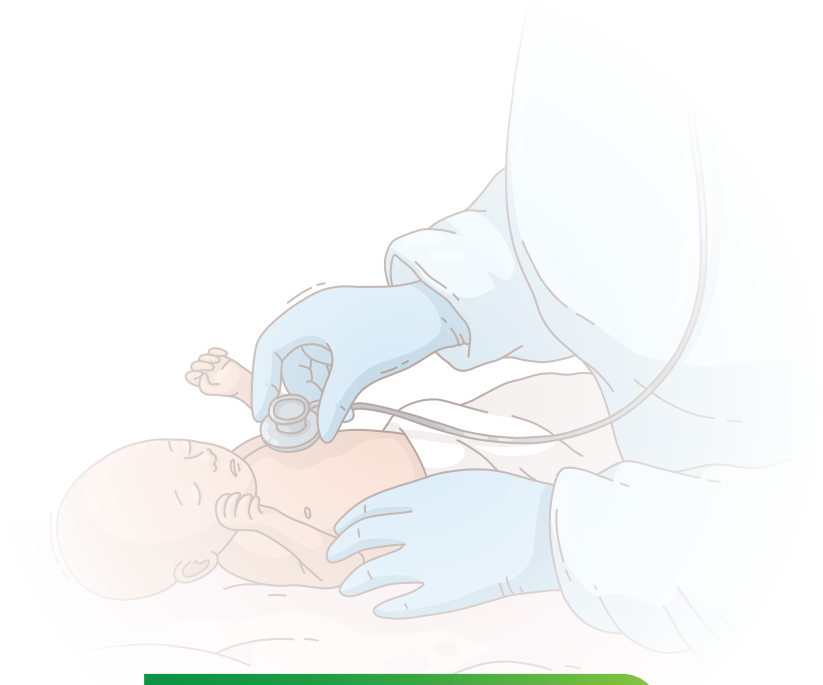

7th Edition of

# Euro-Global Conference on Pediatrics and Neonatology

18-20 September, 2025

COME AND JOIN US IN

**LONDON, UNITED KINGDOM OR VIRTUALLY**

# BOOK OF ABSTRACTS

# 7th Edition of Euro-Global Conference on Pediatrics and Neonatology

SEPT 18-20

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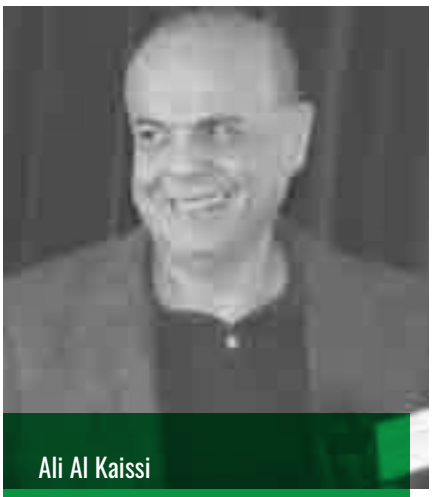
# Keynote Speakers



**Ali Al Kaissi**
Orthopedic Hospital Speising, Russia

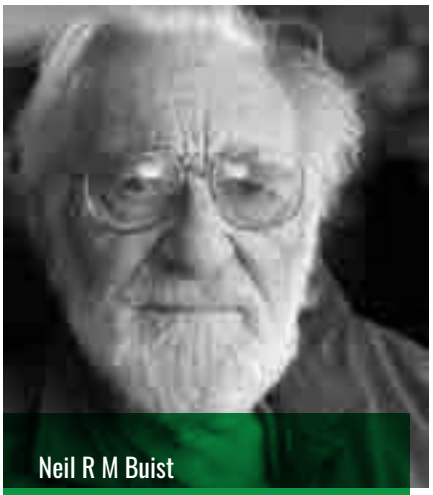
**Ann L. Smith**
Novant Health Forsyth Medical Center, United States

**Catherine Fallet Bianco**
Sainte-Justine University Hospital, Canada

**Hanna Alonim**
The Mifne Center for Treatment Research and Training, Israel

**Heather Hanna**
Imperial College London, United Kingdom

**Jo Vrancken**
PXL University College, Belgium

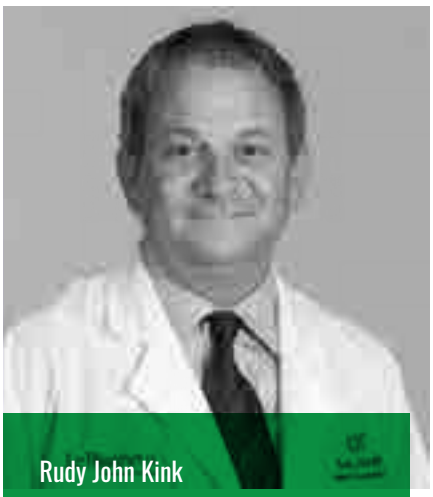


**Neil R M Buist**
Oregon Health & Science University, United States

**Peter Averkiou**
Florida Atlantic University, United States

**Renee J Dufault**
Food Ingredient and Health Research Institute, United States

# Keynote Speakers



**Rudy John Kink**

University of Tennessee Health Science Center, United States

**Steven M Donn**

University of Michigan, United States

**Zhenhuan Liu**

Nanhai Affiliated Hospital for Women and Children
Guangzhou University Chinese Medicine, China

*Thank You All...*

# Welcome Message

Dear organisers and colleagues,

I'm delighted to have the opportunity to participate in this meeting and to share with you the results of our study on the impact of congenital cardiopathies on the developing brain in utero.

Congenital heart defects are known to be associated with neurodevelopmental delays. For 20 years, several authors have reported that anomalies of brain growth and maturation can be detected by prenatal imaging, prior to cardiac surgery, at birth, and even before birth. The aim of our study was to assess the timing and the extent of the lesions in the affected structures. Our results correlated with the timing of reported imaging changes and allowed us to define the neuropathological background of the developing brain injury.

Interestingly, the pattern of these lesions is close to that observed in premature babies and occurs during the vulnerable third trimester. These findings point to possible common pathogenic mechanisms.

**C. Fallet-Bianco**

Sainte-Justine University Hospital, Canada

# Welcome Message

Dear Colleagues,

For several years, I have been presenting at the international conferences of EPN and I am also looking forward to the opportunity to present at the conference in London, in September 2025. It is my pleasure to welcome you to this presentation on early autism detection in Infancy. This is an important topic that touches the lives of many families and communities worldwide. As we know, early unfancy is a critical period for brain development, learning, and socialization.

Dear Colleagues, pediatricians, and experts in the field of infancy, you frequently meet with concerned parents. Therefore, I see it as important to raise awareness about the early detection of symptoms that may predict autism. Throughout this presentation, we will explore the risk variables of ESPASSI©, which are evidence-based practices, and strategies for early detection in the first year of life.

Thank you for participating and taking care to improve the lives of young infants at high risk for autism.

**Dr. Hanna A. Alonim**

The Mifne Center for Treatment Research and Training, Israel

# Welcome Message

A very warm welcome to this, the 7th Annual Euro-Global Conference on Pediatrics and Neonatology.

Our theme this year is looking at how our advances in medicine and healthcare can enhance the health of our young patients. With an ever-changing world of possibilities and advances in so many areas of pediatrics and neonatology, we have to learn and adapt constantly to develop ourselves and to keep current in our knowledge. Having such a wide range of healthcare professionals and countries represented is an excellent way to increase our understanding of different contexts and different systems and appreciate that care possibilities can differ, but that we all aim to do the best that we can for our patients and their families.

We recognise that there are, more than ever, huge health inequalities in our populations due to many nuanced factors, from funding to political unrest and decisions that affect care provision as well as access, sometimes, to the most basic of resources such as food and clean water and more complex issues such as mental health; but we can also recognise the tireless work by healthcare professionals in all contexts and often in challenging circumstances to address these issues.

So welcome to this opportunity to share and learn and reflect. We hope that you gain valuable insights and learning as you listen and participate and network with others. You are all valuable in this process and we thank the organisers, the participants and all attendees for your participation in these days.

**Heather Hanna**

Imperial College London, United Kingdom

# Welcome Message

The true value of a conference lies not in fancy titles or exotic visuals, but in the relevance and content of the presentations and in the personal contacts that are made. I am very pleased to welcome all of you to this impressive sounding conference. I know that many of you, like me, come from distant lands in the expectation of leaving here stuffed with new ideas and, I hope the desire and the means to apply these to new clinical practices and research projects. I hope that we, the speakers, can infuse you with the enthusiasm to help you to achieve your own goals.

**Neil Buist**

Oregon Health & Science University, United States

# Welcome Message

It Is a pleasure to welcome you to this important scientific event entitled, Enhancing Child Health through Neonatal and Pediatric Advances. It will take place from September 18-20, 2025, in London, UK and Virtually. This is the 7th year of the Euro-Global Conference on Pediatrics and Neonatology (EPN 2025). I had the pleasure of attending the 5th year conference in person and was delighted with the engaging conversations and presentations among the attendees and leading experts and practitioners in the neonatal and pediatric fields. As scientists and practitioners we are in unique positions to share our knowledge of the steps we can take to reduce the risk of adverse birth and child outcomes. This conference promises not to disappoint. I encourage attendance and welcome all of you to come and share your expertise and the advances being made to improve maternal and child health outcomes.

**Renee J. Dufault, PhD**

Executive Director and Principal Investigator, Food Ingredient and Health Research Institute, Hawai'i, United States

# Welcome Message

Dear Conference Attendees and Colleagues,

It is a pleasure and an honor to welcome you to this prestigious and informative congress. Prior commitments preclude my attending in person, so I hope you will enjoy and learn of a technique to manage neonatal respiratory failure, high frequency jet ventilation, that is in only limited use worldwide but which has great potential.

On behalf of the rest of the Organizing Committee, it is my wish that the conference will meet and even surpass your educational expectations and i thank you for your interest in the program.

**Steven M. Donn, MD, FAAP, FAARC**

Professor Emeritus of Pediatrics Michigan Medicine, United States

# ABOUT
# MAGNUS GROUP

Magnus Group, a distinguished scientific event organizer, has been at the forefront of fostering knowledge exchange and collaboration since its inception in 2015. With a steadfast commitment to the ethos of Share, receive, grow, Magnus Group has successfully organized over 200 conferences spanning diverse fields, including Healthcare, Medical, Pharmaceutics, Chemistry, Nursing, Agriculture, and Plant Sciences.

The core philosophy of Magnus Group revolves around creating dynamic platforms that facilitate the exchange of cutting-edge research, insights, and innovations within the global scientific community. By bringing together experts, scholars, and professionals from various disciplines, Magnus Group cultivates an environment conducive to intellectual discourse, networking, and interdisciplinary collaboration.

Magnus Group's unwavering dedication to organizing impactful scientific events has positioned it as a key player in the global scientific community. By adhering to the motto of Share, receive, grow, Magnus Group continues to contribute significantly to the advancement of knowledge and the development of innovative solutions in various scientific domains.

# ABOUT
# EPN 2025

The **7th Edition of Euro-Global Conference on Pediatrics and Neonatology (EPN 2025)** will take place from **September 18–20, 2025**, in **London, UK**, and via virtual participation, providing a comprehensive platform for pediatricians, neonatologists, researchers, clinicians, and allied health professionals from around the world. With the central theme of *Enhancing Child Health through Neonatal and Pediatric Advances*, EPN 2025 aims to foster collaborative innovation and drive meaningful dialogue on the most pressing issues and breakthroughs in child health care.

This hybrid event will feature cutting-edge presentations, insightful keynote lectures, evidence-based panel discussions, and interactive workshops covering a spectrum of topics from neonatal intensive care to adolescent medicine, pediatric surgery, developmental disorders, infectious diseases, and pediatric therapeutics. Attendees will engage with pioneering research and clinical practices that are shaping the future of pediatrics and neonatology.

EPN 2025 serves as a catalyst for knowledge exchange, interdisciplinary collaboration, and networking among global stakeholders dedicated to improving the lives of infants, children, and adolescents. Join us in London or online to be part of this impactful forum advancing pediatric excellence across borders.

## ABOUT

# CPD Accreditation

Continuing Professional Development (CPD) credits are valuable for EPN 2025 attendees as they provide recognition and validation of their ongoing learning and professional development. The number of CPD credits that can be earned is typically based on the number of sessions attended. You have an opportunity to avail 1 CPD credit for each hour of Attendance. Some benefits of CPD credits include:

**Career advancement:** CPD credits demonstrate a commitment to ongoing learning and professional development, which can enhance one's reputation and increase chances of career advancement.

**Maintenance of professional credentials:** Many professions require a minimum number of CPD credits to maintain their certification or license.

**Increased knowledge:** Attending EPN 2025 and earning CPD credits can help attendees stay current with the latest developments and advancements in their field.

**Networking opportunities:** EPN Conference provide opportunities for attendees to network with peers and experts, expanding their professional network and building relationships with potential collaborators.

**Note:** Each conference attendee will receive 20+ CPD credits.

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## KEYNOTE PRESENTATIONS

**Ali Al Kaissi[1,2]*, Franz Grill[1]**

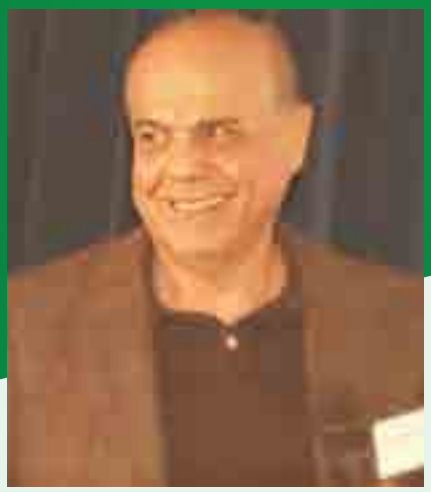
[1]Former consultant and expert for bone diseases Pediatrics Department of the orthopedic Hospital Speising Vienna, Austria

[2]Currently Honorary Professor Ilizarov Institute Traumatology and Orthopedics, Kurgan, Russia

## Etiology understanding of the anatomical disruption of the craniofacial bones in children is a corner stone for a proper management

Instant clinical recognition of abnormal craniofacial contour can facilitate the diagnostic process and enhance proper management. Overlooking minor or major anatomical disruptions of the craniofacial bones can lead to endless sophisticated unnecessary and time-consuming investigations. There is almost always a strong correlation between deformities of the craniofacial contour with abnormalities of the skeletal system and the visceral organs. We categorized our patients into several subcategories in accordance with the etiological diagnosis. In this presentation we choose two groups of children born with abnormal craniofacial contour. The first group are infants born with pre and postnatal growth acceleration. The second group are infants and children with pre and postnatal growth retardation. The former group encompasses children with cerebral gigantism (Sotos syndrome) (which combines early overgrowth with a characteristic facial appearance with variable clinical manifestations), and children with Marfanoid habitus with craniosynostosis. The latter group included children and adults with sclerosing bone disorders. Family study of each child showed the existence of variable forms of mild/moderate clinical abnormalities in parents, siblings and

## Biography



Ali Al Kasissi, MD, MSc, DSc (Hon); much of his work is centered on one simple rule that every skeletal deformity/abnormality must have an underlying causality that needs to be explored and addressed. This stems from his conviction that the vast majority of skeletal deformities – if not all – do not occur randomly. His clinical experience resulted in more than 220 published papers in peer-reviewed medical journals and five breakthroughs in medicine. Al Kaissi Syndrome (OMIM: 617694); Al Kaissi et al, 3MC syndrome (OMIM 257920); Al Kaissi novel type of Desbuquois syndrome (AJMG 2005); Al Kaissi novel conception of Wormian Bones Diagnostics J. Basel (2023).

relatives regardless of the patterns of inheritance. The purpose of this study is threefold, firstly; craniofacial asymmetry or plagiocephaly are not a diagnostic entity; these are almost always a symptom complex which warrants clinical search to detect hidden abnormalities. Secondly; radiographic interpretation is a fundamental tool to explore the concomitant deformities. Thirdly, observing the clinical phenotype of the parents, siblings, and in some cases the relatives can give a clue for the diagnosis.

