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Surfactant for Tension Pneumothorax in Term Neonates. Dodging Chest Tubes with a Novel Approach

Yasser Soliman, MD, MSc, Thirunavukkarasu Arun Babu, MD, MBA, DAA

ABSTRACT

Spontaneous tension pneumothorax (STP) is one of the acute emergent conditions in Neonatal Intensive Care Units (NICU) which requires immediate diagnosis and intervention. STPs are traditionally managed with invasive interventions; needling and intercostal chest tube (ICT) placement. We report a novel approach of managing STP in a term infant, with surfactant therapy. A term female just born, developed increased work of breathing, tachypnea, grunting, subcostal retractions, desaturations and increasing oxygen requirement at two hours of life. Examination revealed asymmetric chest expansion and diminished left sided breath sounds. Transillumination and urgent chest x-ray confirmed the presence of left-sided tension pneumothorax. This STP was successfully treated with needling aspiration and surfactant therapy. Baby fully recovered with these interventions and did not require chest tube drainage. We believe that surfactant therapy is worth trying and has the potential to preclude the need for an ICT and its consequences. This relatively easier treatment modality for STP deserves further trials to assess its usefulness and efficacy. .

Abbreviations: STP-Spontaneous tension pneumothorax, SP-Spontaneous pneumothorax, NICU-Neonatal Intensive Care Units, ICT-Intercostal Chest Tube, SNAP-Score for Neonatal Acute Physiology, CPAP-Continuous Positive Airway Pressure, LGA-Large for Gestational Age, RDS-Respiratory Distress Syndrome

Introduction:

The Neonatal Period accounts for the highest incidence of symptomatic pneumothorax with 0.05 - 0.1 % cases among all live births.(1) In term and late preterm infants, the incidence of radiologically diagnosed pneumothorax is 1-2%.(1) The incidence of pneumothorax in term babies admitted to NICUs in Canada is not well documented. However, a recent study has shown an incidence of 6.7%.(2)

The risk factors of pneumothorax in term infants include positive pressure ventilation, meconium aspiration, need for resuscitation, male gender, Score for Neonatal Acute Physiology (SNAP) score>20, assisted deliveries, caesarean section, surfactant use, Respiratory Distress Syndrome (RDS), Continuous Positive Airway Pressure (CPAP) use and Large for Gestational Age (LGA) babies.(2, 3)

Spontaneous pneumothorax (SP) is a form of pneumothorax which usually occurs in the absence of risk factors at birth.(1) SP is observed among 1 - 2 % of all neonates few hours after birth, but only 50% of them are symptomatic.(4) Most of these babies are full term or post-term infants with history of difficult delivery or requiring resuscitation immediately after birth. SP occurs most probably due to high transpulmonary pressure generated during the onset of breathing immediately after birth. (5)

Spontaneous tension pneumothorax in term babies typically requires needling followed by inter costal tube drainage.4 No other intervention has been found to be effective in treating these infants.

We propose a novel intervention which has the potential to avoid the need for intercostal chest drainage and its consequences. We report a case of term female infant with spontaneous tension pneumothorax successfully treated with surfactant administration.

"We propose a novel intervention which has the potential to avoid the need for intercostal chest drainage and its consequences. We report a case of term female infant with spontaneous tension pneumothorax successfully treated with surfactant administration.

Case report:

A term female infant was born at 38 weeks gestation to a Gravida 2, Para 1 mother with uneventful pregnancy. Mother's serology tests and Group B Streptococcus (GBS) screen were negative. She had no gestational diabetes or hypertension. The baby was born by elective caesarean section, the indication being a previous caesarean section. The baby cried immediately after birth and did not require any active resuscitation. Apgar scores were 9 and 9 at 1 and 5 minutes respectively, and Cord blood gas and pH were normal.

The baby was transferred to the postpartum unit along with the mother. At 2 hours of life, the baby developed increased work of breathing, tachypnea, grunting, subcostal retractions, and desaturations down to 80%. She was immediately admitted to NICU, started on nasal CPAP requiring 30% Oxygen. The Oxygen requirement gradually climbed to 100%. Examination revealed asymmetric chest expansion and diminished left sided breath sounds. Fibre-optic trans-illumination test was positive for pneumothorax, confirmed with a chest x-ray that revealed large left-sided pneumothorax and shifting of mediastinum to the right side (Figure 1a). Urgent needling was performed, and the baby was intubated and connected to a mechanical ventilator.

Surfactant of 5 ml/kg of bovine lipid extract Surfactant (bLES, BLES Biochemicals Inc, 2015) was administered. She tolerated the procedure well. Chest x-ray repeated after 30 minutes showed well expanded left lung with minimal pneumothorax (Figure 1b). Due to high Oxygen requirements, a second dose of surfactant was administered 2 hours after the first dose. A repeated

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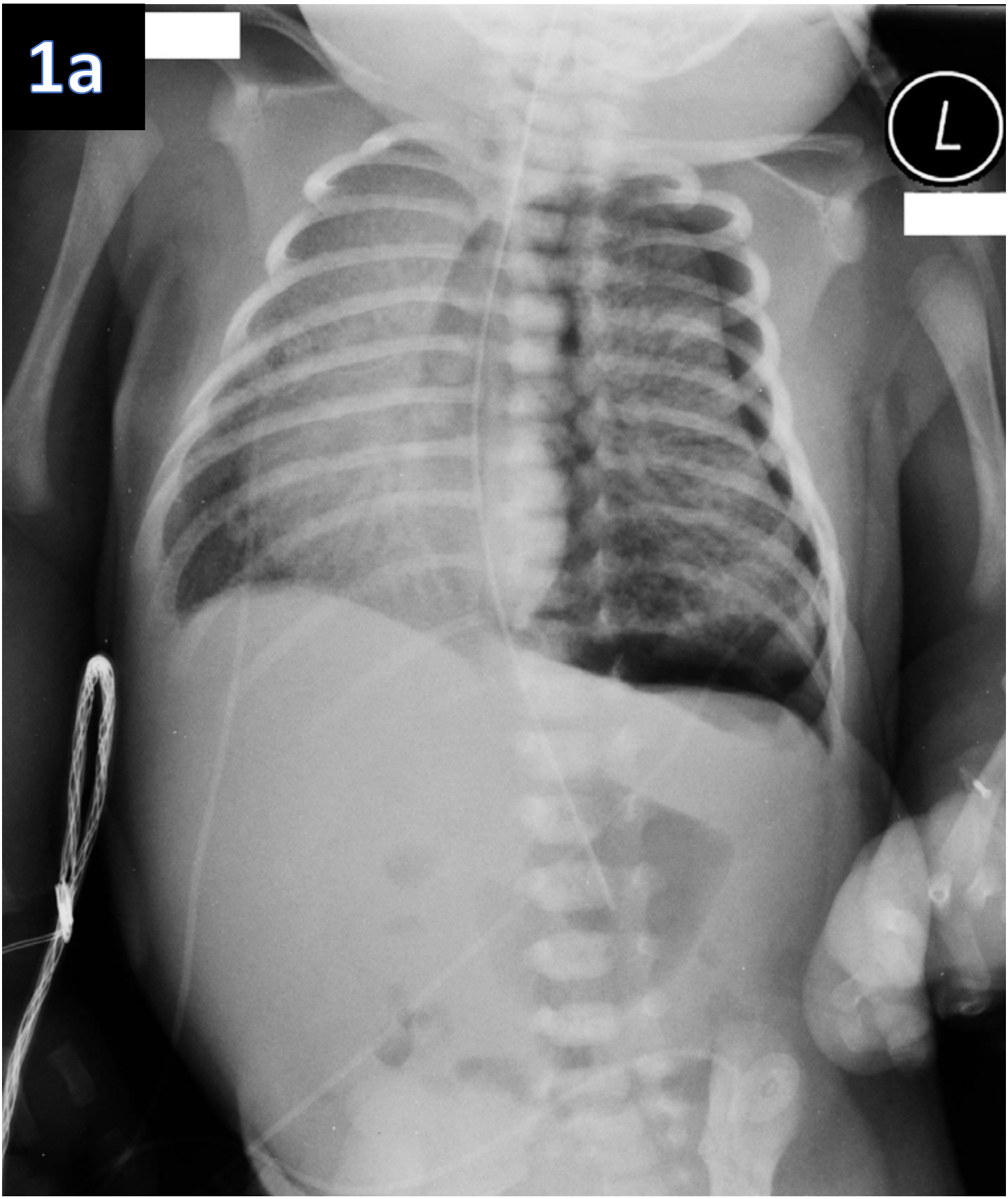

Figure 1a: *Chest x-ray showing large left sided pneumothorax and shifting of mediastinum to right side*

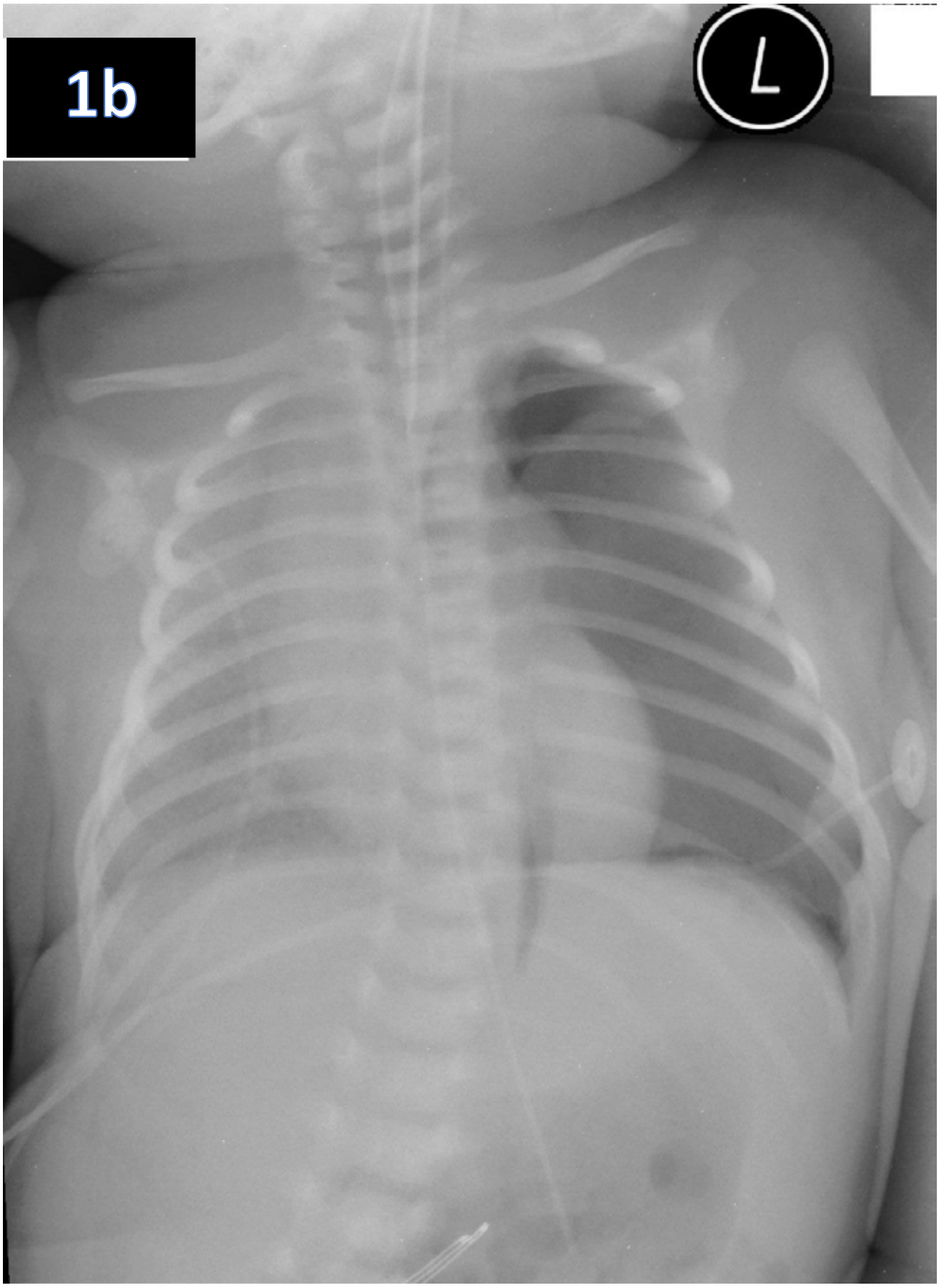

Figure 1b: *Chest x-ray repeated after 30 minutes showing well expanded left lung and with residual apical pneumothorax*

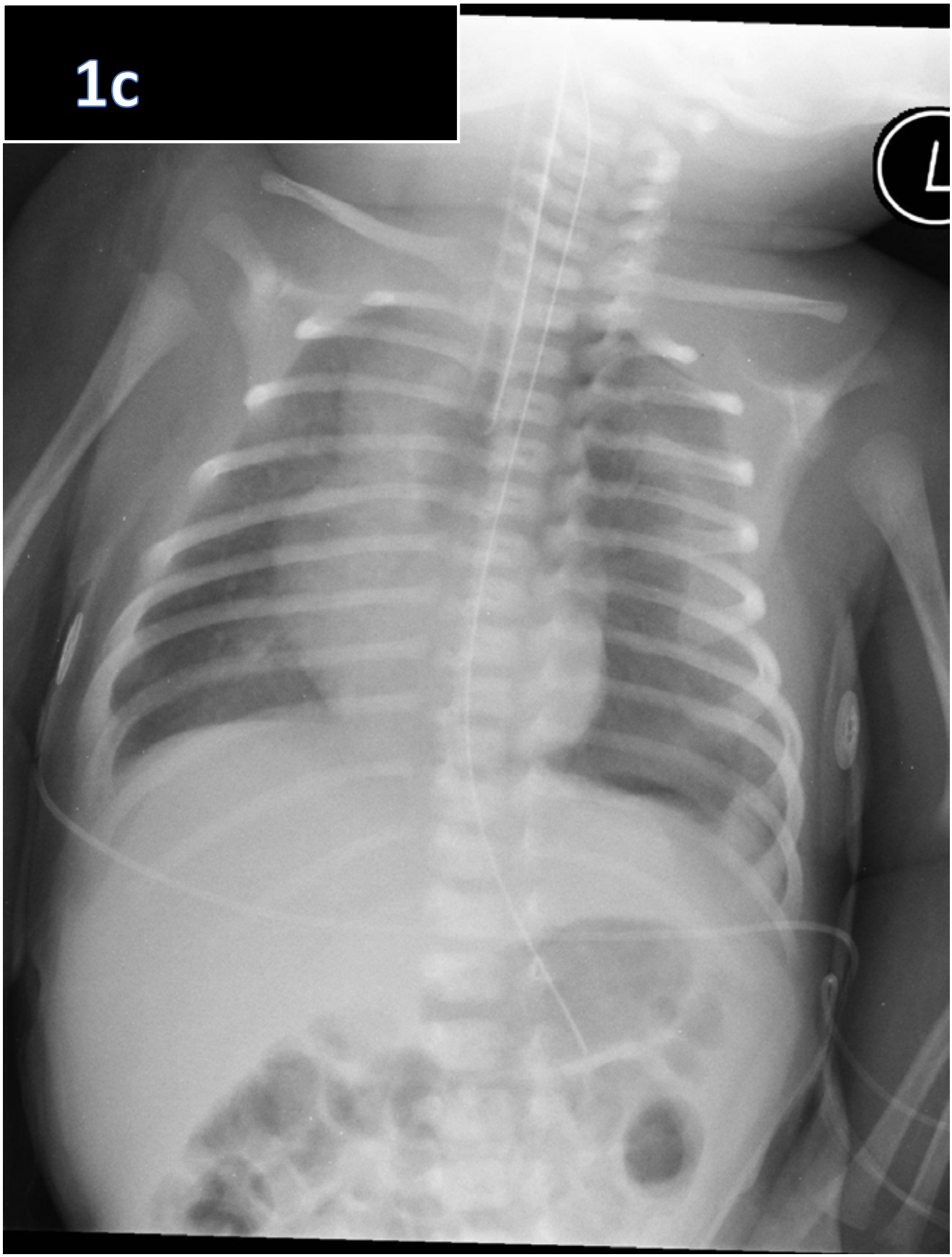

Figure 1c: *Chest x-ray repeated after 2 hours showing well expanded left lung and no evidence of pneumothorax*

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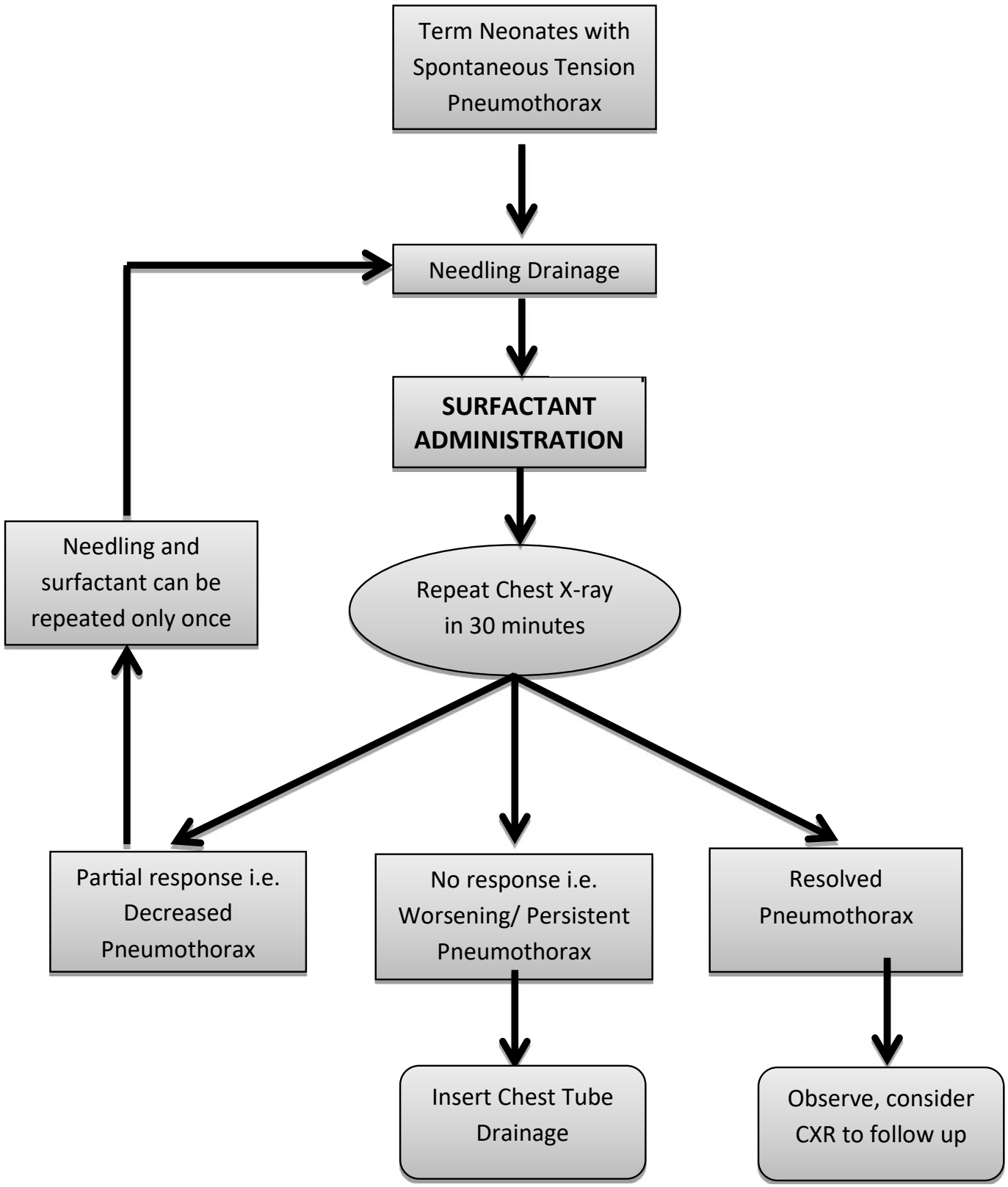
chest x-ray showed well expanded left lung and no evidence of pneumothorax (Figure 1c). The Oxygen requirement gradually

Figure 2: Proposed Algorithm for using Surfactant in Term infants with Tension Pneumothorax



decreased to room air over the next 6 hours.

The baby was extubated successfully after 36 hours. Repeated chest x-ray did not show any recollection of the pneumothorax. A chest tube was never inserted and the baby improved with only needling aspiration and Surfactant therapy. She was discharged home on day 6 of life.

Discussion:

Spontaneous tension pneumothorax is believed to occur secondary to maladaptive transition after birth leading to mechanical problems related to lung expansion for the first time. During the initial breaths, the average transpulmonary pressure is around 40 cm water. This pressure can escalate to as high as 100 cm of water in some infants. (5, 6, 7) The opening of alveoli occurs very rapidly during the initial transitional period and presence of any bronchial obstruction due to meconium or secretions or even in the absence of these factors, can lead to high transpulmonary pressures. Persistently high or unequal inflating pressure in the alveoli can lead to rupture of alveoli into pleural space causing pneumothorax. (5,6,7) It has been found that pressures of 60 cm of water can rupture a normal adult lung, but no studies have been done on neonatal lungs. However, in a neonatal rabbit lung model, a pressure of 45 cm of water is sufficient to cause lung rupture. (5) Studies on animal models have shown that surfactant administration decreases alveolar-arterial gradient and the required mean airway pressures thereby improving lung compliance and decreasing the risk of pneumothorax. (8, 9)

Surfactant inactivation and secondary dysfunction may occur in term babies with meconium aspiration syndrome, persistent pulmonary hypertension of the newborn, neonatal pneumonia, and pulmonary hemorrhage. Surfactant administration has proven benefits in these conditions.(10)

Also, a small subset of term infants develops pneumothorax in the setting of RDS such as in cases of surfactant protein deficiency, infant of diabetic mother and idiopathic RDS. A Cochrane meta-analysis suggests that administration of animal-derived surfactant decreases the risk of pneumothorax in RDS. (11) Although surfactant deficiency has been identified as a risk factor for pneumothorax, the underlying pathology is often meconium aspiration and RDS, the two most important indications for surfactant use in this group. (2)

Other interventions such as supplementing 100% oxygen have been tried in the past. Though it theoretically can accelerate the resolution of the pneumothorax by causing pleural air absorption, the current evidence discourages its routine use. (12) It may result in longer exposure to unnecessary oxygen and free radical toxicity.

It is well known that tension pneumothorax increases morbidity, prolongs NICU stay, causes parental anxiety and is rarely associated with death. (1, 2) Smith et al. observed 76 infants with spontaneous pneumothorax and found respiratory failure necessitated mechanical ventilation in 18 babies, and pulmonary hypertension requiring either nitric oxide or extracorporeal membrane oxygenation developed in 7 cases. (1)

The insertion of a chest tube is an invasive procedure, which requires expertise and is also associated with a high risk of complications. It can cause mechanical injury to the lung, mediastinal structures as well as the need for pain medications, risk of secondary infection, and cosmetic issues such as scars. The procedure can also fail with the need for multiple or recurrent ICT insertions. (13)

The morbidity associated with pneumothorax and the risks involved with the invasive ICT, makes surfactant therapy worth trying in an acute emergent situation. However, preparation for ICT should be made ready if surfactant therapy fails. A rigorous review of literature revealed no published reports of surfactant use in the treatment of spontaneous pneumothorax. A proposed algorithm for using surfactant in pneumothorax is shown in Figure 2. A repeat dose of surfactant can be considered in cases with partial response, as in the index case.

Conclusion:

"To the best of our knowledge, this report is first of its kind to document this novel therapeutic use of surfactant in term neonates with spontaneous pneumothorax. "

We report a case of spontaneous tension pneumothorax in a term infant successfully treated with needling and surfactant therapy without the need for intercostal chest tube drainage (Algorithm is proposed). To the best of our knowledge, this report is first of its kind to document this novel therapeutic use of surfactant in term neonates with spontaneous pneumothorax. We believe that surfactant use will treat most babies and will preclude the need for inserting invasive chest tubes. However, as this intervention has not been scientifically tested, prospective trials are required to evaluate the efficacy before this can be adopted universally.

