEFITS

work with your medical team to create a plan

GET CLEAN

WASH YOUR HANDS, ARMS, and CHEST

with soap and water for 20+ seconds. Dry well.





PUT ON FRESH CLOTHES

change into a clean gown or shirt.



IF COVID-19 + WEAR A MASK

and ask others to hold your baby when you can't be there

National Perinatal Association

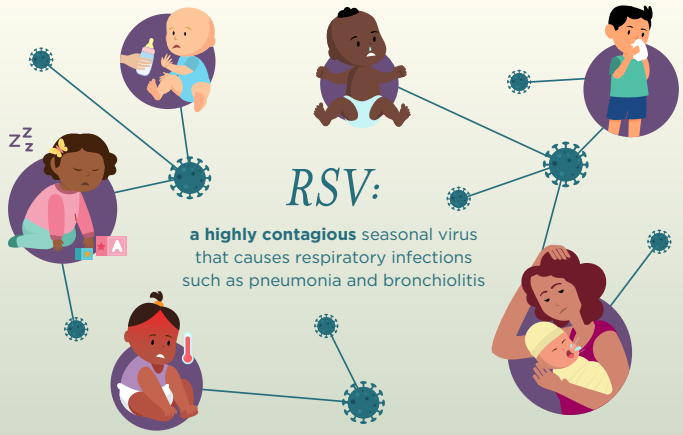
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NPN NICU PARENT NETWORK

nationalperinatal.org/skin-to-skin

Respiratory Syncytial Virus

DID YOU KNOW?



RSV:

a highly contagious seasonal virus that causes respiratory infections such as pneumonia and bronchiolitis

Infants under age 1



RSV is the **leading cause** of hospitalization



16x more likely to get RSV than the flu





Kids under age 5 experience



500,000 emergency room visits for RSV each year



57,000 hospitalizations for RSV each year

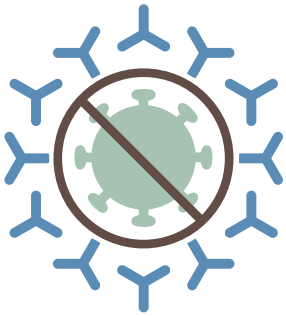
NCfIH National Coalition for Infant Health

Protecting Access for Premature Infants through Age Two

LEARN MORE ▸

Protecting your baby and family from

Respiratory Viruses:



What parents need to know this RSV and flu season

Like COVID-19, RSV (Respiratory Syncytial Virus) and flu affect the lungs and can cause serious breathing problems for children and babies. Talk to your family about the risks.

Certain diagnoses can make children and babies more vulnerable for serious complications from respiratory viruses - including prematurity, chronic lung disease, and heart conditions.

You can limit the spread of viruses by wearing a mask, washing your hands with soap & water, using an alcohol-based hand sanitizer, and getting vaccinated.

The fewer germs your baby is exposed to, the less likely they are to get sick. Let people know you need their help to stay well. Limit visitors. Avoid crowds. Stay away from sick people.

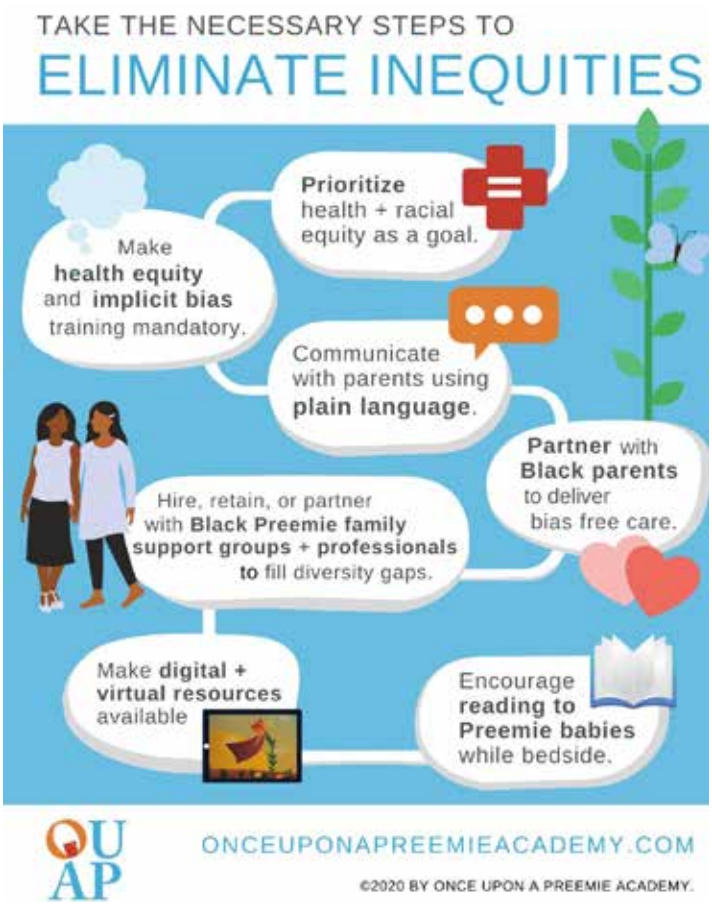
Immunizations save lives. Stay up-to-date with your family's flu vaccinations and COVID-19 boosters. This helps our community stay safe by stopping the spread of deadly viruses.

Babies older than 6 months can get a flu shot and COVID-19 vaccinations. There is no vaccine for RSV, but monthly antibody shots during RSV season can help protect them.

WE CAN HELP PROTECT EACH OTHER.

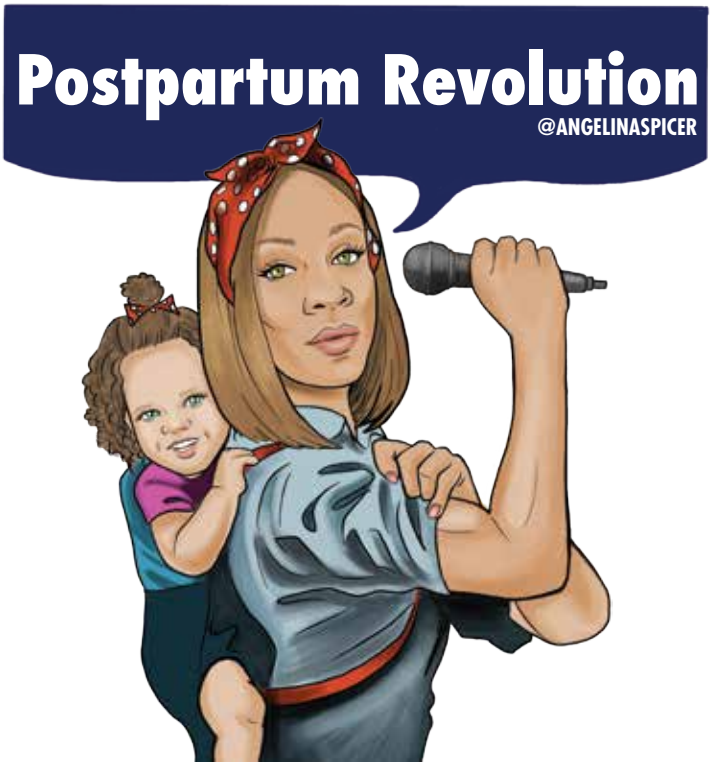
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www.nationalperinatal.org/rsv



The Gap Baby: An RSV Story





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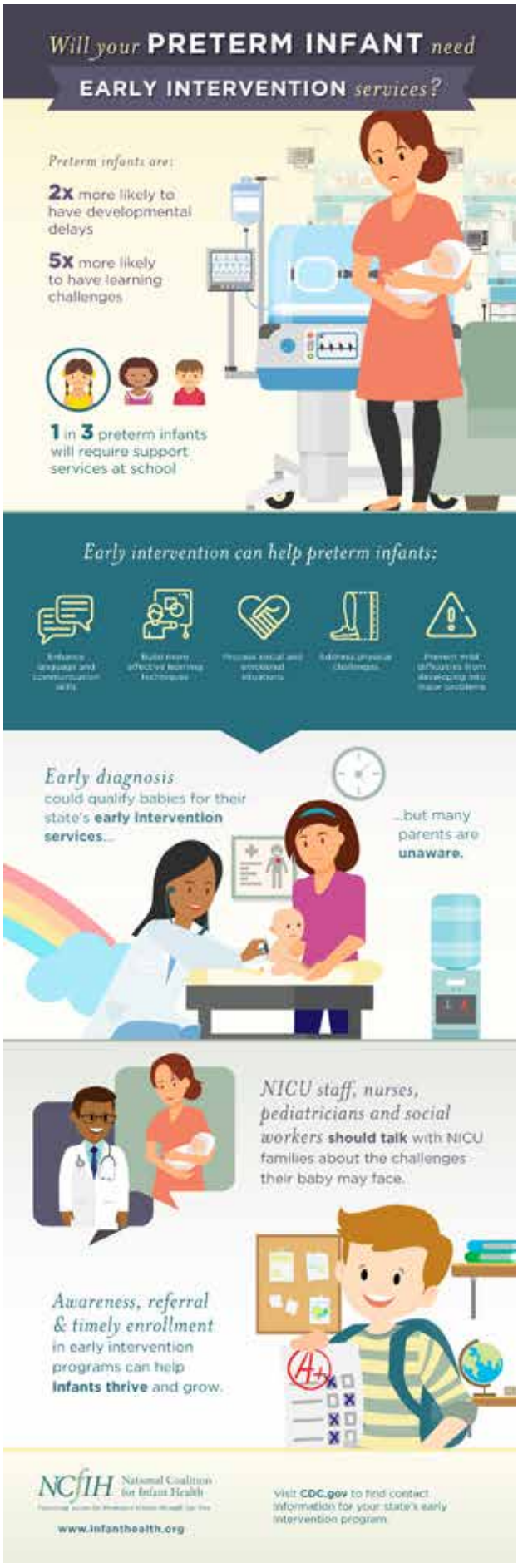
Download at www.nationalperinatal.org/psychologists

The National Urea Cycle Disorders Foundation



The NUCDF is a non-profit organization dedicated to the identification, treatment and cure of urea cycle disorders. NUCDF is a nationally-recognized resource of information and education for families and healthcare professionals.

www.nucdf.org | Phone: (626) 578-0833



Which Infants are More Vulnerable to Respiratory Syncytial Virus?

RSV is a respiratory virus with cold-like symptoms that causes 90,000 hospitalizations and 4,500 deaths per year in children 5 and younger. It's 10 times more deadly than the flu. For premature babies with fragile immune systems and underdeveloped lungs, RSV proves especially dangerous.

But risk factors associated with RSV don't touch all infants equally.*

*Source: Respirator Syncytial Virus and African Americans

Caucasian Babies	Risk Factor	African American Babies
11.6%	Prematurity	18.3%
58.1%	Breastfeeding	50.2%
7.3%	Low Birth Weight	11.8%
60.1%	Siblings	71.6%
1%	Crowded Living Conditions	3%

AFRICAN AMERICAN BABIES bear the brunt of RSV. Yet the American Academy of Pediatrics' restrictive new guidlines limit their access to RSV preventative treatment, increasing these babies' risk.

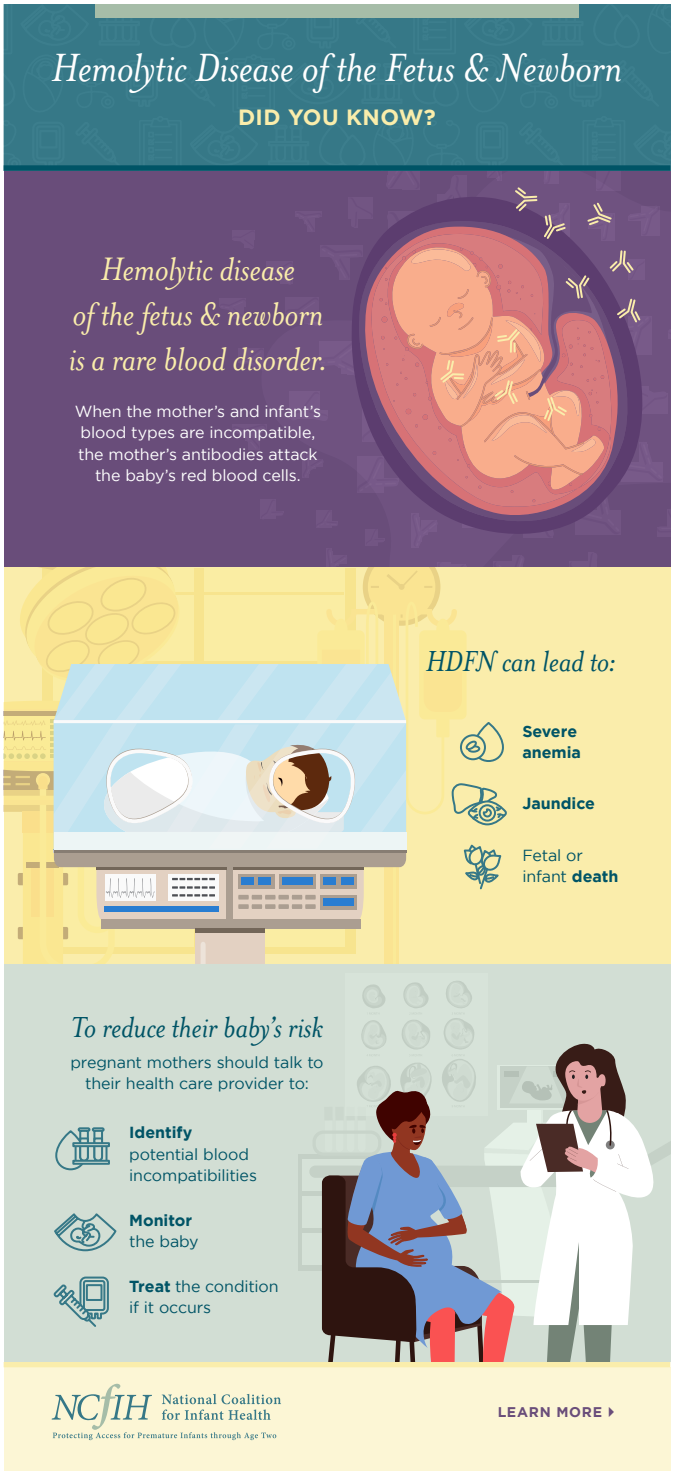
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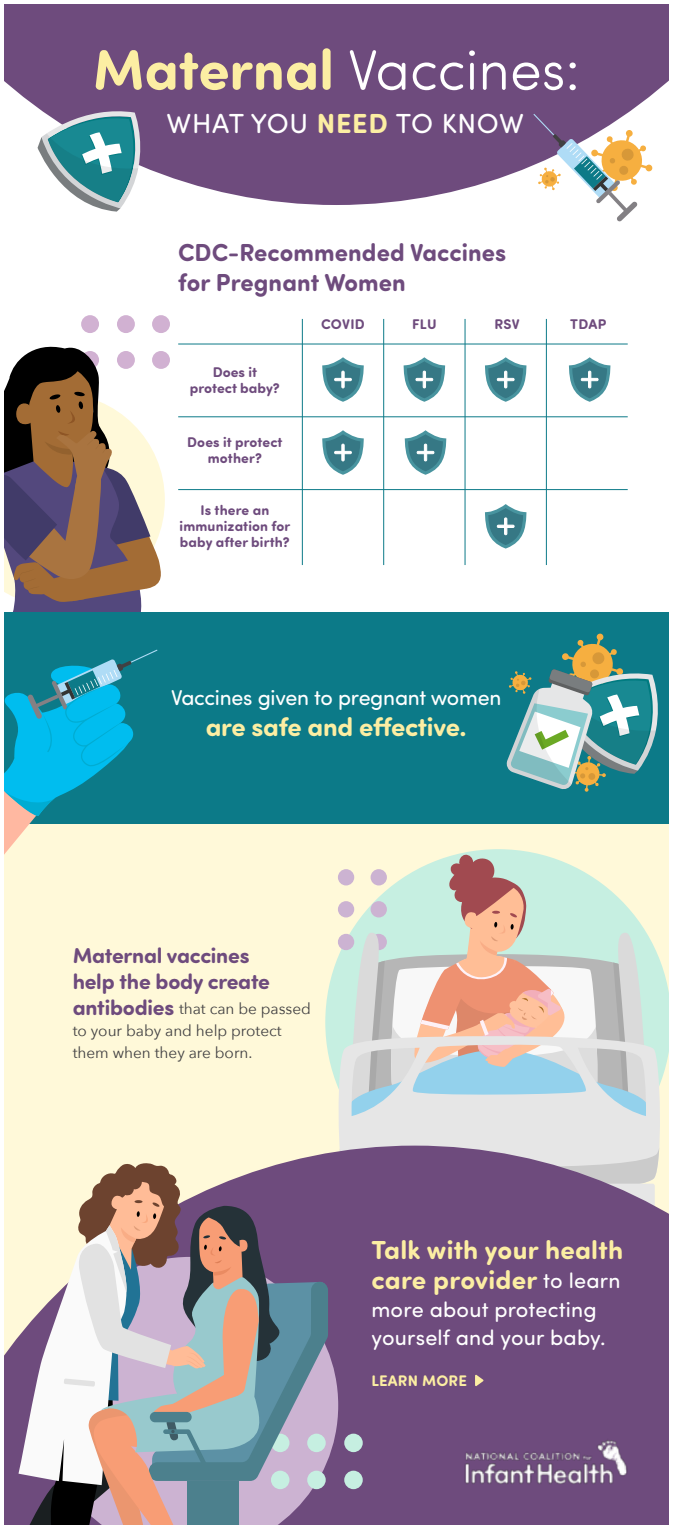
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Hemolytic Disease of the Fetus & Newborn
DID YOU KNOW?
Hemolytic disease of the fetus & newborn is a rare blood disorder.
When the mother's and infant's blood types are incompatible, the mother's antibodies attack the baby's red blood cells.
HDFN can lead to:
Severe anemia
Jaundice
Fetal or infant death
To reduce their baby's risk
pregnant mothers should talk to their health care provider to:
Identify potential blood incompatibilities
Monitor the baby
Treat the condition if it occurs
NCfIH National Coalition for Infant Health
Protecting Access for Premature Infants through Age Two
LEARN MORE


Maternal Vaccines:
WHAT YOU NEED TO KNOW
CDC-Recommended Vaccines for Pregnant Women
COVID
FLU
RSV
TDAP
Does it protect baby?
Does it protect mother?
Is there an immunization for baby after birth?
Vaccines given to pregnant women are safe and effective.
Maternal vaccines help the body create antibodies that can be passed to your baby and help protect them when they are born.
Talk with your health care provider to learn more about protecting yourself and your baby.
LEARN MORE
National Coalition Infant Health


COVID-19
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Helping Children and Families Cope
Bonding with Your Baby
Caregivers Need Care Too

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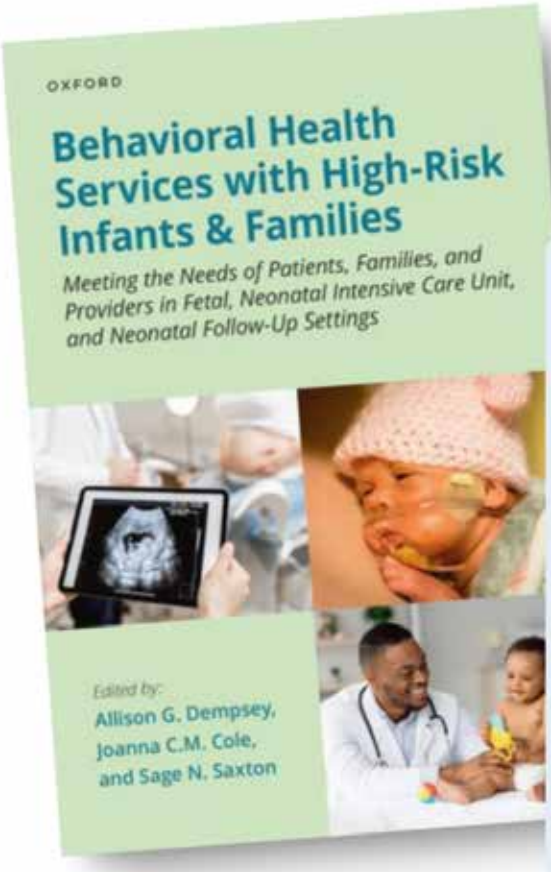
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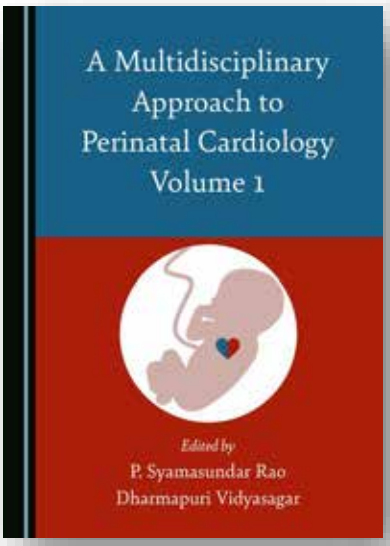
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A Multidisciplinary Approach to Perinatal Cardiology *Volume 1*

Edited by P. Syamasundar Rao and Dharmapuri Vidyasagar



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Book Description

Recent developments in diagnostic and therapeutic aspects of cardiac and neonatal issues have advanced the care of the newborn. To achieve excellence in cardiac care, however, close interaction and collaboration of the pediatric cardiologists with neonatologists, pediatricians, general/family practitioners (who care for children), anesthesiologists, cardiac surgeons, pediatric cardiac intensivists, and other subspecialty pediatricians is mandatory. This book provides the reader with up-to-date evidence-based information in three major areas of neonatology and prenatal and neonatal cardiology. First, it provides an overview of advances in the disciplines of neonatology, prenatal and neonatal cardiology, and neonatal cardiac surgery in making early diagnosis and offering treatment options. Secondly, it presents a multidisciplinary approach to managing infants with congenital heart defects. Finally, it provides evidence-based therapeutic approaches to successfully treat the fetus and the newborn with important neonatal issues and congenital cardiac lesions. This first volume specifically explores issues related to perinatal circulation, the fetus, ethics, changes in oxygen saturations at birth, and pulse oximetry screening, diagnosis, and management.

About the Editors

Dr P. Syamasundar Rao, MD, DCH, FAAP, FACC, FSCAI, is Professor of Pediatrics and Medicine and Emeritus Chief of Pediatric Cardiology at the University of Texas-Houston Medical School. He received his medical degree from Andhra Medical College, India, and subsequently received post-graduate training both in India and the USA before joining the faculty at the Medical College of Georgia, USA, in 1972. He has also served as Chairman of Pediatrics at King Faisal Specialist Hospital and Research Center, Saudi Arabia, and Professor and Director of the Division of Pediatric Cardiology at the University of Wisconsin and St. Louis University, USA. He has authored 400 papers, 16 books and 150 book chapters, and is a recipient of numerous honors and awards.

Dr Dharmapuri Vidyasagar, MD, MSc, FAAP, FCCM, PhD (Hon), is currently Professor Emeritus in Pediatrics at the University of Illinois, Chicago, where he served as Professor of Pediatrics for four decades. He is a graduate of Osmania Medical College, India. He has published over 250 papers and authored several books with a focus on prematurity, neonatal pulmonary diseases and neonatal ventilation. His goal is to reduce neonatal mortality in the USA and around the world, and he has received multiple awards and honors including the Ellis Island Award.

A Multidisciplinary Approach to Perinatal Cardiology Volume 1 is available now in Hardback from the Cambridge Scholars website, where you can also access a free 30-page sample.

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National Perinatal Association + NICU Parent Network

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Caring for Pregnant Patients & Their Families:

Providing Psychosocial Support During Pregnancy, Labor and Delivery

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Continuing education credits provided by

pac-lac

About the Program

- **WHO SHOULD TAKE THE PROGRAM?** This program is designed for both office and hospital staff in all disciplines that interact with pregnant patients and their families. A key focus is recognizing risk factors for perinatal mood and anxiety disorders, and mitigating their impact through provision of trauma-informed care.

- **WHY TAKE THE PROGRAM?** Families will benefit when staff have improved skills, through enhanced parental resilience and better mental health, and improved parent-baby bonding leading to better developmental outcomes for babies. Benefits to staff include improved skills in communicating with patients; improved teamwork, engagement and staff morale; reduced burnout, and reduced staff turnover.