## Ann L Smith* DNP, RN, NNP-BC; Polly Sisk PhD Nutrition

Novant Health Forsyth Medical Center, United States

# Nourishing the future: A process improvement project to standardize and enhance feeding strategies for Late Preterm Infants (LPIs)

**Context:** This project took place in a 25-bed mother-baby unit and a 56-bed level 3 neonatal intensive care unit in North Carolina, aimed at addressing the specialized care needs of Late Preterm Infants (LPIs) through a statewide collaboration focused on quality improvement. A multidisciplinary team collaborated to create comprehensive guidelines for the care of LPIs.

**Problem Statement:** LPIs, defined as infants born between 34 and 36 weeks of gestation, often face unique developmental challenges that complicate feeding practices. Common issues include delayed lactation onset, respiratory difficulties, hypoglycemia, and coordination problems with suck, swallow, and breath. Routine audits indicated that a significant number of LPIs experience weight loss in their first week of life, leading to increased readmission rates. Specifically, 17% of LPIs were readmitted within 30 days post-discharge, highlighting an urgent need for improved feeding protocols.

**Aim Statement:** This quality improvement initiative aims to enhance adherence to a newly established standardized feeding and supplementation protocol, increasing compliance from 0% to 75% by December 2024. The goal is to minimize weight loss prior to discharge, thereby reducing the risk of readmission.

**Assessment and Analysis:** A comprehensive review of data from approximately four hundred LPIs revealed

## Biography

Ann L. Smith, DNP, MSN, NNP-BC, NE-BC has over 40 years of nursing experience in a variety of Women's and Children's roles. She graduated with her BSN in 1987, her Masters in Neonatal Nursing in 1996 from the University of Florida, then her DNP from East Carolina University in 2018. She is a certified Neonatal Nurse Practitioner, practicing for the past 32 years in level 3 or 4 NICUs. For the past 16 years, she has served as the Director of Women's and Children's Health in a large birthing facility in south eastern United States while still working as an NNP. Her passion is servant leadership while leading quality initiatives to achieve the best outcomes for mothers and babies. She also leads corporate teams and drives evidence based practice and consistency for all 10 birthing facilities in the system.

concerning trends: 33% were discharged before 48 hours of life, and 17% experienced weight loss exceeding 7% at discharge. While 66% were breastfeeding at discharge, gaps in feeding support were evident. Based on this analysis, the team developed an aim and Key Driver Diagram (KDD) to guide interventions. See attached KDD.

**Intervention:** In response to the identified inconsistencies in feeding practices, a standardized feeding protocol was developed. This protocol emphasizes immediate breastfeeding attempts, early initiation of pumping, and daily lactation consultant assessments. It includes specific feeding strategies, such as providing supplementation if weight loss surpasses established thresholds. See attached feeding algorithm.

**Strategy for Change:** Implementation commenced in January 2024, with data entry and extraction into a statewide database over the next 11 months. The protocol underwent approval from leadership councils and was presented to staff through webinars and meetings, officially launching in August 2024. Early feedback mechanisms are planned for December 2024.

**Measures of Improvement:** The project's effectiveness will be tracked through monthly audits measuring key outcomes, including readmission rates, breastfeeding attempts, feeding supplementation, weight monitoring, and timely pediatric follow-ups. Initial data indicates promising trends, such as no readmissions within 30 days of discharge and a notable decrease in weight loss exceeding 7% at discharge. See attached Run Charts.

**Family Champions Involvement:** The inclusion of a family champion—who has personal experience as a parent of an LPI—has provided valuable insights and fostered a family-centered approach to protocol development.

**Effects of Change:** Preliminary outcomes suggest that adherence to standardized feeding protocols significantly enhances LPI health and decreases readmission rates. These findings underscore the necessity of structured feeding strategies in clinical practice, promoting better growth, health outcomes, and family satisfaction.

**Lessons Learned:** Key insights from the project emphasize the importance of early multidisciplinary engagement, continuous staff education, and ongoing assessment of the protocol's effectiveness. Maintaining transparent communication with all stakeholders fosters commitment and enthusiasm for the project.

**Recommendations for Practice:** To further improve outcomes for LPIs, ongoing staff education, regular audits of feeding practices, and continuous protocol refinement based on data-driven insights are recommended. Prioritizing evidence-based feeding strategies will enhance the quality of care provided to late preterm infants.

## C. Fallet-Bianco

Department of Pathology, Sainte-Justine University Hospital-Montreal (QC), Canada

# Impact of congenital heart defects on the developing brain

Congenital Heart Defects (CHDs) affect up to 1% of all live births. They are responsible for neurodevelopmental delays initially attributed to brain damage resulting from heart surgery. Subsequently, a growing number of studies have reported that prenatal imaging can detect brain abnormalities, at or even before birth. However, very few neuropathological studies have been conducted to evaluate neuropathological changes in subjects with CHDs. The aim of our study was to evaluate in utero brain damage in fetuses/neonates with congenital cardiopathies.

To this end, we performed a neuropathological study in a cohort of 40 fetuses/neonates with isolated cardiopathy and evaluated the prevalence of brain changes in the second and third trimester of prenatal life according to sex and type of cardiopathy. Syndromic congenital cardiopathies were excluded because of possible other causes of brain damage. Our aims were (1) to identify vulnerable brain structures affected in utero in CHDs fetuses, (2) to evaluate the lesions and their potential impact on brain growth, (3) to improve our understanding of the pathogenesis of neurodevelopmental delay in children with congenital cardiopathy.

Our study included a quantified assessment of brain weight and histological examination of representative brain areas compared with age-matched controls. Statistical analyses showed that the mean brain weight was at or below the fifth percentile in most third-trimester subjects, compared with normal brain weight in all second-trimester subjects. Low brain weight in

## Biography

Dr C. Fallet-Bianco spent the main part of her career as a Senior Consultant and in the Department of Neuropathology at the Sainte-Anne University Hospital in Paris. In 2013, she was appointed full-time Clinical Professor of Neuropathology at Sainte-Justine Hospital and the University of Montreal. She also obtained certification in General Pathology, Fetal Pathology and Dysmorphology-Developmental Abnormalities & Genetic Syndromes (University Paris VI & VII). She has collaborated in the editing of seven scientific books, the latest being Keeling's Fetal and Neonatal Pathology 8th edition (2022). She has also published 110 research and review articles in international scientific journals.

third-trimester subjects was also associated with frequent brain lesions. Neuropathological examination showed that some areas were selectively and significantly damaged, suggesting a particular vulnerability, especially white matter, its components and the germinal zone. No significant differences were observed between subjects with different types of cardiopathies and no correlation was found between fetal sex and the frequency of neuropathological lesions.

These observations have allowed us to define the neuropathological lesions in subjects with congenital cardiopathies and their timing. They are close to those observed in premature babies, probably because they occur in the same period, the third trimester, a period of particular vulnerability of the developing brain, and may share some pathogenic mechanisms. They demonstrate the impact of congenital cardiopathies on the developing brain and correlate with imaging changes reported in the literature.

**Hanna Alonim[1,2*], Danny Tayar[1,4], Ido Lieberman[3], Giora Scheingezicht[1]**

[1]The Mifne Center for Treatment, Research and Training, Israel

[2]Bar Ilan University, School of Social Science, Israel

[3]Bar Ilan University, Department of Sociology & and Anthropology, Israel

[4]The Israeli Health Ministry, Israel

## ESPASSI© screening tool for the detection of variables associated with the prodrome of autism in early infancy

**Introduction:** The worldwide prevalence of autism points out of 2% of the population. Although we still lack biological markers for autism, there is evidence of autism-related patterns of behavior as early as the first year of life. On the other hand, there is still much knowledge yet uncovered concerning behavioral variables and the ability to predict autism in early infancy.

**Objectives and Methods:** A pioneering study was conducted to evaluate variables associated with autism in early infancy. A decade-long study took place at the Mifne Center, examining 110 infants between the ages of 5-15 months who were eventually diagnosed with autism at the age of 2-3 years, using a retrospective analysis of videotapes by their parents' during the first months of their infants' lives, before suspicions arose. In addition, the parents filled out questionnaires covering infant development, including follow-up data from healthcare clinics.

**Results:** The eight variables related to autism found in subjects included: Excessive passivity or activity, lack of eye contact, lack of interest and response to

## Biography

Dr. Hanna A. Alonim, is an expert and researcher in the Autism Spectrum and Mental Health in infancy. Founder and Head of the Mifne Center Israel, for Treatment, Training, and Research, since 1987. Head of the Therapist's Training School for Autism at the Bar Ilan University. She developed the ESPASSI© screening scale for the detection of autism prodrome in the first year of life, which was piloted at the Sourasky TLV Medical Center. Dr. Alonim is a committee member of the WHO ICF Core Set for ASD, Stockholm 2016.

the environment, refusal to eat, recoil from touch, delay in motor development, accelerated growth of the head circumference. The results of this study have provided the basis for the development of a preliminary assessment tool for the detection of infants at risk for autism (ESPASSI©) suitable for screening in 5-15 month old infants).

**Conclusion:** Symptoms associated with ASD are in most cases detectable as early as one year or even at a few months of age, which can support the ability to detect high-risk infants. This is a temporary assessment that can navigate the priority of treatment for the infant and family.

**Keywords:** Risk of ASD, Infants, Assessment, Detection

**Mrs. Heather Hanna*, Dr. Deena-Shefali Patel**

Department of Infectious Disease, Imperial College, London, United Kingdom

# We're all in this together the benefits of multidisciplinary learning in pediatrics and neonatal medicine

Multidisciplinary Education is very important in the world of paediatric and neonatal medicine as we endeavour to deliver holistic provision to the children in our care. The underlying pedagogy is designed not only to increase knowledge, but also to equip the healthcare professional with transferrable skills, promote teamwork and enhance communication between the disciplines. Reflecting on how learning can develop practice, we consider how further education can enable practitioners to manage unexpected turns in the healthcare professional's career journey and within the developing roles of the practitioners over time. Additionally, we consider engaging ways of teaching our colleagues in a Multidisciplinary Team (MDT) setting, such as a grand round or within MDT meetings.

## Biography

Mrs. Heather Hanna studied both adult and paediatric nursing in a joint course at the Charles West School of Nursing at Great Ormond Street Hospital, London qualifying as a Registered General Nurse and a Registered Sick Children's Nurse in 1989. She also qualified as an RN in the State of Washington, practicing there for 3 years in Infant Intensive Care Unit and then as a Research Nurse at Children's Hospital, Seattle. Her career was mostly spent in Neonatal Intensive Care before she moved into Research at St Mary's Hospital Paddington where she also obtained her MSc in Allergy (dist.) from Imperial College London. Some ten years ago, she moved into Medical Education and obtained her MEd in University Lecturing and Teaching from Imperial College. Her roles are now split between Undergraduate Medical Education working in the Medical Ethics and Law Team and Postgraduate Medical Education as Clinical Teaching Fellow on the online Applied Paediatrics MSc course, both at Imperial College London.

**Jo Vrancken MSc[1]*; Ine Achten Psy[2]; Piet Leroy MD, PhD, MSc[3]**

[1]PXL Healthcare Innovation, PXL University College, Hasselt, Belgium

[2]XL Healthcare Innovation, PXL University College, Hasselt, Belgium

[3]School of Health Professions Education, Maastricht University and Maastricht University Medical Centre, Maastricht, The Netherlands

## Enhancing comfort and success in pediatric nasogastric tube insertion: Findings from a qualitative study

The presentation will begin with an introduction to the topic of Nasogastric Tube Insertion (NTI) in pediatric care, highlighting its significance and the common challenges associated with it, such as pain and distress for children. The background section will provide an overview of NTI, its indications, and its prevalence in pediatric care, discussing the existing literature on NTI-related pain and distress and emphasizing the lack of effective comfort strategies.

The aim of the study will be stated, focusing on exploring the challenges and complexities of NTI in children from the perspectives of healthcare professionals and parents, and identifying strategies to improve NTI success and minimize trauma. The methods section will describe the qualitative research design and the use of focus groups, detailing the participant selection, which included healthcare professionals and parents, and explaining the data collection and analysis process using an inductive latent content analysis method.

The findings will be presented, identifying four main themes: The high distress associated with NTI for children, parents, and healthcare professionals,

## Biography

Jo Vrancken is a lecturer and researcher at PXL University College, specializing in peri-operative care and pediatric procedural comfort. With a Bachelor's degree in nursing and a Master's degree in Health Sciences, Jo has extensive experience in the healthcare field, particularly in the operating room environment. His work often focuses on reducing preoperative anxiety in children through innovative approaches, such as the development of a serious game like HospiAvontuur. His research interests also include procedural comfort and distress management in pediatric care, as evidenced by his recent qualitative study on nasogastric tube insertion in children.

inconsistencies in NTI practices across different settings and professionals lack of professional standards and competency in NTI and contextual barriers to change and innovation in NTI practices. Specific quotes and examples from participants will be shared to illustrate these themes.

The presentation will then discuss the key strategies proposed to enhance NTI practice, including questioning the necessity and timing of NTI, adopting individualized approaches tailored to each child, implementing new comfort techniques as a team, and conducting post-procedure reflections and debriefings. The importance of a holistic approach that addresses the interconnected distress experienced by all stakeholders will be highlighted.

In conclusion, the key findings and their implications for pediatric care will be summarized, emphasizing the need for standardized guidelines and comprehensive training in NTI practices. The presentation will call for interdisciplinary collaboration and shared decision-making to improve the NTI experience for children, parents, and healthcare professionals.

Future directions will be suggested, including areas for further research such as validating the findings across diverse healthcare settings and incorporating the perspectives of older children. The development of evidence-based protocols and resource-conscious comfort strategies will be encouraged.

The presentation will conclude with a Q&A session, opening the floor for questions and discussions with the audience, and engaging with them to gather feedback and insights on the presented strategies and findings.

**Neil R. M. Buist[1]*, Scott Buckley[2], W. Christopher Lang[3]**

[1]Departments of Paediatrics and Medical Genetics, Oregon Health & Science University, Portland, Oregon, United States

[2]Research Prototypes Portland Oregon, United States

[3]PhD, Department of Mathematics, University of New Albany, New Albany, IN, United States

## Electronic quantitation of sucking in infants

**Background:** Feeding problems in small infants are extremely common; they are usually assessed by trained clinical observers. We describe a small device that captures continuous sucking pressures that can be used to provide information about a number of oral physiologic parameters during sucking. There is nothing conceptually new about our system, but we have used it to develop an automated, computerized data processing and analytical programme [Lang]. We have used this device to examine normal & high-risk neonates during regular feeding to develop some normal parameters.

**Methods:** A 12cm pressure chamber is fitted with a pressure monitor that feeds continuous data to a computer and a nipple; milk or feed is held in a regular feeding bottle. Infants can be held by caregivers during testing.

## Biography

Professor Buist earned his medical degrees Scotland with later training in Biochemical Genetics in Denver Colorado. For 35 years he ran the largest Metabolic Clinic in the US along with a lab involved in multiple clinical and research projects that characterized at least 10 new genetic disorders. He was intimately involved in the start of Newborn Screening in a program well known for innovation; being the first to introduce many of the tests currently used. He developed radically new nutritional products for the treatment of inborn errors of metabolism. He is well known internationally and has published >150 articles in research journals.

## Peter Averkiou, MD

Florida Atlantic University, United States

# Early clinical exposure in medical education: The newborn nursery clinical experience

The newborn nursery clinical experience is an innovative, early exposure for medical students to the hospital setting and family medicine. Early in their second year, our medical students are immersed into the newborn nursery, while also experiencing the Neonatal Intensive Care Unit (NICU) and attending obstetrical deliveries. They witness, first hand, the interprofessional and interdisciplinary workings of pediatricians, obstetricians, neonatologists, anesthesiologists, nurses and other professionals. The medical students are also instructed on how to read a medical chart and on proper medical documentation and its importance. They also interact with the mother of the patient, as well as other family members that are in attendance, and long-term continuity of integrated care and the focus on the personal patient/patient's guardian(s)-physician relationship is stressed. This experience is always well-received and highly evaluated by our medical students. It also helps to prepare them for their third year clinical rotations in family medicine, pediatrics and Ob/Gyn.

## Biography

Dr. Peter Averkiou is a pediatrician and an Associate Professor of Pediatrics at the Charles E. Schmidt College of Medicine at Florida Atlantic University. He is the Co-Director of the four Foundations of Medicine Courses, the Director of the Service Learning Projects, the Director of the Newborn Nursery Clinical Rotation and the Director of the Synthesis and Transition Course at the medical school.