References:

1. *Smith J, Schumacher RE, Donn SM, Sarkar S. Clinical course of symptomatic spontaneous pneumothorax in term and late preterm newborns: report from a large cohort. Am J Perinatol 2011; 28: 163-8.*

2. *Duong HH, Mirea L, Shah PS, Yang J, Lee SK, Sankaran K. Pneumothorax in neonates: Trends, predictors and outcomes. J Neonatal Perinatal Med 2014; 7: 29-38.*
3. *Katar S, Devecioğlu C, Kervancioğlu M, Ulkü R. Symptomatic spontaneous pneumothorax in term newborns. Pediatr Surg Int 2006; 22: 755-8.*
4. *Light RW, Lee YCG. Pneumothorax, Chylothorax, Hemothorax, and Fibrothorax . In: Broaddus VC, Mason RJ, Ernst JD, King TE, Lazarus SC, Murray JF et al, editors. Murray and Nadel's Textbook of Respiratory Medicine. 6th ed. Phliadelphia. Elsevier Saunders; c81. p. 1439-60.*
5. *Light RW: Pleural diseases. Baltimore: Lippincott Williams & Wilkins, 2013. 5th ed. p 321.*
6. *Sistoza LC. In: Neonatology: Management, Procedures, On-Call Problems, Diseases and Drugs. 6. Gomella T, Cunningham MD, Eyal FG, editor. New York: McGraw-Hill; 2009. Pneumothorax; pp. 344–347.*
7. *Shaireen H, Rabi Y, Metcalfe A, Kamaluddeen M, Amin H, Akierman A, Lodha A. Impact of oxygen concentration on time to resolution of spontaneous pneumothorax in term infants: a population based cohort study. BMC Pediatr 2014; 14: 208.*
8. *Merritt TA, Kheiter A, Cochrane CG. Positive end-expiratory pressure during KL4 surfactant instillation enhances intrapulmonary distribution in a simian model of respiratory distress syndrome. Pediatr Res 1995; 38: 211-7*
9. *Revak SD, Merritt TA, Cochrane CG, et al. Efficacy of synthetic peptide-containing surfactant in the treatment of respiratory distress syndrome in preterm infant rhesus monkeys. Pediatr Res 1996; 39: 715-24.*
10. *Polin RA, Carlo WA; Committee on Fetus and Newborn; American Academy of Pediatrics. Surfactant replacement therapy for preterm and term neonates with respiratory distress. Pediatrics 2014; 133: 156-63.*
11. *Soll R, Ozek E. Multiple versus single doses of exogenous surfactant for the prevention or treatment of neonatal respiratory distress syndrome. Cochrane Database Syst Rev 2009 Jan 21; (1): CD000141.*
12. *Clark SD, Saker F, Schneeberger MT, Park E, Sutton DW, Littner Y. Administration of 100% oxygen does not hasten resolution of symptomatic spontaneous pneumothorax in neonates. J Perinatol 2014; 34: 528-31.*
13. *Kwiatt M, Tarbox A, Seamon MJ, Swaroop M, Cipolla J, Allen C et al. Thoracostomy tubes: A comprehensive review of complications and related topics. Int J Crit Illn Inj Sci 2014; 4: 143–155.*

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Important Safety Information

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INOmax is contraindicated in neonates dependent on right-to-left shunting of blood.

WARNINGS AND PRECAUTIONS

Rebound Pulmonary Hypertension Syndrome following Abrupt Discontinuation

Wean from INOmax. Abrupt discontinuation of INOmax may lead to worsening oxygenation and increasing pulmonary artery pressure, i.e., Rebound Pulmonary Hypertension Syndrome. Signs and symptoms of Rebound Pulmonary Hypertension Syndrome include hypoxemia, systemic hypotension, bradycardia, and decreased cardiac output. If Rebound Pulmonary Hypertension occurs, reinstate INOmax therapy immediately.

Hypoxemia from Methemoglobinemia

Nitric oxide combines with hemoglobin to form methemoglobin, which does not transport oxygen. Methemoglobin levels increase with the dose of INOmax; it can take 8 hours or more before steady-state methemoglobin levels are attained. Monitor methemoglobin and adjust the dose of INOmax to optimize oxygenation.

If methemoglobin levels do not resolve with decrease in dose or discontinuation of INOmax, additional therapy may be warranted to treat methemoglobinemia.

Airway Injury from Nitrogen Dioxide

Nitrogen dioxide (NO_2) forms in gas mixtures containing NO and O_2. Nitrogen dioxide may cause airway inflammation and damage to lung tissues.

If there is an unexpected change in NO_2 concentration, or if the NO_2 concentration reaches 3 ppm when measured in the breathing circuit, then the delivery system should be assessed in accordance with the Nitric Oxide Delivery System O&M Manual troubleshooting section, and the NO_2 analyzer should be recalibrated. The dose of INOmax and/or FiO_2 should be adjusted as appropriate.

Worsening Heart Failure

Patients with left ventricular dysfunction treated with INOmax may experience pulmonary edema, increased pulmonary capillary wedge pressure, worsening of left ventricular dysfunction, systemic hypotension, bradycardia and cardiac arrest. Discontinue INOmax while providing symptomatic care.

ADVERSE REACTIONS

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice. The adverse reaction information from the clinical studies does, however, provide a basis for identifying the adverse events that appear to be related to drug use and for approximating rates.

Controlled studies have included 325 patients on INOmax doses of 5 to 80 ppm and 251 patients on placebo. Total mortality in the pooled trials was 11% on placebo and 9% on INOmax, a result adequate to exclude INOmax mortality being more than 40% worse than placebo.

In both the NINOS and CINRGI studies, the duration of hospitalization was similar in INOmax and placebo-treated groups.

From all controlled studies, at least 6 months of follow-up is available for 278 patients who received INOmax and 212 patients who received placebo. Among these patients, there was no evidence of an adverse effect of treatment on the need for rehospitalization, special medical services, pulmonary disease, or neurological sequelae.

In the NINOS study, treatment groups were similar with respect to the incidence and severity of intracranial hemorrhage, Grade IV hemorrhage, periventricular leukomalacia, cerebral infarction, seizures requiring anticonvulsant therapy, pulmonary hemorrhage, or gastrointestinal hemorrhage.

In CINRGI, the only adverse reaction (>2% higher incidence on INOmax than on placebo) was hypotension (14% vs. 11%).

Based upon post-marketing experience, accidental exposure to nitric oxide for inhalation in hospital staff has been associated with chest discomfort, dizziness, dry throat, dyspnea, and headache.

DRUG INTERACTIONS

Nitric Oxide Donor Agents

Nitric oxide donor agents such as prilocaine, sodium nitroprusside and nitroglycerine may increase the risk of developing methemoglobinemia.

OVERDOSAGE

Overdosage with INOmax is manifest by elevations in methemoglobin and pulmonary toxicities associated with inspired NO_2. Elevated NO_2 may cause acute lung injury. Elevations in methemoglobin reduce the oxygen delivery capacity of the circulation. In clinical studies, NO_2 levels >3 ppm or methemoglobin levels >7% were treated by reducing the dose of, or discontinuing, INOmax.

Methemoglobinemia that does not resolve after reduction or discontinuation of therapy can be treated with intravenous vitamin C, intravenous methylene blue, or blood transfusion, based upon the clinical situation.

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 US-1800236 August 2018

Preview of NeoHeart – Cardiovascular Management of the Neonate, March 27th to 29th 2019 Hyatt Regency Hotel, Huntington Beach California

John Patrick Cleary MD; Amir H. Ashrafi MD

We report on a growing network of physicians and affiliated practitioners who are improving neonatal cardiac care and supporting each other through the Neonatal Heart Society as we describe our fourth edition of the meeting NeoHeart – Cardiovascular Management of the Neonate.

A short five years ago, in large part through the mentorship of Anthony Chang MD, we recognized the need to share knowledge and build bridges between the practitioners caring for neonates with congenital heart disease and/or cardiovascular instability across the continuum of care. We were aware of a growing group of neonatologists with interest and training in CVICU, cardiology, and imaging and similarly cardiologists, intensivists and surgeons with a primary focus on the fetus and neonate. We recognized that collaboration would improve care, advance research and provide support for an emerging group of leaders in the field. In this spirit we created NeoHeart and the Neonatal Heart Society (NHS) - the results have exceeded expectations! Members of the NHS have opened CVNICUs, consult services in neonatal cardiovascular care, advanced the practice of targeted neonatal echocardiography, established care guidelines and published important research. Collaboration has been created between the NHS and the American Academy of Pediatrics, the PCICS and the World Congress of Cardiology. NeoHeart 2019 hopes to showcase and build on this progress while improving the knowledge of all practitioners in fetal and neonatal care.

The opening to the meeting is part of what differentiates NeoHeart – we honor a collaborative pioneer in neonatal care during an evening keynote dinner where attendees are exposed to both medical history and the personal aspects of a professional career. In 2015 our first honoree Jacqueline Noonan MD, who trained as many neonatologists as cardiologists, told the story of recognizing and caring for infants with Noonan's syndrome along with her experience as a woman in medicine. In 2017 Bill Norwood MD, who changed the care of HLHS from palliative to curative, shared for instance that his progress in this area came not by choice but from necessity as other surgeons did not want 'these cases.' In 2018 Abraham Rudolph MD enthralled the audience with his early work on transitional circulation while sharing personal reflections on the random events that can impact a career. Our 2019 Keynote speaker and 4th honoree is Richard Van Praagh MD the father of segmental anatomy in congenital heart disease. Attendees will learn the clinical and personal progression of his important career through a relaxed interview by Dr. Ashrafi.

The body of the meeting (Thursday and Friday) is characterized by focused "Ted Talk style" presentations from our amazing faculty paired with extended conversations between the faculty and audience facilitated by expert moderators. Faculty roundtables intentionally represent NICU, CVICU, Cardiology, and Nursing in all sessions and breakout sessions have been added to give the attendee choices of areas to dive more deeply into a topic.

Plenary session 1 asks - What makes the neonate different? Dan Penny MD, Ph.D. will speak on maximizing the performance of the neonatal myocardium. Mjaye Mazwi MBChB, MD describes unique aspects of the neonatal vascular endothelium followed by Istvan Seri MD helping us better understand cerebral autoregulation. These and other faculty members such as Martin Kluckow MBBS and Carl Backes MD will have extended conversation on such topics as the optimal BP for neonates, the effect of preload and afterload on cardiac output and the management of acute capillary leak surrounding cardiopulmonary bypass. The session continues with case-based learning as we review and react to some of "the most difficult case(s) I've had this year." Breakout sessions will then focus on hemodynamic issues in the preterm and the hemodynamics of septic shock. Moderated by Patrick McNamara, the prematurity breakout with Martin Kluckow MBBS will focus on the transition from intra- to extra-uterine life, Souvik Mitra MD will present a unique analysis of therapies for the PDA, Keith Barrington MBBS presents the evidence for 'permissive hypotension" and Krisa Van Meurs MD presents the potential value of cerebral NIRS in the preterm. The septic shock breakout is moderated by Anthony Chang MD, MBA, MPH and will feature Saul Flores MD presenting a perspective on how to determine optimal volume resuscitation. Gabriel Altit MD suggests that we can do better than vital signs in evaluating such patients, Kristi Waterberg MD will review the role of steroids in shock and David Cooper MD discusses the value of ECMO. Each breakout allows time for attendees to contribute to the conversation and to have their questions addressed.

"The body of the meeting (Thursday and Friday) is characterized by focused "Ted Talk style" presentations from our amazing faculty paired with extended conversations between the faculty and audience facilitated by expert moderators.

In Plenary 2 we turn our attention to The Right Ventricle in Congenital Heart Disease. Andrew Reddington MD is asked whether we can make the RV function like the RV in HLHS? Alan Nugent MD suggests an evidence-based approach to increasing the likelihood of biventricular circulation in PA-IVS. Glen Van Ardsell MD will describe his surgical decision structure on when/whether to undertake complete repair of Tetralogy of Fallot vs. BT shunt or RVOT stenting followed by Vaughn Starnes MD presenting his decision tree in managing severe Ebstein's Anomaly. The discussion surrounding these presentations should be a highlight of the meeting as the amazing presenters are joined

Photo 1: Joining prior honorees Jaqueline Nelson MD and William Norwood MD, Dr. Rudolph was honored for his contributions to our understanding of transitional physiology and inspired the audience with both his stories of the past and his ongoing zest for life and knowledge. NeoHeart 2019 will honor Richard Van Praagh MD – The father of segmental anatomy.

by Ganga Krishnamurthy MD, Mary Mc Bride MD, Alan Nugent MD and Dawn Tucker DNP, CPNP to expand the conversation to include the role of hybrid procedure in HLHS, the impact of ventriculotomy on long-term RV function and how management decisions are affected by prematurity. Faculty review of "the most difficult cases I had this year" will continue our shared learning. Breakouts will allow attendees to focus on comparative physiology and controversies in feeding and nutrition. In the comparative physiology session, faculty members Gil Wernovsky MD, FAAP, FACC, Istvan Seri MD, PhD, HonD, Carl Backes MD and Krisa Van Meurs MD compare and contrast: the management of CDH vs. Interrupted Aortic Arch, IVH/PVL associated with prematurity vs. cardiopulmonary bypass, pulmonary hypertension in the setting of BPD vs. TAPVR, and deep hypothermic circulatory arrest vs cooling for HIE. The Feeding and Nutrition breakout features Christine Bixby MD, Diana Vargas MD, Rune Toms MD and Molly Ball MD address topics such as breast milk vs formula in CHD, perioperative feeding strategies and probiotics to avoid ischemic bowel in ductal dependent lesions, how to manage malrotation in heterotaxy, and when and whether to place a gastrostomy tube.

Thursday evening features our Abstract Session and Reception that has grown in quality with each meeting. The session is well attended, and the faculty interacts with all authors. Top abstracts will be featured in the Friday morning plenary as well.

NeoHeart rejects the notion of 'all meeting and no play' – venue matters and this year we are back in Surf City USA, Huntington Beach. Thursday night we host a California Beach Party and will try to raise the bar for fun set by NeoHeart 2018 in Fort Worth.

Friday morning's Plenary Session 3 once again focuses on the Pulmonary Vascular Bed. Robin Steinhorn MD will help us in 'Differentiating preventable vs. inevitable pulmonary vascular disease in the newborn" followed Steve Abman MD examining the role of precision medicine in our decision making in acute pulmonary hypertension. Roberta Keller MD will present recent key publications which she believes should alter practice. This group of thought leaders will be joined by Jeff Fineman MD and Anthony Chang MD to discuss second-line agents in acute

NeoHeart

Guest Faculty

Keynote
Richard Van Praagh, MD

Cardiology
Carl Backes, MD
Anthony Chang, MD, MBA, MPH
Mitchell I. Cohen, MD, FACC, FHRS
Yoav Dori, MD, PhD
Wyman Lai, MD
Anita J. Moon-Grady, MD FACC, FASE
Alan Nugent, MBBS, FRACP
Daniel Penny, MD, PhD
Andrew Redington, MD

Cardiac Intensive Care
David Cooper, MD, MPH
Jeff Fineman, MD
Saul Flores, MD, FAAP, FACC
Mjaye Mazwi, MBChB, MD
Mary McBride, MD, FAAP, MEd
Gil Wernovsky, MD, FAAP, FACC
Vamsi Yarlagadda, MD

Neonatology
Gabriel Altit, MD, FRCPC
Molly K. Ball, MD
Keith Barrington, MBBS
Shazia Bhombal, MD
Annie Janvier, MD, PhD
Roberta Keller, MD
Martin Kluckow, MBBS, FRACP, PhD, CCPU
Ganga Krishnamurthy, MD
Philip T. Levy, MD
Victor Y, Levy, MD, MSPH, FAAP, FACC
Patrick McNamara, MB, BCh
Souvik Mitra, MD, RCPC Affiliate, MSc
Istvan Seri, MD, PhD, HonD
Robin Steinhorn, MD
Rune Toms, MD
Krisa VanMeurs, MD
Diana Vargas, MD
Kristi Watterberg, MD

Neurology
Chris Smyser, MD, MSCI

Nursing
Annie Denslow, PA-C
Lindsey Justice, DNP, APRN, CPNP-AC
Dawn Tucker, DNP, RN, CPNP-AC

Pulmonology
Steven Abman, MD

Surgery
Richard Gates, MD
Vaughn A. Starnes, MD
Joanne Starr, MD
Glen Van Arsdell, MD

pulmonary hypertension, the role of left to right shunts in the newborn with PH, and pulmonary hypertension associated with lung injury. Complex cases will then be reviewed to help define our practice with challenges such as the role of catheterization, the use of unproven therapies and the recognition of pulmonary vein stenosis. The breakouts that follow include Innovations in Neonatal Cardiac Intensive Care and The Blood and Brain. In the Innovation session Yoav Dori MD, Ph.D. will give an update on lymphatic imaging and interventions, George Mychalika MD suggests that the artificial placenta is a coming reality, Vamsi Yargalada MD asks whether ventricular assist devices have progressed to be useful in the neonate and Mjaye Mazwi MD suggests that AI and predictive analytics are keys to optimal care of complex patients. The CNS breakout examines whether we can make accurate predictions of outcome in infants with parenchymal hemorrhage – Chris Smyser MD, the timing of cardio-pulmonary bypass relative to acute hemorrhage – a hematologists perspective, and anticoagulation on ECMO – surgeon Joanne Starr MD. In addition, David Vener MD will answer this simple question – If benzodiazepines, opioids, ketamine, and precedex are so bad for the brain, what the *#@! Am I supposed to do?

For the first time, Plenary session 4 is both the final session of NeoHeart and the opening to another important meeting - Pacific Coast Fetal Cardiology 2019. In the NeoHeart spirit, we are collaborating with our colleagues who diagnose and guide families prenatally. Mary Donofrio MD shares her approach to multi-disciplinary perinatal planning and delivery management, Anita Moon-Grady investigates why we continue to miss CHD before and after delivery, and David Demmick MD suggests that prenatal genetic testing can reach new heights. We know that our most important partners are parents and NeoHeart will again feature families as key faculty members – an amazing young professional who lived first with complex heart disease and now with a new heart will share life lessons. Her mother who now helps countless other families will give additional perspective. The attendee interaction following such personal stories has been a highlight of prior meetings. The session continues with a focus on Fetal Intervention. Philip Levy MD reviews the role of laser intervention for twin-twin transfusion, Wayne Touretzky MD is asked to suggest who should be referred for intervention when HLHS is diagnosed and Mitch Cohen MD will review options for treatment of fetal arrhythmia. Roundtable discussion will review whether we can inform families of their options without bias when surgery or palliative care might be offered for patients with trisomy 13 or 18, whether we can improve screening and whether we can better prepare families to thrive.

NeoHeart offers additional learning opportunities on the Wednesday before the core of the meeting – the meeting is aimed at experts and novices in the field, and these sessions allow individuals to add to their base knowledge and skills. These sessions have been highly rated in past meetings as they give a chance for close faculty interaction and complement the faster-paced meeting that follows. Shazia Bhombal MD leads 4 hour basic and advanced hands-on echocardiography sessions for intensivists. Dawn Tucker DNP, CPNP will again lead a session which is designed so that bedside nurses and APNs can 'excel

at the bedside.' Anthony Chang MD is a superior educator and offers a session titled 'Essentials of neonatal cardiology' and John Cleary MD will use our amazing neonatology faculty (Barrington, Kluckow, Seri, Janvier, and McNamara) to review areas of progress and controversy in neonatal care (for example what are we supposed to do with the PDA?).

We welcome readers of Neonatology Today and Congenital Cardiology Today to join us in advancing the care of infants with congenital heart disease and/or cardiovascular compromise. We are proud that NeoHeart and the Neonatal Heart Society are accelerating a movement towards improving outcomes through research, education and most importantly collaboration across disciplines.

CHOC Children's is proud to host NeoHeart in 2019!

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https://www.choc.org/events/neoheart-cardiovascular-management-of-the-neonate-2019

For questions, call 800.329.2900 or email choccme@choc.org.

See you at the beach!

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So Me

Clara Song, MD

In a recent TED talk,Teresa Bejan asks us to "think of the (printing) press as the Twitter of the 16th century". (1) We still rely on the press to this day for our daily news. When you have the time, who doesn't love few minutes with your coffee and a TIME mag? However, when a message needs to spread ASAP, TIME uses Twitter.

If you envision a world where someday Twitter no longer exists, then read no further. Our Digital World today depends on this communication system as one of the largest sources of breaking international news and arguably THE source for instantaneous new updates. Social media platforms like Facebook and Twitter connect people through space and time. People keep in touch from miles away and can reconnect after years of silence. Despite the woes and roadblocks, these platforms continue to evolve and thrive because people are social beings who want connections. While this particular type of media sharing and communication isn't quite right for everyone, it is likely more a part of our lives that we may want to admit. So, we may at least want to get familiarized before we get too far behind.

Historically, most technological advances see the ebbs and flows of setbacks and successes, but in the end, move on forward and are adopted in our world as we know it.

Twitter, Facebook's younger sibling, was born on March 21, 2006, when social communication was in full bloom. This social platform was initially advertised as a "service for friends, family, and co-workers to communicate and stay connected through the exchange of quick and frequent answers to one simple question: What are you doing?" (2) It was basically a free mass texting service. I thought, who on earth would want to send a text out to everyone on the earth? My mother simply replied, "Sometimes people just need to talk." And she was so right. So many people, 326 million people, in fact, want to talk, and they have 500 million tweets to say each day. (3)

Facebook is now a 14-years old, and Twitter is only two years younger. Tech companies thrive and age in dog years, so the fact these two entities are still around is nothing short of phenomenal.

In 2009, social media overtook porn as the most common online activity, and to this day, it remains the number one activity on the web. (4) Love it or hate it, Facebook was the site that solidly put social platforms on the map, and truly created a global community in record-breaking time. For perspective, to reach 50 million users, the radio required 38 years, the television 13 years, the internet 4 years, and the iPod 3 years. However, Facebook reached over 100 million unique users in less than nine months. (4) Digital communication, specifically regarding the reach on social media platforms, has a spread that is exponentially faster and wider than traditional podiums. And social media is not reserved only for the young. Twitter's fasting growing demographic are those eligible for AARP, #grandparents. (5) LinkedIn, the social media site where >70% of users report a higher education degree, has a diverse population of both senior and junior professionals and welcomes two members every second. (6) Digital immigration- the adoption of digital technology as adults- is a necessity for navigating our world of e-mail and EMR. Whether you decide to go social and add Doximity and ResearchGate is another story.

The World Wide Web was made open to the entire world on August 6, 1991 (7). Suddenly, a world of endless possibilities seems so much closer to possible. Seven years later in September of 1998, Google came along, but for us in medicine, it was a few months too late. (8) In February of that same year, a highly quoted article in The Lancet was published, associating pervasive developmental disorder with the measles mumps rubella vaccination. (9) Now retracted, this infamous article has already been circulated more times than it would seem possible than before, thanks to the World Wide Web of endless possibilities.

"Social media, by a simple definition, is the online exchange of user-generated content by way of technology such as audio, video, or any media that allows for communication, interaction, and engagement."

Social media, by a simple definition, is the online exchange of user-generated content by way of technology such as audio, video, or any media that allows for communication, interaction, and engagement. In the early years of Web 2.0, the online social media world was an open-door party. Very few top experts of any field party too often. As such, early adopters of social communication did not include many physicians or scientists (think early millennium web versus 2018 web). What we as a scientific community failed to do was get ahead of this commentary and allow for other non-expert voices speak for us. Thus, the ongoing saga of immunizations and environmental triggers versus behavioral regression and autism lives on (10).

What we could have, should have and would have done had we known back in 1998 what we know now in 2018 is to get ahead of the retracted news. "The solution to pollution is dilution." Along with many an environmentalist and surgeon, Dr. Jennifer Gunter @DrJenGunter quotes this to advocate for a stronger medical presence on the internet. (11) Opinions and conversations can lead to innovation and collaboration but can sometimes lead to a pollution of facts without the authoritative insight. Science and expert opinion are what has been historically outshined online. So, what can be done? We as the scientific, medical community learn, teach and build our community on a daily basis. We can open the doors of our community to engage and communicate to all interested parties, essentially to everyone online. We can learn together by gathering expert information, discovering and sharing veritable papers. We can teach by spreading truth and communi-

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Reference: 1. Frese SA et al. *mSphere.* 2017;2(6):e00501-17.

cating this content. We can further build our community to share this data, create other communities of support and information exchange. Today, journals will often showcase publications on Twitter and Doximity before the articles are available in print, or even, online. Some sites, like ResearchGate, exist solely for the display and discussion of scientific research and publications. Social media has evolved to encourage conversation among healthcare professionals to develop support networks for improved clinical care, research, education, and advocacy.