- **HOW DOES THE PROGRAM ACHIEVE ITS GOALS?** Program content is representative of best practices, engaging and story-driven, resource-rich, and developed by a unique interprofessional collaboration of obstetric and neonatal professionals and patients. The program presents practical tips and an abundance of clinical information that together provide solutions to the emotional needs of expectant and new parents.

- **HOW WAS THE PROGRAM DEVELOPED?** This program was developed through collaboration among three organizations: a multidisciplinary group of professionals from the National Perinatal Association and Patient + Family Care, and parents from the NICU Parent Network. The six courses represent the different stages of pregnancy (antepartum, intrapartum, postpartum), as well as perinatal mood and anxiety disorders, communication techniques, and staff support.

Program Objectives

- Describe principles of trauma-informed care as standards underlying all communication during provision of maternity care in both inpatient and outpatient settings.
- Identify risk factors, signs, and symptoms of perinatal mood and anxiety disorders; describe treatment options.
- Define ways to support pregnant patients with high-risk conditions during the antepartum period.
- Describe obstetric violence, including ways that providers may contribute to a patient's experience of maternity care as being traumatic; equally describe ways providers can mitigate obstetric trauma.
- Describe the importance of providing psychosocial support to women and their families in times of pregnancy loss and fetal and infant death.
- Define the Fourth Trimester, and identify the key areas for providing psychosocial support to women during the postpartum period.
- Identify signs and symptoms of burnout as well as their ill effects, and describe both individual and systemic methods for reducing burnout in maternity care staff.

Continuing education credits will be provided for physicians, clinic and bedside nurses, social workers, psychologists, and licensed marriage and family therapists. CEUs will be provided by Perinatal Advisory Council: Leadership, Advocacy, and Consultation.

PROGRAM CONTENT



COMMUNICATION SKILLS CEUs offered: 1

Learn principles of trauma-informed care, use of universal precautions, how to support LGBTQ patients, obtaining informed consent, engaging in joint decision-making, delivering bad news, dealing with challenging patients.

Faculty: Amina White, MD, MA, Clinical Associate Professor, Department of OB/Gyn, University of North Carolina, Chapel Hill, NC; Sue Hall, MD, MSW, FAAP, St. John's Regional Medical Center, Oxnard, CA; Karen Saxer, CNM, MSN, University of North Carolina Maternal-Fetal Medicine, UNC Women's Hospital, Chapel Hill, NC; Tracy Pella, Co-Founder & President, Connected Forever, Tecumseh, NE.



PERINATAL MOOD AND ANXIETY DISORDERS CEUs offered: 1

Identify risk factors for and differential diagnosis of PMADs (perinatal mood and anxiety disorders), particularly perinatal depression and/or anxiety and posttraumatic stress syndrome. Learn the adverse effects of maternal depression on infant and child development, and the importance of screening for and treating PMADs.

Faculty: Linda Baker, PsyD, psychologist at Unstuck Therapy, LLC, Denver, CO; Sue Hall, MD, MSW, FAAP, neonatologist at St. John's Regional Medical Center, Oxnard, CA; Angela Davids, Founder of Keep 'Em Cookin', Baltimore, MD; Brittany Boet, Founder of Bryce's NICU Project, San Antonio, TX.



PROVIDING ANTEPARTUM SUPPORT CEUs offered: 1

Identify psychosocial challenges facing high risk OB patients, and define how to provide support for them, whether they are inpatient or outpatient. Recognize when palliative care is a reasonable option to present to pregnant patients and their families.

Faculty: Amina White, MD, MA, Clinical Associate Professor, Department of OB/Gyn, University of North Carolina, Chapel Hill, NC; Sue Hall, MD, MSW, FAAP, neonatologist at St. John's Regional Medical Center, Oxnard, CA; Angela Davids, Founder of Keep 'Em Cookin', Baltimore, MD; Erin Thatcher, BA, Founder and Executive Director of The PPROM Foundation, Denver, CO.



PROVIDING INTRAPARTUM SUPPORT CEUs offered: 1

Describe how to manage patient expectations for labor and delivery including pain management; identify examples of obstetric violence, including identification of provider factors that may increase patients' experience of trauma; learn how to mitigate patients' trauma, and how to provide support during the process of labor and delivery.

Faculty: Sara Detlefs, MD, Fellow in Maternal-Fetal Medicine, Baylor College of Medicine, Houston, TX; Jerry Ballas, MD, MPH, Associate Clinical Professor, UCSD Health System, Maternal-Fetal Medicine, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California at San Diego, San Diego, CA; MaryLou Martin, MSN, RNC-NIC, CKC, Women's and Children's Services Nurse Educator, McLeod Regional Medical Center, McLeod, SC; Claire Hartman, RN, IBCLC, Labor & Delivery, University of North Carolina Hospital, Chapel Hill, NC; Crystal Duffy, Author of Twin To Twin (from High Risk Pregnancy to Happy Family), and NICU Parent Advisor, Houston, TX; Erin Thatcher, Founder and Executive Director of The PPROM Foundation, Denver, CO.



PROVIDING POSTPARTUM SUPPORT CEUs offered: 1

Define the 4th Trimester and the importance of follow-up especially for high risk and minority patients, learn to recognize risk factors for traumatic birth experience and how to discuss patients' experiences postpartum; describe the application of trauma-informed care during this period, including support for patients who are breastfeeding and those whose babies don't get to go home with them.

Faculty: Amanda Brown, CNM, University of North Carolina Hospital, Chapel Hill, NC; ; Sue Hall, MD, MSW, FAAP, neonatologist at St. John's Regional Medical Center, Oxnard, CA; Crystal Duffy, Author of Twin To Twin (from High Risk Pregnancy to Happy Family), and NICU Parent Advisor, Houston, TX.



SUPPORTING STAFF AS THEY SUPPORT FAMILIES CEUs offered: 1

Define burnout and compassion fatigue; identify the risks of secondary traumatic stress syndrome to obstetric staff; describe adverse impacts of bullying among staff; identify the importance of both work-life balance and staff support.

Faculty: Cheryl Milford, EdS, Consulting NICU and Developmental Psychologist, Director of Development, National Perinatal Association, Huntington Beach, CA; Sue Hall, MD, MSW, FAAP, neonatologist at St. John's Regional Medical Center, Oxnard, CA; Erin Thatcher, BA, Founder and Executive Director, The PPROM Foundation, Denver, CO

Cost

- RNs: $10/CEU; $60 for the full program
- Physicians, licensed clinical social workers (LCSWs), licensed marriage and family therapists (LMFTs): $35/CEU; $210 for the full program
- Although PACLAC cannot award CEs for certified nurse midwives, they can submit certificates to their own professional organization to request credit. $35/CEU; $210 for the full program

Contact help@myperinatalnetwork.org to learn more.

Faculty

Linda Baker, PsyD
Psychologist at Unstuck Therapy, LLC, Denver, CO.

Jerasimos (Jerry) Ballas, MD, MPH
Associate Clinical Professor, UCSD Health System, Maternal-Fetal Medicine, Department of Obstetrics, Gynecology and Reproductive Sciences, University of California at San Diego, San Diego, CA.

Amanda Brown, CNM, MSN, MPH
University of North Carolina-Chapel Hill Hospitals, Chapel Hill, NC.

Sara Detlefs, MD
Fellow in Maternal-Fetal Medicine, Baylor College of Medicine, Houston, TX.

Sue L. Hall, MD, MSW, FAAP
Neonatologist, Ventura, CA.

Claire Hartman, RN, IBCLC
Labor & Delivery, University of North Carolina Hospital, Chapel Hill, NC.

MaryLou Martin, MSN, RNC-NIC, CKC
Women's and Children's Services Nurse Educator, McLeod Regional Medical Center, McLeod, SC.

Cheryl Milford, EdS.
Former NICU and Developmental psychologist, in memoriam.

Karen Saxer, CNM, MSN
University of North Carolina Maternal-Fetal Medicine, UNC Women's Hospital, Chapel Hill, NC.

Amina White, MD, MA
Clinical Associate Professor, Department of Obstetrics and Gynecology, University of North Carolina, Chapel Hill, NC.

Parent/Patient Contributers:

Brittany Boet
Founder, Bryce's NICU Project, San Antonio, TX.

Angela Davids
Founder, Keep 'Em Cookin', Baltimore, MD.

Crystal Duffy
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Tracy Pella, MA
Co-Founder and President, Connected Forever, Tecumseh, NE.

Erin Thatcher, BA
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CANCELLATIONS AND REFUNDS

- For Individual Subscribers:
  - If you elect to take only one course, there will be no cancellations or refunds after you have started the course.
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  - After we are in possession of a signed contract by an authorized agent of the hospital and the program fees have been paid, a 50% refund of the amount paid will be given if we are in receipt of a written request to cancel at least 14 (fourteen) days prior to the scheduled start date for your hospital's online program.
  - Refunds will not be given for staff members who neglect to start the program. Also, no refunds for those who start the program, but do not complete all 6 courses within the time frame allotted.

For Physicians: This activity has been planned and implemented in accordance with the Institute for Medical Quality and the California Medical Association's CME Accreditation Standards (IMQ/CMA) through the Joint Providership of the Perinatal Advisory Council: Leadership, Advocacy and Consultation (PAC/LAC) and the National Perinatal Association. PAC/LAC is accredited by the Institute for Medical Quality/California Medical Association (IMQ/CMA) to provide continuing education for physicians. PAC/LAC takes responsibility for the content, quality and scientific integrity of this CME activity. PAC/LAC designates this activity for a maximum of 6 *AMA PRA Category 1 Credit(s)TM*. Physicians should only claim credit commensurate with the extent of their participation in the activity. This credit may also be applied to the *CMA Certification in Continuing Medical Education*.

For Nurses: The Perinatal Advisory Council: Leadership, Advocacy and Consultation (PAC/LAC) is an approved provider by the California Board of Registered Nursing Provider CEP 5862. When taken as a whole, this program is approved for 7 contact hours of continuing education credit.

For CAMFT: Perinatal Advisory Council: Leadership, Advocacy, and Consultation (PAC/LAC) is approved by the California Association of Marriage and Family Therapists to sponsor continuing education for LMFTs and LCSWs. CE Provider #128542. PAC/LAC maintains responsibility for the program and its content. Program meets the qualifications for 6 hours of continuing education credit for LMFTs and LCSWs as required by the California Board of Behavioral Sciences. You can reach us at help@myperinatalnetwork.org.

SHARED DECISION-MAKING PROTECTS MOTHERS + INFANTS DURING COVID-19

KEEPING MOTHERS + INFANTS TOGETHER

Means balancing the risks of...

- **HORIZONTAL INFECTION**
- **SEPARATION AND TRAUMA**





EVIDENCE

We encourage families and clinicians to remain diligent in learning **up-to-date evidence**.

PARTNERSHIP

What is the best for this unique dyad?

SHARED DECISION-MAKING

- **S** EEK PARTICIPATION
- **H** ELP EXPLORE OPTIONS
- **A** SSESS PREFERENCES
- **R** EACH A DECISION
- **E** VALUATE THE DECISION





TRAUMA-INFORMED

Both parents and providers are confronting significant...

- **FEAR**
- **GRIEF**
- **UNCERTAINTY**

LONGITUDINAL DATA

We need to understand more about outcomes for mothers and infants exposed to COVID-19, with special attention to:

- **MENTAL HEALTH**
- **POSTPARTUM CARE DELIVERY**



NEW DATA EMERGE DAILY. NANN AND NPA ENCOURAGE PERINATAL CARE PROVIDERS TO ENGAGE IN CANDID CONVERSATIONS WITH PREGNANT PARENTS PRIOR TO DELIVERY REGARDING RISKS, BENEFITS, LIMITATIONS, AND REALISTIC EXPECTATIONS.

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Alliance for Patient Access: Newborns Will Now Be Tested for Two More Rare Conditions

Josie Cooper

The Alliance for Patient Access (allianceforpatientaccess.org), founded in 2006, is a national network of physicians dedicated to ensuring patient access to approved therapies and appropriate clinical care. AfPA accomplishes this mission by recruiting, training and mobilizing policy-minded physicians to be effective advocates for patient access. AfPA is organized as a non-profit 501(c)(4) corporation and headed by an independent board of directors. Its physician leadership is supported by policy advocacy management and public affairs consultants. In 2012, AfPA established the Institute for Patient Access (IfPA), a related 501(c)(3) non-profit corporation. In keeping with its mission to promote a better understanding of the benefits of the physician-patient relationship in the provision of quality healthcare, IfPA sponsors policy research and educational programming.

AfPA | Alliance for Patient Access

IfPA | Institute for Patient Access

"Newborn screening protocols across the United States are expanding to include two new genetic conditions. The Health Resources and Services Administration, or HRSA, has officially added metachromatic leukodystrophy and Duchenne muscular dystrophy to the federal list that serves as a benchmark for state-level screening programs. (1-3)"

Newborn screening protocols across the United States are expanding to include two new genetic conditions. The Health Resources and Services Administration, or HRSA, has officially added metachromatic leukodystrophy and Duchenne muscular dystrophy to the federal list that serves as a benchmark for state-level screening programs. (1-3) Experts hope early identification will give families access to immediate treatment.

"The Recommended Uniform Screening Panel is non-binding, meaning states can decide to include more or fewer tests, but most do not align with the federal standard. (4) Including these life-altering genetic conditions in post-birth testing will move neonatal care forward by offering the best opportunity for early intervention."

The Recommended Uniform Screening Panel is non-binding, meaning states can decide to include more or fewer tests, but most do not align with the federal standard. (4) Including these life-altering genetic conditions in post-birth testing will move neonatal care forward by offering the best opportunity for early intervention.

Early Detection Is Crucial:

Children born with Duchenne muscular dystrophy are typically not diagnosed until progressive degeneration of the muscles is already evident, around age four or five. (5, 6) Treatments are available to slow the progression of the disease, so identifying the condition at birth could lead to a much more favorable long-term prognosis.

"Shared decision-making and informed consent are key drivers of modern health care. While parental engagement is vital, variability in vaccine timing may introduce new challenges for both pediatric care teams and children who become infected. Careful attention will be required to ensure that newborns remain protected during a uniquely vulnerable period of life."

A Win for Rare Disease Communities:

Advocacy groups and medical organizations specializing in rare diseases have expressed support for HRSA's expanded list of

conditions. Many of those groups also submitted public comments while these additions were being considered. (7)

Neonatal screening identifies life-altering genetic conditions when treatments are most effective and can provide the best long-term health outcomes. Adding new conditions to the uniform panel increases the likelihood that children will receive appropriate medical intervention during the first years of life.

The updated screening standard represents a renewed commitment to using modern medical technologies to improve the quality of life of children born with rare genetic disorders.

References:

1. https://www.hrsa.gov/
2. https://www.hhs.gov/press-room/secretary-kennedy-adds-duchenne-muscular-dystrophy-metachromatic-leukodystrophy-to-newborn-Screenings.html
3. https://www.statnews.com/2025/12/16/duchenne-muscular-dystrophy-metachromatic-leukodystrophy-added-newborn-screening-recommendations/
4. https://newbornscreening.hrsa.gov/about-newborn-screening/recommended-uniform-screening-panel
5. https://www.mda.org/press-releases/us-department-of-health-and-human-services-adds-duchenne-to-recommended-uniform-screening-Panel
6. https://www.parentprojectmd.org/about-duchenne/what-is-duchenne/signs-and-symptoms/
7. https://www.hrsa.gov/advisory-committees/heritable-disorders

Disclosure: Josie Cooper is the Executive Director of the Alliance for Patient Access. This article was also published at healthpolicytoday.org.

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Immunizing Yourself Against **COVID-19**

COVID-19 vaccines have been shown to:

- Lessen the severity of symptoms[1]
- Reduce disease transmission[3]
- Reduce risk of mortality[2]
- Make communities healthier and safer[4]

Understanding the Options

COVID-19 vaccines are available for children, adolescents and adults. There are 3 types to choose from.

mRNA VACCINES

New to market, but research has been ongoing since the 1990s.

HOW THEY WORK: **Instruct cells to make COVID-like proteins that trigger the immune system to fight the virus.**

PROTEIN SUBUNIT VACCINES

Used for three decades against the flu, whooping cough and hepatitis B.

Deliver harmless versions of the COVID protein that train the immune system to fight the virus.

VECTOR VACCINES

Used for decades against chickenpox, malaria and tuberculosis.

Use a modified virus, such as a common cold, to teach the body to fight off COVID.

COVID vaccines are recommended for everyone ages 6 months and older, and boosters for everyone ages 5 years and older, if eligible.[5]

Safe and Sound

COVID vaccines have been:

- **Thoroughly tested** through multi-phase trials with tens of thousands of participants[6]
- **Proven safe and effective** for adults as well as children[7]
- **Vetted and approved** by the US FDA and EMA and endorsed by the WHO[8-10]

Get Your Jab

Vaccines are available at your:

- **Doctor's office**
- **Neighborhood pharmacy**
- **Community health center**



Talk to your **health care provider** or **pharmacist** about which vaccine is right for you.

1. https://www.mayoclinic.org/diseases-conditions/coronavirus/symptoms-causes/syc-20479963
2. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8782520/
3. https://www.nejm.org/doi/full/10.1056/nejmc2107717
4. https://royalsocietypublishing.org/doi/full/10.1098/rsif.2020.0683
5. https://www.cdc.gov/vaccines/covid-19/clinical-considerations/interim-considerations-us.html
6. https://doh.wa.gov/emergencies/covid-19/vaccine-information/safety-and-effectiveness
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10. http://www.bccdc.ca/Health-Info-Site/Documents/COVID-19_vaccine/WHO-EUA-qualified-covid-vaccines.pdf

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Still a **Preemie?**

Some preemies are born months early, at extremely low birthweights. They fight for each breath and face nearly insurmountable health obstacles.

But that's not every preemie's story.

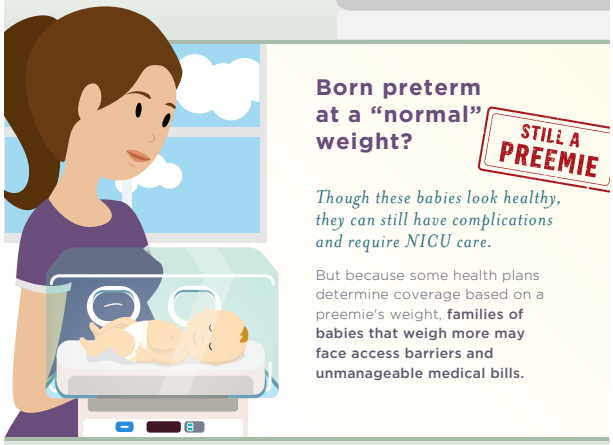
Born between 34 and 36 weeks' gestation?

STILL A PREEMIE

Just like preemies born much earlier, these "late preterm" infants can face:

Jaundice | Feeding issues | Respiratory problems

And their parents, like all parents of preemies, are at **risk for postpartum depression and PTSD.**



Born preterm at a "normal" weight?

STILL A PREEMIE

Though these babies look healthy, they can still have complications and require NICU care.

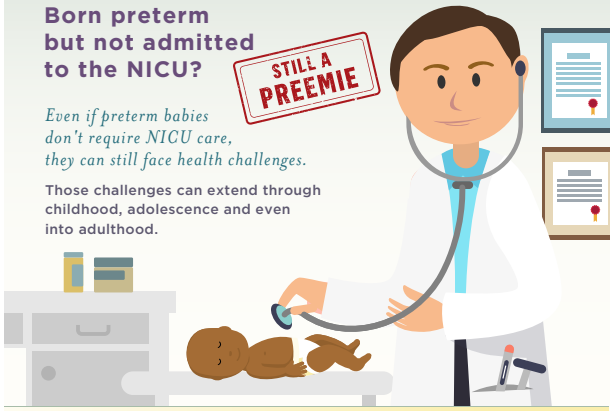
But because some health plans determine coverage based on a preemie's weight, **families of babies that weigh more may face access barriers and unmanageable medical bills.**

Born preterm but not admitted to the NICU?

STILL A PREEMIE

Even if preterm babies don't require NICU care, they can still face health challenges.

Those challenges can extend through childhood, adolescence and even into adulthood.



Some Preemies

- Will spend weeks in the hospital
- Will have lifelong health problems
- Are disadvantaged from birth

All Preemies

- Face health risks
- Deserve appropriate health coverage
- Need access to proper health care

NCfIH National Coalition for Infant Health

Protecting Access for Premature Infants through Age Two

www.infanthealth.org

The Gap Baby: An RSV Story



A collaborative of professional, clinical, community health, and family support organizations improving the lives of premature infants and their families through education and advocacy.



The National Coalition for Infant Health advocates for:

- **Access to an exclusive human milk diet** for premature infants
- **Increased emotional support resources** for parents and caregivers suffering from PTSD/PPD
- **Access to RSV preventive treatment** for all premature infants as indicated on the FDA label
- **Clear, science-based nutrition guidelines** for pregnant and breastfeeding mothers
- **Safe, accurate medical devices** and products designed for the special needs of NICU patients

www.infanthealth.org

iCAN: Newsletter: February Fun: iCAN Youth Members Share Their Voices Worldwide!

Abby Clark

Get involved today and Join the iCAN Parent Council!

The second month of the year saw the iCAN network continuing to create incredible change in the pediatric landscape. iCAN youth members spoke before healthcare leaders, impacted their local communities, and officially announced the location of the 2026 iCAN Summit. We cannot wait to see what they do next!



What is in this Issue of the iCAN Newsletter?

- What is iCAN?
- iCAN Impact - iCAN Youth Speak at 12th Annual World Patient Safety, Science & Technology Summit
- Youth Member Spotlight - Adhiti (KIDS Connecticut)
- KIDS Chapter Spotlight - KIDS Research
- Ask the Experts - Tune in March 21 for March's ATE!
- iCAN Summit - 2026 Summit Announcement

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What is iCAN?

Empowering Pediatric Patients Worldwide

iCAN, the International Children's Advisory Network, is the premier global pediatric platform working to empower the patient voice in healthcare, driven by youth for youth. As a worldwide network of 40+ KIDS (Kids Impacting Disease through Science) advisory groups spanning four continents (and virtually), iCAN's dedicated youth member groups work in unison to provide a voice for children and families in medicine, research, science, and innovation. To foster greater global understanding about the importance of the pediatric patient and caregiver voice in healthcare, clinical trials, and research, iCAN's young people continue to drive incredible change in the global health landscape.

On average, our youth are between the ages of eight and eighteen years old, most of whom are living with chronic, rare, and complicated diagnoses; although, not all of iCAN's youth members have a medical diagnosis or medical condition. iCAN celebrates the understanding that all patients, even the youngest, have valuable insights into improving the healthcare experience. All children, regardless of where they live, are welcome to participate in iCAN's programming. iCAN also supports young adults and the voices of parents and siblings. We continue to be an ecosystem of schools, children's hospitals, academia, and other like-minded non-profits.

Our mission is to ensure that youth are placed in positions where their voices are heard and make a difference in pediatric healthcare through interactions with industry professionals, presenting original research at conferences, innovating new solutions, and sharing their stories. iCAN continues to empower the pediatric patient voice through community partnerships with organizations such as the FDA, Everylife Foundation for Rare Diseases, PFMD, MRCT, iSPI, and AAP.

Whether a patient, family member, friend, healthcare professional, or just an individual looking to make a difference, you are welcome to visit our website at www.icanresearch.org to explore our mission, programs, and initiatives. Join us today in ensuring that every child's voice is enshrined in the effort to improve healthcare for all pediatric patients.

"Whether a patient, family member, friend, healthcare professional, or just an individual looking to make a difference, you are welcome to visit our website at www.icanresearch.org to explore our mission, programs, and initiatives."

iCAN Impact - iCAN Youth Speak at 12th Annual World Patient Safety, Science & Technology Summit

On February 27, iCAN representatives attended the Patient Safety Movement Foundation's 12th Annual World Patient Safety, Science, and Technology Summit. Youth Members representing KIDS CHOC, as well as iCAN Executive Director Sabina Goldstein, engaged with the wider healthcare community to share iCAN's impactful work and learn how innovation, youth advocacy, and the act of "speaking up" can drive positive change.

iCAN's youth member, Anvita, had the opportunity to speak about the work she and other iCAN youth members are doing to elevate youth voice in both the healthcare space and in patient safety. We are so inspired by her bravery, eloquence, and incredible heart.