## Renee J Dufault

Department of Research, Food Ingredient and Health Research Institute, Naalehu, HI, United States

College of Graduate Health Studies, A.T. Still University, Kirksville, MO, United States

# Biography

Dr. Dufault completed her PhD at A.T. Still University. She retired early from her position as a US Public Health Service officer at the Food and Drug Administration (FDA) to publish her findings of mercury in high fructose corn syrup. As an FDA whistleblower, she could not find employment as a researcher, so she founded the non-profit Food Ingredient and Health Research Institute where she works as a volunteer. She supplements her income working as a licensed special education teacher. Today Dr. D is considered a leader in the field of nutritional epigenetics with 726 citations according to Google Scholar.

## Biomarkers for tracking metabolic changes pre-post nutritional epigenetics diet intervention for children with autism and Attention Deficit/Hyperactivity Disorder (ADHD)

The prevalence of autism and Attention Deficit/Hyperactivity Disorders (ADHD) varies geographically and is increasing worldwide. Numerous factors are involved in the epigenetic inheritance of these disorders to include nutritional deficits and prenatal exposures to chemicals in the ultra-processed food supply and environment. Nutritional deficits and dietary chemicals can alter or modify the expression of the Metallothionein (MT) gene and impact its behavior creating conditions for the bioaccumulation of heavy metals in the blood of infants and children with autism or ADHD. Children all over the world suffer from autism and ADHD and have difficulty metabolizing and excreting heavy metals, especially mercury and lead. The severity of their symptoms is directly associated with oxidative stress and the heavy metal levels measured in their blood. Nutritional epigenetics is an emerging area of medicine where practitioners may study the effects of nutrients and dietary chemicals on gene expression. Understanding how MT gene expression occurs from a nutritional epigenetics point of view may help the practitioner develop a diet intervention to mitigate or reduce the symptoms associated with autism and ADHD in children or prevent the disorders from developing during pregnancy. Specific biomarkers may be collected pre- and post-nutritional epigenetics diet/intervention to monitor metabolic changes that occur with autism and ADHD development and symptomology.

## Rudy J Kink, MD

Department of Pediatrics, Memphis, TN, United States

# Pediatric emergency airways: Crib to college

Pediatric airway emergencies remain among the most anxiety-provoking and technically challenging scenarios encountered by prehospital providers. While infrequent, these high-stakes situations demand a deep understanding of both anatomical and physiological considerations unique to children. This session will explore predictors of a difficult airway, review EMS performance data, and walk through evidence-based techniques and tools to optimize airway management across the age spectrum—from neonates to adolescents.

Through analysis of malpractice claims, national EMS datasets, and recent clinical studies, we will highlight critical lessons and common pitfalls in pediatric airway management. Attendees will gain practical strategies for preoxygenation, equipment selection, and the management of both anatomically and physiologically difficult airways. Emphasis will be placed on supraglottic devices, video laryngoscopy, bougie use, and appropriate pharmacologic induction—especially in the hemodynamically fragile child.

Whether in simulation or real-time crisis, preparation and practice are the key to success.

## Biography

Dr. Rudy Kink is a Professor of Pediatrics at the University of Tennessee Health Science Center and serves as the Medical Director of Pediatric and Neonatal Transport at Le Bonheur Children's Hospital. He is the EMS Medical Director for Fayette County, TN, and Chair of the AAP PEPP Steering Committee. Board-certified in Pediatric Emergency Medicine, Dr. Kink has published extensively and mentored dozens of fellows and residents. A nationally recognized speaker and educator, he is passionate about improving pediatric resuscitation, airway management, and transport care across rural and urban systems.

## Steven M. Donn

Division of Neonatal-Perinatal Medicine, Department of Pediatrics, Michigan Medicine, Ann Arbor, Michigan, United States

## An overview of high frequency jet ventilation

High Frequency Jet Ventilation (HFJV) is a form of mechanical ventilation that delivers tiny gas volumes (less than the anatomical dead space) at rapid rates. It has been used extensively in the United States and to a lesser extent in Australia to treat neonatal respiratory failure as an alternative to conventional (tidal) mechanical ventilation and has been shown to be especially effective in the treatment of intractable air leaks, such as pulmonary interstitial emphysema, airway disruptions, and pneumothorax. This presentation will review the salient features of HFJV including differences among rapid rate conventional ventilation and high frequency oscillatory ventilation in gas delivery, mechanisms of gas exchange and how they impact oxygenation and ventilation, complications, disease-specific strategies and clinical management.

## Biography

Steven M. Donn, MD, FAAP, FAARC is a Professor Emeritus of Pediatrics at the University of Michigan Medical School in Ann Arbor, where he is a member of the Division of Neonatal-Perinatal Medicine at C.S. Mott Children's Hospital. He is certified by the American Board of Pediatrics and its Sub-board of Neonatal-Perinatal Medicine. Dr. Donn is actively involved in teaching, writing, editing, and clinical research. He is a member of numerous professional societies and is internationally known for his expertise in the management of respiratory failure in newborns. In 2020 he was named a Fellow of the American Association for Respiratory Care for his profound and lasting contribution to the profession of respiratory care. He has authored more than 240 medical journal articles, written or edited 37 books and specialty journals, and contributed 259 book chapters. Dr. Donn's extracurricular interests include astronomy, international travel, photography, and spectator sports.

## Zhen-Huan LIU

Nanhai Aternity and Children's Hospital Affiliated Guangzhou University of Chinese Medicine, China

# Scientific evaluate quantification of social and behavioral by scalp acupuncture on children with autism spectrum disorder

**Background:** Autism Spectrum Disorders (ASD) are a series of neurodevelopmental disorders characterized by social disorders, rigid behaviors and narrow interests. The World Health Organization (WHO) estimates that the prevalence of ASD has been increasing over the past 50 years. With one in 48 children, ASD has become a global public health problem. Currently, there is no effective drug treatment for children with ASD, and there is no effective medical treatment. Education of these ASD children by special education methods alone has a poor outcome, with 75% of ASD children failing to achieve normal or cure. And 80% of ASD children suffer from mental retardation, ADHD, epilepsy, emotional sleep disorders and so on. It can cause pain and suffering for ASD children and their parents. The effects may persist into adulthood.

**Objective:** The purpose of this study was to investigate the effect of head acupuncture therapy on core symptoms, quality of life and communication ability of children with ASD. Our team conducted a controlled study of head acupuncture therapy in 198 children diagnosed with ASD. The clinical diagnostic criteria of children with ASD who were selected for head acupuncture treatment met the DSM-5 criteria. Each child and parent signed an informed consent form.

**Methods:** 198 children with ASD were randomly divided into two groups. Acupuncture treatment group

## Biography

Zhenhuan LIU professor of pediatrics, Pediatric acupuncturist Ph.D. tutor. He has been engaged in pediatric clinical and child rehabilitation for 40 years. Led the rehabilitation team to treat more than 40,000 cases of children with intellectual disability, cerebral palsy and autism from China and more than 20 countries, More than 26800 childrens deformity returned to school and society and became self-sufficient. The rehabilitation effect ranks the international advanced level. Vice-chairman of Rehabilitation professional committe children with cerebral palsy, World Federation of Chinese Medicine Societies. Visiting Profassor of Chinese University of Hong Kong in recent 10 years. .He is most famous pediatric neurological and rehabilitation specialists in integrated traditional Chinese and Western medicine in China. He has edited 10 books. He has published 268 papers in international and Chinese medical journals.

89 cases, received head acupuncture therapy and the control group 89 cases received special education and speech therapy for 3 months. Clinical evaluation methods were ATEC, ABC, CARS and Gesell developmental scales. Pre- and post-treatment assessments were performed. The age of the two groups was 3-8 years old, and the gender, degree of illness, comorbidities, family education and rearing methods, course of disease and other factors were statistically analyzed. There was no significant difference between the two groups, and there was a certain comparability between the two groups. Both groups were evaluated on the ATEC, ABC, CARS and Gesell scales before starting rehabilitation. CNRAT method, Zhijiu acupuncture and precise body surface projection in functional language area of cerebral cortex were selected for head acupuncture. Broca and Wennicken area were simultaneously stimulated by acupuncture. Acupuncture is performed every other day. After acupuncture, electrical acupuncture was given to stimulate the language area for 15 minutes, every 10 times of acupuncture, rest for 15 days. A second clinical evaluation was conducted 3 months after acupuncture.

**Results:** The improvement of core symptoms in the head acupuncture treatment group was better than that in the control group. The initial clinical improvement was in abnormal visual communication, improvement of sleep and mood, and the following clinical effects were alleviation of rigid behavior, improvement of attention, and improvement of verbal and social communication ability. Assessment of these scales reflects a gradual improvement in these core symptoms. But these changes were not significant in the control group.

**Conclusion:** The research results showed that head acupuncture therapy could significantly improve the core symptoms of ASD children, such as extreme loneliness, eye contact disorder, language repetition, compulsive agreement, and indifference, significantly regulate the abnormal EEG of ASD children, and positively promote the cognitive level of low-functioning ASD children. The clinical efficacy of the treatment of ASD was not closely related to age. Electrocephalic acupuncture can be used as an effective supplement and alternative medicine therapy in the clinical treatment of ASD. The popularization and application of head acupuncture therapy can improve the quality of life of ASD children and reduce the economic burden of society and family.

Since 2004, Nanhai Women's and Children's Hospital Affiliated to Guangzhou University of Chinese Medicine has applied our original pediatric neurorehabilitation head acupuncture therapy to treat ASD and achieved good clinical efficacy. In order to further promote the application, our research group obtained the exact clinical effect confirmed by scientific evaluation through the clinical validation study and clinical follow-up of 1000 cases of ASD. We also receive pediatricians from all over the world who come to our hospital in China to study head acupuncture therapy for ASD. Doctors and rehabilitation therapists from Switzerland, Australia, the United States, Germany, Egypt, Russia, Kazakhstan and other countries have come to our hospital to study the clinical application of head acupuncture therapy in ASD.

**Keywords:** Autism Spectrum Disorder, Acupuncture, Scalp Electroacupuncture

# BOOK OF ABSTRACTS

7th Edition of
Euro-Global Conference on

# Pediatrics and Neonatology

SEPT
18-20

WORKSHOP
PRESENTATION

**Mrs. Heather Hanna[1]*, Dr. Adonna Francis[2]***

[1]Department of Infectious Disease, Imperial College, London, United Kingdom

[2]Department of Medicine, Professional Values and Behaviours Team, Imperial College, London, United Kingdom

# Brave new world emerging ethical dilemmas in a transforming digital world

When we consider the future of pediatrics, we can think of transformations that have already affected our patients and their families in terms of digital advances with corresponding ethical dilemmas. We need to consider the benefits and challenges for ethical debate in a digital context and these are both nuanced, and context driven. The digital world has meant we can sometimes fall into echo chambers or polarized debates where we may communicate to share and give commentary, but not to listen and receive, in a real-time dialogue that may actually limit communication and reduce the understanding and rapport that comes from in-person interactions.

This workshop seeks to explore some of these areas, giving participants practical and useful tools to help to guide and inform discussions to enable us to evaluate and respond to these dilemmas as we seek to provide the best care to our patients and their families.

Mrs. Heather Hanna studied both adult and paediatric nursing in a joint course at the Charles West School of Nursing at Great Ormond Street Hospital, London qualifying as a Registered General Nurse and a Registered Sick Children's Nurse in 1989. She also qualified as an RN in the State of Washington, practicing there for 3 years in Infant Intensive Care Unit and then as a Research Nurse at Children's Hospital, Seattle. Her career was mostly spent in Neonatal Intensive Care before she moved into Research at St Mary's Hospital Paddington where she also obtained her MSc in Allergy (dist.) from Imperial College London. Some ten years ago, she moved into Medical Education and obtained her MEd in University Lecturing and Teaching from Imperial College. Her roles are now split between Undergraduate Medical Education working in the Medical Ethics and Law Team and Postgraduate Medical Education as Clinical Teaching Fellow on the online Applied Paediatrics MSc course, both at Imperial College London.

Dr. Adonna Francis is a General Practioner with an interest in Children's Wellbeing and Medical Education. She completed her iBsc in International Health in 2010 and subsequently, after GP training, went on to complete an MA in Medical Ethics and Law at the Dickson Poon School of Law (2020). In addition to her clinical work, Adonna currently works as a GP tutor for Imperial Medical School, teaching on topics related to professional values, medical ethics, and communication skills. She is particularly passionate about using the arts to inspire students to think creatively and engage with differing perspectives and experiences.

# 7th Edition of Euro-Global Conference on Pediatrics and Neonatology

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## ORAL PRESENTATIONS

**Dr. A'beer Elhaj**
HaEmek Medical Center, Israel

## Small body, big heart

ALCAPA Syndrome: A Case of Failure to Thrive and Feeding difficulty in a 3-Month-Old Infant.

**Background**: Anomalous Left Coronary Artery from the Pulmonary Artery (ALCAPA) also known as Bland-White-Garland syndrome, is a rare congenital cardiac anomaly occurring in approximately 1 in 300,000 live births with potentially life-threatening consequences, this is a very severe condition with a 90% mortality rate in the first year of life without treatment. ALCAPA is often presented in infancy or early childhood. It results in myocardial ischemia due to inadequate coronary circulation, which may progress to heart failure if left untreated. Early recognition and intervention are vital to prevent severe complications. This case report highlights the clinical presentation, diagnostic challenges, and successful management of ALCAPA syndrome in a 3-month-old infant.

**Case Presentation:** A 3-month-old female infant presented to the emergency room with a history of Failure to Thrive (FTT), persistent sweating during feeding, and irritability. On examination, the baby was found to have poor weight gain, and diaphoresis while feeding. The heart murmur was noted on auscultation, and further investigation was initiated. Echocardiography revealed signs of left ventricular dysfunction and coronary artery abnormalities. CT angiography confirmed the diagnosis of ALCAPA, showing that the left coronary artery originated from the pulmonary artery.

**Management and Intervention:** The patient was promptly referred for surgical intervention. Coronary artery reimplantation was successfully performed, and postoperative recovery was uneventful. Following surgery, the patient showed marked improvement in left ventricular function and symptom resolution.

**Discussion:** ALCAPA can often present with nonspecific symptoms, making it a challenging diagnosis in young infants. The classic presentation of failure to thrive, and sweating during feeding, should prompt consideration of congenital heart disease. Early recognition and timely surgical intervention are critical to prevent irreversible myocardial damage and optimize long-term outcomes. This case emphasizes the importance of a high index of suspicion in children with unexplained heart failure or murmurs, as early intervention significantly improves prognosis.

**Conclusion:** ALCAPA syndrome should be included in the differential diagnosis of infants with failure to thrive, sweating during feeding, and other signs of heart failure. Timely diagnosis through advanced imaging techniques like CT angiography and prompt surgical treatment can lead to significant clinical improvement and a favorable prognosis.

**Biography**

Dr. Elhaj is a medical doctor specializing in pediatrics at HaEmek Medical Center. She is interested in pediatric cardiology and committed to providing high-quality care for patients, emphasizing early detection and effective intervention. She completed her medical education at Kharkiv National Medical University (KNMU) in Kharkiv Ukraine. Following her medical studies, she undertook specialized training at Meir Medical Center. Also worked at an emergency cardiac unit, This training further deepened her interest and expertise in cardiology. Dr. Elhaj is actively involved in both clinical practice and medical education, contributing to the care of patients while mentoring medical students and residents.

**B Tahir*, O Tayo, S Damodaran**

Department of Paediatrics, James Paget University Hospital, Great Yarmouth, United Kingdom

# Recurrent group B streptococcal meningitis in two neonates following initial therapy - A case series

**Background:** Group B Streptococcus (GBS) is the most common cause of severe infection and meningitis in babies under 3 months of age. Recurrent GBS sepsis is rare but serious. We present two neonates who re-presented with GBS sepsis after initial treatment.

**Case 1:** A pre-term male neonate developed late-onset GBS meningitis on day 24 of life. He was treated with IV benzylpenicillin and gentamicin for 17 days. Repeat CSF culture was negative and he was discharged home. However, he was readmitted three days later with GBS sepsis (but not meningitis). He was again started on benzylpenicillin and gentamicin for 21 days and fully recovered.