The world on endless possibilities on the World Wide Web applies to the "us" in medicine as there are myriad uses of social media platforms in the arena of healthcare. One crucial concept to remember is the that of the permanent digital footprint. Each online step is akin to creating a mold in cement. The responsibility to maintain a healthy, honest digital footprint remains with its user.

Remember these 4 P's for online social communication to optimize and to integrate career and life goals:

Permanent: The Internet never forgets. Data can be deleted but never completely erased. Everything is archived. Best to review before posting, then pause and review again.

Privacy: Privacy settings are helpful but continue to have limitations. So, again, it is best to review before signing up on a new site. Think about checking profile and privacy settings every now and again- as we said, the tech world moves fast, so those social site settings evolve and change at any given moment.

Public: Regardless of privacy settings, it is safest to write on the World Wide Web as if, as they say, your grandmother will read your post on the front page of the (Enter Your Press of Choice Here).

Professional: As healthcare providers, more likely than not the world has already created a digital profile for you. I encourage every medical professional to google themselves, see what surfaces. The choice is yours to take hold of your digital profile or allow your image and voice to be handled by someone else. Our voice is one of our most valuable commodities. Why would we allow another entity to control this?

In 2001, Mark Prensky wrote about the shift in education for Digital Natives, students who have grown up in the technological age, and the responsibility of Digital Immigrants to adapt to their new language because "there is absolutely no going back." (12) For those of us Digital Immigrants who had to learn our way into the world of computers, Prensky argues that our actual thought patterns differ from this new generation of Natives, who navigate, process and socialize in faster and radically distinct ways, not to be underestimated simply because they do not engage in traditional forms of communication.

There are those argue that if computers and smartphones are ever-present, documenting all past moments in a permanent footprint, how "there be room for maturation, improvement, and change for our futures?" How will this generation and all future generations in the Digital World ever mature into their fullest potential without having the luxury of learning from past failures? We are, in fact, always defined by the decision of our past whether the greater world knows of these decisions or not. We know. Social communication allows for transparency. We are still in command of that amount of transparency and will allow for maturation in different ways, perhaps now, accelerated ways. The "second chance" phenomenon is not an impossible feat because of the digital age. It, in fact, will be more plausible and sooner because of it. Memories are fallible and allow for hiding the truth. Careful briefing, learning, failing, and debriefing leads us to life's true successes. More importantly, we may not have a say whether or not this digital evolution happens, because it already has and continues with or without us. However, the understanding of its creation and ramifications for lack of maintenance or misuse remains with many of us- the previous generation. We not only created this social web but are the sponsors and mentors that hand down this tool for current and future generations to use and utilize. This baby has successfully delivered and has no intention of crawling back into the womb. Like rock 'n' roll, the social media is here to stay.

Digital Natives integrate social communication seamlessly into daily use as an everyday tool for conversation. They know no other reality. (13) When a gunman opened fire on February 14 this year into a classroom with an AR-15 style assault rifle killing 17 students, wounding several others, Florida high school seniors immediately posted to SnapChat and Facebook. We know real-time details of this events because students reported in the moment of the attack without hesitation. As a result, more awareness has risen from the Stoneman Douglas High School shooting than any other shooting. A number of the students who survived the attack have turned to Twitter as "their way to get their message out." (14) From this day and their voices, in only 38 days after the event, the #MarchForOurLives gathered an estimated 800,00 people in Washington D.C. alone, and thousands more in 880 sibling marches all over the world. (15) Legislative changes have occurred such as in Pennsylvania in October 2018; Government Tom Wolf signed a new law "to keep guns from domestic abusers," as announced on his official Twitter account. (16) The Digital Natives are pushing the needle on gun safety legislation and keeping the conversation on the forefront.

"The Digital Natives are pushing the needle on gun safety legislation and keeping the conversation on the forefront."

Other conversations on political and racial discourse and sexual and gender harassment that started as a Twitter hashtag- #BlackLivesMatter, #MeToo, #HeForShe, #StopFundingHate- have garnered widespread awareness and generated massive attention, simply by giving people a voice and the chance to exchange ideas. These conversations have sparked monumental movements and activism for social change. (17) The 2014 ALS Ice Bucket Challenge propelled by mainly by social media platforms YouTube, Facebook and Twitter. (18)

The American Academy of Pediatrics has created a heavy social media presence to engage with pediatricians and the community

at large. The Section on Neonatal-Perinatal Medicine (SoNPM) maintains its separate account to represent neonatal-perinatal healthcare professionals. The voice of SoNPM on Twitter @AAPneonatal mainly reports on the ongoing work of the SONPM, such as live-tweeting from conferences and recent member accomplishments. Equally important are keeping members up-to-date with clinical guidelines and evidence-based publications. Last year, @AAPneonatal joined Twitter conversations on the separation of families at the border #FamiliesBelongTogether, safe environments for children to thrive #EndGunViolence and addressing the opioid epidemic #NavigatingNAS. The voices of our many singular voices are echoed by larger groups the SoNPM and the AAP. These advocacy efforts are the most important use of our social media platforms, as open communication is critical, and issues are time-sensitive.

If history is any indication, every technological advance is met with equal opposing forces of acceptance and rejection. Technology advances without or without our individual involvement. Society will move forward with bigger and better, more efficient and effective despite the road bumps along the way, however big or small. Let's recall the exciting yet rocky introduction of the automobile. Before the advent of the large individual automotive, streets belonged to the people. In the early 1900s, the streets were dominated by pedestrians and completely unregulated chaos, without drivers training or traffic control. Reportedly, sixty percent of victims of automobile-related deaths were children under the age of none (19). But cars are still around; we depend on them. Like the telephone, airplane, and smartphone, the social web is a communication platform that many now depend on as well. Together, we can work to maintain a safe and healthy World Wide Web.

If you enter the social media world in any capacity, I implore medical professionals to use common sense and be the same courteous, honest, respectful person virtually that you are in the world every day. Language is a powerful force. The authenticity of our language travels across the screen.

As we know, with great power comes great responsibility. Our voice is one of our greatest superpowers. Social media gives each person the power of their voice. Like all powers, they can be used for good or evil. Share your expert knowledge, write what you know and be open to the conversation that it may ensue. Be a social leader, you represent not only yourself, but you represent us all.

References:

1. *Bejan,T. Is Civility a Sham? TED Salon: Brightline Initiative, New York, NY. October 2018.*
2. *Twitter, Wikipedia, last edited Dec 7, 2018.*
3. *Salman A. Twitter by the Numbers: Stats, Demographics & Fun Facts Twitter Statistics, www.omnicoreagency.com, October 26, 2018*
4. *Equalman E. Socialnomics Blog. www.socialnomics.net. 2012.*
5. *From Global Web Index, on Socialnomics, Erik Equalman 2018*
6. *Equalman E. Linkedin, on Socialnomics Blog, www.socialnomics.net. 2018.*
7. *History of the Web, World Wide Web Foundation. webfoundation.org, 2008-2017.*
8. *September 27, 2018- Google's 20th birthday. #SearchIs20 Doodle Team. Google.com*
9. *Wakefield AJ, et al. Ideal-lymphoid-nodular-hyperplasia, non-specific colitis and pervasive developmental disorder in children. The Lancet, 1998; 352: 9103:637-641, February 28,1998. https://doi.org/10.1016/S0140-6736(97)11096-0*
10. *www.vaccines.procon.org*
11. *Gunter J. Why It's Your Duty to Share Accurate Health Info on Facebook. medscape.com. Jan 17, 2017.*
12. *Prensky M. Digital Natives, Digital Immigrants. On the Horizon. MCB University Press, 2001: Vol 9 N. 5.*
13. *Sreenivasan S. Digital natives vs digital immigrants. TEDxNewYork, Jan 15, 2015.*
14. *Ohlheiser A, Epstein K. 'Just try to keep calm' How one Parkland student's phone became his lifeline and his voice. Washington Post, March 3, 2018.*
15. *March For Our Lives. Wikipedia, last edited December 11, 2018.*
16. *Governor Tom Wolf on Twitter, @GovernorTomWolf, 10/12/18, 3:26 PM.*
17. *Hitchings-Hale J, Calderwood I. 8 Massive Moments Hashtag Activism Really, Really Worked. Global Citizen. Aug, 23, 1017.*
18. *Ice Bucket Challenge, Wikipedia, last edited Dec 9, 2018.*
19. *Loomis B. 1900-1930: The years of driving dangerously. The Detroit News. April 26, 2015.*

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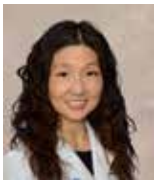

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FROM THE NATIONAL PERINATAL INFORMATION CENTER
Patient Safety Bundle: Obstetric Care for Women with Opioid Use Disorder

Janet H. Muri, MBA

The National Perinatal Information Center (NPIC) is driven by data, collaboration and research to strengthen, connect and empower our shared purpose of improving patient care.

For over 30 years, NPIC has worked with hospitals, patient safety organizations, insurers, and researchers to collect and interpret the data that drives better outcomes for mothers and newborns.

"The Council on Patient Safety in Women's Health Care is a broad consortium of organizations across the spectrum of women's health for the promotion of safe health for every woman." www.safeheathcareforeverywoman.org

In 2017, the Council completed work on one of its latest patient safety bundles: Obstetric Care for Women with Opioid Use Disorder. The bundle is designed as an implementation guide for hospitals that want to develop a structured response to their maternal/neonatal opioid crisis.

The bundle format follows the structure developed across all Council patient safety bundles by defining needed components of Readiness, Recognition, and Prevention, Response and Reporting/Systems Learning. These components address both in-hospital and community-based opportunities for engaging women and their families in a continuum of care and support.

- Readiness defines the need for education of women and families on the disease nature of opioid addiction, the signs and symptoms of Neonatal Abstinence Disorder and encourages the linking with community resources to manage/mitigate addiction. At the hospital or system level, Readiness requires staff education on Substance Use Disorder (SUD) and need to present an unbiased, supportive environment to help foster change. Clinical pathways and protocols help standardize treatment as does clearly knowing federal and state laws on child welfare reporting as well the range of community partners available to assist pre and post-delivery.
- Recognition and Prevention details the need for provider screening of all women for SUD with valid screening tools, ability to make appropriate referrals, ability to assess commonly occurring co-morbidities and match treatment readiness and needs to an appropriate care plan.
- The response includes a combination of clinical and case management recommendations that are probably the most comprehensive and holistic of all previous bundle response outlines. It recommends that all providers and clinical settings enroll women with SUD in a treatment program; have strong communication and information sharing with the external programs; incorporate additional support services (lactation, family planning, pain management etc.) in the woman's care, foster strong communication and information sharing across all providers - within the clinical setting and across the community and engage child welfare services to ensure the provision of safe care and home visiting services.
- Reporting and Systems Learning requires providers to collect outcome, process, and structure data so improvements over time can be documented; recommends establishing a multi-disciplinary team to review patient, provider or system level issues; establish a continuing education program so lessons from the field can be incorporated in a timely manner and engage all the care partners in the documentation, collection, and analysis of their respective data so collective learning across partners can be maximized.

Data collection and analysis is a critical part of monitoring the success of implementation. AIM defines the outcome, process and structure measures for each bundle and while the Opioid bundle data collection presents a coordinating challenge across multiple sites, the goal is to have robust data to share and inform this national initiative.

The **Structure Measures** define what should be in place at the delivery setting to ensure consistent and complete care for each dyad and family: universal screening, post-delivery and discharge prescribing practices focused on limiting opioid prescriptions and implementation of specific pain management and prescribing practices for OUD patients.

Structure data collection involves identifying the date when each component was put in place setting-wide.

The **Process Measures** define process improvement opportunities to maximize the wellbeing and successful care of OUD mothers and their infants. They are collected quarterly and document the care team's progress in successfully treating patients in their care: percent of women with OUD during pregnancy who receive medication-assisted or behavioral health treatment; the percent of opioid-exposed neonates on mother's milk at discharge; percent of opioid-exposed neonates who are discharged with their biological mother and the percent of prenatal care sites affiliated with your facility who are performing universal screening.

Every AIM bundle has two universal Outcome Measures: Severe Maternal Morbidity (SMM) (overall) and Severe Maternal Morbidity excluding cases with only blood transfusions. Both SMM metrics are calculated using the administrative data set and are defined using metrics incorporated in the original analysis conducted by Callahan et al. of the CDC.

Each bundle also has between 2-3 bundle specific outcome metrics. For this bundle, the two outcome metrics are the number of opioid-related maternal deaths within one year of delivery and the number of total hospital days among newborns ≥ 35 weeks gestation diagnosed with Neonatal Abstinence Syndrome (NAS). This latter measure can be calculated using the administrative data set however the maternal mortality measure will require gathering death certificate data from state vital statistics.

The opioid crisis is affecting a broad spectrum of patients and not leaving pregnant women and their infants behind. The AIM bundle provides the entire team a standardized system of care for the dyad and guidelines for collecting data to measure success: always the goal of quality improvement.

References:

1. https://safehealthcareforeverywoman.org/national-collaborative-on-maternal-oud/#1543353616472-9211f6a9-df46
2. *Callaghan, W.M., Creanga, A.A., Kuklina, E.V. Severe Maternal Morbidity Among Delivery and Postpartum Hospitalization in the United States. American Journal of Obstetrics and Gynecology 2012; 120:5. 1029-1036.*

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Insights and Suggestions to Support Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning (LGBTQ) Parents in the NICU

Vincent C. Smith, MD, MPH and Jonathan S. Litt, MD MPH ScD

The National Perinatal Association (NPA)is an interdisciplinary organization that strives to be a leading voice for perinatal care in the United States. Our diverse membership is comprised of healthcare providers, parents & caregivers, educators, and service providers, all driven by their desire to give voice to and support babies and families at risk across the country.

Members of the NPA write a regular peer-reviewed column in Neonatology Today.

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Traditional family structure of a man, a woman, and one or more of their biological or adopted children in the United States is changing. More commonly, members of the Lesbian, Gay, Bisexual, Transgender, and Queer/Questioning (LGBTQ) community are choosing to become parents. According to a 2010 census, 37% of LGBT-identified individual have had a child and 19% of same-sex couples are raising children. LGBTQ parents represent a small but increasing number of families cared for in the NICU.

There is very little beyond personal anecdotes to characterize the experience of LGBTQ parents in the NICU. What is clear from these stories is that make clear that being LBGTQ affects the NICU experience for the parents as well as for the health care providers. There is a range of LGBTQ parental experience NICU from positive to negative. Most NICU providers have limited training about and experience with the unique needs and issues for LGBTQ parents in a NICU setting.

Common terminology and definitions

Sexual orientation is an enduring pattern of romantic and/or sexual desirability to persons of the same or different gender. Sexual orientation has three components-attraction, behavior, and identity. Attraction refers to the gender that one finds romantically and/or sexually attractive. Behavior refers to with whom one engages in romantic and/or sexual relationships. Identity refers to the self-perceived understanding of one's orientation and is typically linked to public expression and social engagement. Terms often used to describe sexual orientation include lesbian, gay, bisexual, questioning, and straight.

> ***" Gender identity is the self-perceived understanding of one's gender."***

Gender identity is the self-perceived understanding of one's gender. Terms often used to describe gender identity include female, male, non-binary, gender-fluid, and queer. The term cisgender is when the gender matches the sex assigned at birth. The term transgender is when the gender does not match the sex assigned at birth.

Gender expression is the outward presentation of one's gender identity. Terms often used to describe gender expression include femme, butch, female/male presenting, and gender non-conforming.

Insights into and suggestions for interacting with LBGTQ parents in the NICU

Insight: Many LGBTQ individuals have not had positive past interactions with the health care system. This can lead to some skepticism related to medical practice and some heightened sensitivity to mistreatment.

Suggestion: Some LGBTQ parents will need a lot of reassurances in order to be trusting of staff. It is very important staff to understand this and be supportive. Provide the reassurances as often and to what degree in needed for the parents to become comfortable.

Insight: No two LGBTQ families are exactly alike meaning that there is not a "one size fits all" model of care. Rather, there will be some common themes but the approach will need to be tailored to the needs of that specific family.

Suggestion: Follow the families' lead. Feel free to offer them opportunities being open to them being able to decline engagement as on option.

Insight: Like any couple, parenting roles may be defined in unique ways for LGBTQ parents. Physical appearance and mannerisms are not necessarily going to be informative of the role that an individual is going to play.

Suggestion: Keep an open mind about which parent is doing what tasks. Don't assume that anything in regard to parenting roles. Follow the family's lead. Staff should refrain from assuming that based on a more traditional masculine or feminine appearance or manner that they know what role the LGBTQ person plays in the relationship or in parenting their child. Often those types of assumptions are dead wrong.

Insight: Generally, LGBTQ parents appreciate kindness and a genuine desire by staff to provide them with the highest level of care. When kindness, caring, and good intent are obvious, many LGBTQ parents

can overlook incidental faux pas.
Suggestion: Staff can be open about what they don't know and express willingness to learn. It is helpful to explain to the LGBTQ parents about the amount of experience that one has caring for LGBTQ families. Apologize in the beginning for any *faux pas* that could arise, and provide the family with a standing invitation to correct any gaffe that arises. Express an eagerness and openness to learn any insight that the LGBTQ family volunteers to share without insisting that the family educate one about LGBTQ culture. Don't be afraid to ask questions such as which pronouns and identifiers are preferred

"Apologize in the beginning for any faux pas that could arise, and provide the family with a standing invitation to correct any gaffe that arises."

TAKE HOME POINTS

1. The makeup of American families is changing with more LGBTQ individuals becoming parents.
2. LBGTQ parents expressed gratitude for thoughtful, sensitive care. When kindness, caring, and good intent are obvious, many LGBTQ parents can overlook incidental faux pas.
3. Avoid making assumptions about LGBTQ parents based on physical appearance and/or manner.
4. There are ever increasing opportunities to improve how we care for all types of families in our NICUs. Each family provides an opportunity to refine the care we provide.

References:

1. *National Network of LGBTQ Family Groups available at https://www.familyequality.org/family-support/national-network-lgbtq-family-groups/ accessed 11/28/18*
2. *Gay Parent Magazine available at https://www.gayparentmag.com/support-groups accessed 11/28/18*
3. *PFLAG (Parents, Families and Friends of Lesbians and Gays) is the United States' first and largest organization uniting families and allies with people who are LGBTQ available at https://www.pflag.org/ accessed 11/28/18*
4. *Children of LGBT Parents available at https://www.glaad.org/resources/ally/8 accessed 11/28/18*

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The First International PDA Symposium Memphis, Tennessee, May 18-19, 2018

Ranjit Philip, MD, Ajay Talati, MD, Mark Weems, MD, Leah Apalodimas, APN, PNP, Shyam Sathanandam, MD

The International PDA symposium was the first dedicated international conference strictly geared towards management of the patent ductus arteriosus (PDA) with a special focus on trans-catheter techniques for closure of the PDA in extremely low birth weight preterm infants. Having come a long way (80 years) since the first surgical ligation of a PDA by Dr. Robert Gross, there remains no consensus on whether a PDA needs to be closed in children born premature and if so, when and how it needs to be closed. This meeting provided a unique opportunity for different subspecialties to come together in one forum to discuss and debate variations in management practices. State-of-the-art presentations were given by world-class experts in the field of interventional cardiology, neonatology, cardiac surgery, cardiac anesthesia among others (Figure-1). Being the first meeting of its kind, there was an overwhelming response with registrations surpassing the cap of 180 (pediatric cardiologists, neonatologists, cardiac surgeons, cardiac anesthesiologists, CRNAs, cardiac perfusioninsts, nurse practitioners, nurses, sonographers, trainees from cardiology and neonatology, and industry partners) from across the United States, and 7 other countries from 4 continents (Figure-2). Registrants left the meeting not only with the thrill of the live case of transcatheter PDA occlusion in a 700 grams, 24 weeks' gestation premature neonate but also with an enhanced insight to which PDAs may benefit from closure and what might be the optimal timing for closure. There was a hands-on echocardiography workshop geared towards neonatologists (Figure-3). Better insight was provided on that the different methods of closure (medical therapy, surgical ligation, trans-catheter closure) may have different biological effects on the neonate and that the short and long-term outcomes from one technique may be different from the other and hence must be evaluated separately. There was also a commitment from most speakers to offer continuing education and consultation for registrants throughout the year.

The symposium aptly began with a comprehensive overview of ductal physiology by Dr. John Jeffrey Reese (Vanderbilt Univer-

Figure 1: International PDA Symposium – State of the art presentations given by world-class experts

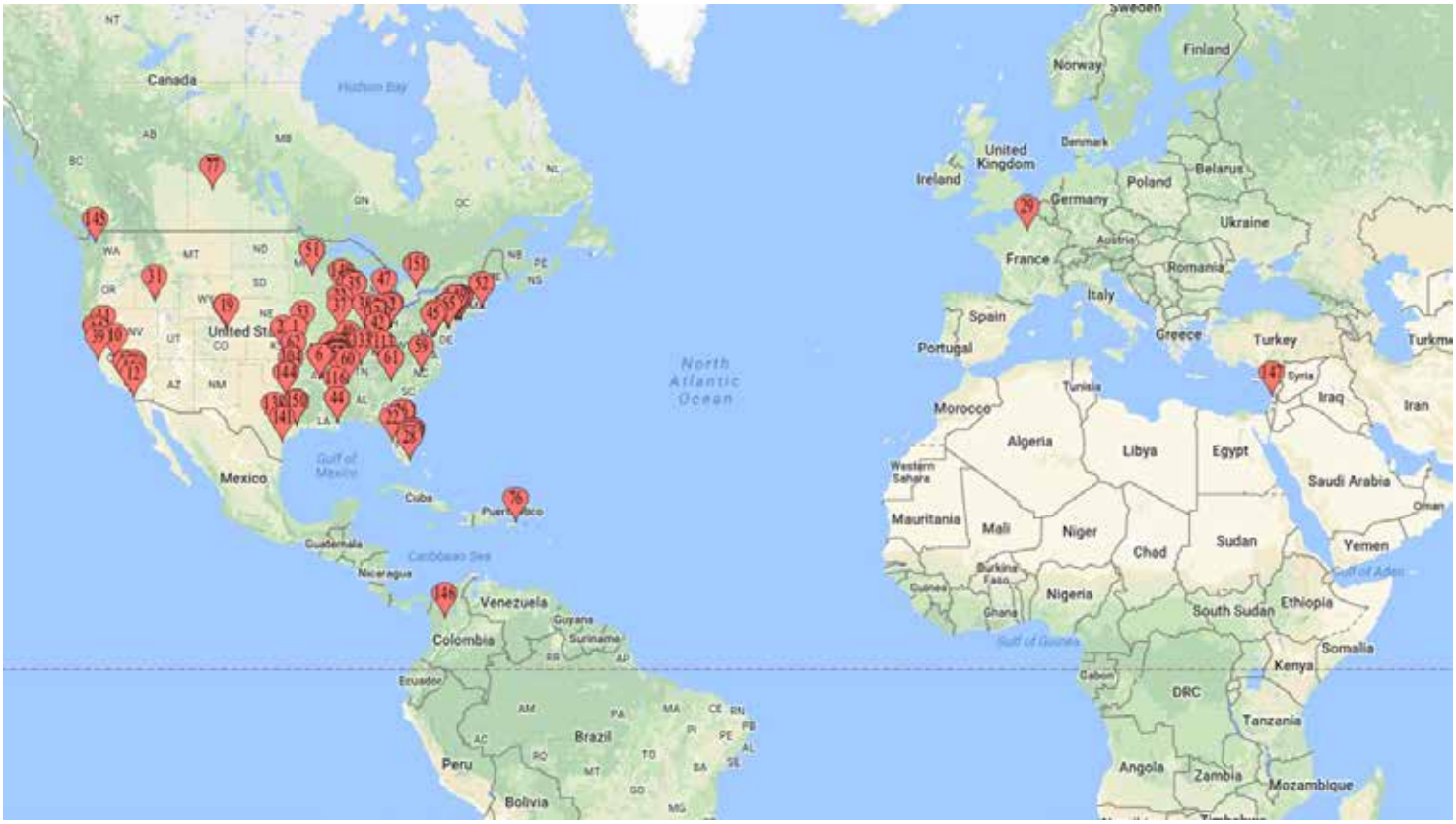

Figure 2: Registrant map from across the United States and 4 continents.

sity). Dr. Shahab Noori (Children's Hospital Los Angeles) then discussed "What is a hemodynamically significant PDA?". This session was followed by talks on the effect of PDA on BPD, the heart and pulmonary vascular disease as well as echocardiographic methods to assess the PDA in a preterm infant.