In Anvita's own words, "It was an incredible experience, and I was honored to share my story and speak about the work iCAN does to elevate pediatric patient voices in healthcare. I left the Summit feeling even more committed to ensuring pediatric patients are not just heard, but actively involved in shaping safer healthcare systems."

"In Anvita's own words, 'It was an incredible experience, and I was honored to share my story and speak about the work iCAN does to elevate pediatric patient voices in healthcare. I left the Summit feeling even more committed to ensuring pediatric patients are not just heard, but actively involved in shaping safer healthcare systems.'"

iCAN Executive Director Sabina also reflected on her time at the Summit.

"Throughout the day, we heard so many incredible speakers and stories that reinforced iCAN (International Children's Advisory Network)'s mission. Each presentation, insight, and personal story highlighted why our work matters, and reminded us that patient safety is a collective responsibility. At iCAN, pediatric patients are not on the margins of the conversation — they are at the center. Their lived experiences shape our programming, curriculum, summits, and partnerships. We do not build around youth; we build with them."

iCAN extends its thanks to Joe Kiani, Willow Laboratories, and the Summit planning team for welcoming iCAN and providing a platform for young people around the world!

iCAN Youth Member Spotlight: Adhiti (KIDS Connecticut)

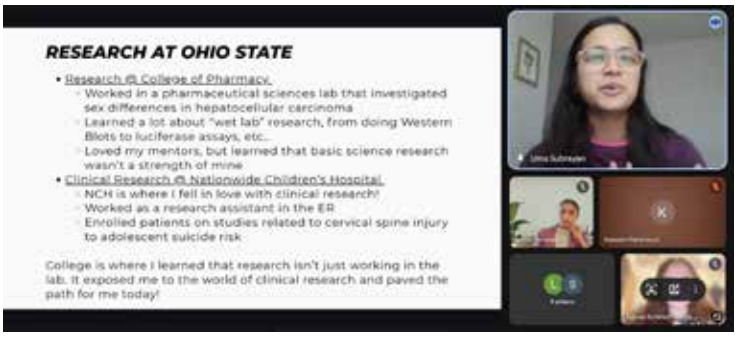
This month, iCAN is proud to spotlight KIDS Connecticut youth member, Adhiti. Not only is Adhiti iCAN's Editorial Coordinator, but she is also the President of KIDS Connecticut. As president, Adhiti is committed to amplifying pediatric voices. Adhiti's passion for healthcare extends to legislative work, focusing on maternal and neonatal healthcare and the nutritional health of infants and their families.

In addition to the incredible spirit of volunteerism Adhiti exhibits daily, she also successfully fundraised over $450 for the 2026 iCAN Summit by spearheading her own initiatives. We are so impressed by her spirit and efforts. She truly made a difference in helping strengthen the iCAN Community - creating a future where young people's voices are heard.





"This month's KIDS Research meeting shed light on different pathways to engaging in research by showcasing guest speaker, Uma Subrayan's, non-linear path to medical school. Uma (a second-year medical student at Tulane University and former KIDS Michigan chapter leader and iCAN Young Professionals Network Co-chair) shared her expert insights on various research careers and projects."



"Ask the Experts brings in speakers every month to answer your questions about medicine, healthcare, research, innovation, and much more! Check out the ATE page on the iCAN Website to view previous recordings."

iCAN KIDS Chapter Spotlight (KIDS Research)

This month's KIDS Research meeting shed light on different pathways to engaging in research by showcasing guest speaker, Uma Subrayan's, non-linear path to medical school. Uma (a second-year medical student at Tulane University and former KIDS Michigan chapter leader and iCAN Young Professionals Network Co-chair) shared her expert insights on various research careers and projects. She emphasized the importance of mentorship and collaboration in clinical research. By highlighting her experiences at Ohio State, Nationwide Children's Hospital, and Tulane, Uma emphasized the importance of both mentorship and collaboration in a research setting. Touching on palliative care, community health education, and mental health research. Uma gave the iCAN KIDS Research youth members a thorough overview of how to navigate different stages of engaging young people in clinical research.

Upcoming Ask the Experts: Mark your calendars- iCAN invites you to another installment of Ask the Experts on March 21!

Next Episode: March 21 at 10 a.m. EST with Guest Speaker Bri Daniels (CEO of Bridger Bionics).

In March, iCAN will host Bri Daniels as she discusses how, as a two-time cancer survivor and amputee, she faced and overcame barriers to participating in sports.

Bio: Bri Daniels (CEO of Bridger Bionics) is an outdoor enthusiast dedicated to fostering access and inclusion in all spaces. As a two-time childhood cancer survivor and amputee, she has faced and

overcome many challenges in her journey back to participating in sports. As a PSIA Adaptive Ski Instructor at Bridger Bowl and Big Sky, she has years of experience coaching adaptive snowsports and is passionate about empowering others to experience the joy of outdoor recreation.

Session Details: ATE: Overcoming Challenges and Inspiring Change: A Conversation with Brianna Daniels on Resilience, Adaptive Sports, and Advocacy

Date: Saturday, March 21,

Time: 7:00 AM PST / 10:00 AM EST

Ask the Experts brings in speakers every month to answer your questions about medicine, healthcare, research, innovation, and much more! Check out the ATE page on the iCAN Website to view previous recordings.

The 2026 iCAN Summit - Location Announcement

Our annual Summit serves as a transformative platform for innovation, compassion, and collaboration in pediatric healthcare. As iCAN celebrates our 12th year of this incredible event, iCAN is so excited to announce that the iCAN Summit is back this summer in person. It is truly a testament to iCAN's dedicated and generous family that the Summit will continue to bring our young people together to change the global healthcare landscape.

Drum roll…the 2026 iCAN Summit will be held July 12 (check-in) through July 17 (check-out), 2026, at Barretstown in Ireland (approximately one hour outside of Dublin), and will be hosted by KIDS RAiN CRAG. Set on beautiful, expansive grounds, Barretstown is a fully wheelchair-accessible SeriousFun therapeutic recreation camp, thoughtfully designed to support a wide range of physical and medical needs. In addition to collaborating directly with global industry leaders to advance meaningful change in pediatrics, our community will take part in exciting on-site experiences, including horseback riding, archery, canoeing, and team-building challenges, all intentionally adapted to ensure accessibility and inclusion for all participants (including those with medical and physical needs).

Thank you to everyone who has helped us make this Summit happen. Together, we have overcome challenges and moved mountains. Get ready for iCAN Summit 2026!

The lasting impact of this annual event on the youth who attend, the iCAN Network, and the wider healthcare community cannot be measured. Together, we continue to impact pediatric healthcare in tangible ways. By giving every kid a seat at the table through discussion and co-creation, current and future pediatric patients are both empowered and transformed. We invite you to be part of this life-changing event by contributing in three meaningful ways:

1. Sponsor the 2026 Summit: Your sponsorship will play a crucial role in ensuring an impactful experience for all attendees.

2. Sponsor a Child to Attend: Your sponsorship directly impacts a child's life by granting them the opportunity to attend the Summit in Canada. Your support will cover travel, accommodation, and participation, offering them a world of learning and empowerment.

   Together, we are shaping a brighter future for pediatric healthcare. Your contribution—big or small—makes a significant difference in prioritizing the patient voice and driving positive change. Your generosity and dedication are deeply valued. Let us unite in Canada to create a summit experience that empowers the pediatric community for years to come.

3. Contribute to the GoFundMe for the iCAN 2026 Summit: We want our next Summit to be in person—and we can only do that with your support! Please share or donate to our GoFundMe:

- https://gofund.me/525439b3
- www.icanresearch.org

Let us work together to make our 2026 Summit even bigger by bringing more kids to share their voices! To contribute to the funding for next year's Summit, please click here to sponsor or make a donation.

, Knowledge Mobilization Program of CHILD-BRIGHT Network).

In February, iCAN will host Sakiko, and Linda will discuss their work researching how researchers can work with young people with diverse health and social conditions so that their diverse voices can make a positive impact on health services, systems, and policy.

Session Details:

Date: Saturday, February 21,

Time: 7:00 AM PST / 10:00 AM EST

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Disclosures: *There are no reported disclosures*

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Email: abbyclark@icanresearch.org







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in the box

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Classic Theatre, Modern Magic

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RESTAURANT
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THE MISSION INN FOUNDATION
RIVERSIDE
VISITOR CENTER + MUSEUM

Fiesta Village
Family Fun Park

WILLOW
THEATRICUM · BOTANICUM

CPH CORONADO
PLAYHOUSE

Irvine Lanes

SIMMS
RESTAURANTS

THE HUNTINGTON

Hollywood
WAX MUSEUM

SANTA
MONICA
PLAYHOUSE

SANTA ANITA
PARK

Go Kart World

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RISTORANTE

DOMENICO'S
RESTAURANT

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MEXICAN GRILL

Panera
BREAD

Caroline Arnold, Author

BARK
BOX

PETERSEN
AUTOMOTIVE MUSEUM

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LET'S TALK IN THE NICU: PREPARING FAMILIES FOR SAFE SLEEP AT HOME

HOW CAN ONE CONVERSATION CHANGE EVERYTHING?

Let's Talk Community Chats are now in the NICU—bringing culturally responsive, judgment-free safe sleep and breastfeeding education directly to families before discharge.

Led by **community peers trained by First Candle** and adhering to AAP Guidelines, these sessions empower NICU parents with knowledge, support, and resources to help protect their most vulnerable babies.

Learn how you can bring Let's Talk to your NICU.

Email alison@firstcandle.org for more information

firstcandle LET'S TALK Community Chats IN THE NICU





Pictured: Baby Kole with his Dad

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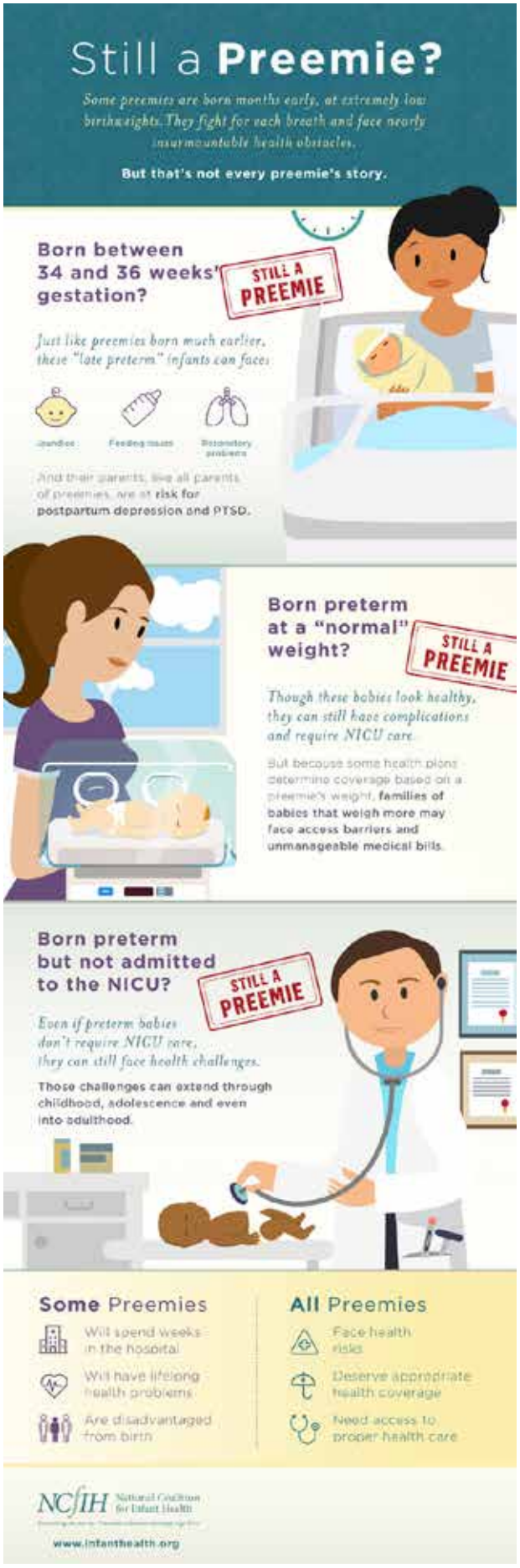
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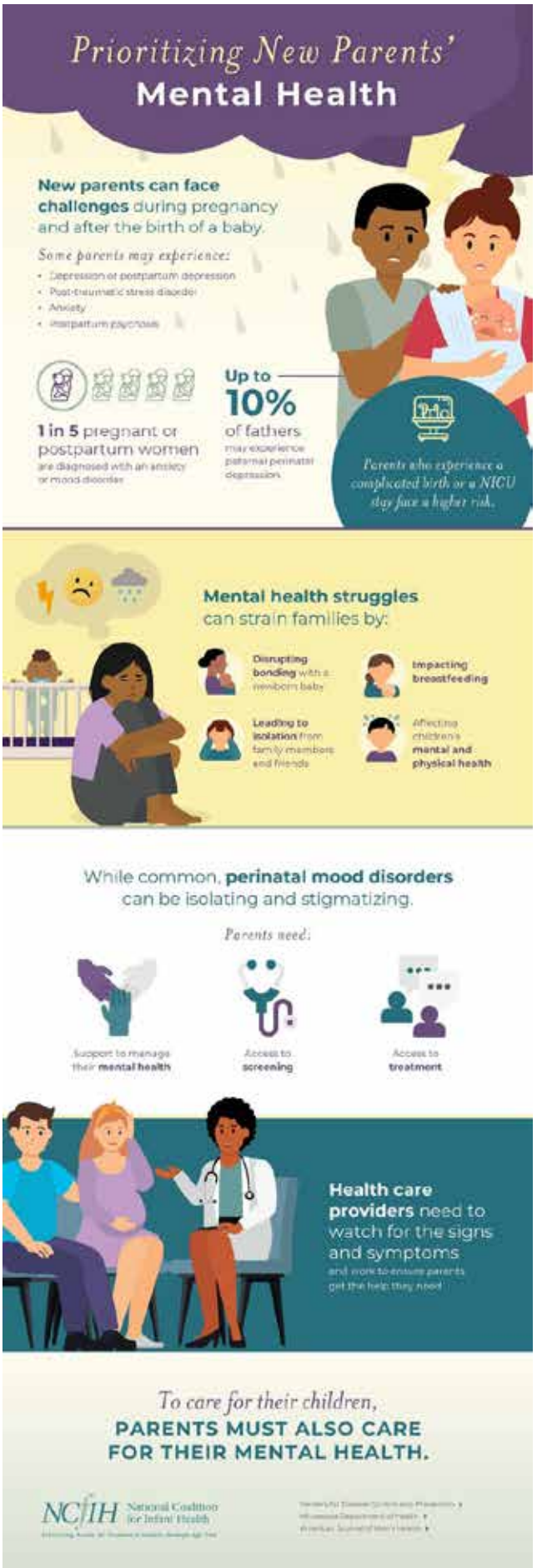
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Are disadvantaged from birth
All Preemies
Face health risks
Deserve appropriate health coverage
Need access to proper health care
NCIIH National Coalition for Infant Health
www.infanthealth.org


Prioritizing New Parents' Mental Health
New parents can face challenges during pregnancy and after the birth of a baby.
Some parents may experience:
Depression or postpartum depression
Post-traumatic stress disorder
Anxiety
Postpartum psychosis
1 in 5 pregnant or postpartum women are diagnosed with an anxiety or mood disorder
Up to 10% of fathers may experience paternal perinatal depression
Parents who experience a complicated birth or a NICU stay face a higher risk.
Mental health struggles can strain families by:
Disrupting bonding with a newborn baby
Impacting breastfeeding
Leading to isolation from family members and friends
Affecting children's mental and physical health
While common, perinatal mood disorders can be isolating and stigmatizing.
Parents need:
Support to manage their mental health
Access to screening
Access to treatment
Health care providers need to watch for the signs and symptoms and work to ensure parents get the help they need
To care for their children,
PARENTS MUST ALSO CARE FOR THEIR MENTAL HEALTH.
NCIIH National Coalition for Infant Health

Join iCAN's Virtual Focus Group!



We warmly welcome all individuals within the age ranges of 8-10 and 12-18, including those with:

- Learning disabilities (example: dyslexia)
- Speech or language disabilities (examples: stuttering, understanding others, hearing)
- Physical disabilities (examples: epilepsy, cystic fibrosis)
- Autism Spectrum Disorder (ASD) or Attention-Deficit/Hyperactivity Disorder (ADHD)

Every voice counts!

It's a one-minute survey to see if you qualify for a one-hour focus group to be scheduled at a later date.

Survey Link: bit.ly/icanxkismet

Fill out the recruitment survey now and let your voice be heard! Together, we can make a real difference in pediatric healthcare!

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The Academy of Neonatal Care serves to educate Respiratory Therapists, Nurses, and Doctors in current and best practices in Neonatal ICU care. We prepare RT's new to NICU to fully function as a bedside NICU RT. Our goal is to enrich NICU care at all levels. Beginner to Advanced Practice, there is something for you at:

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Keeping Your Baby Safe
from respiratory infections

RSV
COVID-19
colds
flu

How to protect your little ones from germs and viruses

This year is an especially dangerous cold and flu season - especially for vulnerable infants and children. Fortunately, there are proven protective measures that we can take to stay healthy.

Here's what you can do...

Wash Your Hands

- This is the single, most important thing you can do to stop the spread of viruses.
- Use soap.
- Wash for more than 20 seconds.
- Use alcohol-based sanitizers.



Limit Contact with Others



- Stay home when you can.
- Stay 6 feet apart when out.
- Wear a face mask when out.
- Change your clothes when you get home.
- Tell others what you're doing to stay safe.

Provide Protective Immunity

- Hold your baby skin-to-skin.
- Give them your breast milk.
- Stay current with your family's immunizations.



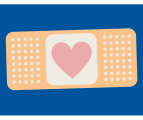
Take Care of Yourself

- Stay connected with your family and friends.
- Drink more water and eat healthy foods.
- Seek mental health support.
- Sleep when you can.



Get Immunized

Vaccinations save lives. Protecting your baby from COVID-19, flu and pertussis lowers their risks for complications from respiratory infections.



WARNING

Never Put a Mask on Your Baby

- Because babies have smaller airways, a mask makes it hard for them to breathe.
- Masks pose a risk of strangulation and suffocation.
- A baby can't remove their mask if they're suffocating.



If you feel sick or are positive for COVID-19

- Wash with soap and water and put on fresh clothes before holding or feeding your baby.
- Wear a mask to help stop the virus from spreading.
- Watch out for symptoms like fever, confusion, or trouble breathing.
- Ask for help caring for your baby and yourself while you recover.



We can help protect each other.
www.nationalperinatal.org/rsv

National Perinatal Association

Peer Reviewed

Briefly Legal: A Case of Misplaced Sympathy—Breach of Informed Consent for a Distressed Extremely Premature Fetus Compounded by a Drop on the Head at Delivery

Maureen Sims, MD, Barry Schifrin, MD

The patient was a 29-year-old G_4P_3 who presented at $24^5/_7$ weeks' gestation, complaining of painful vaginal bleeding. An ultrasound on admission revealed a fetus in double footling breech presentation with an estimated age of the fetus as $23^2/_7$ weeks' gestation (a 10-day divergence—see below), with a biophysical profile (BPP) of 8/8. No cervix could be seen, and the membranes were bulging into the vagina. The initial fetal monitoring tracing was normal (for a premature fetus) with a baseline rate of 145 bpm, decreased variability, absent accelerations and decelerations, and contractions every 2–3 minutes.

"The patient was a 29-year-old G_4P_3 who presented at $24^5/_7$ weeks' gestation, complaining of painful vaginal bleeding. An ultrasound on admission revealed a fetus in double footling breech presentation with an estimated age of the fetus as $23^2/_7$ weeks' gestation (a 10-day divergence...), with a biophysical profile (BPP) of 8/8."

After about 20 minutes, the tracing became unreadable for almost 2 hours. The patient was placed on $MgSO_4$ for tocolysis, Ampicillin for GBS+, and antenatal steroids for lung maturity. Despite the $MgSO_4$, the contractions were unabated as the amount of bleeding increased. When the fetal monitor tracing became operative, it revealed variable decelerations of increasing depth and duration. It would take the nurses 30 minutes to recognize the decelerations and mobilize the attending physician.

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"The ensuing discussion considered a cesarean section. Indeed, the mother had expressly requested that every effort be made to ensure the baby's well-being. The recommendation of the physician, however, was to pursue vaginal delivery mainly because of the estimated gestational age of only 23 weeks and the lack of compelling guidance in the literature (placental abruption not considered)."

The ensuing discussion considered a cesarean section. Indeed, the mother had expressly requested that every effort be made to ensure the baby's well-being. The recommendation of the physician, however, was to pursue vaginal delivery mainly because of the estimated gestational age of only 23 weeks and the lack of compelling guidance in the literature (placental abruption not considered). Further, he opined, "there was no significant literature supporting a cesarean section delivery increasing fetal survival without morbidity at this very early age." She was further informed that the chance of infant survival was less than 50%, with a 75% to 80% chance that the infant would have significant disability. On these bases, the decision was made to await vaginal delivery.

"The double footling breech was rapidly extracted with the help of fundal pressure to maintain flexion of the fetal head. While the physician was holding the infant, the precipitous delivery of the placenta caused the physician to drop the baby to the floor."

Given the increasing vaginal pressure along with the non-reassuring tracing and vaginal bleeding ("which might indicate a diagnosis of abruptio placentae"), the mother was told to bear down. With bearing down, the bag of water filled the introitus, bulged outward, and subsequently ruptured. Examination revealed that there was a prolapse of the cord into the vagina along with the infant's feet. The double footling breech was rapidly extracted

with the help of fundal pressure to maintain flexion of the fetal head. While the physician was holding the infant, the precipitous delivery of the placenta caused the physician to drop the baby to the floor. The newborn was immediately fetched up and brought to the radiant warmer where it was intubated and given PPV.

"At 1 hour and 27 minutes of age, an arterial blood gas revealed a pH of 7.31, pCO_2 31, pO_2 86, and a base deficit of 23."

He was assigned Apgar scores of 1, 4, and 5 at 1, 5, and 10 minutes of age. At 9 minutes, venous gas revealed a pH of 6.7, pO_2 of 45, pCO_2 of 26, and a base deficit of 16, indicating severe metabolic acidosis. The birth weight was 670 grams; the head circumference was 21 cm; and the length was 33 cm. The newborn was admitted to the Newborn Intensive Care Unit at 17 minutes of age where umbilical lines were inserted. At 1 hour and 27 minutes of age, an arterial blood gas revealed a pH of 7.31, pCO_2 31, pO_2 86, and a base deficit of 23. On examination, the heart rate (HR) was 150 beats per minute (bpm), but neither blood pressure nor spontaneous respirations could be detected. The baby's fingers were gripping the nasogastric tube, eyes fused, there were multiple bruising sites on all extremities and the head and neck. There was a 2 cm bleeding laceration of the occiput (the site of injury from being dropped).

"Cranial ultrasound revealed a parenchymal cerebral hematoma and an intraventricular hemorrhage...A radiograph suggested a skull fracture. At 5 hours of life, the infant deteriorated, requiring prolonged resuscitation, which was eventually discontinued, and the infant expired at 8 hours of age."

There were no dysmorphic features, and a Ballard exam was consistent with 24 weeks' gestation. Complete blood count showed a hematocrit of 30%, a white blood count of 6.5, and a platelet count of 116. The glucose value was 39 mg/L. The baby was placed under phototherapy. Cranial ultrasound revealed a parenchymal cerebral hematoma and an intraventricular hemorrhage. The infant was placed on conventional ventilation and then switched to high-frequency oscillatory ventilation. A radiograph suggested a skull fracture. At 5 hours of life, the infant deteriorated, requiring prolonged resuscitation, which was eventually discontinued, and the infant expired at 8 hours of age.

The Coroner's report included respiratory distress syndrome, extensive bruising, abrasions, and laceration of the scalp, fracture of the skull, subdural, subgaleal, and parenchymal hemorrhages. The gyral pattern and fissures of the brain were consistent with a 24-week gestation. The Coroner concluded that the cause of death was blunt force trauma to the head.