**Case 2:** A term female neonate screened for sepsis due to grunting at 12 hours of life. She completed a 10 day treatment course of IV benzylpenicillin and gentamicin. Blood culture was positive for GBS, but CSF culture was negative. As she clinically improved, she was discharged home but re-presented to hospital on day 27 of life with GBS sepsis. She received IV Ceftriaxone for 6 weeks and fully recovered with negative repeat CSF cultures.

Both infants had unremarkable immunological workups. Both received a 6 month course of prophylactic antibiotics after treatment.

**Discussion:** Although described, recurrent GBS is uncommon. These cases add to those already described. Predisposing factors include poor CSF antibiotic penetration, anatomical anomalies, persistent colonisation, or subtle immune deficiencies. This case series highlights that despite guideline-concordant treatment and microbiological clearance, recurrence is possible; and the need for studies to determine the risk factors for recurrence and the optimum treatment for this condition.

**Conclusion:** For the time being, strict and extended follow-up should be considered in these patients, especially in the early post-discharge phase. Treatment protocols should be reevaluated and tailored for individual patients.

**Biography**

Dr Tahir completed his MBBS from University of East Anglia in Norwich in 2022. He went on to complete his foundation training from James Paget University Hospital in Great Yarmouth. Currently, he is working in the Department of paediatrics in JPUH as a clinical fellow and is aspiring to apply for his paediatrics specialty training later this year.

**Biljana Vuletic**

University of Kragujevac, Faculty of Medical Science, Department of Pediatrics, Kragujevac, Serbia

## Newborn jaundice is always a challenge

The appearance of jaundice in every newborn, regardless of gestational age, which lasts 14 days (even though they are breastfeeding should be examined for differential diagnosis. The examination involves initial, basal laboratory analyzes (conjugated bilirubin, aminotransferases, alkaline phosphatase, GGT, glucose, albumins, prothrombin, thromboplastin, urine) and then additional diagnostics, ultrasound, scintigraphy, MRCP, intraoperative cholangiography and liver biopsy as the gold standard (1). Although 30-50% of term infants are yellow after birth, and the most common cause is physiological jaundice, conjugated hyperbilirubinemia almost always reflects hepatic damage caused by various diseases. Conjugated hyperbilirubinemia can appear at any age after birth and implies an increase in the conjugated fraction of bilirubin >20%. If it is detected in the first 24 hours of life, it is mostly caused by an infection, but regardless of the cause and age, the clinical presentation is very similar and includes: jaundice, the appearance of dark urine and pale yellow stools, weaker in body weight, newborns are small for their gestational age, there is dysmorphia, hepatosplenomegaly, rarely ascites, heart murmur and tendency to bleed. It is necessary to clarify the nature of these diseases as soon as possible in order to provide adequate treatment and prevent long-term consequences (2).

**Biography**

Biljana Vuletic, MD, PhD is Full time Professor of Pediatrics at the Faculty of Medical Sciences University of Kragujevac and Chief of the Department of Gastroenterology of Pediatric clinic in Kragujevac, full ESPGHAN member and also member of ESPGHAN Helicobacter Pylori Special interest group. She received her pediatric degree from the Medical Faculty University of Belgrade 1995 also trained in UK, Sheffield Children's Hospital Paediatric Therapeutic Endoscopy Course. She has been accepted by OMI foundation, Austria, for Observership program at the Medical University of Graz, Univesitats Kinderklinik LKH Graz two times. Prof. Vuletc has summary 178 publications including authored or co-authored papers and chapters in the national Monographs and Textbooks.

**Blerina Saraci*, Durim Cela, Denis Qirinxhi**

Department of Clinical and Imagines Semiotic, University of Medicine Albania, Radiology Service UHC Mother Tereza, Tirana, Albania

## Multiparametric ultrasound in pediatric patients, elastography, CEUS, UGAP

Multiparametric ultrasound examinations in pediatric age groups are challenging both in terms of obtaining consent for their study and in their use. Another important challenge in this field is the definition of criteria that may be different from adult criteria both in terms of cut-off values and the permission to use them as is the case with CEUS as well as in terms of the method of contrast administration and the fact that some examinations are on label and some off label for pediatric ages. Another challenge is the appropriate acoustic window as in the case of elastography or in the cut-off used both for the stiffness value and for fat quantification. A challenge is also the specific criteria that have different pediatric subgroups such as neonates, prematures, etc.

Ultrasound elastography is a new technique that has been extensively investigated in children in the last decade. It measures tissue elasticity by observing the tissue response to an external stimulus. From research to clinical practice, ultrasound elastography has evolved significantly in the assessment of liver fibrosis in children however, several other applications of the technique are available in both clinical practice and research settings. In children, virtually any organ can be assessed, including the brain at a young age, in addition to assessing the elasticity of the spleen, kidneys, muscle and connective tissue, skin, lymphatic tissue, etc. When performing ultrasound elastography, the elastography method, age, body mass index, and technical points should be taken into account. Ultrasound is a dominant imaging tool in the pediatric age group, however, there is still room for study of the indications and examination protocol for its clinical use in some areas in pediatrics, as well as the implementation of fat quantification.

Contrast material–enhanced US is a technique that is approved by the for the characterization of liver lesions and intravesicular applications in children for vesicoureteral reflux, also contrast-enhanced US has several other pediatric applications in clinical practice.

**Biography**

Dr. Blerina Saraci graduated with honors from the Faculty of Medicine in the field of general medicine, Tirana in 2010 and later graduated as a radiologist in 2015. After an experience in Durres Hospital, in 2016 Dr. Saraci has exercised her clinical and academic activity in the University Hospital Center Mother Teresa, being attached to the pediatric hospital, the only one in the country. Dr. Saraci is also a lecturer in Radiology at the Faculty of Medicine, Tirana and Nuclear Medicine and PET CT at the Faculty of Aldent, Tirana. Dr. Saraci is an active member of ESR and WFUMB and EFSUMB certified by them in Ultrasonography Trainings Past legal secretary of AUA and actual director, Cours co director of WFUMB COE Tirana/Albania.

**Blerina Saraci*, Durim Cela, Denis Qirinxhi**

Department of Clinical and Imagines Semiotic, University of Medicine Albania, Radiology Service UHC Mother Tereza, Tirana, Albania

## Series of special cases of airway obstruction in pediatric ages as a result of pathological findings

In pediatric ages it often happens that congenital anatomical abnormalities, or a certain condition of the child debut with parenchymal pulmonary changes as a result of external compressions of the pulmonary airway. When children present to the pediatric hospital with recurrent respiratory tract infections, and/or another pulmonary emergens there is always a need to exclude concomitant pathologies, in this presentation we will reflect cases of patients who presented in our service with pulmonary changes diagnosed with accompanying anomalies or complications of concomitant diseases.

The first case, a 5-year-old girl suffering from recurrent pulmonary infections who was diagnosed with esophageal duplication. The second case presents a 10-year-old boy with modest inflammatory changes of the lungs andprolonged cough, which was diagnosed with aberration of the right pulmonary artery. The third case is an 11-year-old boy who presents to the pediatric hospital with media lobby syndrome, the child is known from our hospital for treatment with hormone therapy for hypogonadism, the consequence of each may be the enlargement of the thymus and the extra compression it can cause. The fourth case presents a 1-year-old child who had multiple respiratory infections and who was diagnosed with aberrant subclavian artery.

In all cases patients underwent imaging procedures starting from conventional radiology and continuing with angio Ct and MRI for a more accurate diagnosis.

The fifth case is a 10-year-old boy who was followed by the pediatrician in his district for shortness of breath, then developed a pneumothorax and was sent to our hospital, there we performed a CT scan where a subocclusive tracheal mass was detected, which after undergoing a difficult intervention was confirmed by pathological anatomy with the diagnosis of tracheal carcinoid tumor, etc.

In all the cases examined above, the imaging diagnosis with Ct/Angio Ct and either MRI or Chest XR and Lung ultrasound, have been decisive to make the final diagnosis.

**Biography**

Dr. Blerina SARACI graduated with honors from the Faculty of Medicine in the field of general medicine, Tirana in 2010 and later graduated as a radiologist in 2015. After an experience in Durres Hospital, in 2016 Dr. Saraci has exercised her clinical and academic activity in the University Hospital Center Mother Teresa, being attached to the pediatric hospital, the only one in the country. Dr. Saraci is also a lecturer in Radiology at the Faculty of Medicine, Tirana and Nuclear Medicine and PET CT at the Faculty of Aldent, Tirana. Dr. Saraci is an active member of ESR and WFUMB and EFSUMB certified by them in Ultrasonography Trainings Past legal secretary of AUA and actual director, Cours co director of WFUMB COE Tirana/Albania.

**Clement Avoka**
Allegheny County Health Department, United States

# Integrating mental health into pediatric care: A literature review on resilience-building interventions for children and adolescents in the United States of America

Globally, mental health disorders are among the leading causes of disability in children and adolescents, with depression, anxiety, and behavioral disorders affecting an estimated 1 in 7 young people (1). The rapid rise in environmental, social, and technological stressors, including climate change, family breakdown, urban violence, and digital exposure, has heightened the psychological burden on youth, threatening their well-being and long-term development. While global awareness is growing, efforts to integrate mental health into pediatric care remain fragmented, especially when it comes to translating evidence into routine primary care settings.

In the United States, the pediatric mental health crisis has reached alarming levels. Recent data reveal significant increases in depression, anxiety, and suicidal ideation among children and teenagers (2). These mental health challenges are strongly associated with rising social problems, including school shootings, substance abuse, teenage pregnancies, and youth incarceration. The long-term consequences extend beyond the individual, impacting educational outcomes, community safety, and national productivity.

Mental health disorders in children and adolescents are frequently misunderstood or mischaracterized as behavioral defiance or stubbornness. Conditions such as Attention-Deficit/Hyperactivity Disorder (ADHD), depression, anxiety, and trauma-related disorders often manifest through irritability, restlessness, or withdrawal behaviors mistaken for disobedience. Consequently, children are frequently punished, stigmatized, or bullied by caregivers, educators, and peers, delaying diagnosis and exacerbating their psychological conditions (3).

This cycle of misinterpretation and mistreatment can lead to serious long-term outcomes, including school dropout, substance abuse, violence, and chronic mental illness. However, early identification, especially when coupled with resilience-building interventions integrated into pediatric and school settings, has been shown to mitigate these risks. Such interventions help children develop emotional regulation, strengthen their identity, and foster access to supportive resources.

This literature review synthesizes existing evidence on resilience-building interventions implemented within pediatric care and community settings across the United States. It examines the design, delivery, and reported outcomes of school-based programs, trauma-informed pediatric models, and integrative behavioral health strategies aimed at improving mental health among children and adolescents. The review also identifies challenges related to implementation, equity, and access, particularly for underserved or marginalized populations.

By mapping the existing evidence on resilience-focused mental health interventions, this review highlights scalable and culturally relevant strategies for early intervention, prevention, and integration within pediatric care. Ultimately, this work contributes to reimagining pediatric care in the U.S. as a holistic, preventive, and inclusive model that recognizes mental well-being as foundational to overall child health. The findings will inform clinicians, educators, policymakers, and public health leaders seeking to prevent the lifelong impact of untreated childhood mental health disorders.

**Study Objectives:**

1. To identify and synthesize existing literature on resilience-building interventions targeting mental health in children and adolescents across the United States.
2. To assess the types, settings, and delivery models of interventions integrated into pediatric care, schools, or community-based platforms.
3. To examine the outcomes and effectiveness of these interventions in promoting mental well-being and preventing the escalation of mental health disorders in youth.
4. To explore how early identification of mental health challenges in children can reduce long-term psychological, behavioral, and social consequences.
5. To highlight gaps in current research and practice and offer evidence-based recommendations for integrating mental health into pediatric systems and policies.

**Biography**

Clement Avoka is a seasoned public health professional with over 13 years of experience in infectious disease control, health promotion, and community health systems in both Ghana and the U.S. He currently serves as a Public Health Administrator at the Allegheny County Health Department in Pennsylvania, leading disease surveillance and intervention efforts. Previously, he worked with the Ghana Health Service as Head of the Disease Control Unit in Akyemansa District, advancing care access through community-based strategies. Clement holds an MSc in Public Health from Carolina University, an MPH and BSc from the Catholic University, and is certified by both NBPHE (CPH) and NCHEC (CHES). He is an IPPHL alumnus (University of Washington), a DEAL Fellow (West African Institute of Public Health), and actively contributes to global health research, peer review, and professional networks focused on equity, immunization, and policy.

**Dr. Vlad Dima MD, PhD**

Department of Neonatology, Filantropia Clinical Hospital, Bucharest, Romania

CarolDavila University of Medicine and Pharmacy, Bucharest, Romania

## Probiotics in NICU – The good, the bad and the ugly

The gut microbiome is a dynamic environment, seeded during infancy, that stimulates the immune response and supports healthy human development. The microbial flora in the newborn's gut is influenced by many factors, including maternal microbiota, mode of delivery (cesarean vs. vaginal birth), diet (breastfeeding vs. formula feeding), and gestational age. Preterm infants have an immature gut characterized by poor mucosal immunity and often have disturbances that interfere with the maturation of the gut microbial flora. After a premature infant died in hospital in the USA in October 2023 following the administration of dietary supplements containing Bifidobacterium longum subsp. infants EVC001, reactions from scientific societies and international medical organizations were not long in coming. What raised concern was that the premature infant had developed sepsis with the Bifidobacterium longum strain itself. The use of probiotics in neonatology wards has become increasingly common in recent years, even in Romania, as numerous studies have shown benefits for newborns. The most common use in premature babies is to prevent necrotizing enterocolitis. Although several products containing probiotics are currently available, only some are supported by studies in premature newborns. Therefore, caution is advised when using these products. Moreover, there is no international consensus on the routine use of probiotics in newborns.

**Biography**

Consultant in Neonatology, with clinical experience for about 15 years, Doctor of Medicine with doctoral work dedicated to the study of neonatal jaundice, Dr. Vlad Dima participated as main author or co-author in the publication of no less than 160 scientific articles at national and international level. He is a member of the editorial boards of several journals. He is also a reviewer for more than 10 international medical journals. His second specialty is pediatrics, and has participated in educational events and organized medical events in both specialties. He is one of the founders and current President of the Academic Society of Clinical Ultrasonography, and Vice-President of the Romanian Society of Preventive Medicine. Dr. Dima is also one of the members of the National Authority of Quality Management in Health, from Romania.

**Gamal Al-Saied**

Professor of Pediatric Surgery, Al-Azhar University, Egypt

## Hepatoblastoma in infancy and childhood: Current status

Hepatoblastoma, though rare among pediatric cancers, is the most common pediatric liver cancer, and has seen significant advancements in diagnosis and treatment. Treatment strategies differ internationally. Complete surgical resection of the tumor at the time of diagnosis, followed by chemotherapy, leads to excellent survival rates. However, the prognosis is poor in children with residual disease after initial resection, even if they receive aggressive adjuvant therapy. Some other protocols emphasize pre-operative chemotherapy in cases where the tumor is inoperable or if the cancer is unlikely to achieve gross total resection at initial diagnosis. Liver transplantation has become an important option for nonresectable tumors or when initial treatments fail. Aggressive surgical resections are also being considered for isolated lung metastases. Herein, we present a rare case of hepatoblastoma with internal hemorrhage in a 9-month-old girl. The clinical presentation, diagnosis, and treatment will be discussed.

**Biography**

Professor Gamal Al-Saied had been graduated from Al-Azhar University with Bachelor's Degree in Medicine and Surgery with a general grade very good with honor. His rank was the 9th in the top 10 graduate list of Faculty of Medicine Al-Azhar University Cairo, Egypt. In 1991, He has been completed his Master's Degree (MSc) in pediatric surgery (1st part, thesis, and 2nd part). Then, he was appointed as a demonstrator of pediatric surgery in 1992, then, an assistant lecturer of pediatric surgery in 1993 at the Pediatric Surgery Department. In 1998, he has been accredited with a Doctorate Degree in Pediatric Surgery (M.D). Then, he was promoted to a lecturer of pediatric surgery at the Pediatric Surgery Department. In 2004, he was promoted to assistant professor of pediatric surgery at Pediatric Surgical department at Al-Azhar University Hospitals. In 2008, he was certified a Fellowship of European Board in Pediatric Surgery (FEBPS), Glasgow, Scotland. In 2009, he was promoted to a full professor of pediatric surgery at Pediatric Surgical department by Al-Azhar University Hospitals. In 2022, he is certified as a Fellowship of American College of Surgeons (FACS) USA. He had two published theses (MSc and M.D) and he supervised many this is of a Master's Degree and Doctorate Degree. Also, he has published 37 international researches in international journals of pediatric surgery and one chapter in international text book (CURRENT CONCEPTS OF URETHROPLASTY) Edited by Donkov I. 2011, pp 35-42. He has been invited as an international speaker and chairperson in many international conferences on pediatric surgery. Currently, He is an Editor-in-Chief for two international pediatric surgery journals and editor of thirteen international pediatric surgery journals. He is also reviewer for many international pediatric surgery journals. In 2003, he was the founder and head of pediatric surgery unit at King Abdul Aziz Specialist Hospital Taif, Saudi Arabia. He has a great and long term experience in neonatal and pediatric surgery field (open and laparoscopic). Recently, in the era of COVID-19 and afterwards, he has been invited as an international keynote speaker to many international pediatric surgery webinars.