The focus of the much awaited second session was: Neonatology and Cardiology perspectives of management of PDA in the premature infant and who better than Dr. William Benitz (Stanford University) to deliver an outstanding presentation on "What the current evidence suggests." The participants were equally amazed at the captivating performance by Dr. Matthew Gillespie (Children's Hospital of Philadelphia) on the cardiologist's perspective.

"The discussions from the First international PDA Symposium will be published in a special issue of Congenital Heart Disease as 24 separate review articles written by experts from the field."

The next session transitioned to the discussion of techniques of PDA closure including pharmacotherapy, surgical techniques and the introduction of transcatheter PDA closure by none other than Dr. Evan Zahn (Cedars-Sinai Heart Institute). The registrants were also enlightened by an excellent hemodynamic talk and review of post ligation syndrome by Dr. Patrick McNamara (The Hospital for Sick Children, Toronto)

The afternoon session was dedicated to trans-catheter PDA closure in extremely low birth weight infants. After presentations on transport and anesthesia management of the extremely low birth weight infant in the catheterization lab and echocardiographic guidance for trans-catheter PDA closure, Dr. Shyam Sathanandam (LeBonheur Children's Hospital, University of Tennessee) showcased the mounting Memphis experience with trans-cathe-

Figure 3: Hands-on Echocardiography workshop at the Simulation Center.

ter PDA closure in neonates < 1000 grams. This session was followed by an enchanting presentation by Dr. Neil Wilson (Children's Hospital Colorado), one of the pioneers of bedside transcatheter PDA closure. In the true spirit of being an international conference, Dr. Guiti Milani (The Necker University Hospital for Sick Children in Paris) ended the session discussing the French Multicenter Registry Data on trans-catheter PDA closure in premature infants. Future directions deliberating the importance of thoughtful designing of randomized control trials were then nicely summed up by Dr. Carl Backes (Nationwide Children's Hospital) and Dr. Rush Waller (LeBonheur Children's Hospital, University of Tennessee)

There were three breakout sessions. Breakout session #1 focused on ductal dependent pulmonary circulation. After a good overview of ductal-dependent pulmonary circulation lesions, Dr. Athar Qureshi (Texas Children's Hospital) gave a wonderfully crafted talk on ductal stenting which led the way to a riveting, yet entertaining debate on the Blalock-Taussig shunt versus ductal stenting between Dr. Christopher Knott-Craig (LeBonheur Children's Hospital, University of Tennessee) and Dr. Andrew Glatz (Children's Hospital of Philadelphia). Breakout session #2 focused on targeted neonatal echocardiography (TnECHO) and was an extremely popular session and a big draw to many of the registrants as they were made privy to our state-of-the-art simulation laboratory for hands-on echocardiography on actual patients with PDAs as well as simulation models. Breakout session #3 was the nursing breakout session which also had a significant turn out with interactive case studies and specific nursing care modules. The day ended with a heavy hors-d'oeuvres reception and a trip to the Memphis barbecue festival.

"The limelight of the symposium undoubtedly was the live transcatheter PDA closure case in the morning on day-2 (Figure-4). Participants were at the edges of their seats as Dr. Shyam Sathanandam performed transcatheter PDA closure in an extremely low birth weight, 700 grams, 24 weeks preterm infant."

The limelight of the symposium undoubtedly was the live transcatheter PDA closure case in the morning on day-2 (Figure-4). Participants were at the edges of their seats as Dr. Shyam Sath-

Figure 4: Live Broadcast of Transcatheter PDA Closure in a 700 Grams ELBW Infant During the International PDA Symposium.

Figure 5: Panel discussion - panelists included all the eminent invited speakers from cardiology and neonatology.

anandam performed transcatheter PDA closure in an extremely low birth weight, 700 grams, 24 weeks preterm infant. As seamless and as quickly as the procedure went, it had its share of theatric twists, nonetheless concluding well with an appropriately placed device in a hemodynamically stable neonate. This session was followed by an eloquently delivered talk by Leah Apalodimas, APN, PNP on "Elements of a Comprehensive PDA Program" where the main take-home points were teamwork of multiple different specialties, the importance of meticulous patient selection and the learning curve involved with the individual operator. The oral abstract session then followed. It was a testament to the reputation of the symposium that there was an abstract presenter who traveled from Israel for the meeting.

Dr. Athar Qureshi then shared results of a survey that we conducted electronically with an equally distributed (neonatology and cardiology) participant pool to evaluate practice variations in the management of PDA. This was well received and instigated a lot of debate that blended nicely into the focal point of this meeting which was the panel discussion. The panelists included all the eminent invited speakers from cardiology and neonatology mentioned above (Figure-5) as well as Dr. Ron Clyman (via teleconference). The ultimate goal of the panel discussion was to formulate a joint statement and recommendations from this symposium. What was agreed upon was that as a medical community we need to be more intelligent and mindful and stop doing trials with crude measures of significance and no outcome. What most panelists also agreed on was that if PDA closure via the trans-catheter route was to be attempted, the ideal timing is between 2-4 weeks of age. With the advent of transcatheter PDA closure, this is our moment of opportunity to do a well thought out trial on the appropriate patient population (i.e. babies with the biggest shunt with at least physiologic consequences with well-identified morbidities) without lumping all treatments together.

The symposium kept registration fees well below the national average through the generous support of our sponsors. We have had glowing reviews from the participants and the invited speakers themselves on the symposium and the content. The discussions from the First international PDA Symposium will be published in a

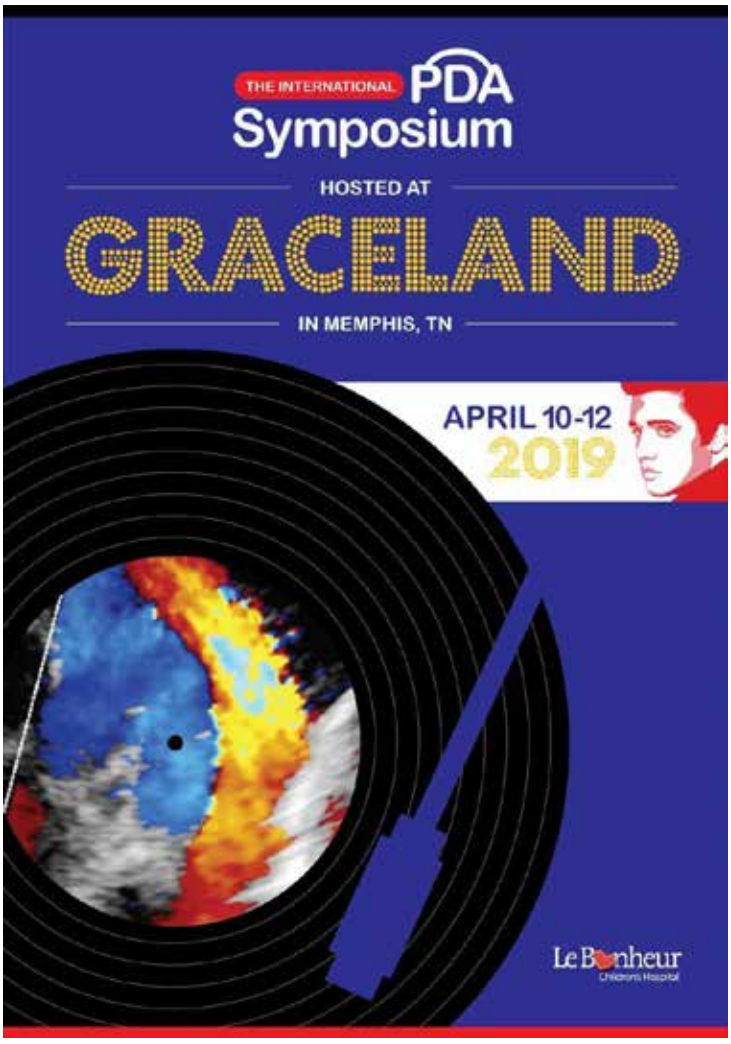

Figure 6: Save the date for the 2nd International PDA Symposium

special issue of Congenital Heart Disease as 24 separate review articles written by experts from the field. The International PDA Symposium will continue to serve as a platform to bring the leaders in the field together to improve care and outcomes of premature infants. Based on the feedback, plans are already underway for the second International PDA symposium to be held in Memphis Tennessee in April 2019 (Figure-6).

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Andrea Goodman: Reports from Hot Topics

Dr. Jay Greenspan is a neonatologist, Chair of Pediatrics at Nemours, and has been dedicated to pediatric care for more than 30 years. His passion is immediately evident. He's also the chief champion and organizer for the annual Hot Topics in Neonatology conference, hosted in December each year in Washington, D.C. "Our ultimate goal is to change lives," he shared.

The conference is big—it's grown by 20% attendance this year, with more than 1,300 participants and a strong international presence, with 41% of attendees traveling to the District from overseas to network and share best practices from across the globe. Almost 50 different countries were represented this year.

In addition to your typical conference perks—shared knowledge, late-breaking evidence, continuing education credits, and access to gadget demonstrations—this meeting means even more to the professionals who spend year after year coming together. "It's all about the connectivity," shared Dr. Greenspan, who has been running the event for five years. "We learn from each other and provide mentorship. Of course, residents and fellows come to learn. But we all continue to evolve. At this meeting, you realize that neonatology is a fluid field, with rapidly changing evidence on best practices. We rely on each other to stay on top of the field to be our best."

Key sessions for the December 2018 conference included topics such as best practices in neonatal care, evidence, and controversies around therapeutics and innovative therapies, precision medicine, and using quality improvement methods and tools to improve outcomes. Read more here: http://www.hottopicsinneonatology.org. You can also visit www.hottopicstv.com to view some interviews of the speakers on their topics.

The conference is hosted by Nemours, a nonprofit pediatric health system active in five states. Nemours also offers www.NICUniversity.org, a free platform with a wide range of relevant and important continuing education courses for neonatology health care providers.

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Voters Change Dynamic of U.S. Congress

Darby O'Donnell, JD

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.

When Congress begins the 116th session on January 3, 2019, there will be some new faces in Washington, D.C. and a new dynamic - complete Republican control of the Executive and Legislative Branch will be altered for the first time in two years.

On Election Day, Democrats gained enough new seats that they will now hold the majority in the U.S. House of Representatives, while Republicans retained control of the U.S. Senate. This split governing will offer both challenges and opportunities for health care policies affecting neonates.

Overall, as of this writing, there will be 103 new Representatives and eight new Senators who will take office in early January.

What does this mean for health care policy and the passage of legislation to improve the health of Americans?

It remains to be seen what a Democrat-controlled House and Republican-controlled Senate can accomplish and where the two chambers may agree and/or compromise.

What health care issues will House Democrats focus on in 2019?

First, they plan to hold a vote early next year on protecting health coverage for people with preexisting conditions, according to Bloomberg Government. This can be accomplished as the House will have control of the House floor agenda as well as new Committee chairs, including those Committees with oversight of health care policy: the Energy and Commerce Committee and the Ways and Means Committee.

Second, health care programmatic and research funding requests should continue to be a priority. House Democrats are likely to continue current policies by increasing funding in multiple areas, such as mental health, and allowing NIH to compete for the funding increases they have achieved steadily in recent years, during appropriations season.

Third, past attempts by the Republican-controlled Congress to repeal the Affordable Care Act (ACA) will likely not be revisited with Democrats at the helm of the House. Quite the opposite, Democrats will likely look for opportunities to bolster remaining ACA provisions and may even try to expand Medicare to more Americans.

Fourth, drug pricing and transparency are expected to remain at the forefront of health care policy, as high prescription drug costs were considered an issue that motivated voter turn-out in this election cycle.

What do new Committee leaders identify as priorities?

The likely Chairman of the House Energy and Commerce Committee (now current Ranking Member) Frank Pallone, Jr. (D-NJ) has reiterated his health care priorities to provide Americans with affordable health care, strengthen the health care marketplace under Obamacare, and reduce the number of uninsured people.

> ***"With new faces in Congress and new Chairpersons on key House health committees, the 116th Session of Congress is likely to bring up measures that may have faded into the background or been off the table completely in the last two years. "***

The likely, new Health Subcommittee Chairwoman Anna Eshoo (D-CA) is known to work both sides of the aisle, as well as have close ties with Democratic leadership. Her priorities for her chairmanship were stated as follows: "tackling drug pricing by examining the entire drug supply chain and focusing on safety, affordability and innovation; working to strengthen the Affordable Care Act by protecting those with preexisting conditions; strengthening Medicare and Medicaid; lowering health care costs for all Americans; maintaining investments in biomedical research and development; and advancing consumer protections for medical products."

Congresswoman Eshoo has also shown interest in policies to curtail premature births. She helped introduce the PREEMIE ACT (H.R. 6085), also known as the Prematurity Research Expansion

and Education for Mothers who deliver Infants Early Reauthorization Act, earlier this year.

Finally, Congresswoman Diana DeGette is expected to have a leadership role on one of the Energy and Commerce Subcommittees. Currently, she is the Oversight and Investigations Subcommittee Ranking Member and a co-sponsor of the PREEMIE ACT. She is well known for her commitment to research and medical innovation, recently as the Democratic lead of the 21st Century Cures Act.

With new faces in Congress and new Chairpersons on key House health committees, the 116th Session of Congress is likely to bring up measures that may have faded into the background or been off the table completely in the last two years. This is good news, but health care policy successes will remain complicated by the need for agreement between the House and Senate to pass legislation and get measures to the President's desk.

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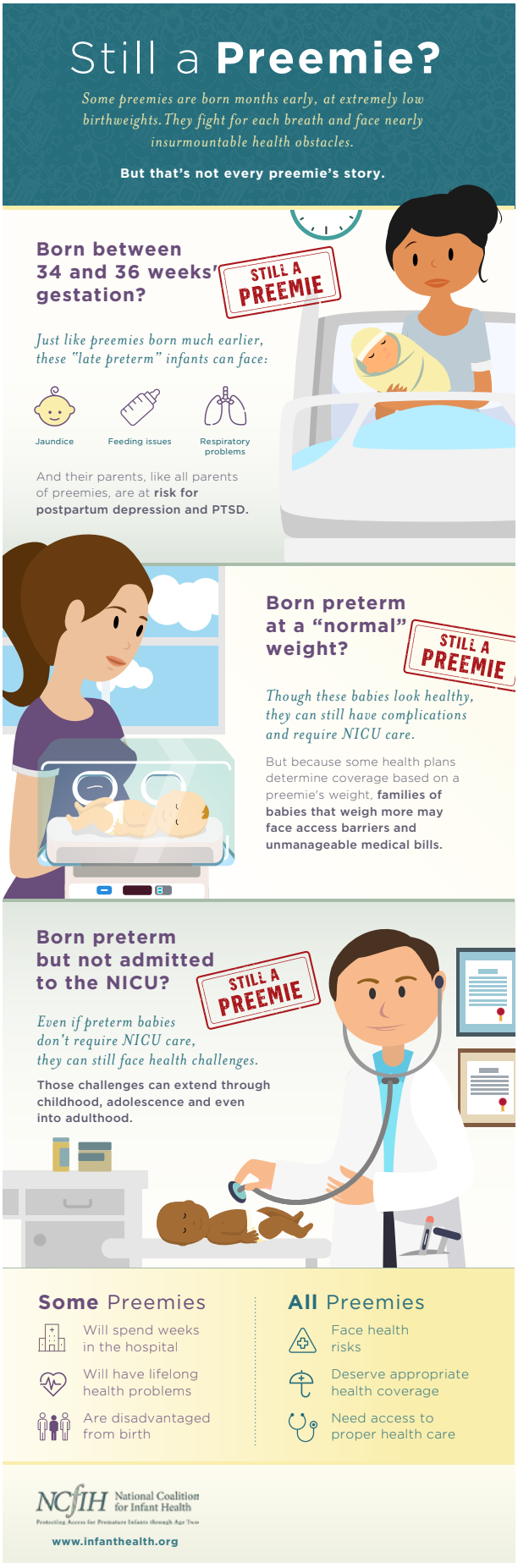

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- Treatment of serious infections in low and middle income countries

Registration and abstract submission will open on October 01, 2018

Registration for the newsletter and further information about the scientific programme are available on the website: www.esdppp2019.org

Compiled and Reviewed by Mitchell Goldstein, MD Editor in Chief

Chiesi Salutes Neonatal Intensive Care Unit Staff in Honor of Prematurity Awareness Month®

In partnership with March of Dimes, video featuring parents of preterm infants and NICU staff raises awareness of prematurity through first-hand accounts from the NICU

Released: November 14, 2018

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CARY, N.C., – In honor of Prematurity Awareness Month (November), Chiesi USA, Inc., a Cary-based specialty pharmaceutical company, is saluting NICU staff for their commitment to the families of babies born too soon in a video that shares stories of the people impacted by premature birth. The video provides a first-hand account of reality in the Neonatal Intensive Care Unit (NICU), from the worry and fear families experience, to the exceptional care provided by NICU staff.

"NICU staff work tirelessly every day to serve the most fragile patients. The compassionate care they provide to families not only helps them through their time in the NICU, but also builds relationships that last a lifetime," said Josh Franklin, Senior Vice President of Marketing and Corporate Development, Chiesi. "We're honored to share their stories of strength and resilience through this video, and we hope it helps to raise awareness about prematurity and the important role of the NICU staff in hospitals across the country."

The video showcases candid interviews with NICU families who share stories of the challenges they overcame and the care received while in the hospital. They also offer hope to other families experiencing preterm birth.

"Having a baby in the NICU is such a rollercoaster of emotions," said Karen Reeder, who delivered a 2- pound, 11-ounce baby girl at 31 weeks. "Every day is filled with worry, fear, and uncertainty. But the constant love and support, in addition to the education provided by the NICU staff, really made a difference in helping our family navigate the difficult times. Two years later, the nurses who helped us along our NICU journey are now some of our closest friends."

Equally important is to share the loss that is very real. In the video, mom Moline Pandiyan talks about her son Niko who never made it home from the NICU. "We spent 164 days in the NICU with Niko, and during that time, our family forged unbreakable relationships with the NICU team, which includes the doctors, nurses, respiratory therapists, social workers, therapists, receptionists, and so many others," said Pandiyan. "Each one left an important mark on our family's heart for the way they took care of Niko and how they mourned with us when we lost him. They were his family and continue to be a part of our lives."

In the United States, more than 380,000 babies are born premature each year. That's about one in 10 babies born too soon, according to March of Dimes. During Prematurity Awareness Month, Chiesi hopes this video will help raise awareness for preterm birth and the important work being done in NICUs across the country.

NICU footage provided by March of Dimes. March of Dimes does not endorse any product or service.

About Chiesi USA

Chiesi USA, Inc., headquartered in Cary, N.C., is a specialty pharmaceutical company focused on commercialization of products for the hospital, rare disease and target office-based specialties. Key elements of the company's strategy are to focus its commercial and development efforts in the hospital and adjacent specialty product sector within the U.S. pharmaceutical marketplace; continue to seek opportunities to acquire companies, marketed or registration-stage products and late-stage development products that fit within the Company's focus areas. Chiesi USA, Inc. is a wholly-owned subsidiary of Chiesi Farmaceutici S.p.A. For more information, visit www.chiesiusa.com.

About March of Dimes

March of Dimes leads the fight for the health of all moms and babies. We support research, lead programs and provide educa-

The 32nd Annual Gravens Conference on the Environment of Care for High Risk Newborns, *in collaboration with the March of Dimes*

March 6-9, 2019
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Clearwater Beach, FL

Current URL: www.cme.hsc.usf.edu Click on *course calendar*, then sort by month (March 2019)
Future URL: www.thegravensconference.com

Questions? Email the meeting planner at brose@health.usf.edu

Highlights include: Two receptions, dinner cruise, and presentation of Gravens Award

tion and advocacy so that every baby can have the best possible start. Building on a successful 80-year legacy of impact and innovation, we empower every mom and every family.

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NT

American Academy of Pediatrics, Section on Advancement in Therapeutics and Technology

Released: Thursday 12/13/2018 12:32 PM

The American Academy of Pediatrics' Section on Advances in Therapeutics and Technology (SOATT) invites you to join our ranks! SOATT creates a unique community of pediatric professionals who share a passion for optimizing the discovery, development and approval of high quality, evidence-based medical and surgical breakthroughs that will improve the health of children. You will receive many important benefits:

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- Access the Section's Website and Collaboration page – with current happenings and opportunities to get involved.
- Network with other pediatricians, pharmacists, and other health care providers to be stronger advocates for children.
- Invitation for special programming by the Section at the AAP's National Conference.
- Access to and ability to submit research abstracts related to advancing child health through innovations in pediatric drugs, devices, research, clinical trials and information technology; abstracts are published in Pediatrics.

AAP members can join SOATT for free. To activate your SOATT membership as an AAP member, please complete a short application at http://membership.aap.org/Application/AddSectionChapterCouncil.

The Section also accepts affiliate members (those holding masters or doctoral degrees or the equivalent in pharmacy or other health science concentrations that contribute toward the discovery and advancement of pediatrics and who do not otherwise qualify for membership in the AAP). Membership application for affiliates: http://shop.aap.org/aap-membership/ then click on "Other Allied Health Providers" at the bottom of the page.

Thank you for all that you do on behalf of children. If you have any questions, please feel free to contact:

Mitchell Goldstein, MD, FAAP, Section Chairperson, MGoldstein@llu.edu and

Christopher Rizzo, MD, FAAP, Membership Chairperson, crizzo624@gmail.com

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AAP Division of Pediatric Practice

Department of Primary Care and Subspecialty Pediatrics

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Dedicated to the Health of All Children

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The American Academy of Pediatrics is an organization of 67,000 primary care pediatricians, pediatric medical subspecialists and pediatric surgical specialists dedicated to the health, safety and well-being of infants, children, adolescents and young adults. For more information, visit www.aap.org. Reporters can access the meeting program and other relevant meeting information through the AAP meeting website at http://www.aapexperience.org/

NT

Early Childhood Book from D.C. Publisher Promotes Attachment, Science Education, and Bilingual Learning

Beautiful addition to bilingual children's literature celebrates the bond between parent and child with illustrations of animal babies

Released: June 1, 2018

Washington, D.C., June 1, 2018: Platypus Media announces the release of a beautiful bilingual (English/Spanish) children's book, Cuddled and Carried / Consentido y cargado. With warm paintings of animal mothers tending to their cubs, pups, calves, and chicks, this bilingual book introduces the reader to animals and their behavior. Written by Dia L. Michels, the simple text and supplemental back matter will help parents, librarians, educators,

and healthcare providers creatively describe how babies are cared for. The book introduces a range of early science concepts including habitats, family systems, and survival instincts. The book has already won a Purple Dragonfly Award and a Top Choice Award from Baby Maternity Magazine.

The images, depicting animal mothers as they lend a paw, wing, or flipper to care for their young, model attachment, breastfeeding, and caretaking. Dr. Sarah Reece-Stremtan, a pediatrician based in Washington, D.C., writes, "My two boys love this charming book. I really appreciate how it normalizes the nurturing relationship between parents and their children. It makes cuddling during story time that much sweeter."

The bilingual text can help readers develop language skills in English and Spanish. According to the Migration Policy Institute, "Dual Language Learners now make up nearly one-third of all children in the United States. These children stand to benefit disproportionately from high-quality early learning opportunities." Cuddled and Carried / Consentido y cargado aims to provide these learning opportunities for bilingual children.

"The option of reading in Spanish or English opens this book to a large number of families," adds Ryan Pontier, Ph.D., Early Childhood Bilingual Education Council Chair for the League of United Latin American Citizens.

The accompanying Teacher's Guide is an excellent resource, available for free download in English and Spanish at PlatypusMedia.com. It includes additional content and hands-on activities to develop cognitive skills and improve literacy.

"This book shows that animal families are not so different from human ones," explains Michels, who is also the author of If My Mom Were A Platypus: Mammal Babies and Their Mothers. "I want children to think about how each species matures, survives, and what their communities look like—whether pride, flock, or family. Showing children this type of attachment in the natural world fosters empathy, kindness, and compassion."

Cuddled and Carried / Consentido y cargado will be released simultaneously in hardback, paperback, and eBook. It will also be released in an English-only edition in October 2018.