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Examination of the placenta revealed a 50% abruption and mild chorioamnionitis. The cord length, excluding the attached segment, was 21 cm.

Allegations:

Given the presenting signs and symptoms, the nurses failed to obtain a timely, in-person consultation from the attending physician.

Failure to obtain proper informed consent: the OB needed to engage the patient sooner and obtain a properly informed consent, which had to be updated when the fetus started to develop distress.

Failure to timely diagnose placental abruption (painful vaginal bleeding in the 2nd trimester) makes prolongation of the pregnancy improbable and deterioration of the fetus quite probable. The diagnosis of placental abruption had to be considered on admission, given the painful 2nd-trimester bleeding with frequent contractions.

Failure to pursue timely intervention given the obvious deterioration of the Fetal Heart Rate (FHR) tracing.

Failure to recognize potential error in assigning gestational age with an ultrasound examination in the mid-trimester. Indeed, the ultrasound measurements of the Biparietal Diameter, Head Circumference, and Abdominal Circumference were all at or above 24 weeks' gestation. The Femur Length (FL) was significantly shorter by 3 weeks. Had the FL been excluded, the estimate would have been 24 weeks and 4 days (spot-on, consistent with the gestational age assigned by a first-trimester ultrasound, which was more likely to be accurate than one obtained later). Both the Ballard and postmortem exams placed the baby at 24+ weeks.

It was a failure of the standard of care to "write off the baby" without adherence to specific guidelines and the consent of the mother.

Failed to properly respond to the deteriorating fetal condition, with the result that the fetus was born severely hypoxic. The initial tracing and BPP are consistent with a healthy fetus tolerating the frequent contractions. The lack of a reliable tracing for over 2 hours represents conduct well below any reasonable standard of care. Despite frequent contractions, decelerations only appear after about 2 hours of observation with increasing amplitude and duration and a rising baseline FHR with absent variability

(erroneously considered Category II). The baby delivers about 3.5 hours after admission.

Failed to take precautions to prevent trauma to the fetus at the time of delivery. Although it was not a criticism of the standard of care, had the obstetrician been seated at the time of delivery, the child would have fallen into his lap rather than onto the floor.

In 2017, the year of this delivery, a fetus delivered at 24+ weeks' gestation had approximately a 65% survival. On the one hand, this probability would have been even higher given that he was a singleton without intrauterine infection or growth restriction. The antenatal steroids given so close to the delivery were unlikely to improve the outcome. On the other hand, the placental abruption and the marked deterioration of the fetal condition prior to delivery were factors inimical to intact survival. The cord length measured by the pathologist does not equal the total length of the cord, because some cord remains on the baby, and some is sent for cord gas sampling. Fused eyes have been reported on neonates beyond 24 weeks.

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Defendants and defense experts:

The defense argued that this was an extremely premature infant, as evidenced by bruising secondary to friable skin, fused eyes, not breathing at birth, and acidotic features, which carry a high mortality and morbidity.

- His lack of breathing at birth demonstrated his non-viability. (As opposed to the severe hypoxia during labor)
- There was a short cord, which then allowed the placenta to knock the baby out of the obstetrician's hands.
- Most premature infants have intracranial hemorrhages.

Resolution:

The trial resulted in a defense verdict. After the trial, the jurors shared with the plaintiff's attorney that "obstetrical mistakes happen"; they felt sorry for the older obstetrician attending, who was trying to do his best.

Discussion:

Informed maternal counseling and shared decision-making for periviable births have been the standard of care for over a decade. The framework for peri-viable births ($20^0/_7$ to $25^6/_7$ weeks' gestation) was established in 2014 during the Joint workshop by the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), Society for Maternal-Fetal Medicine (SMFM), American Academy of Pediatrics, and American College of Obstetricians and Gynecologists (ACOG). Obstetrical and neonatal teams should confer with families to create mutual trust and understanding. Counseling should include discussion of the benefits and risks of maternal and neonatal interventions, with follow-up counseling as clinical circumstances evolve.

"The trial resulted in a defense verdict. After the trial, the jurors shared with the plaintiff's attorney that 'obstetrical mistakes happen'; they felt sorry for the older obstetrician attending, who was trying to do his best."

ACOG and SMFM formalized the recommendations through a series of documents in 2015–2016. The guidelines explicitly state that clinicians should (must) discuss with parents whether their goal is to optimize survival or minimize suffering, and that the approach may differ dramatically depending on parental preferences and may change or require modifications. Implicit in these recommendations is the notion that the obstetrical care provider cannot unilaterally decide to forego therapy that might help the baby survive in the belief that the child is too young to survive or survive intact.

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Multiple factors are associated with short- and long-term morbidity of periviable births in addition to gestational age at birth. These include non-modifiable factors (e.g., gender, weight, plurality) and potentially modifiable factors, including the location of delivery, administration of antenatal steroids and magnesium sulfate, intent to intervene with cesarean delivery or induction for delivery, resuscitation or comfort care, and avoidance of hypoxia and trauma during delivery.

Gestational age may be assessed in several ways. First-trimester fetal ultrasound is the best-established and most accurate method for estimating gestational age, with a precision of ±5–7 days when performed up to $13^6/_7$ weeks of gestation. ACOG and SMFM recommend ultrasound measurement of the crown-rump length as the most accurate method for establishing or confirming gestational age. The Ballard examination has moderate accuracy for determining gestational age, particularly at the extremes, with overestimates for <28 weeks' prematurity and underestimates for post-term gestational ages. Neuromuscular components of the score are generally more predictive than physical criteria,

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except when adverse intrapartum events occurred. The Ballard examination should be performed within the first 96 hours of life, with the greatest validity for extremely premature infants when performed before 12 hours of age. Many neonatologists use dates, but when the Ballard exam differs by more than 2 weeks, the Ballard exam is used for dating. Neuropathologic assessment of fissures and gyral patterns provides a reliable method for estimating gestational age, whether from neuroimaging or postmortem examination.

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In 2017 the NICHD reported that 23 weeks of gestation infant had a 56% and at 24 weeks' a 65–72% survival rate. In terms of impairment, the NICHD data of 2006–2012 (5–10 years prior to the birth of this infant), the following is listed for a 23-week infant: 3–6% profound neurodevelopmental impairment, 32–52% moderate–severe neurodevelopmental impairment, <1% blindness, 1–5% deafness, 6–15% moderate-severe cerebral palsy, and 31–46% cognitive developmental delay. For a 24-week infant, the NICHD reported: 3–5% with profound neurodevelopmental impairment; 32-37% with moderate-severe neurodevelopmental impairment; <1% with blindness; 1–2% with deafness; 6–9% with moderate-severe cerebral palsy; and 31–35% with cognitive developmental delay. Thus, either using a 23- or 24-week gestational age, and importantly, the mother's desire for interventions taken to save her fetus, a favorable outcome for intact survival was overwhelming, had not the adverse events occurred during the later half of the intrapartum period and the trauma after delivery.

"Thus, either using a 23- or 24-week gestational age, and importantly, the mother's desire for interventions taken to save her fetus, a favorable outcome for intact survival was overwhelming, had not the adverse events occurred during the later half of the intrapartum period and the trauma after delivery."

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Will your **PRETERM INFANT** *need* **EARLY INTERVENTION** *services?*

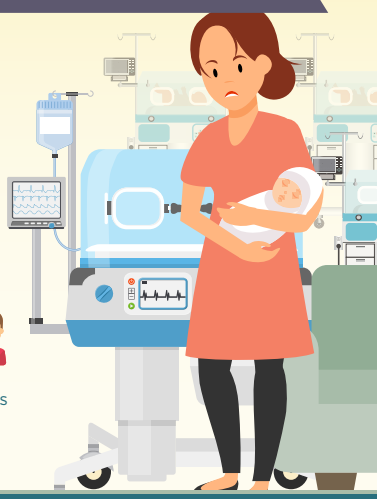
Preterm infants are:

2x more likely to have developmental delays

5x more likely to have learning challenges



1 in **3** preterm infants will require support services at school

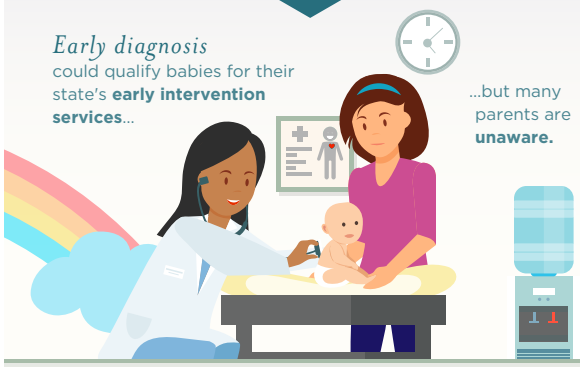


Early intervention can help preterm infants:

- Enhance language and communication skills
- Build more effective learning techniques
- Process social and emotional situations
- Address physical challenges
- Prevent mild difficulties from developing into major problems

Early diagnosis could qualify babies for their state's **early intervention services**...

...but many parents are **unaware.**





NICU staff, nurses, pediatricians and social workers **should talk** with NICU families about the challenges their baby may face.

Awareness, referral & timely enrollment in early intervention programs can help **infants thrive** and grow.



NCFIH National Coalition for Infant Health

Protecting Access for Premature Infants through Age Two

www.infanthealth.org

Visit **CDC.gov** to find contact information for your state's early intervention program.

Las nuevas mamás necesitan acceso a la detección y tratamiento para **LA DEPRESIÓN POSPARTO**



1 DE CADA **7** MADRES AFRONTA LA DEPRESIÓN POSPARTO, *experimentando*

- Llanto incontrolable
- Sueño interrumpido
- Ansiedad
- Desplazamientos en los patrones de alimentación
- Ideas de hacerse daño a sí mismas o al bebé
- Distanciamiento de amigos y familiares





Sin embargo, sólo el 15% recibe tratamiento[1]

LA DEPRESIÓN POSTPARTO **NO TRATADA** PUEDE AFECTAR:



La salud de la madre

El sueño, la alimentación y el comportamiento del bebé a medida que crece[2]

La capacidad para cuidar de un bebé y sus hermanos

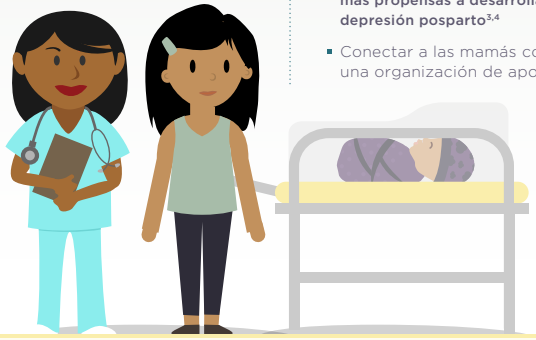
PARA AYUDAR **A LAS MADRES A ENFRENTAR LA DEPRESIÓN POSPARTO**

LOS ENCARGADOS DE FORMULAR POLÍTICAS PUEDEN:

- Financiar los esfuerzos de despistaje y diagnostico
- Proteger el acceso al tratamiento

LOS HOSPITALES PUEDEN:

- Capacitar a los profesionales de la salud para proporcionar apoyo psicosocial a las familias... **Especialmente aquellas con bebés prematuros, que son 40% más propensas a desarrollar depresión posparto**[3,4]
- Conectar a las mamás con una organización de apoyo



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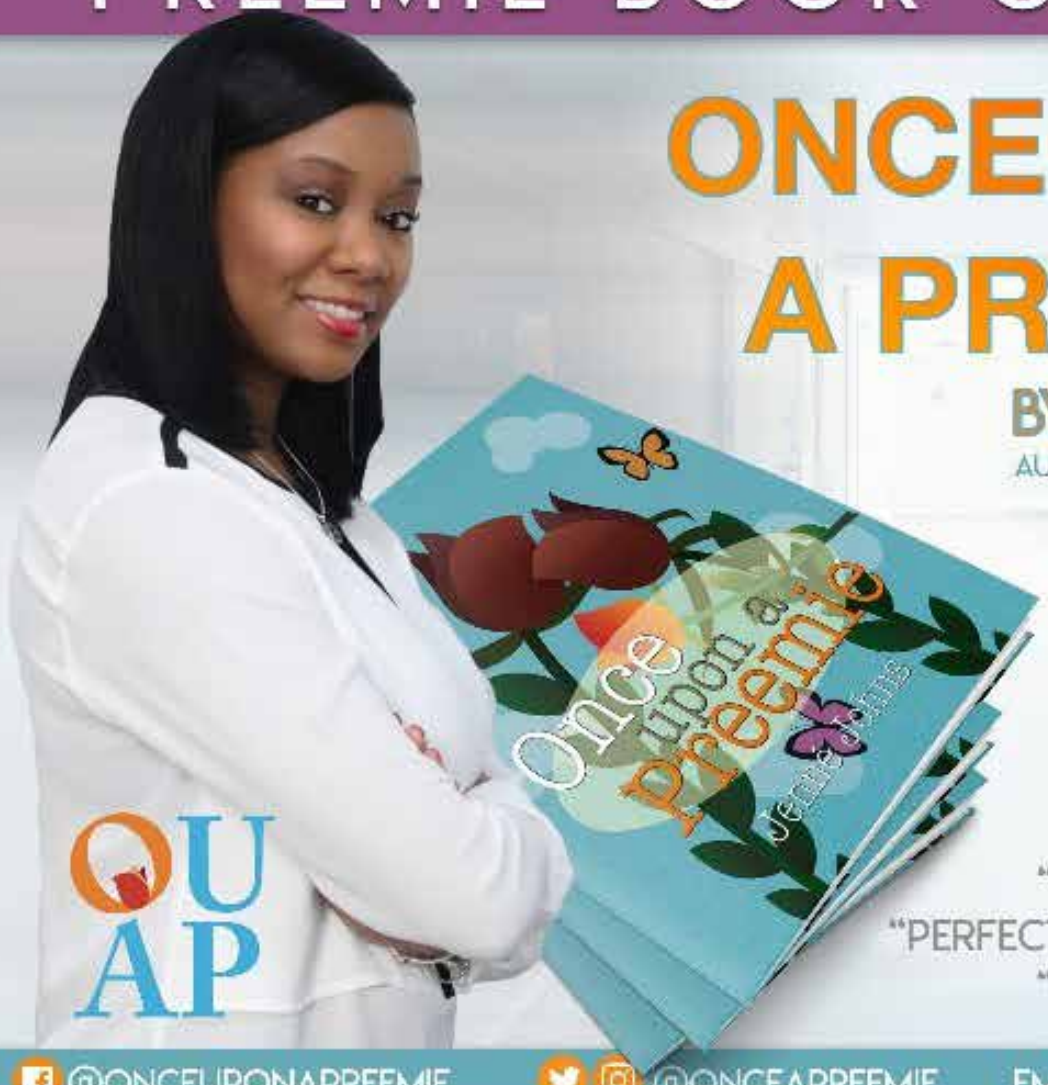
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PREEMIE BOOK ON SALE



ONCE UPON A PREEMIE

BY JENNÉ JOHNS

AUTHOR | SPEAKER | ADVOCATE

QUAP

"ONE OF A KIND"
"PERFECT FOR PREEMIE FAMILIES"
"ENCOURAGING"

@ONCEUPONAPREEMIE @ONCEAPREEMIE EMAIL: HI@ONCEUPONAPREEMIE

ONCE UPON A PREEMIE IS A BEAUTIFUL NEW WAY TO LOOK AT THE LIFE OF A PREEMIE BABY. IT EXPLORES THE PARENT AND CHILD NEONATAL INTENSIVE CARE UNIT (NICU) JOURNEY IN A UNIQUE AND UPLIFTING WAY.

SPEAKING ENGAGEMENTS

PREEMIE PARENT ALLIANCE SUMMIT
NATIONAL ASSOCIATION OF PERINATAL SOCIAL WORKERS
CONGRESSIONAL BLACK CAUCUS ANNUAL LEGISLATIVE CONFERENCE
NATIONAL MEDICAL ASSOCIATION ANNUAL CONFERENCE
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Compiled and Reviewed by Benjamin Hopkins, DO

National Institutes of Health Need Agencywide Strategy to Prioritize and Fund Pediatric Research, Says New Report

NEWS PROVIDED BY

National Academies

By Solomon Self

Study: **National Institutes of Health Need Agencywide Strategy to Prioritize and Fund Pediatric Research, Says New Report**

Current as of January 28, 2026

WASHINGTON — A new congressionally mandated report from the National Academies of Sciences, Engineering, and Medicine calls for the National Institutes of Health to implement a unified, agencywide approach that prioritizes pediatric health research and funding. The report says incidences of chronic disease and poor mental, emotional, and behavioral health are on the rise, and American children are experiencing worse health outcomes than their peers in other developed nations — and calls for changes that will enable the agency to improve health outcomes through childhood and beyond.

As the world's largest public funder of biomedical research, NIH has made the United States a global leader in scientific discovery and medical breakthroughs, and it has supported numerous advances in pediatric research. However, the recent worsening of pediatric health outcomes in the U.S. indicate that more should be done to address this multifaceted issue.

"We want to give today's children the chance to grow into tomorrow's leaders free of chronic disease and illness," said Frederick P. Rivara, vice chair for academic affairs and professor of pediatrics at the University of Washington School of Medicine and Seattle Children's and co-chair of the committee that wrote the report. "Pediatric research has made incredible strides over the last decades, but making structural and programmatic changes at NIH can advance this progress even further."

"NIH is uniquely positioned to lead the efforts in advancing children's health research," said Phyllis A. Dennery, Sylvia Kay Hassenfeld Professor and chair of pediatrics at Warren Alpert Medical School of Brown University, pediatrician-in-chief at Rhode Island Hospital, medical director at Hasbro Children's Hospital, and co-chair of the committee that wrote the report. "The important discoveries and insights can lead us to realizing a brighter future for America's children."

Challenges to Conducting Pediatric Research

The report emphasizes that children should be protected through research, rather than from research, but the committee recognized that in addition to scientific and methodological challenges, unique regulatory and legal requirements and ethical considerations impact research involving children. The report says the NIH Pediatric Research Consortium (N-PeRC) is a leader in facilitating and coordinating pediatric research within NIH and recommends N-PeRC receive enhanced institutional prominence and dedicated funding and resources. N-PeRC also should coordinate with initiatives across NIH to develop guidance and strategies for pediatric research, promote transparency and trust with the public, and ensure the deliberate and ethical inclusion of children in research.

Financial challenges posed by the grant application and review processes are another obstacle to advancing pediatric research. To address this, NIH should allow for more flexibility with budgets, timelines, and supplemental funding opportunities for researchers engaged in pediatric research, the report says.

Other recommendations include maintaining current levels of pediatric research at the NIH Clinical Center and improving the Research, Condition, and Disease Categorization system to better assess funding levels.

Vision for the Future

The committee envisions the United States as a global leader in promoting child health and developed a set of four goals to ensure all children can thrive through adolescence into adulthood. The four goals are:

- Integrating pediatric research throughout NIH programs and initiatives
- Expanding NIH initiatives and programs to address unmet research needs in child health
- Strengthening the impact of pediatric health research by optimizing translation of research into practice
- Building trust through effective communication of pediatric health research findings
- Pediatric Prioritization and Inclusion

The report finds that though all NIH institutes and centers support pediatric research, few strategic plans specify how progress or success toward their goals will be measured or monitored. The report urges the directors of all institutes and centers that fund pediatric research explicitly incorporate pediatric health into their strategic plans, and include metrics to measure success in meeting those goals. To better facilitate this integration of pediatric research priorities across the agency, NIH should also adopt a consistent, agencywide definition of pediatric research.

The study — undertaken by the Committee on Strategies to Enhance Pediatric Health Research Funded by NIH — was sponsored by the National Institutes of Health.

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Precautionary global recall of infant nutrition products following detection of Bacillus cereus toxin

NEWS PROVIDED BY

European Food Safety Authority

By EFSA Media Relations Office

Study: **Precautionary global recall of infant nutrition products following detection of Bacillus cereus toxin**

Current as of January 28, 2026

Multi-country recalls of several infant nutrition products (different batches, products, and brands) are ongoing following the detection of cereulide, a toxin produced by the bacterium Bacillus cereus, which can cause nausea, vomiting and diarrhoea. The precautionary recalls and withdrawals were initiated in December 2025 and continue in January 2026 as a preventive public health measure. The recalls are global, with products sold both in Europe and in countries outside of Europe.

Cereulide is a toxin that can cause sudden nausea, vomiting and stomach pain 30 minutes to six hours after ingestion. In younger infants, it can change the body's salt balance and lead to complications such as dehydration. The possible negative health effects are considered low to moderate and depend on the infant's age, with neonates and infants under six months more at risk of severe disease. As the products are being withdrawn and recalled in many countries, the likelihood of further exposure is decreasing.

ECDC has received reports of diarrhoea in infants following consumption of the recalled products. National investigations are ongoing, and ECDC has not been informed of any severe cases related to this event so far. In one case, an infant who had consumed formula from a recalled batch tested positive for the toxin and developed vomiting and diarrhoea, with a favourable recovery.

It is important to note that vomiting and diarrhoea in infants are common symptoms and can be caused by many different factors, including viral infections such as norovirus.

Public health advice and recommendations

For infants who develop vomiting or diarrhoea after consuming infant formula included in the recall, ECDC recommends seeking medical advice from a healthcare professional, such as a paediatrician, or, if the symptoms are severe (e.g., dehydration or persistent vomiting), at an emergency department. Gastrointestinal symptoms in infants can rapidly lead to complications, regardless of the underlying cause.

Recalled products should not be given to infants or young children. Consumers are advised to follow the instructions and guidance issued by national food safety authorities.

Public health response and coordination

ECDC is monitoring the event and providing scientific advice and guidance to support national investigations, while facilitating timely information exchange between countries. ECDC, the European Food Safety Authority (EFSA) and the European Commission are working hand in hand to ensure a coordinated and effective response to this multi-country event.

To inform risk management decisions, EFSA has been requested by the European Commission to provide scientific advice on the contamination threshold above which products should be recalled. The request includes two specific questions:

Establish an Acute Reference Dose (ARfD) for cereulide in infants.

Provide information on typical and higher-end consumption levels of infant formula.

The advice will be published on EFSA's website at the beginning of the week starting 2 February 2026.

More information

Information on the food safety actions taken at EU and national level is shared through the Rapid Alert System for Food and Feed (RASFF), the EU's platform for exchanging information on risks related to food and feed.

Public Health Alerts: Paenibacillus dendritiformis as a cause of destructive meningitis in infants infantsrecommendations on breastfeeding, limits on added sugarsprogram-4recommendations

NEWS PROVIDED BY

CIDRAP

By Jim Wappes

Study: **Public Health Alerts: Paenibacillus dendritiformis as a cause of destructive meningitis in infants**

Current as of February 3, 2026

A Public Health Alerts report today details two US infants with severe neurologic symptoms after infection with Paenibacillus dendritiformis, raising awareness of an emerging infectious disease threat.

Public Health Alerts, a new collaboration between NEJM Evidence and CIDRAP, fills a gap in reliable data, offering expert-reviewed reports that translate frontline observations into actionable public health evidence. An NEJM Evidence editorial explains the initiative further.

Empiric antibiotics may be inadequate

The first case involved a 2-month-old girl born extremely prematurely, at 26 weeks' gestation a year ago in Pennsylvania. Her blood and cerebrospinal fluid (CSF) cultures grew Paenibacillus thiaminolyticus, a gram-positive spore-forming bacterium widely found in the environment.

Brain imaging showed progressive hy-

drocephalus, encephalomalacia, and abscesses, which required placement of a shunt.

The infant was treated with a variety of antibiotics but at age 8 months was still not able to eat by mouth, sit unsupported, or roll over.

The second case involved a 37-day-old boy in Minnesota born at 33 weeks' gestation who had been doing well following a 22-day stay in the neonatal intensive care unit and 15 days at home. He returned to the hospital because of poor feeding and unresponsiveness. Blood and CSF cultures also grew P thiaminolyticus.

Although P thiaminolyticus was identified by matrix-assisted laser desorption ionization time of flight mass spectrometry (MALDI-TOF MS) in both cases, whole-genome sequencing of isolates from both infants identified P dendritiformis. This bacterium is soil-dwelling and is also gram-positive and spore-forming.