**Hissa Moammar[1*], Larry Desch[2], Rabi Sulayman[2]**

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# A scoping review of excessive prenatal ultrasonography as a potential risk factor for autism

For the past several decades, abdominal/Pelvic Prenatal Ultrasonography (P-USG) has been the most significant technology used in obstetrics. There has been a tremendous increase in use throughout the world and there have been many improvements in the technology used. However, there are aspects of the technology such as frequency, exposure time, thermal and cavitation exposure indices, and increased acoustic output of the ultrasonic waves that possibly could be harmful to the embryo/fetus. In particular, prolonged exposure may increase susceptibility to Autism Spectrum Disorder (ASD). Along with the increasing use of P-USG, there has been a similar increase in the incidence of ASD. The diagnosis of ASD has been found to be more common in geographic areas with a more affluent ethnicity, high socioeconomic status, and high parental education. These are also areas where prenatal ultrasonography is readily available and affordable. Given that there are biophysical risks from P-USG, especially in non-medical settings, P-USG may emerge as a possible risk factor for ASD. The past history of radiography provides a historical perspective: the predominant past opinion years ago was that exposure to X-rays during pregnancy caused no significant risk to a fetus. However, the association between X-ray exposure and childhood leukemia was only established 40 years after X-ray use began. This review focuses on the literature which supports the generation of the hypothesis that excessive P-USG usage may be a factor in the etiology of ASD.

**Keywords:** Autism, Autistic Spectrum Disorder, Children, Behavior, Ultrasonography, Prenatal, Pregnancy

**Biography**

Dr. Hissa A. Moammar is a distinguished pediatrician, educator, and researcher with over four decades of clinical and academic experience. She earned her Doctor of Medicine at the American University of Beirut in 1978; completed her Pediatric Residency at Massachusetts General Hospital–Harvard Medical School, and served as a Consultant Pediatrician at SAMSO from 1991 to 2004. She also held key leadership roles during this period, including Chief of Medical Professional Education and Training. At SAMSO, Dr. Moammar initiated several enduring continuing education programs since 2002, such as the First Primary Care Conference, the Harvard Lectures Program, and the Telemedicine Consultation Program. Her publications include: Mother Care (Arabic, 1993), a widely distributed maternal health textbook. Incidence and Features of Galactosemia in Saudi Arabs (Journal of Inherited Metabolic Diseases, 1996), Patterns of Inborn Errors of Metabolism in Saudi Aramco 1983–2008 (Annals of Saudi Medicine, 2010), which contributed to the centralization of Saudi Arabia's National Newborn Screening Program. From 2006

to 2015, Dr. Moammar joined King Fahd Hospital of the University (KFHU) as a Consultant Pediatrician. She held several administrative roles, including Director of Laboratory Medicine, where she led KFHU to its first College of American Pathologists (CAP) accreditation in 2014. From 2018 to 2021, Dr. Moammar was affiliated as a pediatric researcher with the King Salman Center for Disability Research, where her work focused on autism spectrum disorders.

**Dr Jasmine Churms, Dr Tamsin Drury, Dr Christina Curwen, Sarah Steward, Stacey Howick, Shauny Godwin**

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## Improving timely administration of IV antibiotics to neonates at risk of sepsis

Prompt antibiotic treatment is essential in neonatal sepsis. NICE guidelines recommend administering antibiotics within one hour (the 'golden hour') of the decision to treat. Following local guidelines, for babies with two or more risk factors present at birth, the decision to treat is defined as the time of birth. This project aims to increase the proportion of these high-risk neonates receiving their antibiotics within one hour to 60% by December 2025.

Retrospective data collection was done from manual review and electronic systems. Inclusion criteria were babies born with two or more sepsis risk factors. Time of birth, antibiotic prescription and administration time, risk factors and documented reasons for delay were recorded. Staff perceptions of awareness of neonatal sepsis and delay of antibiotic administration were assessed via a Microsoft Forms survey distributed to relevant teams.

Initial interventions included regular neonatal bulletins incorporating sepsis awareness, a 'sepsis week' with educational displays, posters with risk factors across key clinical areas, and integration of identification of at-risk babies into the maternity huddle. Further ideas include creation of pre-prepared 'sepsis packs' to expedite cannulation and antibiotic administration, and improving processes for hospital number generation for timely prescribing.

Baseline data showed a median time to antibiotic administration of 2h 14m and 0% of babies meeting the golden hour. Following regular neonatal bulletins, the median time was 2h 33m which improved to 1h 46m post-sepsis week intervention. From the survey, 100% of staff reported being aware of the 1-hour target, but none felt that was 'always' met. Common perceptions for delay included failed cannulation (n=22), lack of hospital number (n=21) and prescribing delays (n=15).

Delay of antibiotic administration is multifactorial. There is ongoing need for increasing awareness and targeting areas of delay. Our early data shows a promising improvement following intervention and efforts are continuing.

**Biography**

Tamsin Drury recently completed the UK Foundation Programme at Blackpool Victoria Hospital, where she gained a broad range of clinical experience, including rotations in paediatrics and acute medicine. She has now begun working at Starship Children's Hospital in Auckland, New Zealand, as part of her continuing journey towards a career in paediatrics. She is passionate about global child health and is enthusiastic about learning from a diverse patient population and contributing to high-quality paediatric care.

**As. Dr. Kristina Dimitrijevic[1*] MD, PhD; Prof. Dr. Nadica Mitreska[2] MD, PhD**

[1]University clinic of Pulmonology and Allergology, Medical faculty- Skopje, North Macedonia

[2]University Institute of Radiology, Medical faculty, Skopje, North Macedonia

## Radiation protection in pediatric radiology

**Introduction:** The medical use of ionizing radiation has expanded worldwide. Advanced imaging technology has opened new horizons to diagnostics and improved patient care. Radiation is energy emitted in the form of waves or particles, transmitted through an intervening medium or space. Radiation with enough energy to remove electrons during its interaction with atoms is called ionizing radiation. This review includes scientific information about radiation that may be helpful to support risk–benefit dialogue in paediatric imaging. This ensures that the dose to each patient is As Low As Reasonably Achievable (ALARA) for the clinical purpose of the examination.

The aim of this selective review of the literature is to present the radiation doses in paediatric procedures and provides an overview of known and potential risks associated with radiation exposure during childhood as well as to see how maximum can we protect the children during imaging.

**Conclusion:** There should be a true clinical indication when approaching radiological imaging of children. Modern equipment and application of examination protocols in children should be standardized and age-appropriate. A well-trained medical team should be in place to provide adequate ionization protection during imaging in the pediatric population.

**Keywords:** Radiation, Exposure, Protection, Pediatric Radiology

**Biography**

Dr. Kristina Dimitrijevic studied Medicine at Medical faculty st. Clement and Methodius University- Skopje and graduated as doctor of medicine in 2012. Then she joined her radiology residency at the same University at Institute of Radiology-Skopje, where she finished her specialization in 2017 and gained her title radiology specialist. In 2015 she applied for PhD studies where she still works on her doctoral thesis. In 2018 she defended her thesis: Current costs management and investments for promotion of the health services within a tertiary health institution and gained with the title master of science in economics-health and pharmaceutical management. In 2020 she obtained the position of an Associated Professor at UCLO University-Bitola, N. Macedonia. She has published couple of research articles in SCI journals. She currently works at University Clinic for Pulmonology and allergology- Skopje.

**Mary Anbarasi Johnson**
Christian Medical College, India

## Pediatric nutrition and food insecurities

Pediatric nutrition plays a critical role in the healthy development and growth of children, influencing both immediate well-being and long-term health outcomes. However, food insecurity—defined as the lack of consistent access to sufficient, nutritious food—poses a significant barrier to achieving optimal nutrition in children. This condition, affecting millions of children globally, has been linked to a range of detrimental outcomes, including stunted growth, cognitive delays, and increased susceptibility to chronic conditions such as obesity and diabetes. Children in food-insecure households are at higher risk for undernutrition, which can impede both physical and cognitive development, as well as over nutrition, leading to poor dietary habits and weight-related issues.

The causes of food insecurity are multifaceted, involving socio-economic factors, limited access to healthy food options, and environmental stressors. Children from low-income families, minority groups, and those living in rural or food desert areas are particularly vulnerable. The impact of food insecurity is often compounded by a lack of access to healthcare, education, and social support systems.

Addressing pediatric food insecurity requires a multi-disciplinary approach, combining policy interventions, community support systems, and educational programs to ensure that children receive the nutrition they need for healthy development. Public health strategies, such as expanding access to school meal programs, food banks, and nutrition education, are crucial in mitigating the effects of food insecurity. Furthermore, fostering collaboration between healthcare providers, government agencies, and non-profit organizations can help bridge gaps in food access and promote better nutrition for all children.

This presentation explores the relationship between pediatric nutrition and food insecurity, examining the physical, cognitive, and emotional consequences of inadequate nutrition, and reviews interventions that can improve food security and nutritional outcomes for children.

**Biography**

Mary Anbarasi Johnson is a dedicated professional currently serving as a Professor and Head in the Pediatric Nursing Department at Christian Medical College (CMC), Vellore, India. With a rich background, she has previously worked for three years as an Assistant Professor in the USA and also held the position of Assistant Director of Nursing in Saudi Arabia. Her passion for scholarly activities is evident through her extensive contributions, including the publication of articles in 70 national and international journals, presentations at approximately 30 national and international conferences, and the contribution of four book chapters. She has also served as a valuable member of the Institutional Research Board at CMC Vellore for a term of four years. Her commitment to advancing research is further demonstrated by her role as a reviewer, editorial member, or advisory member in around 40 international journals.

**Dr. Md. Moniruzzaman Mollah[1,5*], Prof. Ashik Mosaddik[2], Dr. Asgor Hossain[3], Dr. Andrew Asim Roy[4], Prof. Parvez Hassan[5]**

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## Zinc deficiency is associated with anaemia in under-five children in rural Bangladesh: An observational study

**Introduction:** Anemia is a major public health challenge worldwide that occurs with a higher prevalence in under-five children who live in rural areas.

**Objectives:** This study was designed to find out if there is any association between zinc deficiency and anaemia in preschool children.

**Methods:** This cross-sectional study was conducted in the rural Bangladesh from July 2018 to December 2019. Total 428 under-five children were enrolled, of them 61.45% (263) were anaemic. Etiological exploration was conducted among anaemia respondent (n=163) through essential blood tests (CBC, Hb electrophoresis, Ferritin, Vitamin B12 assay, and Folate assay) and of them 36% remained as undifferentiated. These subjects and who willing to respond were enrolled for further Zinc assay as per study flowchart. Then serum zinc was estimated through the colorimetric method by a semi-automated biochemistry analyzer. Zinc status was defined as deficiency (<69 µg/dL), normal (≥69 to <108 µg/dL) and high (≥109 µg/dL). Chi-square ($\chi 2$) tests were done to find out the significant factors. Ethical clearance was obtained from IBSc, Rajshahi University. The data were analyzed through SPSS 23 software and at a 95% confidence interval and p values <0.05 were considered significant.

**Results:** The overall prevalence of anaemia was 61.45%. Etiologically, iron deficiency anemia (34%) was observed as the leading pattern followed by inherited hemoglobin disorder (32%) and zinc deficiency (24%). Zinc status (n=67) revealed, nearly 72 % of anaemic children belonged to low zinc category, 22% had normal status and remaining 6% had high zinc level. Among low zinc category (72%), a proportionate 55% anaemic children independently associated with zinc deficiency alone, which was statistically significant (p<.001).

**Conclusion:** The study indicates nearly one fourth of anaemic population had low level zinc and of them nearly three-fourth of the anaemia sufferer independently associated with zinc deficiency alone.

**Melissa Morales**

Department of Assisted Reproduction, Women's Hospital, Caja Costarricense Seguro Social, San José, Costa Rica

## Impact of the type of in vitro fertilization technique used on the risk of congenital malformations

According to WHO statistics, the incidence of infertility has increased in recent years, with 1 in 6 couples currently affected. Sociocultural trends have led to a growing need for and use of Assisted Reproductive Technologies (ART), resulting in a rising number of live births conceived through these methods.

There are ongoing efforts to make In Vitro Fertilization (IVF) more accessible. In 2025, the first live birth from a fully automated IVF laboratory was reported, which may, in the coming years, help close the access gap faced by patients in many countries. Consequently, the number of children born through IVF is expected to continue increasing.

There are different types of IVF techniques: Conventional IVF (cIVF) and Intracytoplasmic Sperm Injection (ICSI). Some private fertility clinics, for logistical reasons and without appropriate clinical indications, tend to prefer ICSI more frequently. However, a recent Danish cohort study has associated ICSI with a higher risk of congenital malformations.

This information is of great relevance to the pediatric scientific community, not only to understand the differences between reproductive techniques but also their implications for future diagnoses, screening, management, and long-term follow-up of affected children, as well as counseling for their families. Moreover, this knowledge can help shape public health strategies aimed at improving surveillance of these increasingly common conditions, driven by the growing use of ART and ICSI in particular.

**Biography**

Melissa is a Medical Laboratory Scientist with a postgraduate degree in Andrology at Instituto Nacional de Perinatología in 2016 and in Human Assisted Reproduction Techniques in 2018. She has been working as a Clinical Embryologist at the Costa Rican Social Security National IVF Laboratory since 2018. Melissa has researched topics such as advanced maternal age, male factor infertility, and genitourinary tract infections using molecular biology techniques, and animal models. Melissa is a proud member of the Global Andrology Forum. ORCID ID: 0000-0002-9104- 8514.

**Rachel E White CPO; Michael S. Ginzburg* PsyD, CO**

Senior Orthotists, UC Davis Health, Sacramento, CA, United States

## The implications of infantile chest wall surgeries on scoliosis risk

The relationship between infantile sternotomies/thoracotomies and the risk of developing scoliosis later in development is poorly understood and controversial. The professional opinions vary from 'there is no correlation' between these diagnostic entities to a strong correlation with prominent treatment considerations. Scarring and adhesions originating from the surgical procedures have been linked to the risk of scoliosis onset. This relationship has been studied by both a structured literature review and retrospective patient population analysis by the investigation team. The profiles, risk considerations, and treatment considerations for the population described by target diagnoses will be presented based on those investigations.

**Biography**

Dr. Michael Ginzburg has served as a Certified Orthotist by American Board of Certification in Orthotics, Prosthetics, and Pedorthics since 2010. His practice is focused on lower extremity interventions with a long-held fascination toward spinal interventions. He is also a Licensed Marriage and Family Therapist by the California Board of Behavioral Sciences and is pending licensure as a Clinical Psychologist by the California Board of Psychology. He is a published researcher and conference presenter in both physical and behavioral health.

**Dr. Namrata Nitin Bagle**

Founder-UvRoh Clinic, Mumbai, Maharashtra, India

## Childhood infections and the role of nutrition: A global health concern

Immunization remains one of the most cost-effective public health interventions, saving millions of lives from preventable diseases and disabilities. Vaccination schedules vary by age, with the Ministry of Health and Family Welfare, Government of India, recommending complete immunization by 9 months of age (2014). This study was a cross-sectional survey conducted in Mumbai city, focusing on children aged 12-36 months. A total of 1248 children participated, with 628 girls and 623 boys. The study aimed to explore whether poor food choices and vaccination adherence affect immunity and morbidity. Additionally, it investigated whether parents from all socioeconomic groups ensured timely vaccinations for their children. Immunization data was collected from immunization cards/files, with separate analysis for children aged 12-24 months and 25-36 months. The results revealed that children with low fruit and vegetable intake were more prone to frequent illnesses.