The book will be available in a two-book set with another new release, Babies Nurse / Así se alimentan los bebés. Together, these books about care and bonding create a foundation for healthy growth, introduce science topics, and encourage bilingualism. Both titles are part of Platypus Media's new

Beginnings collection.

Dia L. Michels is an internationally published, award-winning science and parenting writer who is committed to promoting attachment parenting. She has authored or edited over a dozen books for both children and adults. She can be reached at Dia@PlatypusMedia.com.

Mike Speiser's beautiful images of mother and baby animals have appeared on the cover of the National Wildlife Federation's Wild Animal Baby magazine. His work can be seen at the Leigh Yawkey Woodson Art Museum in Wausau, WI. He can be reached at Mike@PlatypusMedia.com.

Platypus Media is an independent press that creates products with a broad appeal to diverse families who believe in the importance of close family relationships for the full and healthy development of children. The publisher is committed to the promotion and protection of breastfeeding, and donates a percentage of profits to groups that work in this field.

Platypus Media products are available for direct purchase. They are distributed to the trade by National Book Network. Library bound editions are available from Children's Plus. Review copies available upon request. Sample pages, cover scans, and Teacher's Guide at PlatypusMedia.com.

# # #

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NT

Study Finds Human Milk Components in Amniotic Fluid

Human Milk oligosaccharides are also present during pregnancy .

Released: 2018-10-02

Source Newsroom: University of California San Diego Health

Newswise — Human milk oligosaccharides (HMOs) are complex carbohydrates that are highly abundant and unique to human milk. Accumulating evidence indicates that exposure to HMOs in the postnatal period has both immediate and long-term benefits to infant health and development. Previous studies have shown that HMOs are present in maternal urine and blood during pregnancy, as early as the first trimester, but researchers at University of California San Diego School of Medicine report for the first time that HMOs are also present in amniotic fluid.

The study is published in the October 2 issue of Frontiers in Pediatrics-Neonatology.

"So far, research around human milk oligosaccharides has focused on the breast-fed infant, but our latest discovery suggests that the benefits of HMOs may begin much earlier and affect the growing fetus," said Lars Bode, PhD, associate professor of pediatrics at UC San Diego School of Medicine and director of the Larsson-Rosenquist Foundation Mother-Milk-Infant Center of Research Excellence (LRF MOMI CORE).

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HMOs are natural prebiotics that contribute to the shaping of the infant gut microbiome, which may affect disease risk, such as infectious diarrhea or necrotizing enterocolitis, a condition that impacts the intestine of premature infants, and potentially also non-communicable diseases like asthma, allergies and obesity later in life. "Our findings that HMOs appear in amniotic fluid opens up an entirely new field of research and expands the HMO focus throughout development and after birth," said Bode.

The study enrolled 48 pregnant women and collected their urine and amniotic fluid at delivery, as well as their milk four days postpartum.

Similar to the effects reported for the postnatal phase, HMOs in amniotic fluid may influence the early microbiome and also prevent infections and regulate immune responses that would otherwise raise the risk for preterm birth.

"HMOs could also potentially be involved in prenatal lung or brain development," said Bode. "We don't know yet how early during pregnancy HMOs appear in the amniotic fluid, but imagine if we could screen HMOs in amniotic fluid as a marker for preterm delivery risk."

The new findings, he said, warrant additional research in how HMOs impact maternal and infant health at the perinatal and neonatal stage, including investigation of their potential life-long consequences.

Co-authors include: Audra Wise and Bianca Robertson, UC San Diego and Rady Children's Hospital–San Diego; Biswa Choudhury, UC San Diego; Samuli Rautava and Erika Isolauri, University of Turku and Turko University Hospital; Seppo Salminen, University of Turku.

Funding for this research came from the UC San Diego Academic Senate (RO192H-BODE).

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NT

New Genetic Pathways Linked to Severe Lung Disease in Preemies

Results offer potential for earlier risk detection and development of more precise treatments for severe lung disease in premature infants

Public Release: 24-Oct-2018 12:05 PM EDT

Source Newsroom: Ann and Robert H. Lurie Children's Hospital of Chicago

Newswise — Scientists from Stanley Manne Children's Research Institute at Ann & Robert H. Lurie Children's Hospital of Chicago and colleagues identified promising new genetic pathways associated with severe lung disease in extremely premature infants, as well as pathways linked to faster recovery from lung disease in this population. The study is the largest to date to perform whole exome sequencing – or examine all the genes that code for proteins – in relation to respiratory outcomes of prematurity. This method is considered to be an efficient way to establish direct links between genetic changes and disease. Their findings were published in BMC Genetics.

"Our results lend further support to the theory that some chronic respiratory problems in premature babies have a genetic basis," says lead author Aaron Hamvas, MD, Division Head of Neonatology at Lurie Children's and Professor of Pediatrics at Northwestern University Feinberg School of Medicine. "Some of the genetic pathways we found make sense biologically and warrant further research. Ultimately, we hope that early genetic testing could help us identify infants at high risk for severe lung disease, and reveal the precise genetic cause of their disease, so that we can treat it most effectively. Better understanding of genetic causes of lung disease in these babies will bring us closer to developing more precise treatments."

The study completed whole exome sequencing on 146 extremely premature infants born at less than 29 weeks of gestation, examining genetic variations and pathways in connection to the extremes in respiratory outcomes. The group with the most severe extreme of lung disease required continuous respiratory support up to 36 weeks post menstrual age (PMA). The group with the least affected extreme only required respiratory support for less than two weeks after birth and did not require any respiratory support at 36 weeks PMA.

One of the promising genetic pathways identified by this study relates to the gonadotropin releasing hormone, which is involved in sex differences and reproductive functions. Dr. Hamvas and colleagues found that this pathway is overrepresented in babies with the most severe chronic lung disease.

"Our observation that a hormonal pathway is related to more severe lung disease is intriguing because we know that there are sex differences in the risk for chronic lung disease in premature infants, with boys more susceptible to worse outcomes," says Dr. Hamvas, who also is the Raymond & Hazel Speck Berry Professor in Neonatology. "Could the sex differences we see clinically be the result of genetic changes in this pathway? More studies are needed to answer this question."

Another promising genetic pathway that is overrepresented in preemies with severe lung disease involves genes that encode heart development.

"Our discovery that genetic changes in a cardiac pathway are associated with chronic lung disease might explain why so many of these babies go on to develop pulmonary hypertension," says Dr. Hamvas. "One of our research projects is actively pursuing this connection, trying to understand the direct mechanisms involved."

Research at Ann & Robert H. Lurie Children's Hospital of Chicago is conducted through the Stanley Manne Children's Research Institute. The Manne Research Institute is focused on improving child health, transforming pediatric medicine and ensuring healthier futures through the relentless pursuit of knowledge. Lurie Children's is ranked as one of the nation's top children's hospitals in the U.S.News

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www.paclac.org

PAC/LAC's core values for improving maternal and child health have remained constant for over 30 years – a promise to lead, advocate and consult with others.

Leadership

Providing guidance to healthcare professionals, hospitals and healthcare systems, stimulating higher levels of excellence and improving outcomes for mothers and babies.

Advocacy

Providing a voice for healthcare professionals and healthcare systems to improve public policy and state legislation on issues that impact the maternal, child and adolescent population.

Consultation

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

& World Report. It is the pediatric training ground for Northwestern University Feinberg School of Medicine. Last year, the hospital served more than 212,000 children from 49 states and 51 countries.

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NT

100 bold ideas to improve women and children's health and rights in the developing world

Grand Challenges Canada, funded by the Government of Canada, supports 44 'stars in sexual and reproductive health and rights'

Public Release: 31-May-2018
Source Newsroom: Grand Challenges Canada

Toronto, Canada - Grand Challenges Canada is proud to announce an investment of over CAD$10 million to test 100 new ideas to address persistent challenges in women's and children's health in low- and middle-income countries. Four million of this is dedicated to 44 projects addressing sexual and reproductive health and rights, putting Canada's Feminist International Assistance Policy into action.

Proposed by institutions in Canada and abroad, the bold ideas embrace a range of creative solutions to empower the lives and improve the health of some of the world's poorest and most vulnerable women and children in Africa, Asia, Central and South America, the Caribbean, and Eastern Europe.

The projects will each receive a seed grant of $100,000 to develop and test their innovations, funded by Grand Challenges Canada, with financial support from the Government of Canada provided through Global Affairs Canada.

NOTABLE INNOVATIONS IN SEXUAL AND REPRODUCTIVE HEALTH AND RIGHTS

Reversing Stigma and Maternal Mortality in Northern Nigeria

The Deliver Health Foundation will implement a trauma-focused care training for midwives, and an anti-stigma campaign to improve the sexual and reproductive health for women and girls returned from Boko Haram. The violence of Boko Haram has caused over 2 million people to flee their homes. Resulting insecurity created a lack of maternal healthcare resources for vulnerable displaced populations. For survivors of sexual violence, pregnancy can be a traumatizing experience without the support structures of family and community, which can lead to delivery complications and an increased risk of maternal mortality.

Emoji Pendant Helps Young Women Make Smart Reproductive Choices in Rural India

The Research Institute of the McGill University Health Centre is looking to assist rural women in India with the creation of a personalized, accessible, data-driven, women-centric strategy for sexual and reproductive wellness and clinical care in the form of a wearable pendant. This technology will track health data on menstruation, clinical signs, symptoms, body temperature, and heart rate, and display information with different coloured emojis. The wearable pendant connects to a smartphone app to deliver wellness indicators to nearby clinical providers, where women can access self-controlled, high-quality tailored health services, using data to inform smart choices. Such choices will inform their reproductive and sexual lives and reduce morbidity and mortality.

Combatting Chaupadi and Empowering Women in Rural Nepal

Nyaya Health Nepal will combat Chaupadi; a practice that forces menstruating women to inhabit cramped sheds away from their home. While outlawed, the practice continues, leaving young women vulnerable and perpetuates the inferior status of females. Despite recent progressive healthcare policies, over 10 million Nepalis lack access to healthcare, due to fragmented infrastructures, a decade-long civil war, and the 2015 earthquake. Nyaya Health Nepal's network of local female community health workers (CHWs) will integrate with government hospitals to reach rural populations to provide counseling of women and their families, engagement with local elected leaders, sensitization trainings for hospital workers, and monitoring through a digital system. The network's CHWs exercise a distributed task sharing model of counselling and critical health information sharing, and can cover a wider catchment area in this mountainous country than the state healthcare system.

Descriptions of all 100 projects are in the following Appendix, with innovations delivered by social enterprises, non-profit organizations, research institutes, universities, foundations, and hospitals.

Over the past seven years, Grand Challenges Canada's "Stars in Global Health" program has provided CAN$70 million to 661 projects, implemented in 87 low- and middle-income countries over 9 rounds of funding since 2011. Fifteen of the most promising of these "Stars in Global Health" innovations that have received "Transition To Scale" funding, have the potential to save 1.1 million lives, and improve 18.5 million lives by 2030.

"Grand Challenges Canada is committed to supporting bold ideas and is proud to support the Government of Canada in realizing its Feminist International Assistance Policy. Canada's ongoing global leadership in development innovation will accelerate achievement of the sustainable development goals."
- Dr. Karlee Silver, Vice President Pro-

grams, Grand Challenges Canada

ABOUT GRAND CHALLENGES CANADA

Grand Challenges Canada is dedicated to supporting Bold Ideas with Big Impact. Funded by the Government of Canada and other partners, Grand Challenges Canada supports innovators in low- and middle-income countries and Canada. The bold ideas Grand Challenges Canada supports integrate science and technology, social and business innovation - known as Integrated Innovation. One of the largest impact-first investors in Canada, and with a feminist investment approach, Grand Challenges Canada has supported a pipeline of over 800 innovations in more than 80 countries. Grand Challenges Canada estimates that these innovations have the potential to save up to 1 million lives and improve up to 28 million lives by 2030. Find out more: http://www.grandchallenges.ca

APPENDIX

AFRICA

CAMEROON

University of Ottawa
Using Targeted E-Voucher and Mobile Phone Technology as a Tool in Addressing Maternal Mortality and Reproductive Health Amongst Rural Poor Women in Cameroon

Sanni Yaya at the University of Ottawa is developing and testing a Pre-Natal Management System mobile phone application that is accessible to non-literate groups by using pictographs and communicates emergencies to providers using Geographic Information System in Cameroon. The application is designed as a tool to address maternal mortality and reproductive health amongst rural poor women in Cameroon, by increasing access to maternal and reproductive health services, as well as providing e-vouchers for transportation.

DEMOCRATIC REPUBLIC OF CONGO

Fundacao para o Desenvolvimento Cientifico e Tecnologico em Saude (FIOTEC)
Prematurity detection by light: The Preemie-Test Validation

FIOTEC's "Preemie Test" is a small, cost-effective, non-invasive device which uses light sensors to read backscattering luminescence off babies' skin, to diagnose premature and low birth weights. The project aims to aid birth attendants and lay caregivers at point of care, replacing expensive obstetric ultrasounds and complex neonatal maturity scoring, while enabling caregivers to act quickly in low- and middle-income countries (such as Tanzania, Mozambique, Democratic Republic of Congo, and Brazil), and refer low birthweight newborns to critical care.

East and Central African Association for Indigenous Rights Inc.
Improving the Wellbeing of Infants and Children with Mothers Victims of Traumatic Events

This initiative will promote early development and improves the physical, emotional and socio-economic wellbeing of at risk infants and children under 5 and members of their households through ed-

ucation and local solutions in the war-torn Goma, Democratic Republic of Congo (DRC). The program will establish and test programs that support education in basic parenting skills and health for 200 parents with at-risk children, as well as technical and financial support to take up animal husbandry; a 90% reduction in infant and child abuse, and in prenatal care attendance; and an 80% increase in appropriate management of sick infants and children.

ETHIOPIA

International Governance Associates Inc.
Health & Gender Rights for Women & Girls: An integrated innovation to address reproductive and mental health needs of refugee women

The Canadian organization International Governance Associates is working with Addis Ababa University (AAU) resident specialists and faculty to design, develop, implement and test ARC - Ethiopia in the Assosa Refugee Camps. The project is a sustainable model to integrate culturally sensitive assessment and treatment of women and girls for immediate gynecological, obstetric, and mental health problems, as well as to promote empowerment through community-based programming that addresses the consequences of sexual and gender-based violence (SGBV).

St. Paul's Hospital Millennium Medical College
Establishing Breast Milk Expression Support in Ethiopia

St. Paul's Hospital Millennium Medical College will establish a novel, affordable, breast milk expression support project in the workplace of selected Commercial Bank of Ethiopia branches in Addis Ababa. This project will include considerations for adequate facilities, break time, transportation, as well as training on breast milk expression, storage and use. This program has the potential to increase women's choice and empower them to continue breastfeeding after returning to work, if they choose to.

GHANA

The Ghana Health Service
Improving Maternal and Newborn Care with IUD Service Provision Using Task-Sharing Framework in the Central Region, Ghana

Maternal mortality ratio in Ghana is high and there is low uptake of modern family planning services, particularly intrauterine devices (IUDs) which have been shown to be safe, highly effective, cost-effective and available. Currently, only midwives are trained to provide IUD services, and there is only 1 midwife for every 1475 women of reproductive age. This project will implement, test and evaluate a way to support basic midwifery and IUD provision in rural Ghana through task-sharing and training of 30 auxiliary nurses. Goals include a 10% rise in the number of women with access to IUDs as a family planning method at the intervention sites.

Ghana National Association of the Deaf
Improving Access to Sexual and Reproductive Health (SRHR) Information and Services for Deaf People in Ghana

Providing sexual and reproductive health (SRH) information and services to deaf citizens of Ghana. Involving 630 deaf people in 6 project districts, goals include a database on special needs, a 50% increase in deaf citizens with access to SRH services, contraceptive, safe clinical abortion services and new SRH information and services in 12 hospitals and clinics; a 40% increase in deaf citizens reporting improved use of sexual and reproductive services, and a 50% increase in district health centres offering deaf friendly reproductive health services.

GUINEA

The Sir Mortimer B. Davis Jewish General Hospital
Understanding Sexual and Reproductive Health for Adolescent Girls in Post-Ebola Guinea (USAGE-Guinea)

The project addresses the gap between mental health and adolescent sexual and reproductive health, through a stepped-care approach service provision in the post-Ebola era, in Guinea, West Africa. The project's outreach programs will include mobile phone messaging for delivery of information, and dispelling misinformation.

KENYA

Access Afya Kenya Limited
1,000 day nutrient monitor

Access Afya Kenya is developing and testing a revolutionary approach that aims to put nutrient monitoring into the hands of mothers using the non-invasive technique of near-infrared spectroscopy (NIRS). Fingernail scanning can be done by mothers at home, and results are instantaneous and easy to interpret. With the 1000 Day Nutrient Monitor, each mother can repeatedly analyse her and her baby's nutrient levels, informing proactive diet changes.

African Field Epidemiology Network
The Face Book Screening Tool: A Non-Verbal Post-Partum Depression Assessment Instrument

African Field Epidemiology Network is assessing a unique non-verbal visual tool to assess post-partum depression among women in rural Kenya. The project will be teaching primary care health to use The Face Book tool's pictorial scale to screen, detect, and document peri- and post-partum depression (PPD) among mothers in four frontier provinces of Kenya (Marsabit, Turkana, Wajir and Mandera) who access services at their health facilities.

Christian Aid
Integrating Traditional Birth Attendants in Improving Adolescent Reproductive Health

The project seeks to implement a delivery model targeting adolescent girls in Narok County, Kenya, by task-shifting of traditional birth attendants (TBAs) to become skilled delivery champions and mother companions. Additionally, train TBAs in other income generating activities and link them to microfinance support based on their skilled delivery referrals rates.

COHESU Community Health Support Programme
"Ground Zero" - Mobile Phone Technology for Rapid Household Level Diarrhoea Reporting for Community Directed Intervention Initiatives

Kenya's Ministry of Health and Sanitation major concern is the management of diarrhea; the third most common cause of mortality/morbidity in the country, with a case fatality of up to 21%. The innovation will implement a mobile phone platform to gather daily diarrhea information at household level and relay it to community health workers for intervention. "Cohesion," a homegrown mobile phone application, simple smart phones and "Simprints" portable biometric scanners will collect and collate household level daily diarrhea information. This project targets vulnerable populations, particularly pregnant women and children under 5 years old.

Ekialo Kiona CBO
A Health Navigation model to strengthen maternal and newborn emergency care in hard to reach island communities of Lake Victoria, Kenya

Isolated communities on Mfangano island in Lake Victoria lack access to Kenya's health care system, and less than 50% of mothers receive antenatal care or deliver with skilled attendants. Ekialo Kiona's Health Navigation (HN) model strengthens the emergency referral system for mothers and newborns by establishing a durable pathway for healthy pregnancies, safe deliveries, and effective referrals. This innovation mobilizes local experts, community health volunteers (CHVs), to act as educators, skilled referral coordinators, and patient advocates. Financed through a community-managed fund, CHVs fill planning and communication gaps that make families vulnerable during emergencies.

Global Integration and Innovation Africa Limited
Akili (Smart) Mom Project : Increasing Access to Family Planning to Young Mothers

This project is a supply chain innovation involving a product bundling model, leveraging an existing network of women micro-entrepreneurs. The two-prong social entrepreneurship looks to improve the choice and access to family planning products; as well as access to weaning food for infants through tje bundling of food for sale, and provision of free contraceptives. These two products would be simultaneously marketed to a target group, the mothers of infants in rural areas, who have co-existing needs of pregnancy spacing and sourcing appropriate infant food. The project aims to demonstrate the feasibility and effectiveness of bundling contraceptive distribution with infant nutrition to low-income customers to reduce distribution costs. Goals include a 50% increase in contraceptive use by mothers of infants; a 20% rise in their long term contraceptive use, and a 20% reduction in the number of subsequent pregnancies less than 2 years apart.

Golden Girls Foundation
Mentor-peer training for school girls to reduce resistance to menstrual cup uptake and counter cultural taboos in impoverished communities

Menstruating schoolgirls in Kenya have little access to affordable menstrual products. In turn, they frequently struggle with shame surrounding the use of unhygienic menstrual solutions, which poses health risks to young girls, and often prevents them from participating in school during menstruation. A lack of access to hygenic menstrual products in turn prevents school aged girls from learning, and engaging in life both inside and outside of school. The project designs and tests a school-based program to mentor adolescent girls in menstrual hygiene management. The program goals include identifying, educating and providing menstrual supplies to 10,000 girls in 100 schools; recruiting, training and supporting up to 500 local female mentors; a 60% increase in schoolgirls knowledgable about the correct practice of menstrual cups, and a 60% rise in schoolgirls attending school during menses.

Institute of Primate Research
Cloud-Based Maternal and Child Healthcare Record System with Vaccination Registration and Alerts in Kwale County, Kenya

The project is developing, implementing and testing a cloud-based vaccination tracking system, shared across multiple Kenyan Kwale County public hospitals and vaccination outreach programs. This supplements a previous project that introduced cloud-based electronic medical records system in Kenya, with the

hole of encouraging greater vaccination adherence. Goals include recording and monitor infants' vaccination history, sending SMS vaccine reminders to mothers, 17,900 mothers enrolled within 18 months and a minimum 2% increase in adherence to immunization schedule.

Jacaranda Health Limited
Behavioral Nudge Approaches to Address Systemic Gaps in the Post-Natal Continuum

Jacaranda Health is designing and evaluating a web-based postpartum questionnaire sent via SMS which will trigger automated referrals to seek facility-care and phone calls if certain danger signs are present. This tool will aim to increase the uptake of postpartum care and postpartum family planning to improve health outcomes for mothers and children in Kenya.

Safari Doctors Initiative
Empowering women & adolescent girls in marginalized communities in Lamu through health education, while improving access to healthcare through mobile clinics.

The Safari Doctors' Project engages and empowers 'Female Health Ambassadors' in at least 8 marginalized communities in the Lamu archipelago near the Kenyan/ Somalian border. Through the project, Female Health Ambassadors will improve their communities' access to healthcare both through facilitating mobile clinics, and through empowering women and adolescent girls through the dissemination of sexual and reproductive health education.

Totohealth
The World Starts With Me Two

Totohealth is delivering "The World Starts With Me" sexual and reproductive health and rights (SRHR) information via SMS text messages to students and teachers at secondary schools in Kenya. The World Starts With Me (WSWM) curriculum developed by Rutgers, will be converted into SMSs (questions and answers) and offered to students in selected schools in 3 counties in Kenya (urban, semi-urban and rural). The SMS platform allows for two-way communication, permitting students and teachers to receive accurate, confidential, and non-judgmental answers, within 24 hours. This is an innovative adaptation responding to the local context in Kenya, where 1/3 of youth under 15 have had sexual intercourse, access to accurate SRHR information is scarce, cultural and societal sexual discourse is conservative, and mobile phone penetration is high at 90%. SMS allows for anonymous, confidential, non-judgemental discourse between vulnerable populations and comprehensive, evidence-based SRHR information, vetted by UNESCO, and implemented in 10 other countries over the last 10 years.

MALAWI

University of Malawi, The Polytechnic
Kuwala Hypothermia Monitor

This team at the University of Malawi is developing and validating a hypothermia monitor called the Kuwala, a hypothermia monitor that clips to a neonate's cap and lights up brightly when newborns become cold. The device is designed to reduce the incidence of neonatal hypothermia through early detection.

MOZAMBIQUE

PCI Media Impact
For Hair and More

PCI Media Impact's For Haire and More Project trains hairdressers in health counselling to use hair salons as entry points for information and guidance on sexual, reproductive and maternal health, as well as for the sale of sexual and reproductive health products for adolescents in Mozambique.

University of Saskachewan
Incentives to Increase Access to Maternity Waiting Homes for Pregnant Women and Adolescent Girls in Mozambique.

Maternal mortality rates in Mozambique rank among the highest in the world, and Maternity Waiting Homes are used to bring delivery services to remote rural areas. However, these MWH's are underutilized due to access barriers, such as distance, lack of transport, lack of information, conservative social reasons, and money. In response, this project is providing cash based transfers to pregnant women and adolescents to bring them to MWH where obstetric care is provided and emergency care if necessary. Newborn child nutrition information and feeding practice is shared with parents and mothers are monitored before discharging them to their homes. Biometric data is collated in the SCOPE system and reflects antenatal visits for maternal health monitoring. This project is using SCOPE which is WFP's digital registration and funds transfer management platform; a cloud-based solution used for beneficiary registration, intervention set-up, distribution planning, entitlement cash transfers and distribution reporting.