The author concluded, "Clinicians who care for young infants should be aware of this emerging pathogen, as empiric antibiotic regimens for treating bacteremia and meningitis may be inadequate, and pediatric neurosurgical expertise for abscess drainage or treatment of hydrocephalus is typically needed."

A newborn's death likely linked to the mom drinking raw milk while pregnant

NEWS PROVIDED BY

The Associated Press

By Jonel Aleccia

Study: **A newborn's death likely linked to the mom drinking raw milk while pregnant**

Current as of February 4, 2026

A newborn baby died from a listeria infection likely linked to the child's mother drinking raw milk during pregnancy, health officials said.

New Mexico officials this week warned people to avoid consuming unpasteurized dairy products following the death. Interest in and sales of raw milk have been rising in recent years, fueled by social media and growing support from the Health Secretary Robert F. Kennedy Jr.'s Make America Healthy Again movement.

State officials provided few details about the newborn, citing privacy restrictions. While investigators said they could not determine the exact cause of the baby's death, "the most likely source of infection was unpasteurized milk." That conclusion was based on information gathered during the investigation, including the timing of the infection and reports that the mother drank raw milk during pregnancy, an official said.

Raw milk can contain several disease-causing germs, including Listeria. That is a type of bacteria that can cause miscarriage, stillbirth, preterm birth, or fatal infections in newborns, even if the mother is only mildly ill.

Exclusive Breastfeeding for 4 Months Associated With Lower Asthma Odds

NEWS PROVIDED BY

Pulmonology Advisor

By Ron Goldberg

Study: **Exclusive Breastfeeding for 4 Months Associated With Lower Asthma Odds**

Current as of February 18, 2026

Exclusive breastfeeding for at least 4 months is associated with reduced odds of persistent asthma and immunoglobulin E (IgE) sensitization up to young adulthood, according to study findings published in The Journal of Allergy and Clinical Immunology.

Investigators conducted a prospective, population-based study of the association between exclusive breastfeeding (no cow's milk, formula, or solid foods) and asthma and allergy, from birth to early adulthood. The study used retrospectively collected data from BAMSE, a longitudinal, population-based prospective birth cohort including children born from 1994 to 1996 in Stockholm, Sweden (N=4089 participants).

Questionnaire data on breastfeeding was collected at 1 year of age (n=3919); data on asthma was collected up to age 24 years. Asthma was defined by at least 2 of the following 3 criteria: (1) breathing and/or wheeze difficulties in the last 12 months; (2) doctor's asthma diagnosis; (3) asthma medicine taken regularly or occasionally in the last 12 months. IgE blood sampling analysis and lung function measurements were taken for BAMSE cohort members at ages 4, 8, 16, and 24 years. The 24-year follow-up response rates were 75% for the questionnaire and 56% for the clinical examination.

Exclusive breastfeeding for ≥4 months was inversely associated with asthma, in particular with disease onset the first 12 years of life, as well as IgE sensitization up to young adulthood.

The researchers found that breastfeeding exclusively for at least 4 months was associated with overall reduced odds of prevalent asthma across the study period (adjusted odds ratio [aOR], 0.75; 95% CI, 0.64-0.87). Up to 12 years of age, age-specific analyses showed a statistically significant inverse association with asthma, although not beyond 12 years of age.

Over time, analysis of asthma phenotypes showed a significant inverse association with persistent asthma (aOR, 0.64; 95% CI, 0.48-0.84), a borderline significant inverse association with early transient asthma, and no association with late onset asthma. An inverse association was also noted between breastfeeding and IgE sensitization (aOR, 0.82; 95% CI, 0.70-0.96). The associations for both asthma and sensitization are improved if children with early symptoms of eczema and/or wheeze during breastfeeding (n=486) are excluded from analyses.

Study limitations include possible residual confounding and the use of self-reported responses to determine the presence of asthma.

"Exclusive breastfeeding for ≥4 months was inversely associated with asthma, in particular with disease onset the first 12 years of life, as well as IgE sensitization up to young adulthood," the investigators concluded.

ByHeart infant botulism outbreak ends with 48 babies sickened

NEWS PROVIDED BY

The Associated Press

By ATLANTA (AP)

Study: **ByHeart infant botulism outbreak ends with 48 babies sickened**

Current as of February 26, 2026

A rare outbreak of infant botulism that sickened dozens of babies who drank recalled ByHeart formula is over, with no new cases reported since mid-December, the U.S. Centers for Disease Control and Prevention said Thursday.

In all, 48 babies were sickened since 2023. That's actually down from the previous case count, because three infants were ultimately diagnosed with other illnesses not tied to botulism, health officials said.

All of the children who got sick were hospitalized. No deaths have been reported.

It's still unclear exactly how, when or where the organic, whole-milk powdered baby formula became contaminated with the type of bacteria that can cause serious illness, paralysis and death in children younger than 1, health officials added.

Most of the cases had occurred since August, when officials at California's Infant Botulism Treatment and Prevention program detected an alarming rise in reports of the illness in babies who consumed ByHeart formula.

ByHeart, based in New York, initially recalled two lots of formula in early November, but the company expanded the recall to all products days later. Federal health officials later said they could not rule out contamination of products made since the company first launched in March 2022. Stores nationwide pulled the product, which was advertised as having "next-to-breast milk benefits."

Investigators with the U.S. Food and Drug Administration have yet to identify the root cause.

In a statement, the agency said it had identified 17 different strains of the illness-causing bacteria in samples from patients, finished cans of formula and ingredients. The samples "add to the available evidence needed to investigate the root cause of this outbreak," but aren't definitive, the agency said.

Previously, FDA officials indicated that powdered whole milk used to make ByHeart infant formula could be a source of contamination.

Illnesses caused by botulism bacteria in infant formula are rare, and the size and scope of the ByHeart outbreak is unprecedented, food safety experts said.

The disease occurs when babies ingest botulism spores that germinate in the intestine and produce a dangerous toxin that attacks the nervous system. Death rates were once as high as 90%, but now are less than 1% with treatment.

The only treatment for the disease is an IV medication, known as BabyBIG, made from the pooled blood plasma of adults who have been immunized against botulism. California's program is the sole source worldwide.

ByHeart, which accounted for about 1% of the U.S. infant formula market, previously sold about 200,000 cans of the product per month. Parents of babies sickened in the outbreak said they chose the formula, which cost about $42 per can, because of its touted health benefits.

ACOG continues to recommend flu, COVID, Tdap, RSV vaccines during pregnancy

NEWS PROVIDED BY

American Academy of Pediatrics

By Melissa Jenco

Study: **ACOG continues to recommend flu, COVID, Tdap, RSV vaccines during pregnancy**

Current as of February 19, 2026

The American College of Obstetricians & Gynecologists (ACOG) continues to recommend people who are pregnant routinely receive four vaccines: flu; COVID; tetanus, diphtheria, and acellular pertussis (Tdap); and respiratory syncytial virus (RSV).

ACOG recommendations align with guidance from the AAP and stress the importance of vaccination at a time when some of the country's top health officials have been sowing doubt in vaccines.

"We developed this Committee Statement to provide clinicians with evidence-based information to facilitate accurate, informative, and transparent conversations with their patients about the benefits and limited potential risks of vaccines," guidance author Mark Turrentine, M.D., FACOG, said in a press release. "Vaccines have been proven to reduce hospitalizations and deaths, and we want to ensure that our pregnant patients are protected from vaccine-preventable diseases."

ACOG called on obstetrician-gynecologists and other obstetric care professionals to routinely assess their patients' vaccination status. It recommends people who are pregnant during the fall and winter receive annual flu and COVID vaccines. Tdap should be administered as early as possible during gestational weeks 27 through 36 during each pregnancy. All eligible patients also should receive the RSV vaccine. Additional vaccines may be needed based on the patient's age, health status, risk of exposure and vaccination history.

Vaccines have been proven safe during pregnancy and provide protection for both the pregnant individuals and their infants who are too young to get vaccinated. The AAP continues to advocate for adolescents who are pregnant to have access to recommended vaccines.

"We appreciate the timing and careful review of the maternal immunization schedule and recommendations by ACOG and the emphasis on the importance both for maternal and infant health," said James D. Campbell, M.D., M.S., FAAP, vice chair of the AAP Committee on Infectious Diseases.

Last year, Health and Human Services Secretary Robert F. Kennedy Jr. unilaterally removed COVID vaccines from the routine immunization schedule for healthy children and pregnant people, causing alarm in the medical community and leading to a lawsuit from the AAP and other medical groups. In October, ACOG led a group of 20 medical organizations in filing a court brief supporting the AAP's lawsuit against Kennedy, which is ongoing. The latest Centers for Disease Control and Prevention guidance on COVID vaccines calls for use of shared clinical decision-making for everyone 6 months and older, a downgrade from routine recommendations.

In addition to the federal tumult, ACOG's latest guidance also points to misinformation, systemic racism and mistrust in the medical system as barriers to vaccination during pregnancy."

The growing misinformation and disinformation and changing national recommendations are resulting in confusion for both patients and clinicians," Christopher M. Zahn, M.D., FACOG, chief of clinical practice at ACOG, said in a press release. "It's our duty at ACOG to ensure that ob-gyns and other clinicians who treat pregnant patients are equipped with evidence-based information to counsel their patients about which vaccines they need, and clinicians can find that essential information in this guidance."

At least 50 infants died in inclined sleepers after recall

NEWS PROVIDED BY

American Academy of Pediatrics

By Melissa Jenco

Study: At least 50 infants died in inclined sleepers after recall

Current as of February 23, 2026

At least 50 infants died in an inclined sleeper after the products were recalled, according to a new study.

"It is important that caregivers and infant supervisors are aware of recalls and of the AAP safe sleep recommendations," authors wrote in "Sudden Unexpected Infant Death in Inclined Sleepers: 2009-2023" (Mintz S, Collier A. Pediatrics. Feb. 23, 2026).

Infants in inclined sleepers are at risk for suffocation. In April 2019, the Consumer Product Safety Commission (CPSC) announced the recall of nearly 5 million inclined sleepers after reports of infant deaths. Later that year, it issued a warning saying it had received 1,108 incident reports related to infant sleepers that occurred from January 2005 to June 2019.

In 2022, Congress passed the Safe Sleep for Babies Act, which bans the manufacturing and distribution of inclined sleepers and crib bumpers. Passage of the law followed years of AAP advocacy. Still, the CPSC reannounced recalls in 2023 after additional infant deaths.

Authors of the new study from the National Center for Fatality Review and Prevention noted some inclined sleepers were rebranded as swings or loungers after the 2022 law was signed and changes may have caused confusion among parents and caregivers. Some also may have purchased secondhand sleepers and not been aware of the recall.

The authors aimed to learn more about the infants who died in inclined sleepers. They analyzed data from the Pediatric National Fatality Review-Case Reporting System that include 158 such deaths from 2009-2023. Fifty of the children died after the 2019 recall.

Among all 158 infants in the study, about two-thirds were under 4 months of age. About 58% were male, half were non-Hispanic white and 64% had public insurance.

Nearly 30% of the infants were placed on their back but found unresponsive on their stomach or side, according to the study. About 32% had an obstructed airway, 30% were unobstructed and in 38% of cases airway obstruction was not known. Among infants with airway obstruction, just over half were obstructed by material from the sleeper and just over one-third were obstructed by other soft bedding (not mutually exclusive).

Authors encouraged more education about recalls and safe sleep for parents and caregivers.

The AAP recommends infants sleep on their backs on a firm, flat, non-inclined surface with no loose bedding or soft objects. For at least the first six months, infants should share a room with their caregiver but on a separate surface designed for infant sleep.

More than 200 organizations announce support for AAP vaccine schedule

NEWS PROVIDED BY

American Academy of Pediatrics

By Steve Schering and Melissa Jenco

Study: **More than 200 organizations announce support for AAP vaccine schedule**

Current as of February 25, 2026

More than 200 organizations showed their support for the AAP's evidence-based child and adolescent immunization schedule Wednesday.

The groups issued a statement that said they were "coming together to champion the best interests of children."

"For nearly a century, AAP's vaccine recommendations have served as a guide for pediatricians, clinicians and parents on the optimal timing for routine immunizations to protect children from preventable illnesses," they said in the statement. "Developed by experts with specialized knowledge and experience in infectious diseases, public health and pediatrics, the recommendations are based on the latest scientific and real-world evidence."

The AAP's 2026 immunization schedule continues to routinely recommend vaccines to protect against 18 diseases. Twelve leading medical and health care organizations representing more than 1 million physicians, nurses, pharmacists and other pediatric health care professionals formally endorsed the AAP schedule when it was released in late January.

The AAP schedule differs significantly from the overhauled federal schedule the Cen-

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ters for Disease Control and Prevention (CDC) released several weeks prior. The CDC schedule removes routine recommendations for numerous vaccines and downgrades them to immunizations recommended for high-risk groups and/or shared clinical decision-making. AAP leaders called the move "dangerous and unnecessary" and said it would continue to publish science-based recommendations.

The coalition of more than 230 medical, public health, parent and labor groups announcing support for the AAP schedule Wednesday includes the American Medical Association, American Public Health Association, Autism Science Foundation, March of Dimes, Infectious Diseases Society of America and AAP chapters representing all 50 states and Puerto Rico. The full list is below.

The AAP recently was in court asking a federal judge to block changes to the CDC's childhood immunization schedule and is awaiting a ruling. On Tuesday, officials from 15 states also filed a lawsuit over the immunization schedule overhaul.

Half of states have announced they will follow AAP vaccine guidance in the wake of changes to the CDC schedule, according to a KFF analysis. Some have not made an announcement but may still follow AAP guidance as well.

Those announcing support include the Northeast Public Health Collaborative, which includes Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New York state, New York City, Pennsylvania, Rhode Island and Vermont. The West Coast Health Alliance, representing California, Hawaii, Oregon and Washington, also endorsed the AAP schedule.

The Illinois Department of Public Health (IDPH) announced it would adopt the AAP child and adolescent immunization schedule to "provide clarity and consistency to Illinois residents and health care providers."

"Thanks to the thorough review by the Illinois Immunization Advisory Committee, IDPH is confident the 2026 AAP immunization schedule reflects the best available evidence," said IDPH Director Sameer Vohra, M.D., J.D., M.A., FAAP. "Today's endorsement ensures our caregiver and health care providers have the consistency and clarity to keep our children healthy and safe."

Additional states encouraging residents to follow the AAP recommended immunization schedule include Colorado, Kansas, Kentucky, Michigan, Minnesota, New Hampshire, New Mexico, North Carolina, Virginia and Wisconsin.

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Genetics Corner: A Consultation for Failure to Thrive; Uniparental Disomy Silver-Russell Syndrome

Subhadra Ramanathan, MSc, MS, CGC, Robin D. Clark, MD

"The baby was delivered at term, 38 weeks and 3 days of gestation, by normal spontaneous vaginal delivery to a then 32-year-old primigravida mother. Father was 33 years old at that time. Birth weight: 2750 g (6 lbs. 1 oz.) (9.7th percentile). Birth length: 48.3 cm (19.02") (20th percentile)."

Clinical Summary:

A 11-month-old male was evaluated in a video visit by the Pediatric Genetics service for failure to thrive.

The family and prenatal histories were uninformative. Parents were healthy and of average height: mother was 5'6", and father was 5'11". There was no family history of growth failure, birth defects, developmental delays, or early infant deaths. Mother may have consumed 1–2 beers a day for 5 non-consecutive days before knowing she was pregnant (<6 weeks' gestation).

"The infant was hospitalized at 3 months of age for failure to thrive. An NG-tube was placed for feeding with subsequent laparoscopic G-tube placement...When he was evaluated at 11 months, he was on bolus feeds via gastrostomy tube and was also taking soft, pureed foods by mouth...On physical examination, he had a large square, prominent forehead, deep-set eyes, mild telecanthus, and a long philtrum with well-formed Cupid's bow shape to the upper lip. Normal ears. Small chin, round cheeks. No body asymmetry was appreciated."

The baby was delivered at term, 38 weeks and 3 days of gestation, by normal spontaneous vaginal delivery to a then 32-year-old primigravida mother. Father was 33 years old at that time.

Birth weight: 2750 g (6 lbs. 1 oz.) (9.7th percentile)

Birth length: 48.3 cm (19.02") (20th percentile)

Birth head circumference: not available

There were no immediate postnatal complications, and he was discharged home from the regular nursery at DOL 2.

The infant was hospitalized at 3 months of age for failure to thrive. An NG-tube was placed for feeding with subsequent laparoscopic G-tube placement. He was followed by Peds GI and Peds Endocrinology for growth issues and was diagnosed with oral aversion and multiple food allergies (tree nuts, cow's milk). When he was evaluated at 11 months, he was on bolus feeds via gastrostomy tube and was also taking soft, pureed foods by mouth.

"The infant was on target and even slightly advanced for developmental milestones: he rolled over at 5 months, sat up without support at 7 months, pulled to stand at 9 months, and said his first words at 10 months."

On physical examination, he had a large square, prominent forehead, deep-set eyes, mild telecanthus, and a long philtrum with well-formed Cupid's bow shape to the upper lip. Normal ears. Small chin, round cheeks. No body asymmetry was appreciated.

"At his initial evaluation at 11 months, he had asymmetric growth failure affecting height and weight but sparing his head circumference: Weight: 6.294 kg (13 lbs. 14 oz) (<1st %ile, Z= -3.82) Height: 66 cm (26") (<1st %ile, Z=-3.26) Head circumference: 45.2 cm (measured at 8 months, 31st %ile, Z=-0.48)"

The infant was on target and even slightly advanced for developmental milestones: he rolled over at 5 months, sat up without support at 7 months, pulled to stand at 9 months, and said his first words at 10 months.

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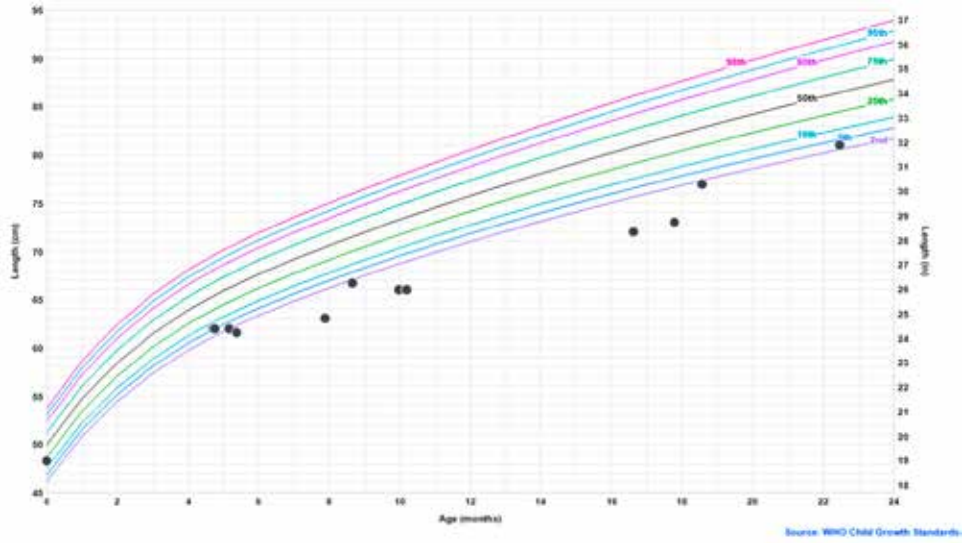
growth failure affecting height and weight but sparing his head circumference:

Weight: 6.294 kg (13 lbs. 14 oz) (<1st %ile, Z= -3.82)

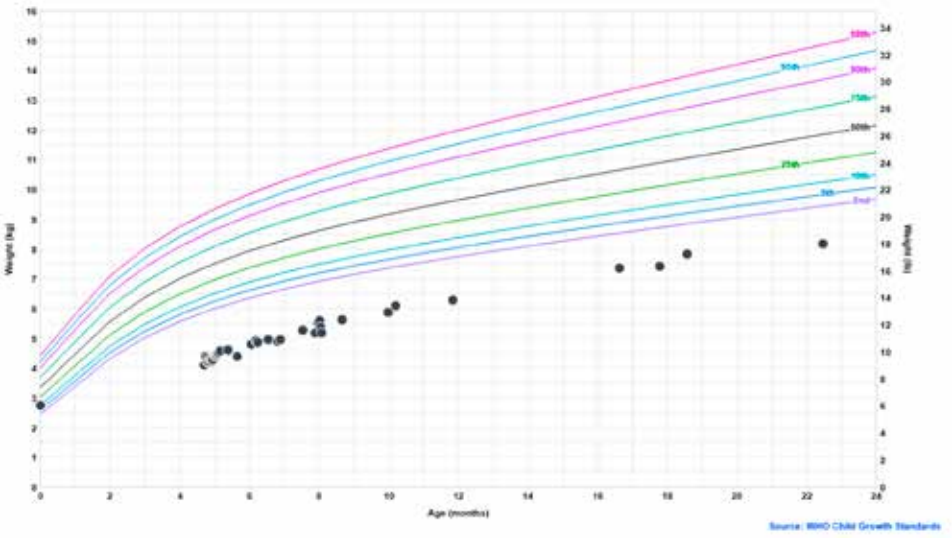
Height: 66 cm (26") (<1st %ile, Z=-3.26)

Head circumference: 45.2 cm (measured at 8 months, 31st %ile, Z=-0.48)

Length for age:



Weight for age:



<u>His growth parameters (WHO growth charts) are as follows from birth to 2 years:</u>

Several genetic diagnostic tests were normal prior to the Genetics visit:

<u>Chromosome analysis (karyotype):</u> 46, XY, Normal male

<u>Chromosome Microarrray</u>: arr(1-22)x2, (XY)x1, Normal male

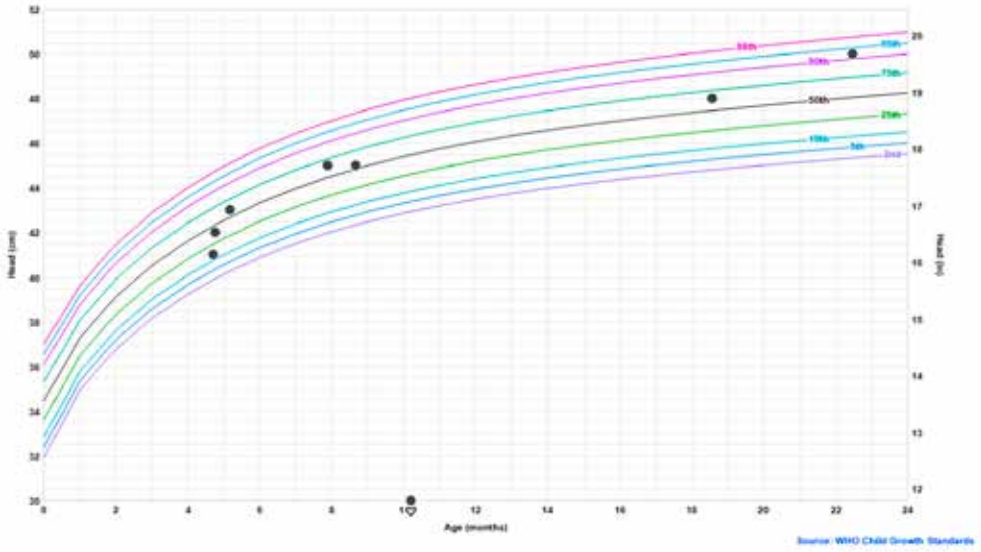
No clinically relevant copy number changes or regions with absence of heterozygosity were observed.

<u>BWS/RSS Molecular Analysis:</u>

(Beckwith-Wiedemann/Russell-Silver syndrome methylation analysis on chromosome 11p15):IC1 (H19): normal methylation IC2 (LIT1): normal methylation.

No deletions or duplications were identified. These results decrease the likelihood but do not rule out the diagnosis of Beckwith-Wiedemann syndrome (BWS) or Russell-Silver syndrome (RSS).

Head circumference for age:



At the genetic visit, an epigenetic profile test (EpiSign) was ordered. It identified a methylation pattern consistent with maternal uniparental disomy of chromosome 7. This was followed by a confirmatory test for microsatellite markers on chromosome 7 that analyzed both parents' and the child's DNA variants on chromosome 7. These studies confirmed maternal uniparental disomy for chromosome 7 and established the diagnosis of Russell-Silver syndrome in this child.