**Biography**

Dr Namrata Nitin Bagle has done PhD in Food Science and Nutrition in 2020-at Shreemati Nathibai Damodar Thackersey Women's University, Mumbai, Maharashtra, India. She has worked as a visiting faculty lecturer for the same university from 2012-2017. She is Academic counsellor for distance education- IGNOU (Indira Gandhi National Open University) and Founder of UvRoh, Head of Department VMax fitness. Lead Health and nutrition specialist-Samya India (Podar Education) and Growth and Strategy Head-Meal Pyramid. She has published papers in BOAJ and Indian Journal Child Health.

**Navid Mirzakhani*, Mehdi Alizadeh Zare, Marjan Shahbazi, Benyamin Hamid, Hawre Asaad Rahman**

Shahid Beheshti University of Medical Sciences, Iran

## Sensory processing in infants aged 0-6 months

**Introduction:** This study investigates the sensory processing characteristics of infants aged 0 to 6 months, aiming to understand their sensory behaviours in comparison to peers. Recognizing the significance of sensory processing in early development, the research seeks to inform interventions for infants exhibiting atypical sensory behaviours.

**Methods:** Conducted over one year in Tehran, Iran, the study involved 160 infants selected from baby developmental canters. Caregivers completed the Infant Sensory Profile-2, a standardized questionnaire assessing sensory processing patterns, utilizing a 5-category classification system to evaluate sensory behaviours.

**Results:** Findings revealed that the majority of infants processed sensory information similarly to their peers, with some variations noted in seeking movement information. Factors such as limited play environments, increased screen time, and low parental awareness were identified as potential influences on sensory seeking behaviours.

**Conclusion:** This research highlights the importance of understanding sensory processing in early development, contributing valuable insights to paediatric rehabilitation and early childhood development. By emphasizing the need for awareness and support, the study aims to foster healthy sensory experiences for infants, ultimately guiding effective interventions for those with atypical sensory behaviours.

**Biography**

Dr. Navid Mirzakhani is an accomplished child psychologist and assistant professor with over 25 years of experience in the Department of Occupational Therapy and Research. She is deeply passionate about continuous learning, both in her field and beyond, and is dedicated to advancing knowledge through research and publication. A highly motivated and hardworking professional, she has authored more than 90 research articles and 45 books. Her key research interests include child health, sensory processing, and interdisciplinary as well as multidisciplinary studies. Dr. Mirzakhani brings a wealth of experience and a strong commitment to innovation in child development and healthcare research.

**Dr Nicola Webster BMedSci, MBBS, FRACP, GradCertL'ship Health and Human Services (UTas), AFRACMA**

Women's and Children's Service, North West Hospitals, Tasmanian Health Service, Tasmania, Australia

## Exercise and mental health

The benefits of exercise for improving physical and mental health are well known; but it could be argued that we are not using it as a therapeutic intervention as well as we could. The rates of mental health conditions, particularly anxiety and depression, in our young adult population have been increasing significantly over the past 10 years. This was exacerbated by the COVID 19 pandemic, but rates were increasing pre-pandemic. The rates of diagnosis of ADHD have also been increasing significantly and requests for assessment form a large proportion of the referral's to our paediatric outpatient service.

My interest in this topic is longstanding. I am a keen road cyclist and enjoy trips to Europe to challenge myself on the climbs. A recent bout of severe medical illnesses and trauma leading to prolonged hospitalisation and immobility has furthered my interest as I experienced difficulties personally. Why are we not using exercise more frequently as a first line or even adjuvant therapy?

**Biography**

Dr Webster studied Medicine at the University of Tasmania, Australia and graduated with B Med Sci and MBBS in 1992. She completed her basic training for paediatrics at the Women's and Children's Hospital in Adelaide and completed her advanced training in Launceston, Australia and Auckland, New Zealand-obtaining her FRACP in 2004. She currently works as Clinical Director of Women's and Children's Service in North West Tasmania and completed her graduate certificate in leadership health and human services (UTas) and AFRACMA in 2023.

**Puja Padbidri[1]*, Shruti Joshi[2], Pallavi Kelkar[3], Aparna Bhat[4], Madhura Shiralkar[4]**

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[2]University of Illinois Hospital, Chicago, Illinois, USA

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[4]Private Practice, India

# Parent education on early motor development through a professionally-moderated social media group: A retrospective report

**Aims:** Online support communities are popular among parents in developing countries looking for resources on development in infancy and childhood. This perspective article describes parent's utilization of a Facebook community managed by professionals trained in early childhood development, to ask questions and mitigate concerns about their children's motor development.

**Methods:** As part of a quality improvement initiative, questions posted by parents of children between birth and 3 years of age, over a two-year period, were categorized by motor skill or area of focus. Questions were also classified based on whether parents were seeking information or screening about their own children's motor development.

**Results:** Parents primarily expressed concerns and sought professional support within the first 18 months to discern if their own children's motor development was progressing as expected and how they could support their children's learning. Misconceptions surrounding motor skill development were also noted and may be related to beliefs predominant in Indian culture.

**Conclusions:** In highly populous developing nations, digital platforms have the potential to bridge gaps in awareness and connect parents to trained professionals that can provide timely, culturally sensitive, and evidence-based support on early motor development.

**Biography**

Puja Padbidri has a Bachelor's degree in Physical Therapy from Sancheti College, Pune, India (2001) and Master's degree in Physical Therapy from the University of Illinois at Chicago. She worked in the Early Intervention Programs for New York and Connecticut, aimed at children between the ages of 0-3. In 2012, she moved back home and led an online parent support group serving about 27000 members for 4.5 years. From 2016, she has been working in a level 3 NICU and its associated follow up clinic in Pune. She has board certifications from neonatal therapist and lactation consultant.

**Pilar Sáenz-González, MD, PhD[2,3*]; Álvaro Solaz-García, RN, Msc, PhD[2,3]; Antonio Martínez Millana, PhD[1]; Vicente Traver, PhD[1]; Máximo Vento, PhD[3]**

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## Updates and controversies in monitoring oxygenation in NICUs

**Introduction:** Neonates, particularly preterm infants, maintain a delicate balance between oxygen supply and consumption due to their underdeveloped organs. Ensuring normoxia in premature infants is crucial, given their immature antioxidant systems. Furthermore, neonatologists still face uncertainty regarding optimal oxygen saturation ranges, as increasing evidence suggests these parameters vary with gestational age, postnatal age, and underlying pathologies.

The advent of novel monitoring technologies has led to improved neonatal survival and reduced morbidity. However, neurodevelopmental outcomes remain a challenge. Key postnatal neuroprotection strategies include minimal handling, oxidative stress management, and optimisation of cerebral oxygenation. Transitioning from routine to proactive neuromonitoring systems can play a pivotal role in detecting and preventing neurological damage by optimising cerebral perfusion and oxygenation, carefully titrating inotropes, and detecting seizures or complications arising from clinical care. Multimodal monitoring has the potential not only to identify established brain injury but also to elucidate its pathophysiological mechanisms. It enables early recognition of brain injury, facilitating timely therapeutic intervention. However, the use of neuromonitoring, neuroimaging, and neurodevelopmental assessments in the NICU remains highly heterogeneous.

**Discussion:** Pulse oximetry provides an assessment of systemic oxygen supply, whereas regional oximetry evaluates oxygen saturation in specific tissue regions. However, pulse oximetry alone lacks the sensitivity required for individualised oxygen management in this highly vulnerable population, which is at significant risk of both hypoxia and hyperoxia. Near-Infrared Spectroscopy (NIRS) represents a significant advancement in personalised medicine by enabling continuous, non-invasive monitoring that offers detailed insights into the balance between oxygen supply and consumption. By detecting early stages of hypoperfusion and oxygen imbalance, NIRS provides opportunities for intervention before irreversible damage occurs.

NIRS is the most widely used neuromonitoring system, providing valuable guidance during preoperative, intraoperative, and postoperative periods. It allows for the monitoring of regional tissue oxygenation at both cerebral and somatic levels. This non-invasive system utilises near-infrared light emission (700–1000 nm) to detect changes in light attenuation as it passes through tissues, which are absorbed by oxygen-dependent chromophores such as oxyhaemoglobin and deoxyhaemoglobin. NIRS reflects 70% of the venous component and 30% of the arterial component. Correlation with central venous saturation is enhanced by various somatic sensors, enabling early detection of declines in left cardiac output.

In addition to pulse oximetry, NIRS monitors the balance between oxygen supply and uptake, detecting both hypoxia and hyperoxia and thus preventing harmful dysoxia. The immediacy of its measurements and rapid responsiveness to haemodynamic and oxygenation changes make NIRS an essential tool in operating theatres. Its first reported use in coronary artery bypass surgery in 1991 by Greeley et al. demonstrated its clinical relevance. When absolute $ScO_2$ values fall below 50% or decrease by more than 20% from baseline, potential causes must be ruled out, including inadvertent hyperventilation, paradoxical embolism, cannula malposition, and conditions that increase cerebral metabolic demand, such as subclinical seizures or hyperthermia. Additional measures include optimising analgesia and sedation and monitoring $SvO_2$ and haematocrit levels. Postoperatively, the absence of NIRS desaturations has been correlated with sequela-free survival. Furthermore, cerebral oxygenation can predict in-hospital mortality after ECMO and, in cases of impending cardiac arrest, a 10% increase in the $SpO_2$–$rSO_2$ difference has been associated with a 40% increased risk of cardiac arrest.

Despite its advantages, NIRS has certain limitations, including variability in the contribution of different vascular beds, the stability of NIRS values, the size of the scanned area, the lack of a direct reference for correlation, and interindividual and intraindividual variability. Additionally, haemoglobin levels influence NIRS readings. Cerebral oximetry alone is insufficient to estimate cerebrovascular autoregulatory function; however, when a strong correlation between cerebral oxygenation and arterial blood pressure is observed, autoregulation is likely impaired.

**Conclusion:** By combining pulse oximetry and NIRS, oxygen extraction (OEF/FTOE) can be calculated, providing a more detailed understanding of the balance between oxygen supply and consumption. These metrics complement pulse and regional oximetry, offering higher specificity and lower interindividual variability. In preterm infants, FTOE monitoring guides critical interventions and improves clinical decision-making efficiency, potentially reducing the costs associated with preventable complications such as inappropriate oxygen administration and transfusions. This approach minimises the risks of both hyperoxia and hypoxia, ultimately improving neonatal outcomes.

**Biography**

Neonatologist involved in the direct care of critically ill newborns and their families for more than 25 years. Doctor of Medicine, University Professor and director of several theses. The principal investigator's lines of research focus on the study of oxidative stress related to the fetal-neonatal transition, development- and family-centered care, and the optimization of comprehensive monitoring in Neonatal Intensive Care. In relation to studies on the fetal-neonatal transition, neonatal resuscitation and pathology related to oxidative stress, PhD Sáenz participated in the PRESOX 2012/0091 EC11-246 clinical trial, which evaluated the influence on morbidity and mortality of resuscitation with 21% vs. 60% oxygen in very premature infants. It is currently participating in international studies as Torpido 3060 (NHMRC, Australia. This line of research has contributed to relevant changes in the use of oxygen, reflected in the International Resuscitation Guidelines.

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## A systematic review on the use of artificial intelligence in the neonatal intensive care unit: Far beyond the potential impact

**Objective:** To explore the applications of Artificial Intelligence (AI) in Neonatal Intensive Care Units (NICUs), identifying key trends in AI-driven technologies and their roles in diagnosis, monitoring, and treatment of neonatal conditions.

**Methods:** A PRISMA-guided systematic review was conducted across MEDLINE, EMBASE, Cochrane, and IEEE Xplore, covering studies published between January 2013 and December 2023. A total of 318 studies were initially retrieved. After removing 61 duplicates and screening 257 articles by eligibility criteria, 64 studies were assessed for full-text eligibility, leading to the final inclusion of 41 studies.

**Results:** The predominant domains for AI application were cardiovascular conditions (n=9, 21.9%), followed by neural/brain conditions (n=8, 19.5%), respiratory difficulties (n=8, 19.5%), infections (n=6, 14.6%), digestive functions (n=2, 4.9%), and microvascular diseases (n=1, 2.4%). Additionally, 6 studies focused on monitoring systems or body positioning (categorized as Not Disease), and 1 study (2.4%) addressed mortality prediction. Regarding AI application purposes, prognosis (n=23, 56.1%) was the most common, followed by classification (n=14, 34.1%), monitoring (n=5, 12.2%), and symptom forecasting (n=1, 2.4%). More than 70% of studies (n=29, 70.7%) lacked a validation procedure, highlighting a critical gap in methodological rigor.

**Conclusions:** Our findings underscore the significant benefits of AI in NICUs, including improved patient outcomes and enhanced operational efficiency. However, challenges such as data privacy, algorithm interpretability, and ethical considerations must be addressed for responsible AI deployment in neonatal care. We highlight future directions, emphasizing interdisciplinary collaboration, adherence to reporting guidelines, and further research to

enhance the reproducibility and clinical integration of AI in NICUs. This study reinforces the transformative potential of AI in shaping the future of neonatal healthcare

**Biography**

Neonatologist involved in the direct care of critically ill newborns and their families for more than 25 years. Doctor of Medicine, University Professor and director of a Cum Laude thesis and is currently the director of another 5 doctoral theses in progress. The principal investigator's lines of research focus on the study of oxidative stress related to the fetal-neonatal transition, development- and family-centered care, and the optimization of comprehensive monitoring in Neonatal Intensive Care. In terms of technological translation and innovation, the development of the intelligent neonatal monitoring line, awarded with the Ennova Health 2020 award Intelligent Neonatal Monitoring System - iNeoM and two INBIO grants as IP in collaboration with the Polytechnic University of Valencia to promote interdisciplinary and innovative research projects with a high impact on the transfer of scientific knowledge to clinical practice, stand out.

**Dr. Chris Maria Joseph[1], Dr. Reshma Vithayathil[2]*, Dr. Anita Shirley Joselyn[1]**

[1]Department of Anaesthesia, Christian Medical College, Vellore, India

[2]Department of Anaesthesia, Bedford Hospital, United Kingdom

# A prospective observational study to assess the incidence of emergence delirium in children with sevoflurane for induction and isoflurane for maintenance of anaesthesia

**Introduction:** Emergence Delirium (ED) is described as a motor agitation state with restlessness, and disorientation, thrashing around and shouting or screaming. [1] The average, estimated incidence of emergence delirium ranges between 20-80%. [2] Multiple factors pertaining to the patient, anaesthesia and surgery are known to increase the risk of emergence delirium. The aim and objectives of this study was to assess the incidence of ED in paediatric patients undergoing elective surgeries under general anaesthesia using sevoflurane for induction and isoflurane for maintenance of anaesthesia and to identify risk factors for ED.

**Methods:** The study was started after obtaining consent from Institutional review board and registering in clinical trial registry. The prospective observational study was carried out on 150 children between the ages of 2 and 12 years who were posted for elective surgeries. Induction was done with oxygen and sevoflurane and was changed to isoflurane for maintenance. Post operatively, emergence delirium was assessed with Paediatric Anaesthesia Emergence Delirium (PAED) score at 15 minutes interval along with FLACC score for pain.

**Results:** The incidence of ED in our study population was 28.18% (n=42). Among the children who developed emergence delirium 73.8% were in the age group of 2-6 years, 85% were males, 63% had parental presence and 92.8% received no pre-medication. The mean FLACC score was 0.76+/-2.02 and patients with emergence delirium had FLACC score <4. The mean duration spent in PACU was 130 mins for children with emergence delirium and 96 mins (p=0.0003) in children who did not manifest emergence delirium.

**Discussion:** This prospective observational trial has shown that the incidence of emergence delirium in our population was 28.19% when sevoflurane was used for induction followed by isoflurane as a maintenance agent. This incidence is much lesser as compared to 40% when sevoflurane is used both for induction and maintenance. Previous studies reporting emergence delirium have not considered evaluating pain scores separately, to differentiate between pain and ED, which is a major limitation in these studies. In our study, FLACC score for patients with PAED SCORE>10 was zero. So, we could conclusively rule out post operative pain in our patients.