NIGERIA

MicroFuse Technologies Ltd.
CIPHER

Sub-Saharan Africa accounts for 76% of malaria cases and 75% of malaria deaths globally, and children under the age of 5 are particularly susceptible to fatal malaria infections. More than 70% of all malaria deaths are children under the age of 5. Moreover, these deaths are concentrated among those with poorly developed immunity, particularly young children.

CIPHER is developing and testing a way to detect and diagnose malarial retinopathy with a smartphone camera, an attached 3-D printed camera that captures a photograph of the back of the eye, i.e. the fundus, and an ophthalmoscope. Goals include development of the camera and AI-powered mobile app with at least 90% accuracy to detect cerebral malaria; development of a complete system to acquire images and other functions, and to overcome concerns about the high intensity of light from the built-in light source of a smartphone.

Institute of Child Health, University of Ibadan
Digital Skills Empowerment (DSE)

This project is developing, digitizing and testing the capacity of a health and entrepreuneurial skills curriculum tutorial to empower 100 women in Internally Discplaced Persons camps in Nigeria. The tutorial aims to empower women to become financially independent, and to make informed health decisions. The program's goals are to induce a 25% increase in women and their children accessing health services, and a 25% increase in the women's wealth index.

Deliver Health Foundation
Reversing Stigma and Maternal Mortality in Northern Nigeria

Deliver Health Foundation is implementing and testing a two-part solution to reverse stigma and maternal mortality in Northern Nigeria. First, midwives are being trained in trauma-focused care for emergency low-resource situations. Secondly, they are facilitating a peer-to-peer advocacy program on gender-based violence (GBV) awareness and prevention, as well as reversing stigma placed on women and young girls returned from Boko Haram.

NIGERIA / CANADA

The Canadian Network for International Surgery
META: Maternal Expert Thinking Analyzer

Like many low- and middle-income countries, Nigeria faces high maternal and neonatal mortality rates, owing largely to the fact that 50% of mothers give birth at home, are attended to by midwives with limited training, and little information is available about pregnancy risks and delivery options. META is developing a point-of-care diagnostic, training and outreach app that uses patient data and obstetrical danger signs to produce risk-based management plans for midwives and enables midwives and extension workers to promote care by sending texts to pregnant women. Goals include a 25% increase in use of antihypertensives, antibiotics, and intravenous fluids (including blood products) in the intervention group vs. a control group and a 25% increase in skilled birth attendance and operative intervention in intervention group.

SENEGAL

Keewu Production
C'est La Vie!

Keewu Production, based in Senegal, is creating, broadcasting, and evaluating the impact of a television series focused on maternal, child and reproductive health and gender-based violence called, "C'est la Vie!" in 40 African countries. The use of a transmedia environment, including radio, television, mobile phones, social media networks, and print, allows the series to impact public knowledge and attitudes on a massive scale.

Planned Parenthood Federation of America - International Africa Regional Office (PPFA-I/ARO)
Youth Providing Contraception Services to Peers in Senegal

Planned Parenthood is training, deploying and testing the use of youth peer providers to provide sexual and reproductive health information, counselling, contraceptives, and referrals to clinical providers in Senegal. Sayana Press, a new contraceptive designed for easy and safe self-injection, will be integrated into this model to provide a long-lasting and discreet contraceptive option.

SOMALIA

Mogadishu University
Mother and Child Care Educational Project

This project addresses Female genital cutting (FGC) in Mogadishu, Somalia. The project seeks to educate, provide information, and sensitize Somali men and women, their children and social networks about female genital cutting and womens' health. The project will seek to disseminate correct information, encourage dialogue, and to train and network, in the interest of contributing to the eradication of FGC. It will address social justice issues, including protection and the development of safety nets. It will also address reproductive health and family planning, including issues of early, forced marriage.

It will implement and test this program in Mogadishu neighborhoods, as well as on internally Displaced Persons camps, in order to foster informed dialogue on women's rights and health, and specifically, female genital cutting. The project goals include: engaging 1000 youth, 100 activists, 100 elders, 50 traditional and/or religious leaders, and 10 FGC survivors; enrolling 300 other individuals in the "No to FGC" campaign. It will aim to increase knowledge, and to change the attitudes and behaviours of children after school visits.

SOUTH AFRICA

Health Systems Planning and Development Trust
Using Digital Technology to Prevent Maternal Deaths from Hypertensive Disorders of Pregnancy

Health Systems Trust is developing an mHealth driven solution in South Africa that will enable regular measurement of pregnant women's blood pressure, as well as early detection and referral of high risk cases for clinical care within a primary health care setting. Pregnant women, supported by community health workers (CHWs), will be empowered to play an active role in monitoring their blood pressure at home, between regular antenatal clinic visits, using digitally enabled devices. Readings will be captured on the MomConnect App, which will analyse the readings and advise mothers and facility clinicians of the risks and needed actions.

SOUTH SUDAN

African 1000 Days Actions - PPH Prevention Project

The Post-Partum Hemorrhage (PPH) Prevention Project is implementing a business-centred approach to use misoprostol as a prophylactic uterotonic drug for the prevention of post-partum hemorrhage. This intervention targets women in South Sudan who deliver at home or in facilities where oxytocin cannot be prescribed. It also addresses private healthcare providers and pharmacists in the supply chain, and facilitates training for health providers.

Better Health Care Organization - Integrating Chlorhexidine into Safe Delivery Kits in the Republic of South Sudan: A Low Cost Intervention to Reduce Neonatal Mortality in Rural Community Settings.
Better Health Care Organization is developing and testing a system to integrate WHO-recommended chlorhexidine (7.5%) into safe delivery kits, as an intervention to prevent neonatal umbilical cord infections that result from rural home births in South Sudan. This innovation seeks to reduce the number of deaths in the early days of life caused by the often unhygienic environment of traditional home births.

Kitgum Concerned Women's Association
Savings Clubs as a Positive Incentive for Reproductive Health Among South Sudanese Refugees

This project seeks to engage South Sudanese refugee and host community women as economic actors, by integrating microfinance with family planning promotion and maternal healthcare requirements, in turn, enhancing their financial resilience and empowering them to invest in their health.

TANZANIA

Sahara-Consult Company Limited
Inspire 100

Inspire 100 is developing an entrepreneurship acceleration program targeting young girls in rural Tanzania (Iringa region). This project aims to reach 100 out-of-school girls via hackathons and bootcamps, through which they will develop business ideas that incorporate messages about sexual and reproductive health and rights. The goal is to have 10 social sustainable business ideas and models generated or accelerated.

Pamoja Tunaweza Womens' Centre Company Limited
Project for Reproductive Equity through Volunteers and Entrepreneurship, Networks and Technology: The PREVENT Project

Through the PREVENT Project, Pamoja Tunaweza Womens' Centre is developing and testing the impact of a mobile platform in disseminating sexual and reproductive health education to adolescent girls. This platform will use interactive voice recognition to facilitate their access to additional information and counselling. The platform also provides linkages to confidential access points for contraceptive services. Participants are enrolled through a network of peer volunteers in the Kilimanjaro region of Tanzania.

Comprehensive Community-Based Rehabilitation in Tanzania (CCBRT)
Harnessing mhealth for Improved Fistula Awareness and Referral

Over 21,000 women in Tanzania live with obstetric fistula; a tear in the tissue between the vagina and bladder that can result in incontinence, and complications in childbirth, with a delivery failure rate of 85%. Obstetric fistula is accompanied with heavy social stigma and affected women are often rejected by their communities, and live in isolation. This can make identification and referral for treatment difficult. The mHealth Interactive Voice Response technology will be used to strengthen the ambassador network by providing on-demand information, increase referrals, and create better access to fistula treatment.

UGANDA

Centre Hospitalier de l'Universite; de Montral
A Comprehensive, Low Tech Community-Based Intervention to Improve Family Planning and Maternal Health Services in a Conflict-Affected Setting, in Northern Uganda

Centre Hospitalier de l'Universite; de Montreal is implementing and testing a way to improve the capacity of community health workers (CHWs) to recognize maternal and fetal danger signs, strengthen referral systems, and sensitize communities to cultural and gender norms affecting family planning in Northern Uganda. Goals include a 30% increase in both health care use and in referrals for complicated deliveries, and a 40% increase in both CHW skills and in community acceptance of family planning.

Collaborating Operational Services for Scientific Researches (U) Ltd. (COSSR)
Empowering Refugee Women from Shame: Provision of Safe and Affordable Sanitary Pads to Manage Menstruation

Managing menstrual health in refugee camps is a big problem, as refugees often have no access to sanitary pads, and thousands of adolescent girls and women are forced to improvise with unhygienic alternatives that put them at risk of contracting infections. The project will train and work directly with refugee women and youth to produce sanitary pads, creating opportunities for employment and life skills development, while providing low-cost, washable, and reusable sanitary pads for sale to the refugee community in Uganda.

Global Health Economics Ltd
Development and Pilot Testing of a Mobile Phone Application to Increase Awareness and Uptake of Sexual and Reproductive Health Services among Youth Aged 15 to 30 years in Uganda

Global Health Economics Ltd is developing and testing a mobile phone-based sexual and reproductive health (SRH) service targeting youth in Central Uganda. Goals include increasing SRH awareness from 61% to 81% amongst 15-30 year olds, and uptake of modern contraception and sexually transmitted services, from 30.2% to 50.2%, and from 37.2 % to 57.2%, respectively.

Makerere University
The Maternal PPH Wrap

Post-partum hemorrhage (PPH) is a leading cause of maternal mortality in low- and middle-income countries. The Maternal PPH Wrap is a user-friendly and affordable medical device to control PPH before professional intervention is available. The device can be used to administer external aortic compression, by application of a radial force on the descending aorta. This results in a compression force on the uterus, ultimately forcing it to fall back to a position that reduces the volume of blood flow to the uterus, managing PPH.

This innovation is being implemented in Uganda, where many women give birth at home or clinic with the assistance of a family member or traditional birth attendant. In the event of PPH, the Maternal PPH Wrap can help control PPH while the mother is transferred to a hospital for medical intervention.

Makerere University
Point of Care Early Diagnostic Strip for Preeclampsia

Makerere University is designing and testing a point-of-care early diagnostic strip that expecting mothers can use at home to self-screen for preeclampsia. Goals include developing 200 test strips that can accurately detect the level of biomarker proteins from urine and inform the user if they are at risk of preeclampsia, clinical verification of the prototype and confirmation of user acceptability through a validation study in Uganda.

Makerere University
Testing a Novel Sonographic Technique to Improve Diagnosis of Pregnancies at Risk of Stillbirth

Makerere University is testing the use of the cerebroplacental ratio (CPR) alongside traditional approaches to improve diagnosis of pregnancies at risk of stillbirth. Goals include demonstrating that CPR -- independently and/or in combination with uterine artery doppler and fetal weight -- is more accurate than traditional methods alone in the diagnosis of pregnancies at risk of stillbirth.

Mbarara University of Science and Technology
I-Dress: A Ready-To-Use Improved Wound Dressing Material Made out of Honey and Olive Oil

Joseph Ngonzi at Mbarara University of Science and Technology in Uganda is designing and testing I-Dress, a wound dressing material made of honey and olive oil embedded in measured pieces of gauze, as a resource to decrease wound sepsis following caesarean delivery. This novel innovation presents the potential for decreasing maternal deaths cause by wound sepsis.

Mildmay Uganda Limited
Delivering Sexual and Reproductive Health including Family Planning Services to Urban Refugees using a Gender Action Learning System Championed by Refugee Community Health Workers in Kampala, Uganda

Using the Gender Action Learning Systems (GALS) approach, Mildmay Uganda is training urban refugees as community health workers to facilitate improved access and utilization of sexual & reproductive health and family planning services by other refugees in their communities. Kampala's weak health system is not adequately meeting the needs of host and refugee communities and Mildmay's project presents a solution to meet the particular vulnerabilities of refugees, including overcoming transportation, education, culture and language barriers.

Nipissing University
Using Cooperatives to Improve Maternal, Newborn and Child Health Among South Sudanese Refugees and their Host Communities in Uganda

This intervention aims to promote health education and services for South Sudanese refugees in Ugandan camps. The goals include providing access to a cooperative store, community health workers, health products and services; information on gender equality, gender-based violence, sexually transmitted infections, and mental health; and reducing acute child malnutrition by at least 2% (from 9.4%), anemia among refugee children to 30% (from 40%); and the number of South Sudanese refugee children in need of mental health care to 55% (from 60%).

Nucleus Innovations Limited
mCTG: Non-Invasive Early Detection of Obstructed Labour for Low Cadre Health Workers

Obstructed labour is a major cause of maternal mortality in Uganda. The majority of these cases occur in areas that lack basic health infrastructure, such as refugee camps, rural villages, and slums. Labour in these areas are often attended by traditional birth attendants who are unable to detect complications by physical examination. Nucleus Innovations Limited is developing and testing a low-cost, portable, solar rechargeable device that monitors frequency, duration and strength of maternal uterine contractions, along with fetal heart rate to diagnose obstructed labor, dystocia, preterm labor and fetal distress. Goals include validating the efficacy of mCTG over existing tools, and a reduced risk of obstructed labour complications due to early detection by the device.

Sanyu Africa Research Institute
Back to the BASICS: The Gel-heated Baby-Saver Tray for Affordable Neonatal Resuscitation in Resource-Poor Settings

Every year, around 10 million babies worldwide are unable to breathe at the immediate time of their birth. 6 million of these cases require basic resuscitation, and nearly 1 million die - with the majority of deaths occurring in low-resource settings of low- and middle-income countries. Sanyu Africa Research Institute in Uganda is creating a bedside kit to assist mothers in the care of newborn infants who require basic resuscitation. The BabySaver tray is a resuscitation platform that allows neonatal resuscitation at the mother's side with an intact umbilical cord, and includes: pictorial resuscitation instructions; a gel heating pad to prevent neonatal hypothermia; and a compartment to hold supporting equipment such as a mask, stethoscope, and suction device.

Simon Fraser University
Getting to Zero: Safer Conception Programming to Eliminate Sexual and Perinatal HIV Transmission Among HIV-serodifferent Couples in Uganda

Simon Fraser University is establishing a safer conception program towards eliminating sexual and perinatal HIV transmission among HIV-serodifferent couples in Uganda. Goals include: enrolling 50 individuals or couples, assessing acceptability of the intervention, achieving zero cases of HIV transmission among couples, and <2% perinatal HIV infection among infants born.

ZAMBIA

Marie Stopes Zambia
Scaling Up Access to Contraceptive Choice in Zambia through Mobile Community Nurses

Marie Stopes Zambia will equip and quality assure the MSZ Ladies (a network of retired, under- and unemployed nurses) so that they are able to offer women comprehensive family planning services and HIV

testing in their own homes or in available community spaces near "hotspots" such as market places. The model combines a form of income generation for nurses with a low cost mode of transport in order to deliver mobile services to women in low-income, high density compounds in and around Lusaka and Solwezi.

University of Zambia
Assessing and Addressing Risk of Antenatal Clinic (ANC) Attendees: Catalyzing Action on Violence Against Pregnant Women & Adolescent Girls in Lusaka, Zambia

The University of Zambia's Anitha Menon is implementing a Danger Assessment tool (DA-4) in 4 low-income community antenatal clinics. The project will also facilitate access to, and improvement of, gender-based violence (GBV) supports in order to enable risk assessments, guide safety planning, and collect data to inform health and justice policy decisions. This is a much needed intervention in a country where rates of violence against women and girls are alarmingly high.

ZIMBABWE

Midlands State University
Road-MApp: Improving Access to Maternal Health Care Services

Poor access to maternal care services is a known determinant for low rates of facility births and adverse maternal outcomes. In Zimbabwe, 73% of maternal deaths are attributed to delays in accessing care, resulting from long distances and travel times to health facilities, limited transport options and lack of transport funds for maternal care. Roads become hard to navigate during the wet season due to precipitation and floods, leaving many pregnant women vulnerable to poor maternal outcomes. The Road-MApp project is a mobile app to help women access maternal health care and facilitate transportation of pregnant women to care. Road-MApp accounts for road and weather conditions in near-real time, and links women to local transport resources that are available to facilitate their transit to maternal care. Goals include establishing micro-savings groups to finance the process, a 25% increase in use of health facilities during pregnancy, and a 10% increase in in-facility deliveries.

AMERICAS

ARGENTINA

IECS - Instituto de Efectividad Clinica y Sanitaria Asociacion Civil
The App ESI

In Argentina, adolescent mothers compromise 15% of all births, with rates approaching 25% of births in some areas. Provinces with the highest rates of adolescent birth also have the largest proportions of families with unmet basic needs and mothers who have not completed primary school. These trends suggests that early childbearing primarily afflicts adolescents living in situations of extreme poverty. In these regions, quality information about sexual and reproductive health is hard to find. The App ESI aims to provide adolescents in two regions of Argentina with free, trustworthy and comprehensive information about sexual and reproductive health, gender-based violence, gender identity and sexual orientation via a mobile app. The App ESI goals include a 30% increase in users' knowledge of the subjects, and a 50% increase in users' self-reported willingness and ability to access services.

BRAZIL

Fundacao para o Desenvolvimento Cientifico e Tecnologico em Saude (FIOTEC)
Baby-Thermocrown Africa: "USD$60 for a Life?"

The Baby-Thermocrown is an innovative hat that cools the head of infants that perinatal asphyxial encephalopathy (PAE), a condition of harm to the brain caused by lack of oxygen to the newborn. Therapeutic hypothermia interventions are provenand widely practiced in high-income countries, but expensive and inaccesible in low- and middle-income countries. The Baby-Thermocrown being piloted in Brazil is light, portable, energy-independent, gas-activated device to treat PAE, will be available at $60/unit. It can be easily activated upon demand, delivering selective brain cooling and maintaining focal brain hypothermia of the asphyxiated neonate until gentle re-warming is permissible. Using a two-layer head-cover, the top layer is inflated with cold vapor released from a CO2 gas canister and the lower layer, filled with water, is thereby stably cooled by the upper layer.

Fundacao para o Desenvolvimento Cientifico e Tecnologico em Saude (FIOTEC)
SBOX: Single-Serve "Pod" Suppository-Maker to be used in the Field

SBOX has been strategically designed to instantly produce specific suppositories to treat both mothers and newborns requiring early pharmacological treatment in under-resourced rural areas of low- and middle-income economies, such as in the target countries of Brazil and Mozambique. Sepsis is responsible for about 10% of all maternal deaths and 26% of neonatal deaths in sub-Saharan Africa. SBOX is designed to meet regulatory standards, be user-friendly, energy and water-independent, is recyclable, and comes in three varieties of stable pharmacological active ingredients such as gentimycin and misoprostol.

CANADA / GLOBAL

University of Ottawa
Expanding Access to Safe Abortion Care Through the Community Distribution of Misoprostol

Angel Foster at the University of Ottawa is looking to expand access to safe termination of pregnancy services, promoting women's empowerment, and demonstrating community-based distribution of health services that are safe, effective, and acceptable in different country contexts, including stable and conflict-affected settings.

COLOMBIA

Fundacion Canguro / Kangaroo Foundation
La Methode Mere Kangourou Comme Moyen de Transport de l´Enfant Premature; ou de Petit Poids de Naissance en Situation de Terrain Difficile

Establishing and testing a model for using Kangaroo Method Care to transport preterm and low-weight babies in rural Colombia to avoid hypothermia and hypoglycemia, leading causes of death. Goals include eight training sessions for 54 nurses and doctors at community centers and 7 regional hospitals, as well as 54 nurses and community health workers in satellite primary care centres; a 30% decrease in the number of preterm babies arriving with hypothermia or hypoglycemia.

DOMINICAN REPUBLIC

Clinica de Familia La Romana (CFLR)
Strengthening the Self-Determination of Adolescent Mothers (Fortaleciendo la Autodeterminacion de Madres Adolescentes (FAMA)

Clinica de Familia La Romana implements peer support groups, SMS messages on health topics and appointment reminders, and a WhatsApp digital support group through a user-centered approach to empower mothers with essential information to practice healthy behaviours and access health services in La Romana, Dominican Republic.

HONDURAS

Fundacion Lagu Hatavadi Waduhenu "Por La Salud De Nuestros Pueblos"
Low Cost Neonatal Intensive Care Incubator for Low Resource Countries

The Fundacion Lagu Hatavadi Waduhenu, in collaboration with Breegi Scientific, is developing a low-cost and disposable neonatal incubator, designed for one-week usage, which delivers essential necessities for neonatal critical care: heat, humidity, ventilation, phototherapy and containment. The low-cost of this device makes it viable in LMICs, which can lead to an increased ability to treat multiple life-threatening conditions in neonates.

ASIA

CAMBODIA

Clinton Health Access Initiative Canada
A Tablet-based Intervention to Improve Family Planning Access for HIV+ Women in Cambodia

In Cambodia, approximately 25% of women living with HIV wish to delay or avoid pregnancy, but do not have convenient access to modern contraception and could be at risk of unplanned pregnancy. The Perfect Fit project is implementing and testing a tablet-based, facility-level intervention to improve family planning service delivery at anti-retroviral clinics. Tablets will include family planning content tailored to women living with HIV and a tool to strengthen linkages to additional family planning services if needed.

INDONESIA

PT Kopernik
The Perfect Fit: A Smart Entry Point to Reshape Menstrual Hygiene Management in Indonesia

PT Kopernik's project involves the design, production and distribution of 'Perfect Fit', a low-cost, re-usable mentrual pad tailored to the needs of women in rural Indonesia. Production of these pads will focus on using locally sourced materials, while distribution models will serve as an entry point for creating dialogue to promote education on menstrual hygiene, as well as sexual and reproductive health and rights, which are taboo topics in Indonesia.

PT. Tulodo Indonesia Makmur
DOLPIN: a Family-based Health, Sexuality, and Relationship Teaching Kit for Urban Poor Children in Indonesia

PT. Tulodo Indonesia Makmur is developing and testing DOLPHIN, a family-friendly sexuality, health, and relationship teaching kit for children aged 5-9 years to enable parents to deliver sexuality education at home in Indonesia, where sex-ed is presented piecemeal in science and religion classes. DOLPHIN guides the family to become a comfortable and nurturing place for kids to gain knowledge about health and relationships.

Institute for Women's Human Rights - Instituta Hak Asasi Perempuan (IHAP)
Check2gether: Improving Access and Quality of Antenatal Care

Indonesia has high maternal mortality rates, especially in rural areas. Long distances, costs, poor quality equipment, and lack of awareness hinder pregnant women's access to antenatal care (ANC). The Institute for Women's Human Rights - Instituta Hak Asasi Perempuan (IHAP) project is utilizing and testing "Check-2gether," an integrated testing kit with instant mobile diagnostic support, via a mobile app, to improve access to and quality of ANC in rural Indonesia by detecting pre-eclampsia, anemia and diabetes.

MYANMAR

Marie Stopes International Myanmar
Improving access of Sexual and Reproductive Health and Rights with a social media marketing approach

Marie Stopes International is testing a social media marketing intervention in Myanmar. Using Facebook as a platform to reach a wide audience of women and adolescents, the project will disseminate information on sexual and reproductive health and rights. Learning will be enhanced through contest and quiz sessions on Facebook, as well as message delivery through other smartphone communication platforms.

NEPAL

ASTHA
Women for women - Improving sexual and reproductive health of female sex workers In Nepal.

ASTHA's Women for Women project aims to train and empower female sex workers in Nepal to be positive role models and counsellors for their peers on sexual and reproductive health and rights through community-based outreach. This intervention serves as a solution to the social exclusion and criminalization of sex work in Nepal which limits access to social institutions and further marginalizes women and girls who already come from poor and marginalized situations.

Mbarara University of Science and Technology
Protecting Remote Infants by SMS (PRISMS): A novel phone application that empowers frontline health workers to effectively manage sick newborn babies.

The Mbarara University of Science and Technology is testing the efficacy of "PRISMS," a text message-based system that empowers frontline health workers to save newborn lives by providing timely management suggestions based on validated algorithms. Goals include: a 10% improvement in survival of sick newborns and a 20% decrease in referral rate in intervention arm.

Memorial University of Newfoundland
Developing Peer Support for Adolescent Friendly Reproductive and Sexual Health Programs.

Demonstrating that peer to peer education improves sexual and reproductive health knowledge among adolescents in Nepal, young people will be engaged in needs assessment, development, monitoring and delivery of SRH information. Goals include: a 40% increase in knowledge and 20% increase in uptake of sexual and reproductive health services by adolescents in intervention communities, and evidence of changing gender norms.