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EpiSign—Complete: Methylation Array Full Analysis: Abnormal methylation pattern detected consistent with Russell-Silver syndrome 2 (UPD7 imprinting abnormality). " Abnormal DNA methylation was detected, indicating hypermethylation of the *MEST* gene at chromosome 7q32.2. This result suggests maternal uniparental disomy of chromosome 7 (UPD7)."

No imprinting abnormalities or epigenetic signatures were detected for the other conditions listed.

UPD DNA Analysis Proband: **Chromosome 7 was inherited from a single parent.** This patient is **positive for maternal uniparental disomy (UPD) for this chromosome**. Maternal UPD7 is associated with Russell-Silver syndrome.

"Silver-Russell Syndrome (SRS), also known as Russell-Silver Syndrome (RSS), is a disorder characterized by pre- and postnatal growth restriction that occurs in approximately 1 in 15,000 children. The characteristic features include prenatal head sparing (asymmetric) growth retardation, with poor growth, failure to thrive, relative macrocephaly, and feeding complications postnatally. Other suggestive features include a triangular face with a well-developed chin, frontal bossing, and fifth-finger clinodactyly. There can be body asymmetry. Relative macrocephaly is a useful clue to the diagnosis, and the birth head circumference is usually at least 1.5 standard deviations greater than birth weight or length."

Discussion:

Silver-Russell Syndrome (SRS), also known as Russell-Silver Syndrome (RSS), (MIM: #180860), is a disorder characterized by

pre- and postnatal growth restriction that occurs in approximately 1 in 15,000 children. The characteristic features include prenatal head sparing (asymmetric) growth retardation, with **poor growth, failure to thrive, relative macrocephaly, and feeding complications postnatally**. Other suggestive features include a triangular face with a well-developed chin, frontal bossing, and fifth-finger clinodactyly. There can be body asymmetry. Relative macrocephaly is a useful clue to the diagnosis, and the birth head circumference is usually at least 1.5 standard deviations greater than birth weight or length. There is an increased risk for learning disabilities and speech difficulties. There is generally a very good outcome and average life expectancy.

The clinical diagnosis is based on identifying 4 of 6 criteria in the Netchine-Harbison Clinical Scoring System (NH-CCS) (1, 2). SRS should be suspected, and testing is recommended when at least three of these six diagnostic features are present:

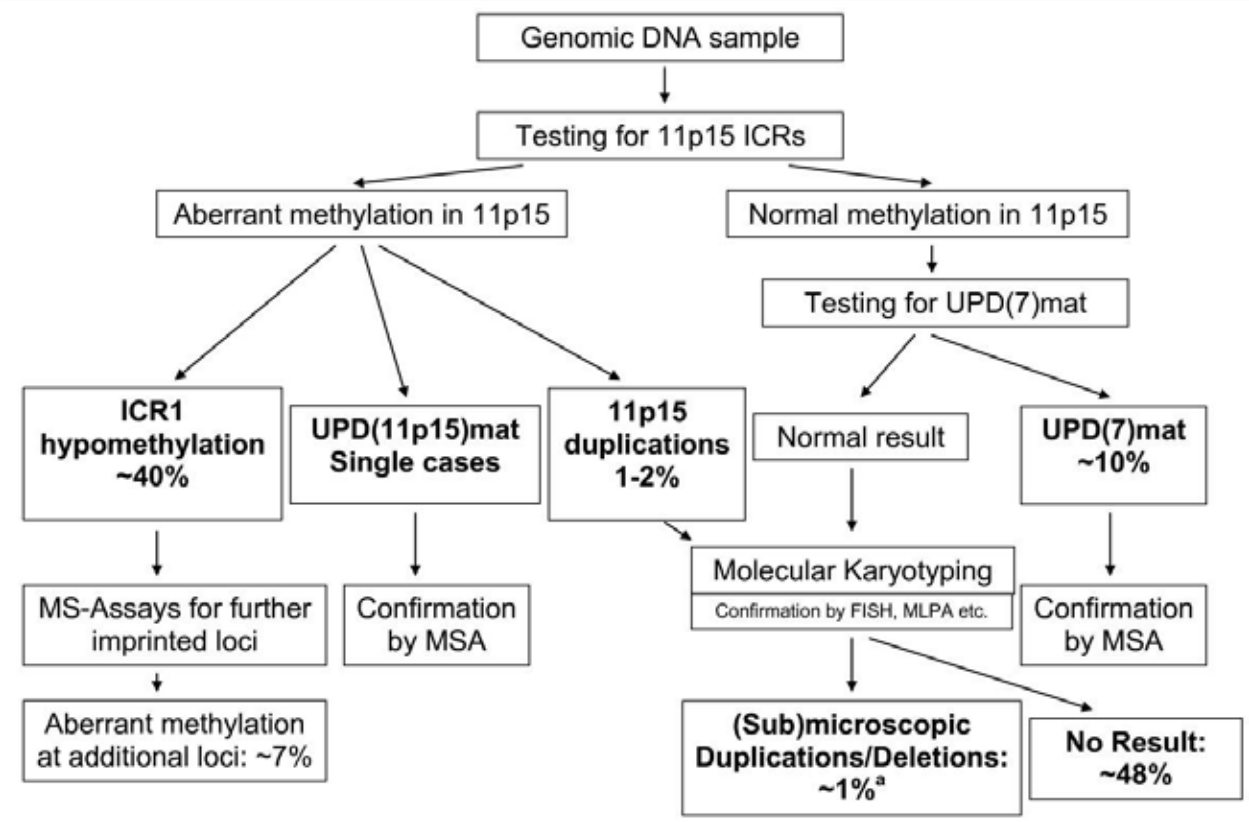
- Small for gestational age (birth weight and/or length two or more standard deviations [SD] below the mean for gestational age)
- Postnatal growth failure (length/height two or more SD below the mean for age and sex at age 24 months)
- Relative macrocephaly at birth (head circumference more than 1.5 SD above birth weight and/or length)
- Frontal bossing or prominent forehead (forehead projecting beyond the facial plane on a side view at age one to three years)
- Body asymmetry (limb length discrepancy ≥0.5 cm, or <0.5 cm with ≥2 other asymmetric body parts)
- Feeding difficulties, or body mass index two or more SD below the mean at age two years, or current use of a feeding tube or cyproheptadine for appetite stimulation

"SRS is an etiologically heterogeneous imprinting disorder, with all mechanisms converging on reduced activity of the IGF2 growth regulatory network. It is most commonly caused by reduced paternal IGF2 expression at 11p15 or maternal uniparental disomy of chromosome 7, but these account for only about 60% of suspected cases."

SRS is an etiologically heterogeneous imprinting disorder, with all mechanisms converging on reduced activity of the *IGF2* growth regulatory network. It is most commonly caused by reduced paternal IGF2 expression at 11p15 or maternal uniparental disomy of chromosome 7, but these account for only about 60% of suspected cases. Other causes are still being delineated (3).

The molecular diagnosis of SRS can be established in a proband with one of the following identified on molecular genetic testing (including the table below) (4):

Table. Molecular genetic testing



- Abnormal methylation of chromosome 11p15.5
- Maternal uniparental disomy of chromosome 7 (upd(7)mat)
- Pathogenic gain-of-function variants in *CDKN1C*
- Pathogenic loss-of-function variants in *IGF2*, *PLAG1*, or *HMGA2*

"Uniparental disomy (UPD) occurs when both chromosomes from a pair of chromosomes (or a portion of a pair) are inherited from the same parent. Trisomy rescue or monosome rescue are the most common explanations for UPD."

Uniparental disomy (UPD) occurs when both chromosomes from a pair of chromosomes (or a portion of a pair) are inherited from the same parent. Trisomy rescue or monosome rescue are the most common explanations for UPD. This mechanism explains why advanced maternal age is often associated with maternal UPD. A fertilized egg with three copies of a chromosome (2 from one parent, more often the mother, and 1 from the other parent) can survive only if one of these three chromosomes is lost, forming a diploid chromosome complement that "rescues" the embryo and allows development to proceed. If both retained chromosomes come from the same parent, then uniparental disomy results. About 10% of SRS is due to UPD7 (5).

Single-nucleotide polymorphism (SNP) microarrays can identify cases of uniparental disomy when there is isodisomy (two identical chromosomes, due to errors in meiosis II non-disjunction) but may not detect whole-chromosome heterodisomy (due to meiosis I non-disjunction). UPD can be visualized as long continuous stretches of homozygosity (runs of homozygosity or ROH, also known as loss of heterozygosity or LOH). These ROH suggest UPD but are not diagnostic.

Recent improvements in testing methodology include the ability to identify specific, measurable, and consistent changes in DNA methylation levels at particular CpG sites across the genome. This is a commercially available test (EpiSign) that can identify patterns of methylation that serve as biomarkers for genetic disorders. In matUPD7, the epigenetic signature includes hypomethylation (lower than normal methylation) of the *H19/IGF2* locus on 11p15 and abnormal expression of imprinted genes on chromosome 7.

This unique signature enabled the diagnosis of SRS in our patient.

Further confirmatory testing using microsatellites was consistent with maternal UPD7.

Interestingly, our patient was not identified as having intrauterine growth restriction or feeding problems in the newborn period, but his birth weight was low. His condition only became apparent later when he failed to grow as an infant.

Practical Applications:

1. Consider Silver-Russell Syndrome (SRS) when there is intrauterine growth restriction with relative sparing of the head circumference. Utilize the published NH-CSS clinical criteria for the diagnosis of SRS to guide testing and referral in infants with unexplained small size and feeding problems at birth.
2. SNP microarray detects UPD consistently only when there are regions of homozygosity (isodisomy); pure heterodisomy preserves heterozygosity and is usually not detected by this testing
3. Methylation-specific assays (EpiSign), now commercially available, detect DNA methylation at CpG sites across the genome, making them particularly useful for screening for epigenetic disorders.

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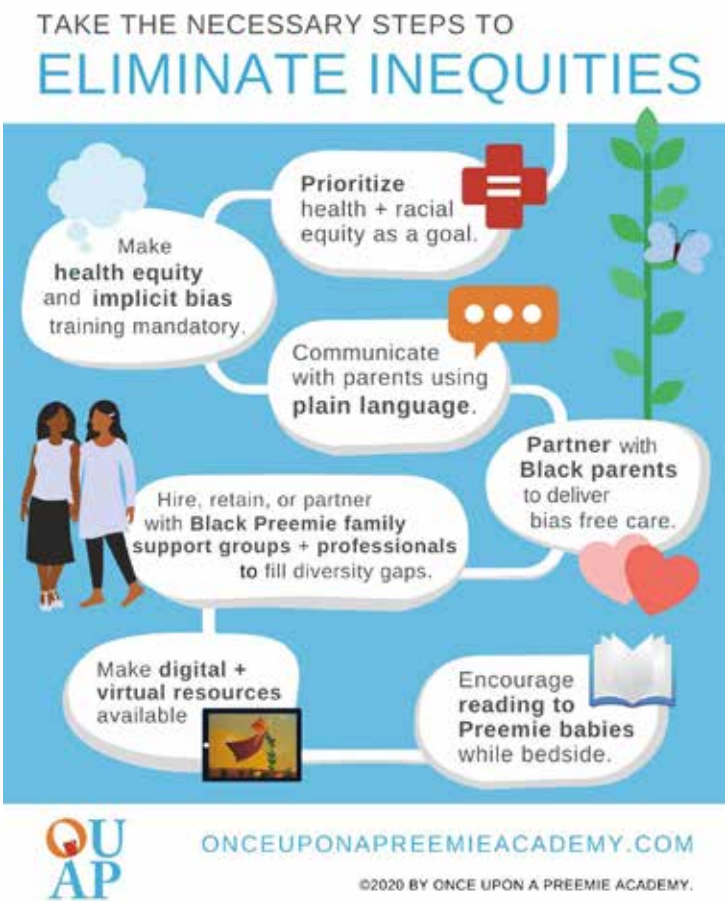
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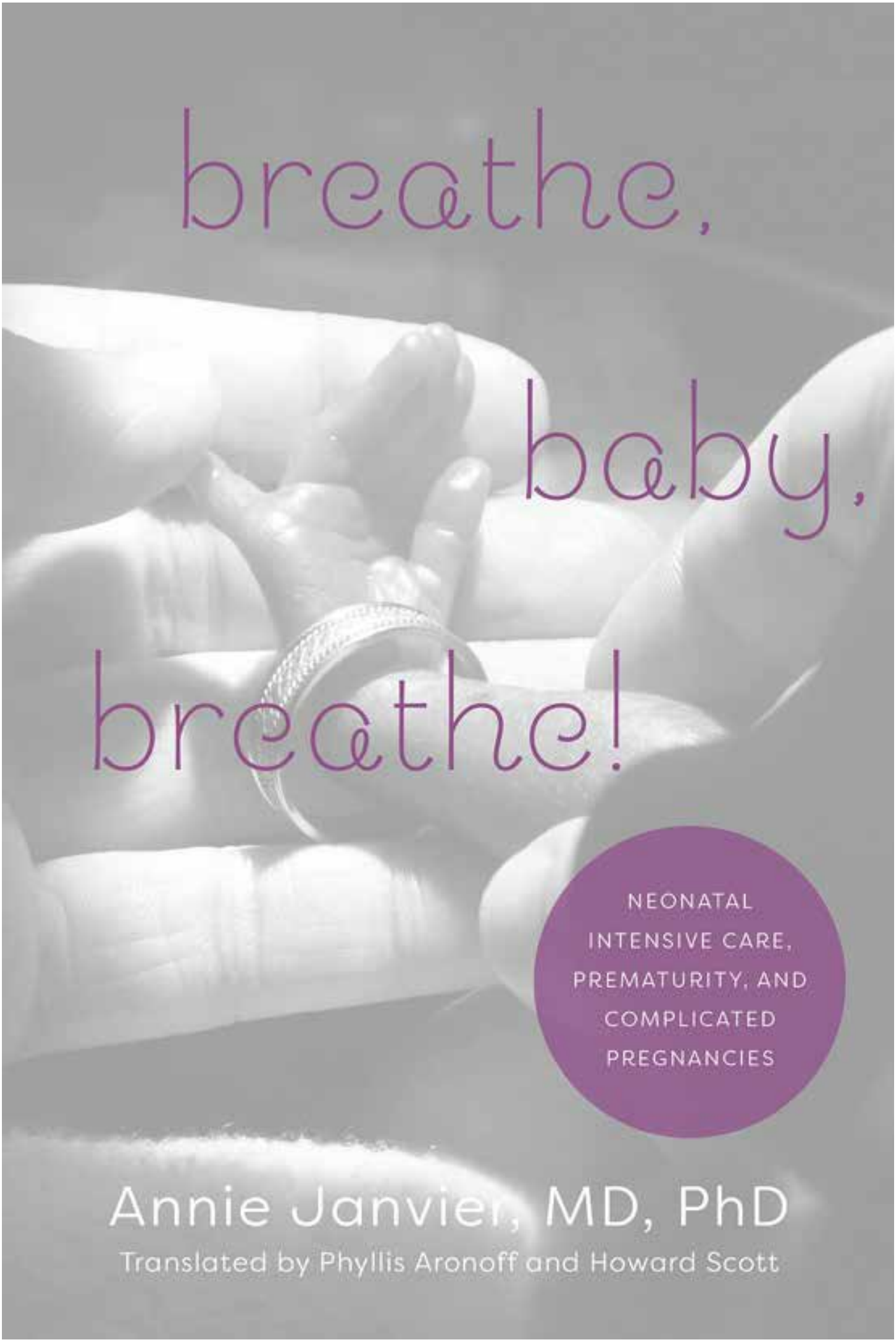


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Family Centered Care: ICU baby + FPQC WeCare Transportation Program

Morgan Kowalski

"The Family-Centered Care Taskforce is excited to highlight the important work our Organizational Partner, ICU Baby (https://www.icubaby.org/), is doing to support families in Florida. We are grateful to their Co-Founder & Executive Director, Elizabeth Simonton, JD, for her role on our Advisory Council of Family Partners and for her dedication to uniting NICU families through transportation support, as well as providing financial, emotional, and informational support through ICU Baby."

The Family-Centered Care Taskforce is excited to highlight the important work our Organizational Partner, ICU Baby (https://www.icubaby.org/), is doing to support families in Florida. We are grateful to their Co-Founder & Executive Director, Elizabeth Simonton, JD, for her role on our Advisory Council of Family Partners and for her dedication to uniting NICU families through transportation support, as well as providing financial, emotional, and informational support through ICU Baby.

In collaboration with the Florida Perinatal Quality Collaborative (FPQC), South Florida–based nonprofit ICU Baby launched the WeCare Transportation Program, a six-month initiative that ran from March through August 2025. The goal of the program was to support Florida families in consistently accessing their baby's bedside in the NICU by reducing transportation-related financial barriers. ICU Baby's Transportation Assistance Program (TAP)



has long supported low-income NICU families in South Florida; however, through grant funding secured by FPQC from a private foundation, transportation assistance was made available to all families experiencing a NICU stay during the program period, regardless of financial status.

Participating hospital systems included Baptist Hospital of Miami, Halifax Health Medical Center, HCA Florida Palms West Hospital, HCA Florida University Hospital, Holtz Children's Hospital, Johns Hopkins All Children's Hospital, Mease Countryside Hospital, Morton Plant Hospital, Mount Sinai Medical Center, Nicklaus Children's Hospital, South Miami Hospital, and Wellington Regional Medical Center. Families received gas and Uber gift cards to help offset the ongoing cost of traveling to and from the NICU.

"Connections with participating hospitals were established through FPQC introductions. Once an introduction was made, ICU Baby met virtually with NICU leadership teams, including nurse leaders and social workers, to review the program, confirm workflows, and establish a collaborative partnership."

Connections with participating hospitals were established through FPQC introductions. Once an introduction was made, ICU Baby met virtually with NICU leadership teams, including nurse leaders and social workers, to review the program, confirm workflows, and establish a collaborative partnership. Each hospital then identified a TAP Champion, who served as ICU Baby's primary point of contact for the duration of the program.

ICU Baby's Program Manager and each hospital's TAP Champion communicated regularly, often multiple times per week, to ensure families were enrolled promptly after NICU admission and received their transportation benefits without delay. TAP Champions enrolled families into the WeCare Transportation Program shortly after admission by completing an ICU baby application. Because the program had no financial eligibility requirements, no financial need determination was required; all families qualified for assistance.

"TAP Champions enrolled families into the WeCare Transportation Program shortly after admission by completing an ICU baby application. Because the program had no financial eligibility requirements, no financial need determination was required; all families qualified for assistance."

The amount of the transportation award was determined using a sliding scale based on the family's distance from the hospital and the baby's projected length of stay. Benefits were reviewed and renewed monthly to align with the ongoing length of the NICU stay. The total amount of support distributed was $503,595, with families receiving an average of $563. Over the five months from March through August, **895 families** were supported through the WeCare Transportation Program, helping ensure consistent parental presence at the NICU bedside and reducing stress during an already vulnerable time. One parent who participated in the program shared, "We had to choose between working and visiting the NICU because of all the back and forth, so the gas cards really made it easier to do both. As NICU parents, we are dealing with so much already, and any bit of help can really alleviate some stress." Of the families who received transportation support, 40% of the families traveled 21+ miles to the hospital (one way), 89% of families were experiencing the NICU for the first time, and 70% of babies were born before 37 weeks of gestation.

"Founded in 2014, ICU Baby is a nonprofit organization with the mission to unite NICU families and provide emotional, financial, and informational support so that babies and their families can thrive together. ICU Baby establishes formal partnerships with hospitals to deliver its comprehensive programming directly in the NICU. "

Founded in 2014, ICU Baby is a nonprofit organization with the mission to unite NICU families and provide emotional, financial, and informational support so that babies and their families can thrive together. ICU Baby establishes formal partnerships with hospitals to deliver its comprehensive programming directly in the NICU. These partnerships are supported through collaborative agreements in which ICU Baby fundraises to cover a portion of program costs while partner hospitals contribute financial support toward implementation. This shared investment reflects a strong, collaborative relationship that is critical to ensuring families receive timely and consistent support. ICU baby embeds a structured network of parent mentors, resources, and services within the NICU, becoming an integrated extension of the healthcare team. As a result, both families and NICU healthcare providers rely on ICU Baby's infrastructure to enhance family-centered care and improve the NICU experience. ICU Baby's programs currently include:

NICU Parent Mentors:

Connects experienced NICU parents with current NICU families, offering emotional support, guidance, and help navigating hospital and community resources.

NICU Packs:

Delivers a tote bag filled with essential NICU items for parents and

babies, helping families feel prepared, supported, and equipped to help care for their baby alongside the healthcare team during their NICU stay.

Meaningful Meals:

Serves catered meals (lunch and dinner) to NICU families at the hospital, offering a warm meal and opportunities to connect with others experiencing similar challenges for peer support.

"Offers educational tools through the "NEST (NICU Empowerment Support Tools) program, including video libraries, hospital resources, the "NICU Baby Book," the Beyond the Beeps podcast, and community support materials, helping families understand the NICU, their baby's care, and gain confidence as active participants. Resources are available in English, Spanish, and Haitian Creole."

Informational & Empowerment Resources (NEST):

Offers educational tools through the "NEST (NICU Empowerment Support Tools) program, including video libraries, hospital resources, the "NICU Baby Book," the Beyond the Beeps podcast, and community support materials, helping families understand the NICU, their baby's care, and gain confidence as active participants. **Resources are available in English, Spanish, and Haitian Creole.**

ICU Read:

Brings volunteer readers to NICU babies who may not have parents at the bedside, offering comfort, human interaction, and developmental stimulation.

Bereavement Support:

Extends compassionate care to families who experience the loss of a baby — offering emotional support, a memorial gift, and financial assistance when needed for funeral or burial costs.

The FCC Taskforce extends its heartfelt gratitude to ICU Baby for its unwavering dedication and support of families with infants in critical care. Your partnership has made a meaningful impact on our shared mission of improving family-centered care practices in the NICU. We invite readers to check out our September 2024 Webinar (https://youtu.be/GreXsvQcPEo), where Elizabeth shares ICU Baby's Work to optimize NICU Health Literacy & Transportation Support.

ICU baby's Website:

September 2024 Webinar:

Disclosures: *The author has no relevant disclosures.*

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A NOTE FROM OUR FEARLESS FOUNDER & EXECUTIVE DIRECTOR, MALATHI BALASUNDARAM, MD

Four years ago, I began the Family-Centered Care Taskforce by sending an email to 50 people who self-identified as being interested in this work. Back then, I thought it would be a small group of NICU champions open to collaborating in improving FCC in their units. Today, **our community has grown to 3,300 members from 79 countries around the world and the FCC Taskforce has achieved non-profit status**. Reflecting on this journey, I remember the early days vividly: while working as a full-time neonatal intensivist, I designed a flyer (which I am not good at!) and created a Google Form to recruit members. I met with every single Family Partner and healthcare professional who was interested in participating to share my passion for FCC in the hopes of inspiring them to join me in this work as an Executive Council member. It was a lot to take on at the time, and yet every single one of them believed in me, supported the Taskforce's mission, and joined without hesitation.

Special thanks to **Colby Day, Henry Lee, and Bob White** for connecting with me and joining me in those early meetings with TECaN members, industry sponsors, and other FCC advocates. Thank you to **Caroline Toney-Noland**, our initial Program Manager, who helped us organize, supported the creation of our website, and gave our work much-needed visibility. I also want to recognize **Morgan Kowalski** who has taken on the role of Director of Operations and manages the day-to-day activities of this organization, and **Keira Sorrells** who has brought her long-standing leadership skills and non-profit experience to our work. Thank you to **Mitch Goldstein**, CEO of Loma Linda Publishing Company, for promoting our work and for serving as our fiduciary home until we were able to establish our own.

Finally, thank you to *everyone* for being here with me to learn (and unlearn!) how to best support our patients and their families. Your support makes all the difference!

With gratitude,
Malathi Balasundaram, MD



FAMILY-CENTERED CARE
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FCC TASKFORCE WEBINAR

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Measuring FCC Practices Across 99 NICUs: Are Resources and Acuity Correlated with Family Empowerment?