**Conclusion:** The judicious use of sevoflurane, age-appropriate premedication, distraction techniques and limiting fasting duration helps in avoiding ED. Using FLACC scoring system with PAED score can help in differentiating pain from emergence delirium and treat accordingly.

**Biography**

Dr. Reshma Vithayathil studied medicine at the Kerala University, India and graduated as MD Anaesthesia in 2017. After one year postdoctoral fellowship in cardiac anaesthesia at Christian Medical College Vellore, she obtained the position of an Assistant Professor at Christian Medical for three years. She is currently working in Bedford hospital United Kingdom as a senior clinical fellow in Anaesthetic.

**Dr. Rohit Kumar**

NICU, James Cook Hospital, Cleveland, England, United Kingdom

## Hot issues about a cool therapy: Beneficence vs non-maleficence

Hypoxic-Ischemic Encephalopathy (HIE) affects approximately one in every 1000 live births, representing the leading cause of death, severe neurological morbidity, and seizures in full-term neonates worldwide, and causing up to 20% of cases of cerebral palsy.

It's been almost two decades since Therapeutic Hypothermia (TH) was introduced in the UK, and this is the only neuroprotective intervention that has become standard practice in the treatment of perinatal Hypoxic-Ischemic Encephalopathy (HIE).

Whilst the neuroprotective benefits, improvement in short term outcomes (through widely adopted guidelines) and low rate of serious side effects provide ample evidence to support the use of this intervention for treating newborns with hypoxic ischemic encephalopathy, the long-term benefits are still unclear. This talk aims to address the controversies surrounding its use.

**Biography**

Dr. Rohit Kumar is a consultant neonatologist working in a tertiary referral center, serving as the clinical lead for risk management and infectious disease. He is also the neonatal representative at the regional transfusion medicine committee and Intrapartum Care Group, and has previously presented in various international conferences and published in reputed peer-reviewed journals.

**Asst. Prof. Dr Sanja Knežević**

University of Kragujevac, Faculty of Medical Sciences, Department of Pediatrics, Serbia

## Is it safe to limit screening for retinopathy of prematurity after 32 gestational weeks?

**Introduction/Objective:** To analyze risk factors in prematurely born children for severe form of Retinopathy of Prematurity (ROP).

**Methods:** Our prospective cohort study included 769 preterm infants divided according to gestational age, into three groups: group I (≤28 weeks), group II (29-31 weeks), and group III (≥32 weeks). Analyzed risk factors for development of severe form of ROP were divided into four groups: prenatal (prolonged rupture of membrane, twin or multiple pregnancies, Caesarean Section, detachment of placenta, choriomanionitis, preeclampsia), neonatal (gender, gestational age, Apgar score, birth weight), applied therapy (duration of mechanical ventilation and oxygen therapy, number of erythrocyte transfusions, use of dopamine), and co morbidities (chronic lung disease, sepsis, intraventricular hemorrhage, and patent ductus arteriosus.

**Results:** In the whole group, significant factors for the development of the severe form of ROP have been found to be chorioamnionitis (p=0,013), preeclampsia (p=0,049) and low gestational age (p=0,000). The highest incidence of the severe form of ROP (38.1%) was found in children born from 29-31 gestation weeks (GW). The main risk factors for ROP in this group of subjects were low birth weight (p=0,007), use dopamine (p=0,022) and duration of mechanical ventilation (p=0,012) or oxygen therapy (p=0,002).

After the 32nd GW, 8.9% of respondents developed a more severe form of ROP and in the group with 29-31 weeks, 38,1%.

**Conclusion**: He need for ophthalmologic examinations was justified after 32 GW in case of prolonged oxygen therapy (≥16,23 ±9,963 days), mechanical ventilation (≥8,04 ±9,949 days), or frequent transfusions (≥1,45 ±1,682).

**Keywords:** Prematurely Born Children, Retinopathy of Prematurity, Risk Factors.

**Dr. Santosh Kumar Mishra (Ph. D.)**

Independent Researcher (Scholar): Retired from Population Education Resource Centre, Department of Life Long Learning and Extension, S. N. D. T. Women's University, Mumbai-400020, Maharashtra, India

## Researching into causes, symptoms and prevention of pediatric obesity

Pediatric obesity (also termed as "childhood obesity") is a major global health crisis that, in turn, has resulted in other associated health complications, including increased risks for diabetes (including type 2 diabetes), heart disease, and high blood pressure. The World Health Organization (WHO) has recognized it as a serious public health challenge the international community is confronted with in the 21st century. It is pertinent to note that childhood obesity is more prevalent in low- and middle-income countries, with poor (or inadequate) health infrastructure. What is alarming is that the prevalence of pediatric obesity (which is the outcome of imbalance between "calorie intake" and "calories utilized") has increased with each passing year, across the regions of the globe. Understanding childhood obesity and how to prevent it is, thus, is of utmost importance for health care providers.

This research work aims to investigate into causes, symptoms and prevention of pediatric obesity. Appropriate examples and scientific facts in support of the research statements made have been quoted by the author. Secondary data been used in this work, and method of data analysis is 'descriptive'. Data are largely 'qualitative' in nature; they were collected from secondary sources. Analysis of data also benefitted from author's interactions with health experts during international conferences.

Analysis of data indicates that pediatric obesity is a health condition wherein children and adolescents (in the age group of 13-18 years) accumulate excess body fat during early years of life. This situation paves the way for other health conditions [such as diabetes and high blood pressure (including poor self-esteem, and depression)] among them. Childhood obesity also can lead to poor self-esteem and depression. According to considered research view of the author of this research, the symptoms of obesity are not clear-cut; reflections are not simply based on how children look. In this context, it is important to remember that some children have larger than average body frames. Again, it is common to for other children to carry different amounts of body fat at the various stages of development, as they age. Nevertheless, the Body Mass Index (BMI) enables Doctors know overweight and obese status. However, it is possible to manage and prevent pediatric obesity by exercising caution in maintaining balanced nutrition pattern. This practice enables children to lead an active lifestyle during later stages of life. Risk factors include: (1) eating habits, (2) not enough movement, (3) mental health factors, and (4) certain medication (past medical history).

In conclusion, the author of this work states that pediatric obesity is a serious health condition wherein excess body fat which has adverse effects on health and well-being of children. Some of the prominent contributing factors responsible for this health crisis are genetic, environmental, and socio-economic influences. Prevention strategies include (1) “increased physical activity”, (2) “healthy eating habits”, (3) “looking into underlying medical or psychological issues”, and (4) “family-based intervention programs”.

**Biography**

Dr. Santosh Kumar Mishra is Independent Researcher (Scholar), having retired from Population Education Resource Centre, Department of Lifelong Learning & Extension, S.N.D.T. Women's University, Mumbai, India. He underwent training in demography & acquired Ph. D. He has authored 6 booklets, 4 books, 31 book chapters, 109 journal articles, 2 monographs, 7 research studies, & 119 papers for national & international conferences (some with bursary). He has been awarded with Certificate of Excellence in Reviewing in 2017, 2018, 2021, 2022, & 2024; and conferred with Excellence of Research Award for outstanding contribution & recognition in the field of agriculture in 2021.

**Dr. Santosh Kumar Mishra (Ph. D.)**

Independent Researcher (Scholar): Retired from Population Education Resource Centre, Department of Life Long Learning and Extension, S. N. D. T. Women's University, Mumbai-400020, Maharashtra, India

## Key considerations in management of nutrition pattern for kids

From physical & mental health development point of view, diet pattern during childhood years is a critical. Management of food and nutrition at this stage of kids (and children) shapes the development of eating behaviors and habits during adulthood. The food habits inculcated at this stage of life play significant role in future development, overall health, and the prevention of obesity, and other lifelong diet-related chronic diseases. The author of this research argues that an age-appropriate nutrition pattern is an essential factor in the overall health and well-being of kids (or children). Scientific management of food and nutritional aspects are key in their physical, cognitive, and emotional development. In this context, it is important to remember that nutritional requirements of kids need combination of multiple diet comprised of vegetables, fruits, protein, grains, and dairy products on daily basis. In nutrition management of kids, parents and others around in the family make significant contribution.

This research work aims to investigate into key considerations in management of nutrition pattern for kids. Stated differently, this presentation offers question to this answer: "which nutrients are needed and in what amounts for kids"? Appropriate examples and scientific facts in support of the research statements made have been quoted by the author in this work. Secondary data been used in this work, and method of data analysis is 'descriptive'. Data are largely 'qualitative' in nature; they were collected from secondary sources.

Analysis of data indicates that kids need proper nutrition during their formative years. It is important to remember that the "best-suited-eating pattern strategy" for overall growth and development of kids should essentially envisage twin considerations: (a) age-group, and (b) outdoor activity level (in terms of exercises/out of home activities). With respect to outdoor activity, the author makes a specific point that significant proportion kids (both boys and girls) in the new millennium (characterized by "digital revolution"), in all regions of the globe, spend most of their time using screen, including mobile technology, and associated social media platforms. This practice has severe negative consequences on the overall health of kids. Addiction to mobile technology and its misuse are aspects that require special consideration. In this very context, the author presents this brief fact: kids are not likely to eat every food that are served to them. Its answer lies in this brief description: "parents should necessarily introduce kids, in an appropriate manner, to a variety of foods that are best-suited to them".

In conclusion, it is important to plan nutrition pattern for kids. Carefully managed nutrition pattern for kids should reply on a healthy balance of three factors, namely, (1) diet management, (2) exercise and outdoor activities, and (3) conducive lifestyle. Findings of past research indicate that five main food groups (grains, dairy, protein, vegetables, and fruit) are a good starting point for diet of kids. A healthy and balanced diet pattern have potential to ensure required vitamins and minerals needed for overall physical and mental health of kids; they while improve their immune systems.

**Biography**

Dr. Santosh Kumar Mishra is Independent Researcher (Scholar), having retired from Population Education Resource Centre, Department of Lifelong Learning & Extension, S.N.D.T. Women's University, Mumbai, India. He underwent training in demography & acquired Ph. D. He has authored 6 booklets, 4 books, 31 book chapters, 109 journal articles, 2 monographs, 7 research studies, & 119 papers for national & international conferences (some with bursary). He has been awarded with Certificate of Excellence in Reviewing in 2017, 2018, 2021, 2022, & 2024; and conferred with Excellence of Research Award for outstanding contribution & recognition in the field of agriculture in 2021.

**Saumya Pandey, M.Sc. Biochemistry, Ph.D. Life Science**

Head-Department of Clinical Research, Indira IVF Hospital, Udaipur-Lucknow, India (formerly)

# In vitro fertilization success trends and inflammatory microbiome amongst infertile women of Asian-Indian ethnicity: Recent advances in maternal-fetal medicine and neonatal cell death

**Objectives:** Infertility is a major public health problem globally, including India; the etiopathogenesis of reproductive disorders amongst ethnically disparate populations is indeed complex. Cost-effective, evidence-based intervention strategies are essential for infertility control/prevention. My pilot study aimed to assess the in vitro fertilization success trends and neonatal developmental defects/neonatal deaths amongst *Mycobacterium tuberculi* and *Human Papillomavirus* positive infertile women of Asian-Indian ethnicity.

**Methods:** A prospective clinical research study enrolling 1380 infertile women undergoing Assisted-Reproductive-Technology procedures at Indira-IVF Hospital, Udaipur, India was rigorously conducted; inclusion criteria: age<35 years, Indian ethnicity, Body Mass Index (kg/m2) <25, Anti-Mullerian Hormone (AMH)1.5-2.5 ng/ml, and exclusion criteria: prior ≥2 IVF failures, fibroids, adenomyosis, cervical cancer, thin endometrium, endometriosis. IVF success was determined by assessing total frozen embryos transferred per month, average oocyte yield per donor, oocyte quality, and pregnancy/Beta-Human Chorionic Gonadotrophin (HCG) positivity. M. tb-positivity was assessed using Gene-Expert/TB-Gold-PCR-testing and endometrial thickness using Color-Doppler-imaging. HPV-positivity was evaluated using FDA-approved Hybrid Capture (HC)-2 assay. Psycho-sexual interventions incorporated marital-relationship counseling-sessions/therapy, clinical referrals for neuropsychiatric assessments (cognitive impairment/schizophrenia/depression). Written informed consent of patients was taken at initial enrollment.

**Results and Conclusions:** Total embryos transferred were 248/April, 240/May, 201/June, 254/July, 230/August, 207/September; number of pregnancies/β-hCG positivity: 171,171, 139, 179, 176, 163. Subgroup-stratification demonstrated that M-II vs total oocytes retrieved were 72.7%, 66.6%, 83.1%, 73.0%, 72.1% and 74.2%. Overall IVF success rates were 71%/April, 72%/May, 71%/June, 72%/July, 78%/August and 84%/September, and frozen embryo-transfer success was 68%, 75%, 74%, 85%, 77%, 83%. *M. tb.* (55.6%), *HPV*-positivity (12.0%) and self-reported tobacco-usage (100% response rate) were significantly associated with aberrant fetal cardiac activity, higher trends of intrauterine growth restriction and neonatal deaths (P<0.05). My

maternal-fetal-neonatology innovative study highlights promising IVF success rates in Asian-Indian infertile women; future public health research, awareness-campaigns, psychosocial interventions and pharmacogenetic/genomics epidemiological causal association studies are warranted for successful development of predictive biomarkers for infertility management in ethnically disparate populations, and identifying aberrant microbiome at the maternal-fetal interface tilting the embryonic/fetal fate towards still-births and/or autophagy-mediated neonatal cell death.

**Biography**

Dr. Saumya Pandey possesses brilliant academic credentials with earned Post-Doctorate: Biochemistry-Molecular Biology, Graduate School of Biomedical Sciences, University of Texas Medical Branch (UTMB), Galveston, TX, USA/Visiting Scientist: Urology (Robotic-Prostatectomy), Department of Urology, New York Presbyterian-Weill Cornell Medical College, New York, NY, USA/Doctorate: Ph.D. Life Sciences, Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow, UP, India–Chhatrapati Shahuji Maharaj University, Kanpur, UP, India/Doctoral Research Fellowship: Biomedical Sciences, Creighton University, Omaha, Nebraska, USA/M.Sc. Biochemistry, University of Lucknow, Lucknow, UP, India, and recently worked as Head-Clinical Research, IndiraIVF-Hospital, Udaipur-Lucknow, India with 65 first authorship scientific publications in international journals.

**Dr. Sayan Bhattacharyya*, Dr. Amit Banik, Dr. Atul Raj**
Department of Microbiology, AIIH&PH, Kolkata, India

## Infections causing neonatal jaundice

**Background:** Neonatal jaundice is a common clinical condition characterized by yellow discoloration of the skin and sclera due to hyperbilirubinemia. While physiological jaundice accounts for the majority of cases, infectious etiologies can lead to pathological jaundice with potentially serious consequences. Identifying infection-related jaundice in neonates is crucial for timely intervention and prevention of complications. We reviewed the types of infections that cause neonatal jaundice, discussed their pathophysiology, and highlighted management strategies.

**Methods:** This structured review is based on current literature sourced from PubMed, Scopus, and relevant clinical guidelines. Key neonatal infections associated with jaundice were analyzed, including bacterial, viral, and parasitic etiologies.

**Results:** Neonatal infections contribute significantly to early and late-onset pathological jaundice. Common bacterial causes include *Escherichia coli, Klebsiella pneumoniae*, and *Listeria monocytogenes*, which often present with sepsis-associated cholestasis. Listeria may be transmitted congenitally. Viral infections like Cytomegalovirus (CMV), Hepatitis B and C viruses, Rubella, and Herpes simplex virus are implicated in intrahepatic cholestasis and hepatocellular dysfunction. Parasitic infections like congenital toxoplasmosis may also produce hepatosplenomegaly and conjugated hyperbilirubinemia. These infections impair bilirubin metabolism through hepatocellular injury, hemolysis, or biliary obstruction. Early recognition via clinical signs, laboratory evaluation (including direct and indirect bilirubin levels), and pathogen-specific tests is critical. Hyperbilirubinemia may be the only manifestation of UTI in the neonatal period. Thus extrahepatic infections in neonates may also present with jaundice.

**Conclusion:** Neonatal infections are important but frequently underrecognized causes of jaundice. A high index of suspicion is warranted, especially in cases of prolonged, atypical, or conjugated hyperbilirubinemia. Prompt diagnosis and appropriate antimicrobial or antiviral therapy improves outcomes and reduces the risk of long-term hepatic or neurological damage.