Nyaya Health Nepal / Possible Health
Combatting Chaupadi and Empowering Women in Rural Nepal

Nyaya Health Nepal is implementing a project to combat Chaupadi, a social tradition associated with the menstrual taboo, and empower women in rural Nepal. To do this, Community Health Workers (CHWs) will utilize group antenatal care sessions to improve women's understanding of menstruation as a biological process and motivate CHWs to stop the harmful practice of Chaupadi.

Supportive Action Forum for Improvement
Menstrual Hygiene Management (MHM) Improvement in Achham: Empower the girls and women to manage their monthly period hygienically and with dignity

Supportive Action Forum for Improvement is establishing and mobilizing a Menstrual Hygiene Management (MHM) Promotion Committee, made up of local women and girl leaders, to improve MHM in rural Nepal. The Committee will become MHM champions, implementing MHM sensitization programs for stakeholders, ensuring water, sanitation & hygiene facilities are in schools, and creating an entrepreneurship initiative to produce affordable and reusable menstrual pads. The project seeks to empower girls and women to manage their monthly period hygienically and with dignity, in a region where Chaupadi, a social tradition associated with the menstrual taboo, puts them at risk.

PHILIPPINES

Renewsiya Foundation Inc.
A Healthy Me: empowering & equipping Filipina adolescents

A Healthy Me implements health education, specifically sexual and reproductive health, targeting primarily adolescent girls. With facilitators across at least 8 municipalities in Cebu, A Healthy Me goals include: 9-14 education sessions for 576 adolescent girls (aged 14 - 24), a 50% improvement of knowledge among the group, education sessions with 360 parents, 240 government health staff, and 14 high school teachers, and demonstrating the potential for scaling to more municipalities.

VIETNAM

Center for Promotion of Advancement of Society
E-BabyCare - A virtual platform of care for preterm babies after discharge from neonatal intensive care units in Vietnam

As perinatal and neonatal care advances, more preterm babies are surviving and being discharged from neonatal intensive care units (NICU) to be cared for by parents. However, follow-up care for these high-risk babies is often not available or accessible in low- and middle-income countries, such as Vietnam. E-BabyCare is a virtual platform for follow-up care of preterm babies with a web interface, smartphone apps, and a call centre. NICU care providers can make "virtual visits" and parents can remotely access providers via SMS, phone, chat, or video conference. Furthermore, the platform allows for real-time follow-up and monitoring of the baby's health, early detection of complications, and timely referral for early intervention.

Marie Stopes International Vietnam
Improved access to sexual reproductive health information and services for female workers

Female factory workers in Vietnam greatly lack information on sexual and reproductive health and rights (SRHR) and family planning (FP). While some factories have health clinics within them, they often do not provide adequate SRHR and FP services, and workers have difficulty accessing public or private clinics due to associated time and financial costs. Marie Stopes International will implement a "Blue Star" corner health kiosk within an established health clinic at the Pou Chen factory. The corner will provide high quality services by trained professions with essential SRHR information and training will be provided to clinic staff.

INDIAN SUB-CONTINENT

BANGLADESH

Handicap International Federation
Promoting Responsible Fatherhood to Safeguard Maternal and Child Health in Refugee Communities in Bangladesh

In rural Bangladesh, preventable causes of maternal health complications are still common. Adolescent pregnancies, ascribed mostly to child marriages, are among the highest in the world. The situation is more acute in culturally conservative Rohingya refugee communities in Cox's Bazar, where men are key decision-makers in reproductive and maternal health. The "Men's Concern" campaign will encourage men and boys to adopt 'responsible fatherood' behaviours that support 'safe motherhood' in refugee communities. The program will integrate direct work with men and boys, community leaders, local government and health services, in the Ukhiya and Tecnaf subdistricts of Bangladesh, where Rohingya refugee camps are home to the country's poorest and most marginalized communities.

Health and Education for All (HAEFA)
Novel Workplace NCD and ID Screening for Garment Factory Female Workers Using EMR

Bangladesh has about 5,400 garment factories with four million workers and up to 16 million livelihoods dependent on them. About 70% of these workers are reproductive-age women, who have almost no access to healthcare because they work six days a week for long hours, and the financial or time costs are considerable barriers. HAEFA and Brown University are implementing a mass health screening method in the workplace that electronically records BMI, BP, blood glucose, Hb%, and symptoms of high-risk pregnancy, tuberculosis, and asthma. All medical records are saved in a database with auto-flagging for diagnosis, follow-up, and remote prescription printing; it will also provide a list of GPS-mapped local healthcare providers as referral centers for each factory.

International Centre for Diarrhoeal Disease Research, Bangladesh (ICDDR,B)
Human-centered design and piloting of a manually powered spinner to facilitate washing and drying of reusable menstrual pads in Bangladesh urban slums

The International Centre for Diarrhoeal Disease Research is designing, piloting and testing a low-cost, manually-powered spinner for urban slum dwellers in Bangladesh to efficiently and discretely wash and dry their reusable cloth menstrual pads. This project targets displaced Rohingya refugee populations who lack access to affordable feminine hygiene products. The proposed innovation is to introduce the techniques of preparing recyclable sanitary pads and distribute them for menstrual hygiene management practice. Paired with appropriate sexual and reproductive health messaging, these will

be distributed among girls and women who experience menstruation and belong to Rohingya refugee camp.

INDIA

All India Institute of Medical Sciences, Jodhpur
Flipping to empower adolescents for sexual and reproductive health

Adolescents in India face barriers to accurate and constructive information about sexual and reproductive health and rights (SRHR). The "flipped classroom" provides SRHR information via mobile app, and allows students to study the material privately at home at their own pace.Class time is then used for questions, deeper learning, analysis, clarification, and discourse with a skilled facilitator such as a teacher or health professional. The project integrates technology and high mobile penetration in India, with innovative pedagogy with inputs from education specialists, teachers, parents, health educators, etc. It may also be adapted for other settings or used as a model for policy development.

ARMMAN
"A Life-saving call" : Preventing Relapse in a Child with Severe Acute Malnutrition

ARMMAN is implementing and testing a free tele-service in which counsellors guide parents of 960 children in Mumbai and New Delhi with severe acute malnutrition through direct calls on food, health and nutrition. These are conducted weekly through eight weeks of treatment and fortnightly during six months of rehabilitation. Goals include: improved nutritional recovery based on WHO standards, mid-upper arm circumference and absence of symptoms affecting feet. The improvement will be measured against a control group after eight months.

Audicor Cardiometrics Pvt. Ltd.
Detection and Monitoring Heart Disease in Underserved Women in India

Cardiovascular disease affects over a 1 million pregnant women in India every year leading to complications of the heart in the mother, which in turn can lead to abortion, stillbirth, or premature labour. Audiocor Cardiometrics has a tool which non-invasively provides 4 biomarkers of heart disease, in 10 seconds, and can be done at point of care in rural ad remote settings, for about 1/3 of the cost of traditional heart failure diagnostic services.

AYZH Health and Livlyhood Private Limited
Doorstep Delivery of Menstrual Hygiene Kits

AYZH is implementing a new delivery model for menstrual hygiene kits designed to increase adoption of quality sanitary pads and safe disposal practices in rural India. AYZH uses "door-to-door" product subscriptions to increase education and dialogue on menstrual health and linkages across the reproductive, maternal, newborn, child & adolescent health continuum. The kits are designed "for women, by women" based on quality and affordability. The model targets distribution to vulnerable regions specifically aiming to overcome chronic and neglected menstrual hygiene challenges that persist in rural and fragile settings.

BEMPU Health Pvt Ltd.
BHappy - Screening for Post Partum Depression in Indian Mothers Using a Simple App

About 6 million young mothers in India face post-partum depression (PPD) annually and, as a result, 20,000 women commiting suicide. The project aims to develop and test Bhappy; a low-cost screening tool for postpartum depression (PPD) that is usable on any standard smartphone and categorizes mothers as healthy, at-risk, or needs attention in order for nurses to connect mothers to clinical assistance as required. While the immediate effect of the app will be to identify and treat women who are at risk of PPD, the secondary, more long-lasting effect will be to standardize the procedure of checking for PPD at critical junctures in the postnatal period. This will represent a culture shift and will serve to "normalize" the identification and treatment of mental health conditions, rather than relying on women to ask for help while caring for families and hindered by stigma.

BEMPU Health Pvt Ltd.
Carelet - A Wearable for Measuring and Promoting Kangaroo Care

Kangaroo Care (KC) is the practice of providing skin-to-skin contact between newborns and parents/caregivers, and is known to have benefits in promoting healthy growth, especially for premature and low birth weight babies. The project aims to promote KC in India.

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NT

Prof. Jan Mazela, Poznan University of Medical Sciences awarded by International Society of Microbiota

A key member of the Neonatology Today Editorial Board is honored.

Press release - December 12, 2018, Tokyo, Japan:

International Society of Microbiota (ISM) announces the winner of the prestigious award for his exceptionnal scientific and medical contribution for the year 2018, Prof. Jan Mazela from Poznan University of Medical Sciences, Poland.

Prof. Mazela gave a major communication during the 6th World Congress on Targeting Microbiota 2018, which was held in Porto, Portugal.

Prof. Mazela presented a strategic talk concerning "Targeted gut microbiota and short chain fatty acid profile amoung term and preterm infants".

The oral presentation of Prof. Mazela during Targeting Microbota 2018 follows:

Gut dysbiosis can be responsible for many

diseases such as NEC, celiac disease, obesity, chronic enetrocolitis, Crohns disease, irritable bowel syndrome, infantile colic, atopic dermatitis, autism, depression and autoimmune diseases, and finally non-comunicable diseases. Thus very crucial is initial priming of the neonatal digestive system with optimal microbiota. There is substantial new information on the role of first 1000 days from conception on the development of optimal microbiome and human body programming. There are several perinatal factors which can influence initial neonatal bacterial priming, such as: nutrition during pregnancy, gestational age, mode of delivery, perinatal antibiotic therapy, nicotine exposure during pregnancy. So far probiotic therapies both in term and preterm infants were focused on use of two bacterial genera: Lactobacillus and Bifidobacterium. Thus the aim of our research was to identify bacterial strains colonized among term and preterm infants in the first days of life and to establish the role of the gestational age and mode of delivery on the neonatal microbiota and short chain fatty acid (SCFA) profile with reference arm of the microbiota of the newborns born at home.

Prof. Peter Konturek, Teaching Hospital of the University of Jena, Germany, President of ISM stated that Prof. Mazela found out that none of the meconium samples was sterile. Microbiota profile of the term infants' meconium had higher amounts of the following bacteria: E. coli, Enterococcus, Lactobacillus and Bifidobacterium, in comparison to premature infants. After 6 weeks being home, premature infants had higher level of: Enterobacteriaceae, and term infants had higher level of Bacteroides. When mode of the delivery was analyzed, it has been shown that vaginally delivered term infants had higher levels of E. coli, Enterococcus, Lactobacillus, Bifidobacterium in the meconium and they had more Bacteroides in the stool after 6 weeks being home in comparison to preterm infants. On the other hand preterm infants had higher levels of Enterobacteriaceae, Faecalibacterium prausnitzii and total bacterial count. Infants delivered by c-section when born at term had higher levels of Bifidobacterium in the meconium than preterm but this difference was not seen any more in the stool after 6 weeks being home. When analyzed (samples from infants born at home), the only difference between vaginally delivered in the hospital and at home was the level of F. prausnitzii which was higher among those born at home. There was more E.coli in the stool after being home for 6 weeks among those born in the hospital vs. born at home. Analysis of SCFA revealed no difference in SCFA levels between prematurely born as well as delivered at term in meconium, as well as lack influence on SCFA by the mode of delivery. Besides it has been shown that acetate levels doubled, propionate achieved hundred times higher levels, butyrate and valerate doubled to quadrupled after being home for 6 weeks in term and preterm infants when compared to levels in meconium.

Prof. Mazela concluded that vaginal delivery is preferred mode of delivery assuring the most optimal microbiota priming both for premature as well as mature infants which can be observed in the stool profile at 6 weeks of being home. Microbiota of the term and born at home infants is more stable in comparison to those born in the hospital. There is need to continue studies on the role of home delivery on the neonatal microbiota. In summary, it can be speculated that infants born at the GPSK in Poznan can benefit by multistrain probiotic supplementation initially with E. coli and followed by Bifidobacterium, Lactobacillus, Enterococcus if born prematurely. Further studies should establish safety and efficacy profile of such therapeutic approachs. The group is now studying also the safety and efficacy of the vaginal seeding procedure on term and prematurely born infants.

Prof. Marvin Edeas, University Paris Descartes, France, chairman of the scientific committee, highlighted the role of Prof. Mazela at Internatiobal Society Microbiota community: We congratulate Prof. Jan Mazela for his contribution in the microbiota medicine, his vision and energy in the field of microbiota in preterm infant open the door to new strategies.

For media information:

International Society of Microbiota

Media center:

Contact: microbiota@microbiota-site.com

www.microbiota-site.com

NT

36th Annual Advances in Therapeutics and Technology: Critical Care of Neonates, Children, and Adults

March 26 to March 30, 2019
The Cliff Lodge - Snowbird, Utah

Registration: http://paclac.org/advances-in-care-conference/

Topics and Speakers Include:

Rashmin Savant, MD BPD New Concepts in Pathogenesis and Prevention

Cynthia Blanco, MD Metabolic Disturbances of Prematurity When How and Who to Treat

Sinjo Hirose, MD Fetal Surgery

Arun Pramanick, MD Game Changers in Neonatal-Perinatal Medicine- A View Through a Retroscope

Don Null Persistent Pulmonary Hypertension in the Preterm Newborn Etiologies and Cardiopulmonary Management

Marty Keszler, MD New Modalities in High Frequency Ventilation

Mitchell Goldstein, MD Rediscovering the Denominator

Steve Derdak, DO Pediatric Origins of Adult Disease

Conference Description

This conference will present high quality education to advance pediatric health and well-being through collaboration, communication and education on the discovery and development of therapeutics and technology and their successful translation into practice. The conference aims to improve communication and relationships within industry, academia and government agencies as well as educate on the discovery, development, and implementation processes. Networking opportunities for healthcare professionals who provide care for patients with a focus on advances in therapeutics and technology will be provided. Along with featured speakers, the conference includes abstract presentations on research.

Special Panel Discussion

Avoiding the Conflict, Working to Develop Better Relations with Industry. Don Null, MD and Mitchell Goldstein, MD.

Special Lecture: President of AAP, Colleen Kraft, MD

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Hot topics in the 99nicu forums

Stefan Johansson, MD, PhD and Francesco Cardona, MD, MSc

Only days away before we close the year 2018, I am taking the opportunity to look in our rear-view mirror.

While most internal work has focused on the upcoming conference in Copenhagen, 7-10 April 2019, there were some really interesting topics posted to the discussion forums on 99nicu.org.

A recent discussion was about therapeutic hypothermia and whether to mechanically ventilate infants with a respiratory drive (1). The most commonly used strategy reported by those joining this discussion was to keep spontaneously breathing infants off the ventilator, i.e., not intubate/ventilate cooled infants just for the sake of doing it. Once intubated though, most would keep infants on the ventilator until they are re-warmed or until the post-cooling MRI.

Skincare of the most immature infants was also a hot topic (2). Skincare of the tiniest infants can be challenging, and detailed strategies were shared from both Japan and USA. One aspect that seemed to differ between NICUs is whether chlorhexidine solution (2%) could/should be used for skin cleaning before procedures like umbilical catheterization. Members had different guidelines and experiences. Some reported skin burns from cleansing with chlorhexidine solution.

Another every-day question in NICUs around the world is water balance and planned daily volumes for preterm infants. This discussion, initiated by a member in Belarus, sparked some discussion (3). Reading guidelines and textbooks can be confusing as recommendations on daily volumes may differ. What volume is the "right" starting point? What is the "right" initial choice of fluid - 5, 10 or 15 percent dextrose, or even parenteral nutrition from the start? Check out the link (3) and get confused on a higher level!

A less common but very important discussion touched on ventilatory strategies for infants with congenital diaphragmatic hernias. What tidal volumes, PEEP/PIP-levels, and ventilatory modes should we target? Read the thread to find out (4).

In addition to forum discussions, I would also like to highlight the interview with Dr. Ryan McAdams, a consultant neonatologist at Madison, Wisconsin (5). Ryan McAdams is also a painter, and we had the opportunity to learn about his work at the intersection of neonatology, child health, and arts. I recommend you read and reflect on what he has shared in words and via a selection of his powerful paintings.

Given the supporting idea behind 99nicu.org, that we learn from sharing, we felt honored when Dr. Naveed Ur Rehman Durrani shared an e-book with multiple choice questions (MCQs) on all aspects of neonatal care. This PDF of 800+ pages (!) is a great learning tool for younger neonatal staff and can be downloaded free of charge (6).

"Given the supporting idea behind 99nicu.org, that we learn from sharing, we felt honored when Dr. Naveed Ur Rehman Durrani shared an e-book with multiple choice questions (MCQs) on all aspects of neonatal care. https://99nicu.org/forums/topic/2134-neonatal-mcq-board-review/"

Last but not least, during 2018, we took significant steps towards our "Future of Neonatal Care" conference. Thanks to input from members around the world, we have carefully designed an exciting program spanning a wide range of topics, all with high clinical relevance. Join us 7-10 April 2019 in Copenhagen, when our community goes live to discuss how to perform up-to-date neonatal care on:

- BPD - prevention
- Neonatal transports
- Neonatal hyperglycemia
- NEC - prevention
- Prediction of long-term outcomes
- Pain management
- Term MRIs in preterm infants
- Treatment of neonatal seizures
- Outcomes and ethics around the viability limit
- Cord clamping
- And more…

Registration is now open on https://99nicu.org/meetup/registration/

Hope to meet up in Copenhagen :)

Wishing you peaceful holidays,

Stefan Johansson, MD PhD

Consultant Neonatologist, Sachs' Children and Youth Hospital

Associate Professor, Karolinska Institutet

Stockholm, Sweden

Links:

1. https://99nicu.org/forums/topic/2121-therapeutic-hypothermia-do-you-ventilate-just-for-cooling/
2. https://99nicu.org/forums/topic/2096-skin-care-of-the-tiniest/
3. https://99nicu.org/forums/topic/2130-infusion-calculations-in-premature-infants/
4. https://99nicu.org/forums/topic/2123-ventilation-of-cdh/
5. https://99nicu.org/99nicu-news/interview-ryan-mcadams-us-r95/
6. https://99nicu.org/forums/topic/2134-neonatal-mcq-board-review/

The authors indicate that they have no disclosures

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National Perinatal Association

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nationalperinatal.org/NICU_Awareness

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- pharmacists
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The Genetics Corner: A Genetics Consultation for Heterotaxy

Robin Clark, MD and Subhadra Ramanathan, M.Sc., M.S.

Case History:

This one-day-old term AGA male with complete AV canal defect and transposition of the great arteries (TGA) also had an anorectal malformation: imperforate anus with a scrotal fistula. He was born by VBAC to a 29-year-old multiparous mother with gestational diabetes mellitus (GDMA1) that was well controlled with diet alone. HbA1c was normal at 5.3. Apgar scores were 6 and 9. Birth weight was 3.655 kg (73rd%ile), BL 53.5 cm (97th%ile), HC 34 cm (35th%ile). The abdominal US showed a centrally located liver and asplenia. Radiographs showed cardiomegaly, a left-sided gastric bubble, and four sacral elements. Head US was normal. Chromosome microarray was normal.

The family history was significant for three healthy sisters living at home, and 2 pregnancies lost to intrauterine fetal demise: a 38-week gestation female fetus in 2016 with polyhydramnios, low PAPP-A (0.32 MoM), a "hole in the heart" and a short, 2-vessel cord, and a 24-week male fetus in 2015.

The physical exam revealed an alert, acyanotic, nondysmorphic male infant in no distress. The head shape was normocephalic. The anus was imperforate, and meconium was evident at the base of the scrotum where there was a fistula. There were small white papules on the median raphe of the scrotum. Otherwise, the genitalia were normal.

Consultant's report:

The only genetic syndrome with a strong relationship with TGA is heterotaxy. This infant has heterotaxy by virtue of his asplenia, centrally placed liver and complex cardiac looping defect. Heterotaxy is a laterality disorder (situs ambiguus), in which organ placement is neither typical (situs solitus) nor reversed (situs inversus). It can be defined by the atrial appendages of the heart and described as "bilateral right sided" (right isomerism) and "bilateral left-sided" (left isomerism), but there are many phenotypic variants. Heterotaxy occurs in 1 in 5000 to 1 in 7000 live births. It is a heterogeneous disorder with sporadic, chromosomal, multigenic, monogenic and environmental causes. There is a strong association with poorly controlled maternal diabetes. Many of the genes responsible for heterotaxy affect the motile cilia in the embryonic node or pit on the ventral surface of the embryo. These nodal cilia normally beat together in a clockwise fashion to create a gradient of leftward-directed fluid flow around the early embryo. This activates a gene signaling cascade in the left lateral plate mesoderm that results in the expected pattern of left-right visceral asymmetry. The heart is the first organ to break symmetry in the early embryo.

"Heterotaxy is a laterality disorder (situs ambiguus), in which organ placement is neither typical (situs solitus) nor reversed (situs inversus)."

In humans, genes that are associated with monogenic heterotaxy syndromes include ACVR2B, CFC1, CRELD1, FOXH1, GDF1, LEFTYA, NKX2.5, NODAL, SESN1, and ZIC3. Of these, only ZIC3, which codes for Zinc finger protein of cerebellum 3, is located on the X chromosome at Xq26.2. This protein binds DNA and regulated gene signaling through its zinc finger domains. Because mutation, translocation or deletion of ZIC3 can cause X-linked visceral heterotaxy (MIM 306955), isolated cardiovascular anomalies and VACTERL association with or without hydrocephalus (MIM 314390), this gene should be analyzed in patients, and especially in males, with features of both VACTERL association and heterotaxy. ZIC3 mutations account for 3% of sporadic heterotaxy, and >75% of familial heterotaxy. In this patient, the combination of an affected male with heterotaxy and imperforate anus and a suggestive family history of two late fetal losses made a ZIC3 variant more likely.

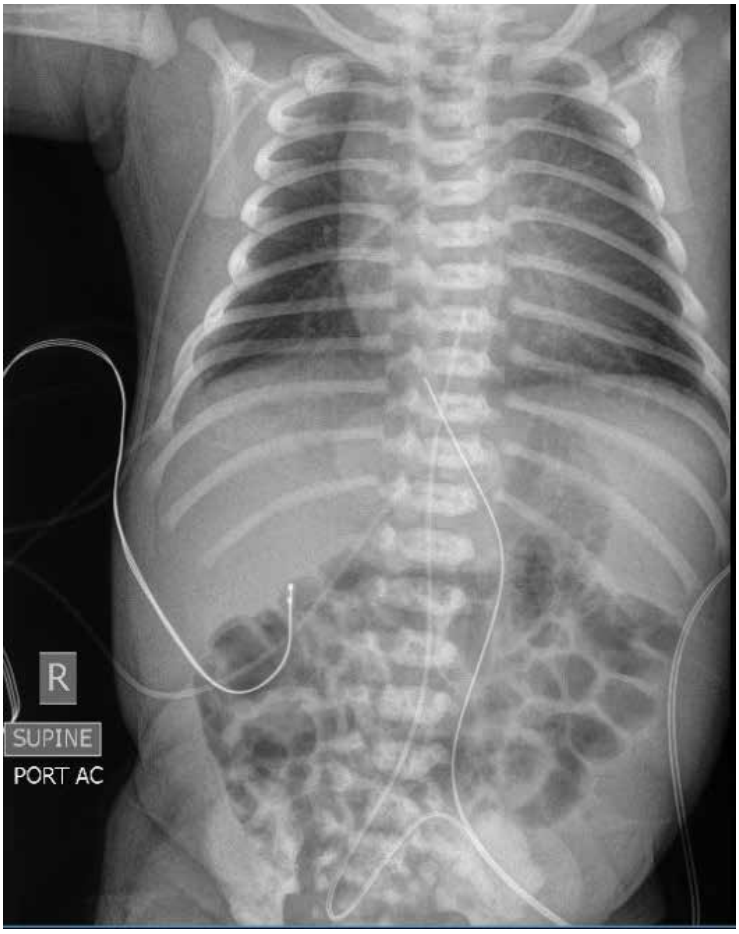

Photo 1: Chest-Abdomen 2-View X-ray demonstrating bowel gas secondary to imperforate anus, central liver and cardiomegaly.