Mia Malcolm, BS, CDFT (she/her)

- Community Engagement Specialist, Ollie Hinkle Heart Foundation
- Co-Chair, FCC Taskforce EDIBJ Committee
- Senior Research Coordinator, Washington University School of Medicine & Stanford School of Medicine
- NICU Parent of Gavin



Malathi Balasundaram, MD (she/her)

- Clinical Professor, Stanford School of Medicine
- Founder & Executive Director, Family-Centered Care Taskforce
- Neonatal Intensivist, El Camino Health NICU

Trust and Engagement in the AI Era: Advancing Family-Centered Care Through Responsible Innovation



James S. Barry, MD, MBA (he/him)

- Professor of Pediatrics, Section of Neonatology
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04 **Dependable**
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05 **Safe**
We foster and create an environment of trust to enable people to heal.

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Every step taken lifts the voices of grieving parents and fuels the trauma-informed support they urgently need. Chasing the Rainbows works every day to break the silence surrounding infertility, pregnancy loss, infant loss, and pregnancy after loss, ensuring families have immediate access to compassionate care. By sponsoring this event, you stand with the one in four couples who face these devastating experiences and help ensure no parent ever walks this path alone. Together, we surround loss families with community, connection, and hope. One bubble, one step, one healing moment at a time.

Your sponsorship directly supports our mission to sustain, expand, and strengthen daily support services so survivors receive comfort, community, and hope exactly when they need it most. Chasing the Rainbows currently offers nine free daily services, including support groups, peer mentorship, trauma therapy, mindful-movement tools, care packages, and more. With your partnership, we can grow these resources, add new groups, and continue meeting families in their most vulnerable moments. Grief and trauma do not follow a schedule which is why our services must remain free, daily, and accessible for every loss family who reaches out.

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- Booth space at all race events
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- Social media shoutouts *(combined following of 20,000+)*
- Promotional items in race packets and at event locations
- Silver Level Sponsorship for our Annual 'A Chance Worth Taking Gala' *(October 2026)* with all associated benefits
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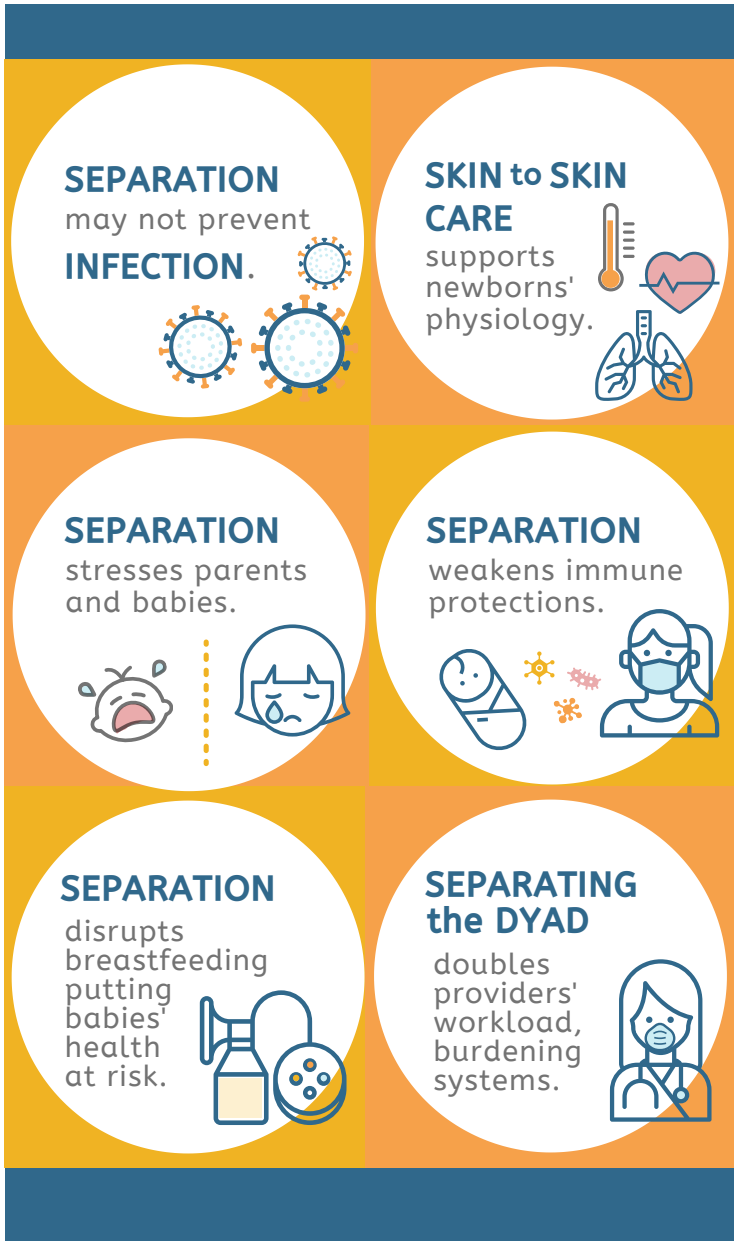
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Should Infants Be Separated from Mothers with COVID-19?

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Should Infants Be Separated from Mothers with COVID-19? First, Do No Harm

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Intensive Care Codes

Scott D. Duncan, MD, MHA

"The care of infants is the only specialized service that delineates critical care, intensive care, and hospital care within the CPT coding structure and is used for the care of infants who are not critically ill but require intensive monitoring, frequent interventions, and intensive care services."

Applying the Intensive Care Definition:

The care of infants is the only specialized service that delineates critical care, intensive care, and hospital care within the CPT coding structure and is used for the care of infants who are not critically ill but require intensive monitoring, frequent interventions, and intensive care services. By definition, these patients require "intensive cardiac and respiratory monitoring, continuous or frequent vital sign monitoring, heat maintenance, enteral and/or parenteral nutritional adjustments, laboratory and oxygen monitoring, and constant observation by the healthcare team under the direct supervision of the physician or other qualified healthcare professional."

Intensive Care Codes

99477	Initial hospital care per day for the E/M of the neonate 28 days or younger, who requires intensive care
99478	Subsequent intensive care per day for the E/M of the very low birth weight infant, less than 1500 g, who requires intensive care
99479	Subsequent intensive care per day for the E/M of the low-birth-weight infant, less than 1500-2500 g, who requires intensive care
99480	Subsequent intensive care per day for the E/M of the infant, less than 2501-5000 g, who requires intensive care
99221-3*	Initial hospital inpatient care, medical decision-making, or time-based
99231-3*	Subsequent hospital inpatient care, medical decision making, or time-based

Question:

A full-term 3.4 kg infant is born vaginally to a mother who is GBS positive, with rupture of membranes for 3 hours. The mother did not receive antenatal antibiotics. The infant is rooming in with the family. On DOL 2, the baby has a temperature of 101° F. The baby remains hemodynamically stable and is transferred to the NICU for further care, where the infant is placed on a continuous cardiorespiratory monitor and pulse oximetry. Cultures are done, and antibiotics are started. The baby continues to take feeds by mouth.

The correct code on admission to the NICU is:

A. **99477**: Initial hospital care per day for the E/M of the neonate 28 days or younger, who requires intensive care

B. **99479:** Subsequent intensive care per day for the E/M of the low-birth-weight infant, less than 1500-2500 g, who requires intensive care

C. **99480**: Subsequent intensive care per day for the E/M of the infant, less than 2501-5000 g, who requires intensive care

D. **99233**: Subsequent hospital inpatient care, high level of medical decision making or 50 min met or exceeded



Answer:

A. **99477**: Initial hospital care per day for the E/M of the neonate 28 days or younger, who requires intensive care

In this scenario, the infant meets the requirements of intensive care, with continuous cardiorespiratory monitoring, oxygen monitoring, and constant observation by the healthcare team under the direct supervision of the physician or other qualified healthcare professional. Note that the initial day of intensive care

does not have to be day of birth. Only one initial day of intensive care (99477) may be used by a single group practice, in a given facility during the same hospital stay.

Question

" Note that the initial day of intensive care does not have to be day of birth. Only one initial day of intensive care (99477) may be used by a single group practice, in a given facility during the same hospital stay."

A full-term infant is born with a known prenatal diagnosis of an isolated cleft palate. The rest of the exam is normal, and the baby is vigorous. She is admitted to the post-partum to "room in" with her family. However, she feeds poorly, and the neonatologist decides to admit her to the NICU for continuous monitoring and feeding interventions. Her saturations are normal on RA. She continues to feed poorly, and an NGT is placed.

The correct CPT code for this infant will be:

A. **99468:** Initial inpatient neonatal critical care for the E/M of a critically ill neonate 28 days or younger

B. **99477:** Initial hospital care per day for the E/M of the neonate 28 days or younger, who requires intensive care

C. **99460:** Initial hospital care per day for the E/M of a normal newborn infant

D. **99223:** Initial hospital inpatient care, high level of medical decision making, or 75 min met or exceeded



Answer

B. 99477: Initial hospital care per day for the E/M of the neonate 28 days or younger, who requires intensive care

As noted above, 99477 represents initial hospital care of the neonate (28 days or younger) who is not critically ill but requires intensive observation, frequent interventions, and other intensive care services. This patient requires intensive cardiac and respiratory monitoring, continuous and/or frequent vital sign monitoring, enteral nutritional adjustments, and constant observation by the health care team under direct physician supervision.

99468 (Initial Neonatal critical care code is not applicable as the infant is not critically ill. CPT defines a critical illness or injury as one that acutely impairs one or more vital organs such that there is a high probability of imminent or life-threatening deterioration of the patient's condition.

99460 History and examination of the normal newborn is not applicable in this scenario

Question

True or False: 99477 be reported for an intensive care admission after DOL 28.



Answer

False: 99477 is to be used for infants 28 days or younger. There is no equivalent intensive care code for admissions that occur after that date. In a scenario where a patient is admitted to intensive care services after 28 days of life, initial hospital day codes 99221-99223 should be used.

Question

A neonatologist rounds on an ex-28-week EGA female infant with a birthweight of 1200g, who is now 30 days of life. The infant is a cardiorespiratory monitor with pulse oximetry. She requires a nasal cannula at 1 LPM with 23% O2, full-volume feeds via orogastric

tube, and remains in an isolette for a neutral thermal environment. The current weight is 1545g. You increase the feeding volumes based on current weight.

The correct CPT code for this infant will be:

A. **99469:** Subsequent inpatient neonatal critical care for the E/M of a critically ill neonate 28 days or younger

B. **99478:** Subsequent intensive care per day for the E/M of the very low birth weight infant, less than 1500 g, who requires intensive care

C. **99479:** Subsequent intensive care per day for the E/M of the low-birth-weight infant, less than 1500-2500 g, who requires intensive care

D. **99223:** Initial hospital inpatient care, high level of medical decision making, or 75 min met or exceeded



Answer

C. **99479:** Subsequent intensive care per day for the E/M of the low-birth-weight infant, less than 1500-2500 g, who requires intensive care

In this scenario, the infant described continues to require intensive care services, as demonstrated by continuous cardiorespiratory, heat maintenance, enteral nutritional adjustments, laboratory and oxygen monitoring, and constant observation by the healthcare team. The choice of this code is based on the current weight, and not the current day of life.

Question

A 5.1 kg, 4-month-old former 26-week premature infant with resolving apnea of prematurity, bronchopulmonary dysplasia, and feeding difficulties remains in the NICU under continuous monitoring for apnea, on 1 lpm nasal cannula support, chronic diuretics, and takes 40% of his feeds by bottle. The infant tires easily with feeds and has increased work of breathing. On exam, the infant is active, mildly edematous, with intermittent retractions with activity, and clear lungs on auscultation. Serum chemistries and chest x-ray are obtained, which show stable hyponatremia and mild pulmonary edema. The neonatologist adjusts the diuretic dose and restricts fluid intake. Total Time documented: 40 minutes

The correct CPT code is:

A. **99472:** Initial inpatient neonatal critical care for the E/M of a critically ill neonate 29 days through 24 months of age

B. **99480:** Subsequent intensive care per day for the E/M of the infant, less than 2501-5000 g, who requires intensive care

C. **99233:** Subsequent hospital care per day, 50 minutes met or exceeded or high MDM

D. **99232:** Subsequent hospital care per day, 35 minutes met or exceeded or moderate MDM



Answer

C. **99233:** Subsequent hospital care per day, 50 minutes met or exceeded or high MDM

The infant described in this scenario meets the criteria for intensive care. However, subsequent intensive codes may not be used for infants weighing more than 5000 grams. Instead, the appropriate subsequent hospital code should be chosen. Hospital care codes may be reported if there is appropriate documentation of the complexity of the medical decision-making (MDM) and/or the time-based nature of the care. In this scenario, the neonatologist may code 99233 based on the high MDM, not Time. The definitions of MDM will be discussed in a future article.

Bonus Question

True or False: Procedures are not bundled in the **99477-99480** code set.

Answer

False. Procedures that are typically bundled within the critical care code set are bundled in the daily global codes 99477-99480.

Documentation Tip

Documentation for intensive care needs to include elements that affirm the need for intensive care. One example for use in in the settings of a trainee might be, "I performed an interval history and evaluated the infant. I have reviewed the history, data, problems, assessment, and plan with the resident, and agree with the documented findings and plan of care. I was present during the key or critical portions of this service and performed the required elements with the above-mentioned members of the healthcare team. I have reviewed the above note based on the information at hand and edited the document as thoroughly as possible for accuracy. This patient is under constant supervision by the healthcare team and requires intensive cardiac and respiratory monitoring, including frequent or continuous vital sign monitoring, maintenance of a neutral thermal environment, and/or nutritional management. Current status and treatment are delineated in the above problem list." The addition of diagnosis and/or treatments may be necessary to ensure payment.

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The Signs & Symptoms of RSV

RESPIRATORY SYNCYTIAL VIRUS

Know the Signs & Symptoms of RSV

- Cough
- Runny Nose
- Struggling to Breathe *(breastbone sinks inward when breathing)*
- Difficulty Eating
- Lethargy
- Wheezing

RESPIRATORY SYNCYTIAL VIRUS
is a highly contagious seasonal virus that can lead to hospitalization for some babies and young children.

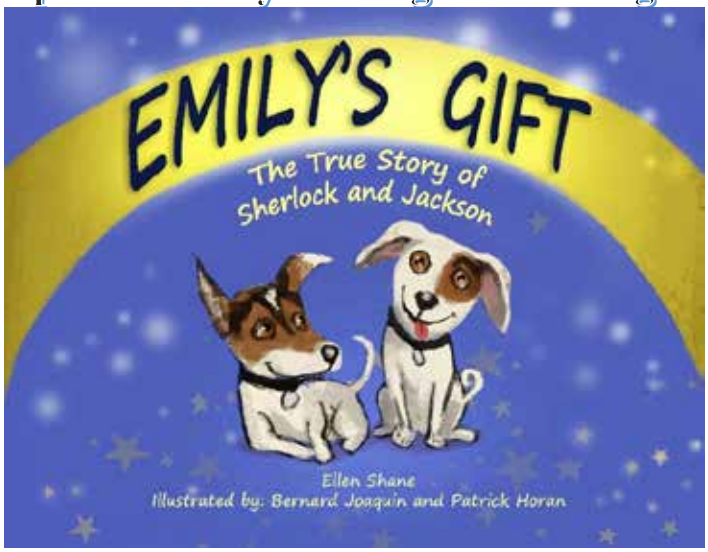
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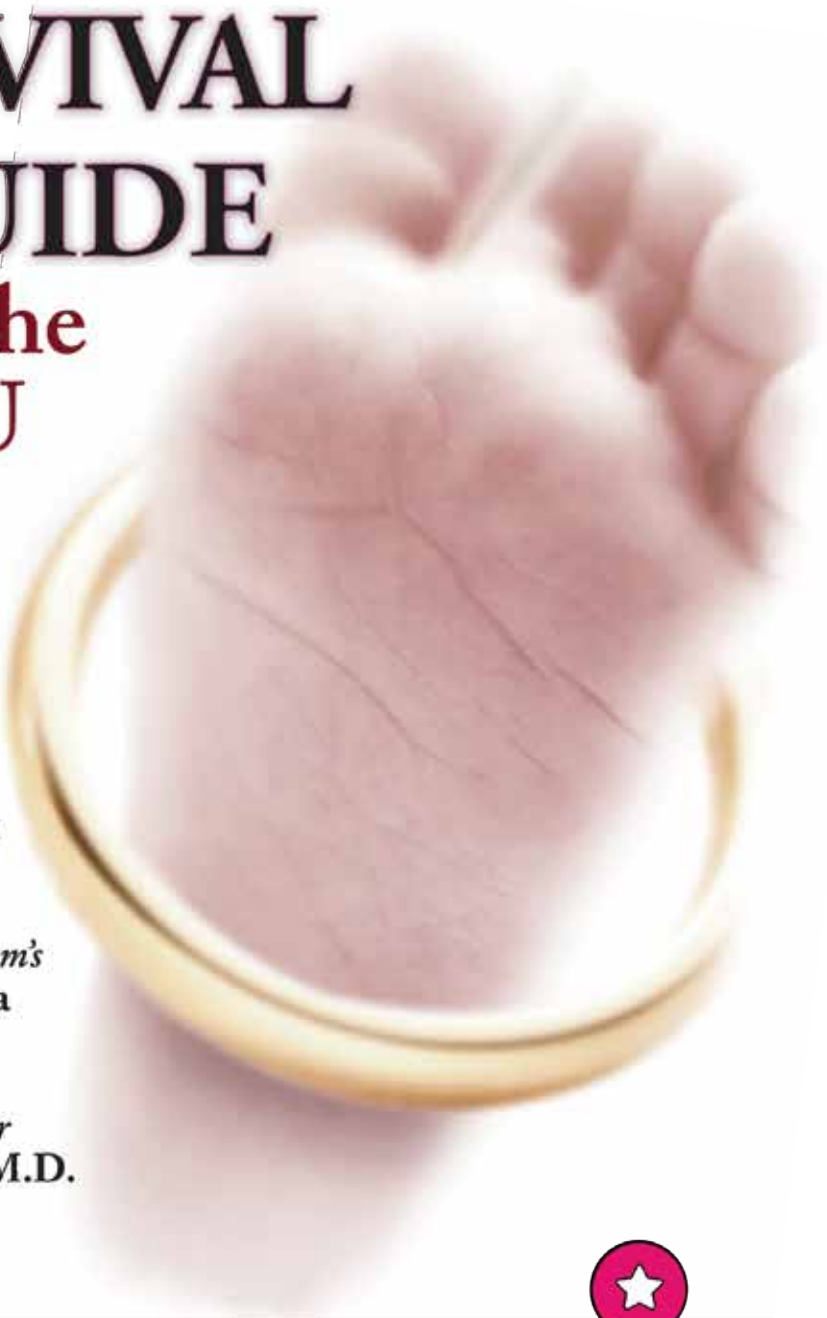




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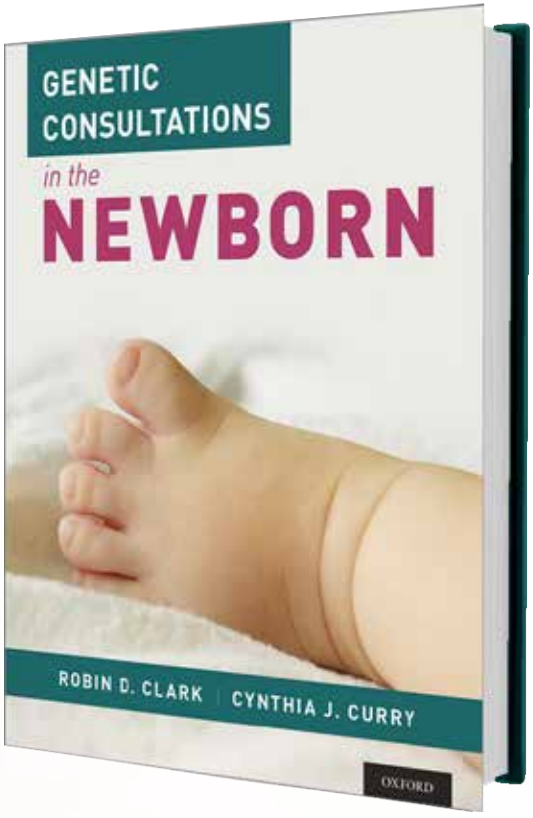
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Clinical Pearl: The Status of Universal Prenatal Syphilis Screening for Pregnant Women and their Fetuses

Joseph R. Hageman, MD, Mitchell Goldstein, MD, MBA, CML

Introduction:

"The American College of Obstetricians and Gynecologists (ACOG) continues to endorse the Centers for Disease Control and Prevention (CDC) Sexually Transmitted Infection Treatment Guidelines, 2021**1**. *However, in the context of the rapidly increasing rates of congenital syphilis, obstetrician–gynecologists and other obstetric care professionals should screen all pregnant individuals serologically for syphilis at the first prenatal care visit, followed by universal rescreening during the third trimester and at birth, rather than use a risk-based approach to testing" (1, 2)*. This translates into the wording of a new law in the state of Illinois entitled the "Prenatal Syphilis Act" in which the recommendation is for all pregnant women to be screened for syphilis at their first early prenatal visit followed by a second universal screening during the third trimester of pregnancy between 27 and 32 weeks' gestation (3). There are also similar laws for prenatal syphilis screening in 20 other states (4). In general, laws for prenatal screening for syphilis during the first prenatal visit exist in 42 states and in the District of Columbia (4). *These 2 screenings for prenatal syphilis should also be followed by testing at birth for perinatal syphilis, as mentioned above (2).*

"'However, in the context of the rapidly increasing rates of congenital syphilis, obstetrician–gynecologists and other obstetric care professionals should screen all pregnant individuals serologically for syphilis at the first prenatal care visit, followed by universal rescreening during the third trimester and at birth, rather than use a risk-based approach to testing'"

The following organizations support this prenatal screening recommendation:

"The Centers for Disease Control and Prevention (CDC), the Association of State and Territorial Health Officials (ASTHO), the American College of Obstetricians and Gynecologists (ACOG), the National Coalition of STD Directors (NCSD), the American Academy of Pediatrics (AAP), the American College of Nurse-Midwives (ACNM), the Society for Maternal-Fetal Medicine (SMFM), and the Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) recommend screening for syphilis as early as possible in each pregnancy" (2, 3).

Rationale for Prenatal Syphilis Screening During Pregnancy:

Congenital syphilis has increased more than 10-fold over the past decade, from 334 cases in 2012 to 3882 cases in 2023 (5). It is estimated that almost 90% of new congenital syphilis cases could have been prevented with timely testing and treatment (5). In addition, syphilis during pregnancy can cause tragic outcomes, including miscarriage, stillbirth, infant death, and lifelong medical issues (5).

"Congenital syphilis has increased more than 10-fold over the past decade, from 334 cases in 2012 to 3882 cases in 2023. It is estimated that almost 90% of new congenital syphilis cases could have been prevented with timely testing and treatment. In addition, syphilis during pregnancy can cause tragic outcomes, including miscarriage, stillbirth, infant death, and lifelong medical issues."

Therefore, "it is important to make any health care encounter during pregnancy—including those in emergency departments, jails, syringe service programs, and maternal and child health programs—an opportunity to screen for syphilis" (5). In addition, racial and ethnic inequities exist in congenital syphilis rates as summarized in the Table (6).

Table. Rates of Reported Congenital Syphilis Cases by Race/Hispanic Ethnicity of the Mother, United States, 2022 (6)

Race or Ethnicity	Rates of Reported Congenital Syphilis Cases, 2022 (per 100,000 live births)
American Indian or Alaska Native	644.7
Asian	10.4
Black or African American	214.5
Hispanic or Latino	124.1
Multiracial	79.0
Native Hawaiian or Pacific Islander	404.4
White	54.1

Treatment of Syphilis During Pregnancy:

As summarized in the ACOG and FDA information about the treatment of syphilis during pregnancy, as well as prevention of congenital syphilis (2, 5, 7), syphilis can be effectively treated with a regimen of penicillin initiated 30 days prior to delivery, which is appropriate for the stage of syphilis (2, 5, 7). Treatment should also include treatment of their sex partner to prevent reinfection as well as the health of their partner (2).

The course of treatment for the cure of primary, secondary, or early latent syphilis is a single dose of long-acting benzathine penicillin G (2). For the later stages of syphilis, including late latent or latent of unknown duration, a 3-dose regimen administered weekly of long-acting benzathine penicillin G is recommended (2). For patients with a severe penicillin allergy, desensitization followed by penicillin treatment is recommended (2).

"For additional information about syphilis in pregnancy and congenital syphilis, please see the following resources:

- Syphilis FAQs, Syphilis Screening in Pregnancy | ACOG
- Syphilis Screening Algorithm (PDF)
- Syphilis Treatment Among People Who are Pregnant in Six U.S. States – SET-NET, 2018-2021
- An Open Letter to Healthcare Providers on Syphilis Treatment and Prevention in 2023
- Labor of Love Podcast Season 3, Episode 2: Syphilis Surge: A Rising Concern in Pregnancy
- ACOG-Endorsed CDC Sexually Transmitted Infections Treatment Guidelines, 2021
- CDC Vital Signs: Syphilis in Babies Reflects Health System Failures

Please contact clinical@acog.org with any questions (2)."

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2024

Keeping Your Baby Safe

from respiratory infections

RSV
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How to protect your little one from germs and viruses

This year's cold and flu season may be a dangerous one - especially for vulnerable infants and children. Fortunately, there are proven protective measures that we can take to stay healthy.

Here's what you can do...

Wash Your Hands

- This is the single, most important thing you can do to stop the spread of viruses.
- Use soap.
- Wash for more than 20 seconds.
- Use alcohol-based sanitizers.

Limit Contact with Others

- Stay home when you can.
- Stay 6 feet apart when out.
- Wear a face mask when out.
- Change your clothes when you get home.
- Tell others what you're doing to stay safe.

Provide Protective Immunity

- Hold baby skin-to-skin.
- Give them your breast milk.
- Stay current with your family's immunizations.

Take Care of Yourself

- Stay connected with your family and friends.
- Sleep when you can.
- Drink more water and eat healthy foods.
- Seek mental health support.

Immunizations Vaccinations save lives. Protect your baby from flu, pertussis, RSV, and COVID-19 by getting your immunizations.

WARNING

Never Put a Mask on Your Baby

- Because babies have smaller airways, a mask makes it hard for them to breathe.
- Masks pose a risk of strangulation and suffocation.
- A baby can't remove their mask if they're suffocating.

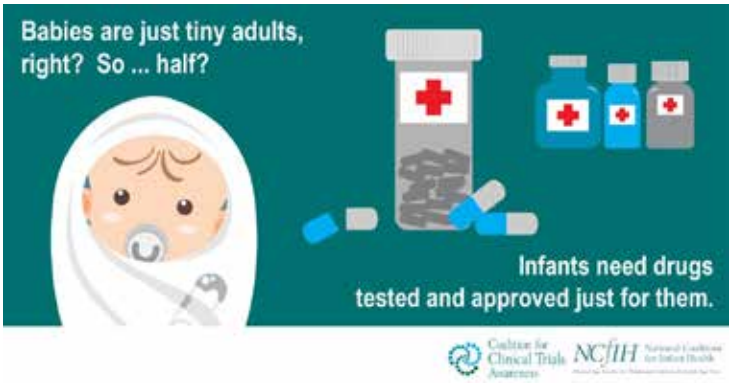
If you are positive for COVID-19

- Wash with soap and water and put on fresh clothes before holding or feeding your baby.
- Wear a mask to help stop the virus from spreading.
- Watch out for symptoms like fever, confusion, or trouble breathing.
- Ask for help caring for your baby and yourself while you recover.

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But risk factors associated with RSV don't touch all infants equally.*

*Source: Respirator Syncytial Virus and African Americans

Caucasian Babies	Risk Factor	African American Babies
11.6%	Prematurity	18.3%
58.1%	Breastfeeding	50.2%
7.3%	Low Birth Weight	11.8%
60.1%	Siblings	71.6%
1%	Crowded Living Conditions	3%

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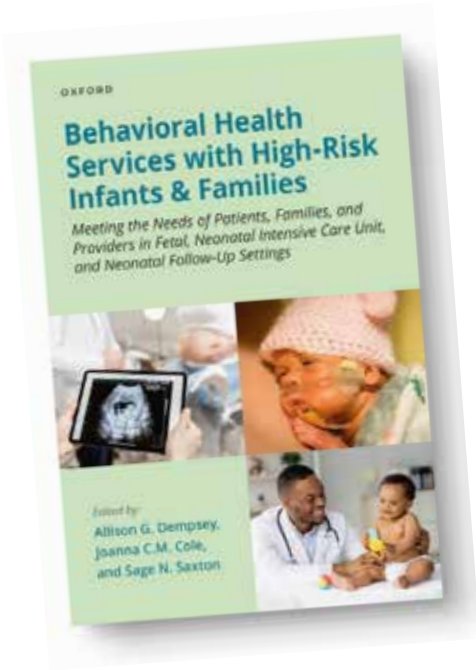
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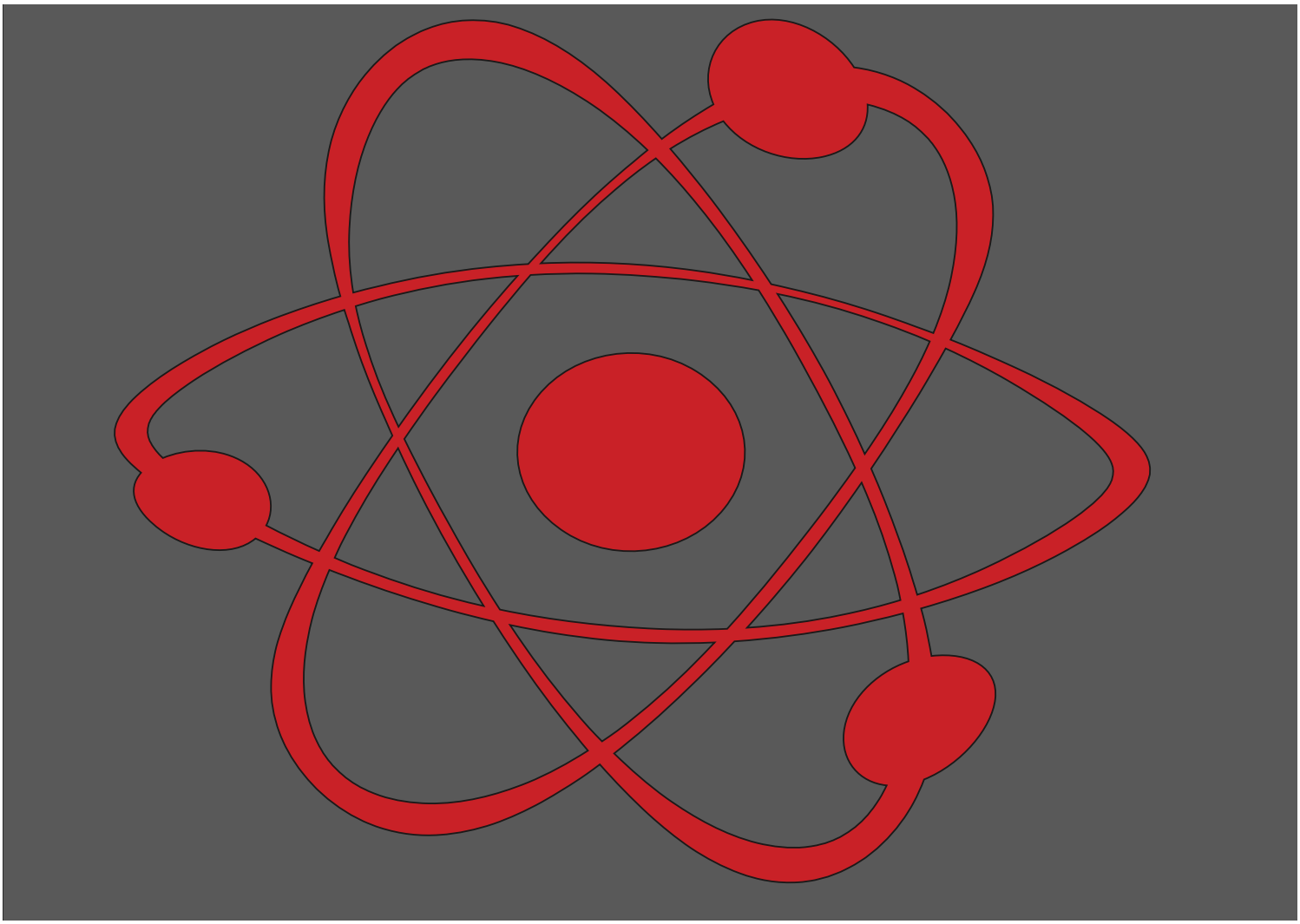
See resources created by the National Network of NICU Psychologists.



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National Perinatal Association
46th Annual Interdisciplinary Conference.
March 25 - 27, 2026
UNITING for IMPACT: Advancing Rural-Urban Collaboration and Innovation in Perinatal and Infant Health
The Coeur d'Alene Resort
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97TH PEDIATRIC ACADEMIC SOCIETIES MEETING
April 24-27, 2026
Convention Center
Boston, MA
https://www.pas-meeting.org/

The Gravens Conference
June 16-18, 2026
Notre Dame, IN
TheGravensConference.org

For up to date Meeting Information, visit NeonatologyToday.net and click on the events tab.

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The Clinical Trial Center is actively involved in many multi-center global pediatric trials, which span different Phases of research to advance health care in children. Please reach out to Jaclyn Lopez at 909-558-5830 or JANLopez@llu.edu with further interest. We would love to discuss the exciting research coordinator opportunities at our Clinical Trials Center.

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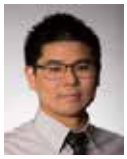
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Neonatology and the Arts

This section focuses on artistic work which is by those with an interest in Neonatology and Perinatology. The topics may be varied, but preference will be given to those works that focus on topics that are related to the fields of Neonatology, Pediatrics, and Perinatology. Contributions may include drawings, paintings, sketches, and other digital renderings. Photographs and video shorts may also be submitted. In order for the work to be considered, you must have the consent of any person whose photograph appears in the submission.

Works that have been published in another format are eligible for consideration as long as the contributor either owns the copyright or has secured copyright release prior to submission.

Logos and trademarks will usually not qualify for publication.

This month we continue to landscapes, feature artistic works created by our readers on the next to last page as well as photographs of birds on rear cover. Dr. Zahera Etter provides "Au Cap d'Antibes, le deuxième de la série." For this edition, our art was graciously provided by Colleen Kraft, MD. It is a work called "City Winter" done by her son Tim. Our bird is from Dr. Shah, "Antigone canadensis"



Lily Martorell, MD

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5. A brief biographical sketch (very short paragraph) of the principal author including current position and academic titles as well as fellowship status in professional societies should be included. A picture of the principal (corresponding) author and supporting authors should be submitted if available.

6. An abstract may be submitted.

7. The main text of the article should be written in formal style using correct English. The length may be up to 10,000 words or longer with prior approval. Abbreviations which are commonplace in neonatology or in the lay literature may be used.

8. References should be included in standard "NLM" format (APA 7th is no longer acceptable). Bibliography Software should be used to facilitate formatting and to ensure that the correct formatting and abbreviations are used for references. EndNote X9 is suggested.

9. Figures should be submitted separately as individual separate electronic files. Numbered figure captions should be included in the main file after the references. Captions should be brief.

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Seeking content development experts for an AAP Project Advisory Committee (PAC)

The White Zone – Developing A Perinatal Loss Toolkit for LMICs

The Need: Over 2.4 million neonatal deaths and 2.6 million stillbirths occur each year; 98% occur in Low- and Middle-Income Countries (LMICs). While programs such as Helping Babies Breathe (HBB) and Essential Newborn Care (ENC 1 and 2) have revolutionized how providers in LMICs train in and provide neonatal resuscitation and post-delivery care for small and sick newborns, gaps remain in how to best offer end-of-life care and post-loss psychosocial care in these settings.

The Babies: HBB and ENC 1 begin with assessing if a baby is crying and conclude with the "Red Zone" where a baby who is unable to sustain an appropriate heart rate and/or respirations is provided with PPV support as someone attempts to get help. Within the HBB/ENC framework, we could imagine several babies for whom an extension of this framework to include palliative/perinatal loss guidelines could be helpful:

1. A stillbirth for whom no resuscitation is attempted. (Stillbirth)
2. A baby who proceeds through the red zone but never has a heartbeat or breathing despite the best resuscitative efforts of the team. (Stillbirth)
3. A baby who proceeds through the red zone who, after 20 or so minutes still has a very low heartbeat and/or gasping breathing. (Anticipated neonatal death)
4. A preterm baby who is too small for ongoing support, based on local resource constraints or resuscitation guidelines, despite a sustained heart rate and breathing. (Anticipated neonatal death)

The Approach: Create a suite of resources that could accompany ENC 1 and 2, focused on end-of-life care and perinatal loss. These resources would be less algorithmic than ENC, as local practices around death vary significantly – meaning there is not one "right" way to approach this care. Rather, the "White Zone Toolkit" would combine structured guidance about symptom management as well as reflective tools for implementing contextually and culturally appropriate post-loss care. This could consist of, but is not limited to, the following:

1. Structured guidance on what physiologic changes may happen at the end of life (ex: gasping) as well as pharmacologic and non-pharmacologic options for symptom management.
2. Reflective questions about if/when to offer seeing or holding of the baby.
    - Data shows that many women want to see and/or hold their infant following stillbirth or neonatal death but are often not offered that opportunity based on historic cultural norms.
3. Reflective questions about cultural traditions around loss and if/how these practices can be supported by those attending the delivery.
4. Anticipatory guidance guides on how mothers may still produce milk and how to manage those symptoms.
5. Anticipatory guidance on potential maternal mental health needs. Reflective questions on how to approach mental health and psychosocial support after loss.
6. Access to a set of adaptable practice scenarios that could help providers gain experience in handling perinatal loss and communicating with families surrounding perinatal loss.

NICU BABY'S *Bill of Rights*

1 The Right to *Advocacy*

My parents are **my voice** and **my family** are **my best advocates**.

My parents know me well. They are my voice and my best advocates. They need to be knowledgeable about my progress, medical needs, and prognosis, so they celebrate my achievements and support me when things get challenging.

2 The Right to *My Parents' Care*

Welcome my family and **include them** in everything we do.

My parents are my essential caregivers. In order to care for me, they need lots of opportunities to learn. Ensure that hospital policies and protocols, including hours & rounding, are as inclusive and expansive as possible. Then be patient with them.

3 The Right to *Bond With My Family*

Create opportunities for my family and me **to be together and bond**.

Bonding is crucial for my healthy growth and development. Support my parents so that we can practice skin-to-skin care as soon and as often as possible. Encourage them to read, sing, and talk to me.

4 The Right to *Neuroprotective Care*

Protect my **developing mind** and **senses**.

Protect me from things that startle, stress, or overwhelm me. Support things that calm me. Ensure I get as much sleep as possible. My brain is developing for the first time - and faster than it ever will again. The way I'm cared for today will affect me as I continue to grow & develop.

5 The Right to *Be Nourished*

Support our feeding decisions and **help us develop our skills**.

Encourage my parents to feed me at the breast or by bottle, whichever way works for us both. Support our feeding goals and make sure my parents know all the nutrition options available to meet my needs.

6 The Right to *Personhood*

Respect me as the **amazing, unique individual** that I am.

Use my name. Talk to me before touching me. If one of my siblings passes away, ask my family how we want to talk about and acknowledge them.

7 The Right to *Confident and Competent Care Giving*

Support my parents and caregivers.

The NICU may be a traumatic place for my parents. Ensure that they receive tender loving care, information, education, and as many resources as possible to help inform them about my unique needs, development, diagnoses, and more.

8 The Right to *Family-Centered Care*

Teach my family **how to care for me**.

Help me feel that I am a part of my own family. Teach my parents, grandparents, and siblings how to read my cues, how to care for me, and how to meet my needs. Encourage them to participate in or perform my daily care activities, such as bathing and diaper changes.

9 The Right to *Healthy and Supported Parents*

Care for our **mental health** and **wellbeing**.

My parents may be experiencing a range of new and challenging emotions. Be patient, listen to them, and lend your support. Share information with my family about resources such as counseling, support groups, & peer-to-peer programs, which can help reduce the impact of perinatal mood and anxiety disorders (PMADs).

10 The Right to *Inclusion and Belonging*

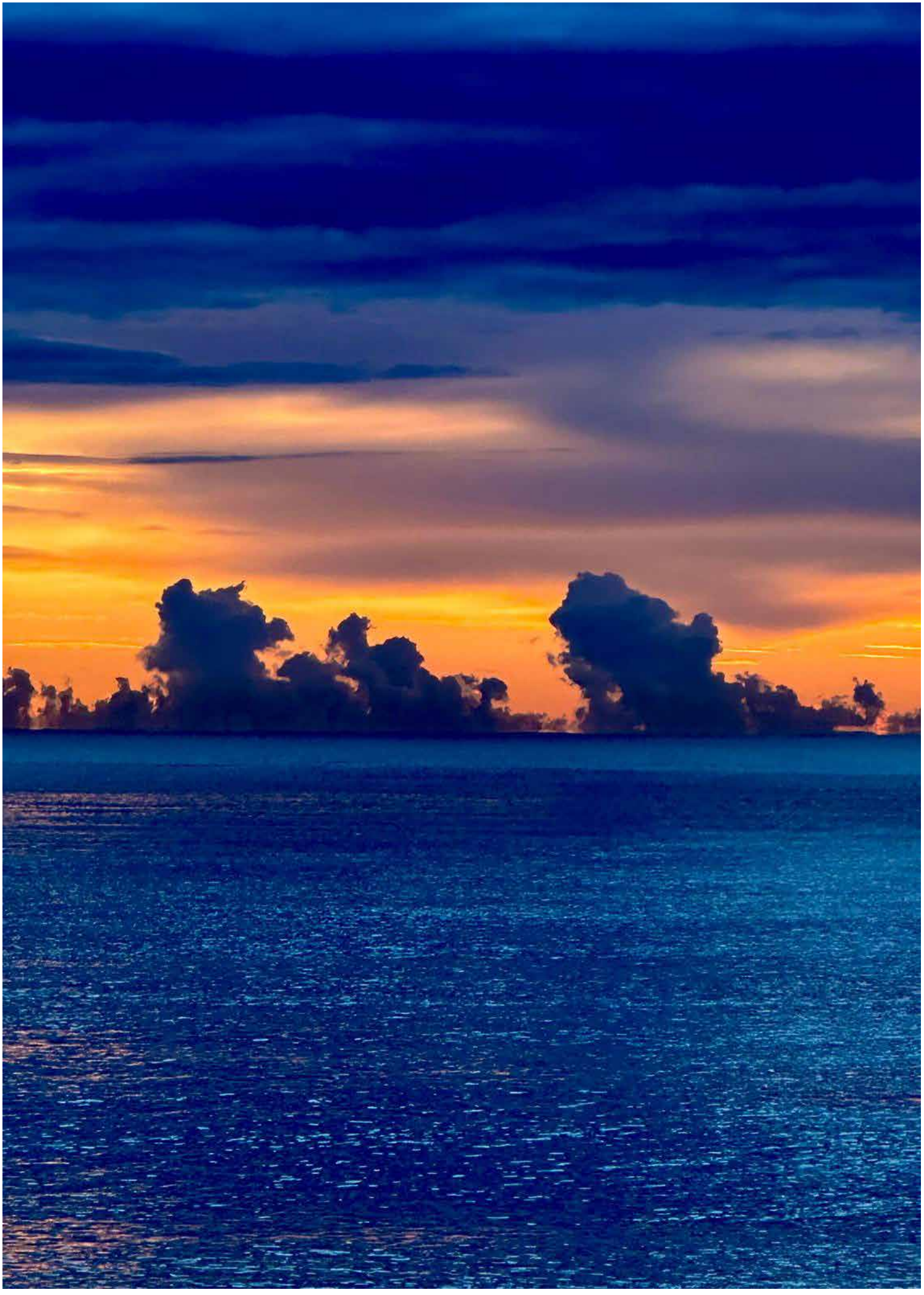
Celebrate what makes us special and unique.

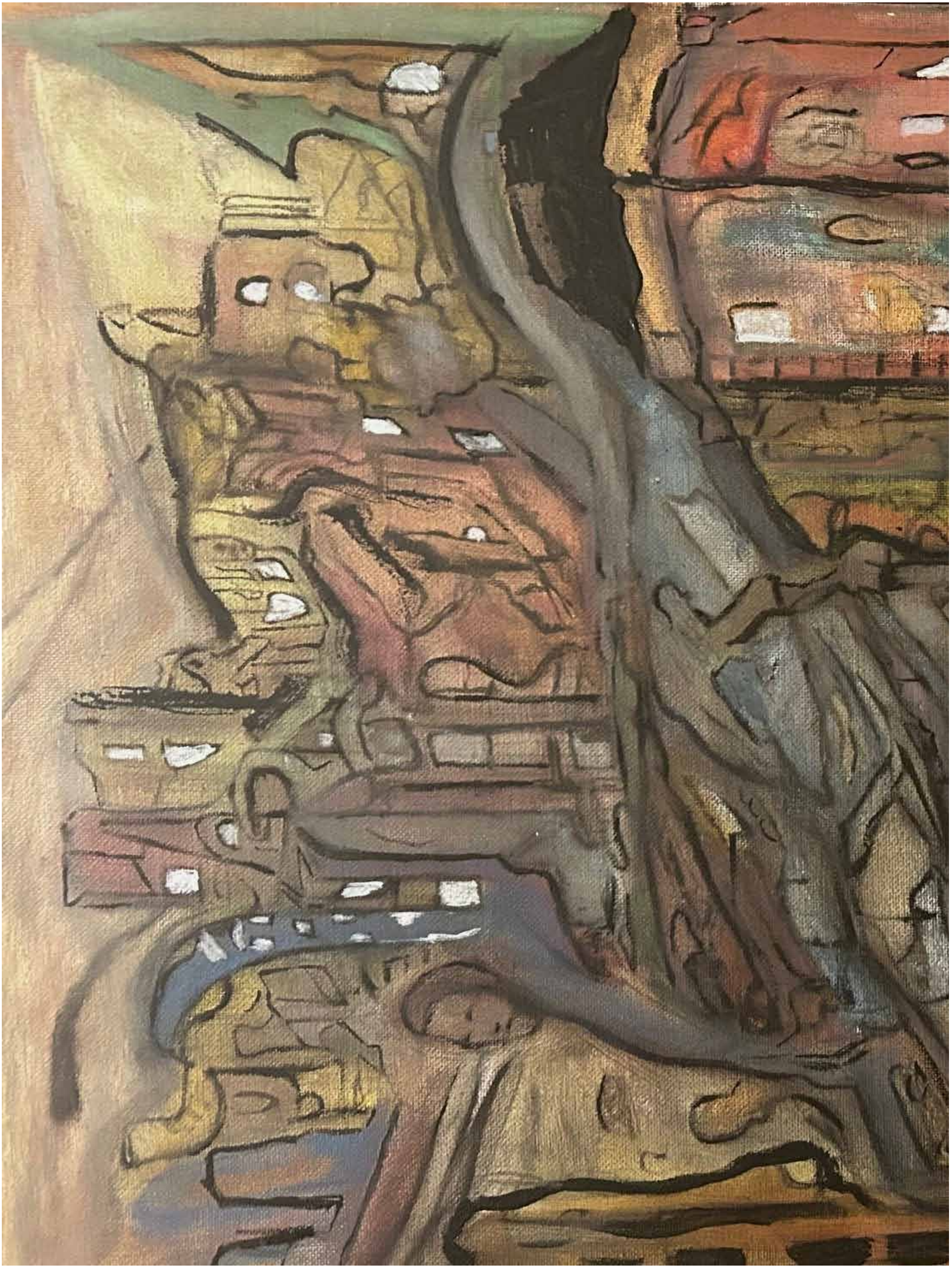
Celebrate our diversity. Honor what makes us unique. Ensure that my parents, grandparents, siblings, and friends feel accepted and welcomed in the NICU, and respected and valued in all forms of engagement and communication.

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