Genetic testing was ordered for a 22 gene heterotaxy and situs inversus gene panel. The results revealed a hemizygous missense variant of uncertain significance in ZIC3 (c.1079G>A, p.Cys360Tyr). Although this was officially designated a variant of uncertain significance (VUS) because it had not been previously reported, there is more than one line of evidence supporting its likely pathogenicity. First, this change is in a Zinc finger domain and alters an amino acid that is conserved among 99 vertebrate species. Second, using in silico analysis, all computer algorithms (10/10) predict that this variant would produce a damaging result.

Readers can also follow **NEONATOLOGY TODAY at its Twitter account: @NeoToday**

The patient's mother is undergoing targeted genetic testing for this variant and results are pending at this time.

Practical applications:

1. Examine all infants with cardiac lesions for evidence of situs ambiguus, even when the stomach is in the expected left-sided position. Document spleen number and position to establish asplenia or polysplenia. Consider that some isolated cardiac lesions are caused by laterality defects, especially TGA.

2. Examine all infants with heterotaxy for other anomalies, especially those in the VACTERL spectrum.

3. Be aware that heterotaxy can be monogenic and can occur in an X-linked recessive, autosomal dominant, or autosomal recessive manner.

4. Take a detailed family history. When multiple pregnancies have been lost due to intrauterine fetal demise, especially in the late second or third trimesters, suspect a syndromic etiology.

5. Consider ZIC3 gene analysis in patients with heterotaxy, especially in males and those who also have a VACTERL-spectrum anomaly or a positive family history

References:

1. *Unolt M, Putotto C, Silvestri LM, et al. Transposition of great arteries: new insights into the pathogenesis. Front Pediatr. 2013 Jun 6;1:11. PMID: 2440257*

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NCfIH National Coalition for Infant Health

Protecting Access for Premature Infants through Age Two

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

How to Care for a Baby with NAS

Use the Right Words

I was exposed to substances in utero. I am not an addict. And my mother may or may not have a Substance Use Disorder (SUD).

Treat Us as a Dyad

Mothers and babies need each other. Help my mom and me bond. Whenever possible, provide my care alongside her and teach her how to meet my needs.

Support Rooming-In

Babies like me do best in a calm, quiet, dimly-lit room where we can be close to our caregivers.

Promote Kangaroo Care

Skin-to-skin care helps me stabilize and self-regulate. It helps relieve the autonomic symptoms associated with withdrawal and promotes bonding.

Try Non-Pharmacological Care

Help me self-soothe. Swaddle me snugly in a flexed position that reminds me of the womb. Offer me a pacifier to suck on. Protect my sleep by "clustering" my care.

Support Breastfeeding

Breast milk is important to my gastrointestinal heath and breast feeding is recommended when moms are HIV-negative and receiving medically-supervised care. Help my mother reach her pumping and breastfeeding goals.

Treat My Symptoms

If I am experiencing withdrawal symptoms that make it hard for me to eat, sleep, and be soothed, create a care plan to help me wean comfortably.

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National Perinatal Association

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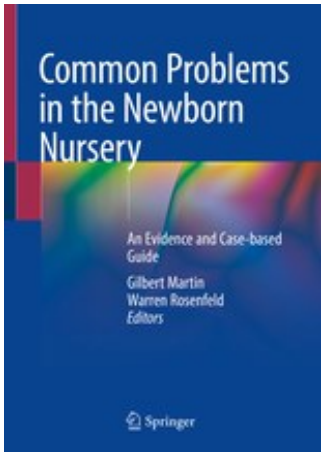

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- **Written by experts in the field in a clear, easy-to-use format**
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Written by experts in their fields, each chapter begins with a clinical case presentation, followed by a discussion of potential treatment and management decisions and various differential diagnosis. Correct responses will then be explained and supported by evidence-based literature, teaching readers how to make decisions concerning diagnosis encountered on a daily basis.

While this guide is directed towards health care providers such as pediatricians, primary care physicians, and nurse practitioners who treat newborns, this book will also serve as a useful resource for anyone interested in working with this vulnerable patient population, from nursing and medical students, to nurses and residents in pediatrics or family practice.

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Poll: Parents Lack Awareness of Deadly RSV Virus

Susan Hepworth and Mitchell Goldstein, MD

NCfIH National Coalition for Infant Health

Protecting Access for Premature Infants through Age Two

The National Coalition for Infant Health is a collaborative of more than 180 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.

Respiratory syncytial virus, or RSV, is the leading cause of hospitalization in children under 1 year old. It affects the lungs and respiratory tract and can cause lifelong complications – or death. Yet:

Only 22 percent of parents consider themselves "very well prepared" to protect their child

Only 18 percent of parents say they know "a lot" about the disease.

"Specialty health care providers, on the other hand, affirmed the significant risk RSV poses to children and babies. They were nearly unanimous in agreeing that RSV is the "most serious and dangerous" illness for premature babies (96 percent). "

Specialty health care providers, on the other hand, affirmed the significant risk RSV poses to children and babies. They were nearly unanimous in agreeing that RSV is the "most serious and dangerous" illness for premature babies (96 percent). And 77 percent indicated RSV is the "most serious and dangerous" illness for children 4 and under.

Survey respondents included 175 specialty health care providers and 600 parents of children 4 and under.

Despite the gap in awareness, the survey suggests that education can spur parents to learn more and become better equipped to protect their children. After hearing statistics about RSV and its impact, parents indicated they were more likely to:

Ask their doctor about RSV (67 percent)

Look online for information about RSV (38 percent).

In addition, an overwhelming majority (83 percent) would "probably" or "definitely" take a preventive vaccine if it were available when they were pregnant.

Having more information about RSV can be critical for parents, who may need to fight for their children's access to preventive treatment. Specialty health care providers agreed that "barriers to access and denials from insurance companies limit patients' ability to get preventive RSV treatment" (77 percent).

The release of the survey results coincides with national RSV Awareness Month.

One tool for increasing awareness may be the Institute for Patient Access' new "Myths, Facts & Respiratory Syncytial Virus." The document dispels common myths about RSV. For example, RSV can be dangerous for infants and young children, but seniors can also suffer serious health consequences from the virus. And even though early symptoms of RSV are sometimes mistaken for the common cold, RSV can be much more dangerous. RSV can be deadly and may require hospitalization if symptoms become severe. The link to this document can be found here: http://instituteforpatientaccess.org/wp-content/uploads/2018/10/IfPA-MythsFactsRSV-Oct2018.pdf

For most of the country, RSV season has already begun. Learning the facts this RSV Awareness Month can help adults protect children and seniors throughout the season, which can extend through mid-May depending upon geography.

To learn more, read "RSV Awareness: A National Poll of Parents & Health Care Providers" and "Myths, Facts & Respiratory Syncytial Virus."In recalling the loss of young Stephen, the couple reflected upon the worry and grief they felt – but also the dedication of their sons' health care providers. People who work in the NICU "are heroes," Tiffany emphasized. This document can be found here: https://instituteforpatientaccess.org/poll-parents-lack-awareness-of-deadly-rsv-virus/

See more photos and social media highlights from the National Coalition for Infant Health's Facebook page.

References:

1. *http://instituteforpatientaccess.org/wp-content/uploads/2018/10/IfPA-MythsFactsRSV-Oct2018.pdf*
2. *https://instituteforpatientaccess.org/poll-parents-lack-awareness-of-deadly-rsv-virus/*

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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.

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

NCfIH National Coalition for Infant Health

Protecting Access for Premature Infants through Age Two

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

RSV AWARENESS:
A National Poll of Parents & Health Care Providers

Respiratory syncytial virus, or RSV, is far from the common cold. It can lead to hospitalization, lifelong health complications or even death for infants and young children. **In fact, it is the leading cause of hospitalization in children younger than one.**

Yet a national poll of parents and specialty health care providers reveals a startling divide in attitudes toward the virus. While both groups acknowledge RSV as a significant concern, the two populations vary widely in their reported ability to meet RSV's threat head-on. Health care providers vigilantly monitor for the virus, which they report seeing regularly in their practices. Parents, however, feel unequipped to protect their young children.

Meanwhile, specialty health care providers overwhelmingly report that health plan rules and insurance denials block vulnerable infants' access to preventive RSV treatment. Such barriers can put unprepared parents at a double disadvantage. The survey does suggest, however, that education can embolden parents to seek more information about RSV and take steps to protect their children.

KEY FINDINGS

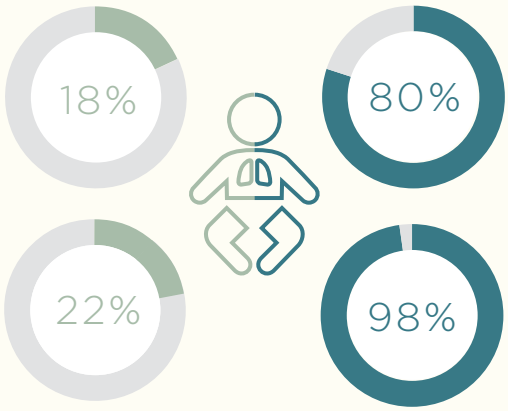
Preparedness

Parents of children age four and under report that understanding of RSV is lacking. That leaves them less than fully prepared to prevent their young children from catching the virus.

Specialty health care providers reiterated these concerns; 70% agreed that parents of their patients have a low awareness of RSV. Meanwhile, specialty health care providers themselves actively monitor for RSV. They reported that:

PARENTS

Only 18% said parents know "a lot" about RSV, reflecting an awareness level that's roughly half that of the flu



Only 22% of parents consider themselves "very well prepared" to prevent RSV.

SPECIALTY HEALTH CARE PROVIDERS

They treat RSV as a priority, "often" or "always" evaluating their patients (80% doctors; 78% nurses)

During RSV season, they are especially vigilant about monitoring patients for symptoms or risk factors for RSV (98%).

Medicolegal Forum: The Expert Deposition: Part I : Preparation, Preparation, Preparation

Gilbert Martin, MD and Jonathan Fanaroff, MD, JD

As neonatologists, we are considered "experts" in this subspecialty of Pediatrics. It is not unusual during your period of clinical experiences that you will be called upon to testify at a deposition or trial.

The preparation of the witness is paramount to a good result and can alter the disposition of the entire matter which may involve dismissal or settlement if you are testifying for the defense or a settlement if you are appearing for the plaintiff. Whatever the disposition, the trial can be avoided which is expensive and is anxiety-producing.

A deposition is defined as: "the testimony of a witness taken upon oral questions or written interrogatories, not in open court, but in pursuance of a commission to take testimony issued by a court, or under a general law or court rule on the subject, and reduced to writing and duly authenticated, and intended to be used in preparation and upon the trial of a civil action or criminal prosecution (1)." This sentence has 70 words, is a run-on and would confuse any purist of proper syntax. Do you know an expert with such grammatical skills?

Our expertise includes knowledge, skill, experience, training, and education which allows for the formation of an "opinion." In today's environment depositions are often recorded and/or videotaped and can be studied by opposing counsel carefully for mistakes (involving the information concerning the facts of the case itself) or inconsistencies in testimony especially comparing the deposition testimony with other previous depositions.

Therefore complete preparation is the first key to a successful experience. Your opinion is only as good, as the facts that you have reviewed and considered. If your factual information is sloppy or not correct, your opinions can be discounted.

" Your opinion is only as good, as the facts that you have reviewed and considered. If your factual information is sloppy or not correct, your opinions can be discounted."

Some simple guidelines:

- The factual and clinical material can be confusing and the charting difficult to extract. The development of a chronological timeline must be considered.
- Meet with your attorney as often as necessary. A pre-deposition conference on the date of the deposition is often inadequate for complete preparation, is rushed and oftentimes allows for disorganization in testimony.
- At these pre-deposition meetings review some of the potential legal questions, your previous testimony in other cases, your curriculum vitae and a review of your qualifications. Your curriculum vitae should be up to date and "meticulously " accurate.

An example: "Doctor, I have your curriculum vitae, which you provided, in front of me. Is this accurate and up-to-date?"

Answer: "Yes"

Question: "I see that the last notation in your CV in the section on "lectures" was three months ago. Have you not offered education material to your colleagues or house staff in the last three months?"

Answer: "Yes"

Question: "Therefore, your Curriculum Vitae is really not up to date- Should the accuracy of the other information…….also be questioned?"

If asked by opposing counsel about these meetings, do not become defensive.

The above guidelines are just a few suggestions. More information will be offered in Parts II and III of this series.

References:

1. *United States V. Microsoft Corporation | Findlaw. (n.d.). Retrieved from* https://caselaw.findlaw.com/us-dc-circuit/1436071.html

The authors have no conflicts of interests to disclose.

NT

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Jonathan Fanaroff <jmf20@case.edu>


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Christine Woods Vice-President, iCAN Research
See you in Kansas City, Missouri
at the
2019 iCAN Research & Advocacy Summit
around the world

Monthly Clinical Pearl: How About if we just Grab Another X-ray?

Joseph R. Hageman, MD

I remember the days when we did repeat chest radiographs and daily films to check endotracheal tube position in our babies in the neonatal intensive care unit (NICU). It was about 30 years ago when we had more infants intubated and on assisted ventilation or CPAP. More recently, there is much concern that the exposure of these infants, especially the extremely premature infants, who spend many months in the NICU, to radiation in the form of large numbers of x-rays and in some cases, CT scans. Investigators have done a number of studies examining the amount of ionizing radiation exposure in premature infants. A classic study by Puch-Kapst and colleagues in 2009 examined ionizing radiation exposure in very-low and extremely low birthweight infants and is used as the standard for effective dose (E) for each x-ray in subsequent studies (1). Scott and colleagues demonstrated ionizing radiation exposure that exceeded the recommended maximum in premature infants (1 milliSievert or 1 mSv) at high risk for long-term sequelae occurred in 12.1% of infants who were <33 weeks gestation and who were cared for in the NICU over the past five years. Central venous line (CVL) placement accounted for 22% of this radiation exposure. GI evaluations accounted for the greatest amount of ionizing radiation exposure. We suggest that the increased use of other imaging strategies may reduce total ionizing radiation exposure in this vulnerable population (2). In our NICU, Dr. Sudhir Sriram is working with the use of diagnostic bedside ultrasound to confirm the proper position of CVL and endotracheal tube position as a means of decreasing radiation exposure in our infants (S Sriram, personal communication, December 2018). Bedside ultrasound is being utilized for a variety of purposes in the NICU including assessment the etiology of early and late onset respiratory distress in infants in the NICU, the presence of pneumatosis intestinalis and portal venous gas, assessment of pneumothorax, endotracheal tube placement (2,4).

What about the true cancer risk related to exposure to ionizing radiation in the NICU and after discharge? There have been a few studies that have examined the risk of cancer in NICU graduates based on theoretical radiation exposure during their stay and subsequent to discharge (3,5). In the study by Miglioretti and colleagues, which reviewed estimated cancer risk in pediatric patients younger than five years of age who undergo CT scans of head, chest, abdomen/pelvis or spine, they projected 4870 future cancers. This study was based on the fact that 4 million CT scans are performed on children younger than five years of age yearly in the United States (5). The effective radiation dose of 20 mSv was delivered by 14-25% of abdomen/pelvis scans, 6-14% of spine scans, and 3-8% of chest scans (5). Their data was collected from the HMO Research Network's Virtual Data Warehouse (5). Hogan et al. examined ionizing radiation exposure on term and premature infants in the year after NICU discharge, and found that premature infants had 1.58 times greater odds of crossing the 1 mSv radiation exposure threshold in the year after NICU discharge

"In the study by Miglioretti and colleagues, which reviewed estimated cancer risk in pediatric patients younger than five years of age who undergo CT scans of head, chest, abdomen/pelvis or spine, they projected 4870 future cancers."

compared to term infants (2). At this point in time, the malignancy-risk following ionizing radiation exposure in infants admitted to the NICU, especially premature infants is theoretical, but radiation exposure is something we, as clinicians can control. These studies and the concerns expressed by these investigators have resulted in the Image Gently campaign and American College of Radiology appropriateness criteria and should encourage us to consider the necessity of each radiograph and especially each CT scan we consider for our patients (3). We can also consider other imaging modalities like ultrasound and MRI in these infants (2,3,5).

References:

1. *Puch-Kapst K, Juran R, Phys D et al. Radiation exposure in 212 very-low and extremely low birth weight infants. Pediatrics 2009;124:1558-1564.*
2. *Scott MV, Fuji AM, Behrman RH, Dillon JE. Diagnostic ionizing radiation exposure in premature patients. J Perinatol 2014;34(5):392-395.*
3. *Hogan AH, Bellin E, Levin TL, Esteban-Cruciani N. Radiation exposure of premature infants beyond the neonatal period. Hospital Pediatrics 2018;8(11):672-678.*
4. *Kurepa D, Zahhoul N, Watkins L, Liu J. State-of-the-Art: Neonatal lung ultrasound exam guidelines. Journal of Perinatology 2018;38, 11–22.*
5. *Miglioretti DL, Johnson E, Williams A et al. The use of computerized tomography in pediatrics and the associated radiation exposure and estimated cancer risk. JAMA Pediatr 2013;167(8):700-707.*

The author has identified no conflicts of interest.

NT

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Clinical Pearls are published monthly.

Submission guidelines for "Clinical Pearls":

1250 word limit not including references or title page.

May begin with a brief case summary or example.

Summarize the pearl for emphasis.

No more than 7 references.

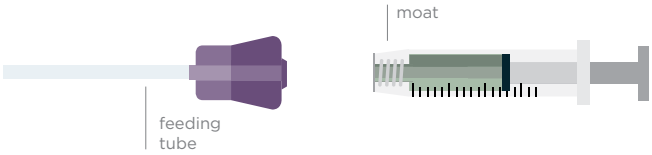
Please send your submissions to:

jhageman@peds.bsd.uchicago.edu

SAFETY IN THE NICU

New tubes, new problems?

A new tubing design meant to eliminate tubing misconnections has introduced new challenges for the NICU population. Pediatric providers must deliver medication in small volumes to tiny patients with high levels of accuracy. The new tubing design, known as ENFit®, could present dosing accuracy and workflow challenges.



DOSING ACCURACY

- The moat, or area around the syringe barrel, is difficult to clear. Medication can hide there, inadvertently increasing the delivered dose when the syringe and feeding tube are connected; patients may receive extra medication.

INFECTION RISK

- The moat design can increase risk for infection if residual breast milk or formula remains in the moat and transfers to the feeding tube.

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Letters to the Editor

From: Yasser Soliman [mailto:yasser.soliman@sickkids.ca]
Sent: Saturday, November 17, 2018 1:35 PM
To: LomaLindaPublishingCompany@gmail.com
Subject: NT

Hello,
I was wondering if you could please provide me with an average processing times for case reports publication. And is the journal Pubmed indexed? also, is it open access that require fees?

Regards,

Yasser Soliman
MD, MSc, CCCF
Chief Fellow,
Acute Care Transport Services (ACTS)
Division of Neonatology
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From: Loma Linda Publishing Company <lomalindapublishing-company@gmail.com>

Sent: November 18, 2018 2:26:32 AM

To: Yasser Soliman

Subject: RE: NT

Dear Dr. Soliman,

Currently, case reports are turned around in 1 week - 2 months. We are peer reviewed and indexed by EBSCO which is an academic database. While we are striving to become PUBMED indexed, we are not there yet. Neonatology Today is free to all, and we do not charge any fees for publication. Open access is truly that – there are no extra hidden charges. We are sustained completely by ads and grants. We want to make academic publication accessible to all, especially those in training and look forward to receiving your manuscript.

If you see Peter Cox, please send him my regards.

Sincerely,

Mitchell Goldstein, MD
Editor in Chief

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Date: Nov 20th, 2018

Mitchell Goldstein, MD, Editor in Chief of Neonatology Today

Dear Prof. Goldstein

On behalf of the authors, I am delighted to submit our case report titles “Surfactant for Tension Pneumothorax in Term Neonates. Dodging Chest Tubes with a Novel Approach” for publication in Neonatology Today.

Spontaneous tension pneumothorax is one of the acute emergent conditions in Neonatal Intensive Care Units which requires immediate diagnosis and intervention; conventionally, needling and intercostal chest tube placement. We propose a novel approach of managing tension pneumothorax in a term infant, with surfactant therapy, without the need of chest tube. A term infant developed spontaneous tension pneumothorax, successfully treated with needling aspiration and surfactant therapy. The baby fully recovered with these interventions and did not require chest tube drainage. We believe that surfactant therapy is worth trying and has the potential to preclude the need for chest tube placement and its consequences.

We would also like to make the following submissions:

1. That the manuscript is being submitted only to Neonatology Today, that it will not be submitted elsewhere while under consideration, that it has not been published elsewhere, and, should it be published in Neonatology Today, that it will not be published elsewhere—either in similar form or verbatim—without permission of the editors.

2. That all authors are responsible for reported research.

3. That all authors have participated in the concept and design; analysis and interpretation of data; drafting or revising of the manuscript, and that they have approved the manuscript as submitted.

Thank you very much for your consideration. We look forward to hearing from the Journal.

Yours Sincerely,

Yasser Soliman, MD, MSc (corresponding author)

Division of Neonatology, Hospital for Sick Children, University of Toronto, 555 University Ave, Toronto, ON M5G 1X8

e-mail: yaasso2000@yahoo.com

Tel: +1 587-707-7556

Editor's Note: Dr. Soliman's manuscript appears in the December 2018 issue of Neonatology Today and may be accessed here. For qualified manuscripts, NT can provide rapid expedited review.

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Neonatology Today welcomes your editorial commentary on previously published manuscripts, news items, and other 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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Erratum (Neonatology Today November, 2018)

Neonatology Today has identified an erratum affecting the November, 2018 edition. In the "Clinical Pearls" the patient is repeatedly referred to as a male; in fact, the patient is female. Thank you to. Giang Truong, MD for noting this issue. 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.

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The fifth annual 2019 iCAN Research & Advocacy Summit
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Editorial Board

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's selection is from a place not to far from West Covina. It is a photograph that was taken by Dr. Mitchell Goldstein, our editor in chief of Neonatology Today. The photograph displayed is of a holiday display set up by one of the community hospitals. It is certainly a nice way of helping families get to where they need to go and bringing holiday cheer at the same time. Happy Holidays.

Herbert Vasquez, MD

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Manuscript Submission: Instructions to Authors

1. Manuscripts are solicited by members of the Editorial Board or may be submitted by readers or other interested parties. Neonatology Today welcomes the submission of all academic manuscripts including randomized control trials, case reports, guidelines, best practice analysis, QI/QA, conference abstracts, and other important works. All content is subject to peer review.

2. All material should be emailed to: LomaLindaPublishingCompany@gmail.com in a Microsoft Word, Open Office, or XML format for the textual material and separate files (tif, eps, jpg, gif, ai, psd, or pdf) for each figure. Preferred formats are ai, psd, or pdf. tif and jpg images should have sufficient resolution so as not to have visible pixilation for the intended dimension. In general, if acceptable for publication, submissions will be published within 3 months.

3. There is no charge for submission, publication (regardless of number of graphics and charts), use of color, or length. Published content will be freely available after publication (i.e., open access). There is no charge for your manuscript to be published under open access

4. The title page should contain a brief title and full names of all authors, their professional degrees, their institutional affiliations, and any conflict of interest relevant to the manuscript. The principal author should be identified as the first author. Contact information for the principal author including phone number, fax number, e-mail address, and mailing address should be included.

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 5,000 words. Abbreviations which are commonplace in neonatology or in the lay literature may be used.

8. References should be included in standard JAMA format. Bibliography Software should be used to facilitate formatting and to ensure that the correct formatting and abbreviations are used for references.

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.

10. Only manuscripts that have not been published previously will be considered for publication except under special circumstances. Prior publication must be disclosed on submission. Published articles become the property of the Neonatology Today and may not be published, copied or reproduced elsewhere without permission from Neonatology Today.

11. NT recommends reading Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals from ICMJE prior to submission if there is any question regarding the appropriateness of a manuscript. NT follows Principles of Transparency and Best Practice in Scholarly Publishing(a joint statement by COPE, DOAJ, WAME, and OASPA). Published articles become the property of the Neonatology Today and may not be published, copied or reproduced elsewhere without permission from Neonatology Today.

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