**Biography**

Dr. Sayan Bhattacharyya studied Medical Microbiology at PGIMER, Chandigarh in 2008. He then joined many institutions and is now working as Associate Professor, Microbiology, AIIH&PH, Kolkata. He has published more than 110 research articles in variouys peer reviewed indexed medical journals.

**Bushra Masalha[1,2], Nilly Mor[1], Nazanin Derakhshan[3], Shiri Ben-David[1,2*]**

[1]Department of Psychology, Hebrew University, Jerusalem, Israel

[2]Department of Psychology, Hadassah Medical Center, Jerusalem, Israel

[3]University of Reading, United Kingdom

## Psychopathology and cognitive biases among children with cancer

**Objective:** Paediatric cancer is a risk for psychopathology including post-traumatic stress disorder, anxiety, and depression. This study aimed to delineate how attentional, memory, and working memory biases predict psychopathology among paediatric oncology patients, relative to healthy peers.

**Method:** 120 children (active treatment n≈40; remission n≈40; healthy controls n≈40) completed three computerized tasks: emotional Stroop (attentional bias), recognition test (memory bias), N-back task (working memory). The tasks contain: cancer, non-cancer negative and neutral stimuli, to explore whether the biases are specific to the illness. In addition, the children completed Semi-structured K-SADS interviews and questionnaires assessed psychopathology symptom severity.

**Results:** About half of children with cancer (45 % active; 53 % remission) met DSM-5 criteria versus 16 % of controls. Attentional cancer bias correlated strongly with higher depression, anxiety, and PTSD scores among children in active treatment (r≈.48–.57, p<.01) and in remission (r≈.44–.59, p<.01), but not in controls (r≈.00–.04, ns). Memory bias exhibited similar group-specific associations during treatment (r≈.42–.59, p<.01) in remission (r≈.29–.46, p.07–.002) and absent in healthy children. Working memory bias also predicted symptoms in both clinical groups (r≈.45–.61, p<.005) but not in controls. Logistic models confirmed that greater cancer-picture RT bias was associated with 6- to 12-fold increased odds of meeting DSM-5 criteria in patient groups (all p<.01).

**Conclusions:** Cancer-related cognitive biases predict greater distress in active and remission-paediatric cancer patients. These results underscore the potential of cognitive bias–modification interventions as adjunctive therapies to enhance psychological well-being in children with cancer.

**Biography**

Dr. Shiri Ben-David is a senior lecturer at the department of Psychology, Hebrew University and is the head of the neuropsychology MA program at the university. Her research focuses on the psychiatric and emotional aspects of dealing with a physical illness and injury. Dr. Ben-David is also the Chief psychologist at Hadassah Medical Center. She graduated as rehabilitation psychologist at Bar Ilan University and works as a psychologist at the hospital for 21 years, where she gained her expertise in the Oncology and Psychiatry departments.

**Vasudevan Mukundan*, Giovanni Vento, Stefano Nobile**

Università Cattolica del Sacro Cuore, Faculty of Medicine and Surgery, Rome, Italy

Department of Paediatrics (Neonatology), Fondazione Policlinico Universitario A. Gemelli IRCCS, Rome, Italy

## Evaluation of long-term respiratory complications in infants with perinatal COVID-19: A pilot study

**Background:** While COVID-19 has been extensively studied in adults and older children, little is known about the long-term respiratory sequelae in neonates infected perinatally. Given that alveolarization continues during the first years of life, neonatal COVID-19 may affect subsequent lung development.

**Objective:** To evaluate clinical outcomes and pulmonary function in infants with a history of perinatal SARS-CoV-2 infection at 6- and 12-month follow-up.

**Methods:** This prospective, observational pilot study included term and preterm infants diagnosed with COVID-19 at birth and followed at a tertiary neonatal unit. Participants underwent serial clinical assessments and pulmonary function testing (tidal breathing analysis and multiple-breath nitrogen washout) in line with ERS/ATS standards. Control comparisons were made with published pre-pandemic normative data.

**Results:** Of 36 eligible infants with neonatal COVID-19, 14 (38.9%) were enrolled. Median age at first assessment was 6 months. Twelve of 14 (85.7%) had at least one abnormal tidal breathing parameter, most frequently reduced tidal volume/kg and altered minute ventilation. Respiratory rate was significantly higher in infants with abnormal test results (p=0.030). Nitrogen washout, performed in three infants, revealed impaired ventilation distribution (elevated LCI) in two cases. No clear associations with perinatal factors such as gestational age, birth weight, or delivery mode were identified. Clinically, recurrent wheezing episodes and use of bronchodilators were noted in 21% of participants.

**Conclusion:** Preliminary findings suggest that perinatal COVID-19 may be associated with subtle but measurable respiratory function abnormalities persisting during infancy. These alterations could represent early markers of long-term pulmonary morbidity. Larger multicentre studies are warranted to confirm these results and explore potential mechanisms.

**Biography**

Dr. Vasudevan did his medical study at Universita Cattolica del Sacro Cuore and graduated medical school in July of 2023. He then joined the UK foundation program and completed 2 years of training in various departments. He is currently a Teaching Clinical Fellow at Glangwili General Hospital in Carmarthen which falls under Hywell Dda University Health Board.

**Dr. W.A.S. Saroja Weerakoon**

Senior Lecturer, Department of Ayurveda Gynecology Obstetrics and Pediatrics, Faculty of Indigenous Medicine, University of Colombo, Sri Lanka

## Ayurvedic concepts on genetics and congenital abnormalities in children

Ayurveda is an ancient system of medicine, that elaborates on many issues related to health, disease, treatment of diseases, and prevention of diseases. In this regard, Ayurveda explained several principles and conducts for healthy progeny and the birth of a healthy child. Despite advances in diagnostic techniques and therapeutic interventions, medical systems failed to control the incidence of birth defects. Ayurveda has paid due attention to this and has devised various measures to reduce the risk of birth defects. This step begins before conception. According to Ayurvedic concepts, proper parental preparation is an essential prerequisite for healthy offspring. Preconception care is one of the most important interventions identifying biomedical, behavioural, and social risks to maternal and child health. It includes both prevention and management of health issues that need to be addressed for maximum impact before conception and early pregnancy. According to the Ayurveda concepts, it has clearly described various genetic disorders due to defects in Shukra and Sronitha (sperm, ovum). Beeja (chromosome), Beejabhaga (genes), and Beejabhagavayava (DNA) were described while explaining the morbidity of sperm and ovum. The Ayurveda fundamentals it has explained Shad-Garbhakara Bhavas (six pro-creative factors) such as Matrija (maternal), Pitrija (paternal) Atmaja (soul), Rasaja (nutritional), Satmyaja (wholesomeness), and Sattvaja (psyche/mind) for the birth of healthy progeny. Physical, mental, social and spiritual well-being of the individual, proper nutrition and healthy practice of the mother during pregnancy play a major role in having healthy children. Inattention to any of these factors is a cause of unhealthy and defective childbirth.

**Biography**

Dr. W.A.S. Saroja Weerakoon, Grade I Senior Lecturer in Ayurveda Pediatrics, Faculty of Indigenous Medicine, University of Colombo, Sri Lanka and Ayurvedic Consultant Pediatrician in National Ayurveda Hospital, Colombo, Sri Lanka. She has completed her Master's Degree in Ayurveda Pediatrics, the University of Colombo and her PhD Degree in the Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka Her research interests include bioactivities of indigenous medicines and pediatric-related disorders such as Cerebral Palsy, Autism, Attention Deficit Hyperactivity disorders and Muscular dystrophies. Current research and consulting areas are research on Pediatric behavioral disorders and muscular dystrophies.

**Weikai Wang[1*], Taining Zhang[1], Yanqiang Du[2], Yi Wang [2]**

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# Mortality of septic shock secondary to pediatric primary peritonitis predicted by respiratory quotient combined with lactate: A survey from two children's hospitals in Northwest China

**Background:** Pediatric sepsis is a life-threatening condition, with extremely high incidence and mortality among critically ill children worldwide. Patients with septic shock are susceptible to intestinal complications due to altered blood flow distribution, and these complications often correlate directly with a poor prognosis. Early detection of low perfusion and appropriate resuscitation are critical components in the management of patients experiencing shock. Nevertheless, significant debate persists regarding the comparative value of various resuscitation targets. While Central Venous Oxygen Saturation (ScvO2) monitoring is frequently advocated, it remains a subject of scrutiny. All pathophysiological mechanisms are intricately linked to cellular hypoxia and energy metabolism, which is why metabolic-related biomarkers, particularly lactate and lactate clearance rate, are highly regarded by critical care experts. Nonetheless, limited research has been conducted on the association between markers of circulatory shock and metabolic disorders in critically ill patients particularly in the field of pediatrics. Physiological indicators, particularly those associated with cell energy metabolism, have shown potentials in predicting sepsis and septic shock.

**Methods:** This was a retrospective study. A total of 63 patients, comprising 30 males and 33 females, who developed septic shock secondary to pediatric primary peritonitis, were admitted to the Intensive Care Department of the Children's Hospital Affiliated to Xi'an Jiaotong University and the Pediatric Intensive Care Unit of Gansu Provincial Maternity and Child-Care Hospital between December 2016 and December 2021.Based on the primary outcome of 28-day all-cause mortality, patients were assigned into the survival group and nonsurvival group. Demographic and clinical data were compared. Risk factors for the prognosis of septic shock secondary to pediatric primary peritonitis were identified by logistic regression, and their potentials in predicting the 28-day survival were assessed by the receiver operating characteristic and Kaplan-Meier survival curves.

**Results:** Among the 63 eligible patients with septic shock secondary to pediatric primary peritonitis, 47 survived. In comparison to the survival group, the nonsurvival group showed significantly higher proportions of mechanical ventilation, surgical intervention, and use of

vasoactive drugs, procalcitonin, activated partial thromboplastin time, Respiratory Quotient (RQ), Lactate (Lac), the Pediatric Sequential Organ Failure Assessment score, and the Pediatric Risk of Mortality III score, but lower platelet count, fibrinogen, and mean Arterial Pressure (allP's<0.05). RQ (odds ratio [OR],2.37;95% confidence interval [CI],1.41, 3.22; P<0.05) and Lac (OR, 2.01; 95% CI,1.15,3.21; P<0.05) were independent prognostic factors for septic shock secondary to pediatric primary peritonitis. Their combination (RQ<1.6+ Lac<4 mmol/L) achieved a better accuracy in predicting the 28-day cumulative survival.

**Conclusion:** RQ combined with Lac offers an excellent performance in predicting mortality of septic shock secondary to pediatric primary peritonitis.

**Biography**

Dr. Wang Weikai studied pediatric critical care medicine at Lanzhou University, China and graduated as MS in 2013. He then worked at Gansu Provincial Maternal and Child Health Hospital. He received his PhD degree in 2025 at the same university. He has published more than 10 research articles in SCI (E) journals.

# 7th Edition of Euro-Global Conference on Pediatrics and Neonatology

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## POSTER PRESENTATIONS

**Dr Ioana Apostu*, Dr Nipa Mitra**

East and North Hertfordshire Teaching NHS Trust, Stevenage, United Kingdom

## Nourishing the late preterm: Early postnatal feeding and care practices in a local neonatal unit

**Background:** Late preterm infants i.e.,34+0-36+6 weeks Gestational-Age (GA) are at higher risk for feeding difficulties, hypoglycaemia, jaundice, and re-admissions. Early postnatal care and support could influence outcomes.

**Aims:** To evaluate: Infant characteristics, indications, admissions to NICU and feeding practices.

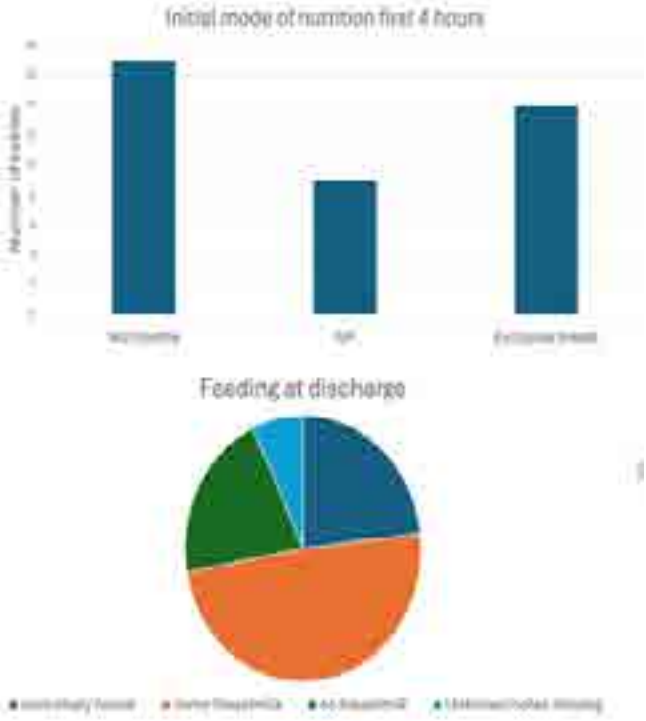
**Methods:** A retrospective audit of late preterm infants over 3 months was conducted. Anonymised data using predefined variables was collected from case records and analysed.

**Results:** During the audit period, there were 1,126 live births of whom 43 (3.8%) were late preterm and formed the study population. Patient characteristics are shown (Table-1). Indications for NICU admission included: RDS (n=15); feeding support (n=4); Of 12 infants with RDS- a higher prevalence was noted at 34+0- 34+6 wks (n=10) than 35+0 -35+6 weeks (n=5), and 36+0-36+6 weeks (n=1). The distribution of infants admitted to NICU for feeding support were: 34+0-34+6 weeks(n=2), 1 each for the other two categories. In the 1st 4 hrs: majority (n=17) received breast milk, the rest received formula feeds (n=14) or Intravenous Fluids (IVF) (n=9). 30 mothers had prebirth intention to breastfeed. Modes of initial enteral feeds were via NGT(n=17); excusive breastfeeds (n=14). 9 infants did not receive feeds in the 1st 4 hours.38/40 (95%) infants commenced enteral feeds within 24hrs of life. At discharge from hospital, 31 infants (77.5%) received breastmilk (n=26 exclusively breastfeeds; n=5 combined feeding).

**Conclusions:** Late preterm infants had varying indications for NICU admission. A large proportion were able to establish early enteral feeds and sustained breastfeeding at discharge. Further, Transitional-care pathways were developed, breastfeeding projects were undertaken, and a reaudit is planned.

Table 1. Patient Characteristics

| Variable | Total (n = 43) |
|---|---|
| Total eligible infants | 43 |
| Excluded (notes not found) | 3 |
| Included in analysis | 40 |
| Gestational age (weeks) | 34+0 to 36+6 |
| • 34+0 to 34+6 | 11 (27%) |
| • 35+0 to 35+6 | 9 (23%) |
| • 36+0 to 36+6 | 20 (50%) |
| Birth weight (g) | 1705 to 3580 |
| • < 1800 | 2 (5%) |
| • 1800–2499 | 20 (50%) |
| • 2500–2999 | 14 (35%) |
| • ≥ 3000 | 4 (10%) |
| Antenatal steroids administered (number of infants) | 10 (25%) |
| • Full course | 8 (20%) |
| • Incomplete course | 2 (5%) |
| Length of hospital stay (days) | 1 to 41 |




**Biography**

Dr Ioana Apostu is a paediatric doctor currently undertaking specialty training in the East of England, with a particular interest in neonatology and the care of late preterm infants. She brings over a decade of experience in paediatrics, having worked across both UK and Romanian healthcare systems. Ioana is passionate about quality improvement, family-centred care, and continuous professional development. She holds a medical degree from the University of Medicine and Pharmacy Carol Davila in Bucharest and is committed to providing safe, compassionate, and evidence-based care for newborns and children.

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# A quality improvement project on personal protective equipment compliance amongst medical staff in a tertiary children's hospital

**Introduction:** Personal Protective Equipment (PPE) compliance has declined post COVID, with increasing prevalence of infection outbreaks especially during winter.

The objective of this Quality Improvement Project (QIP) was to improve PPE compliance to >90% amongst medical staff on the children's ward. Multiple cycles were conducted to assess and improve compliance through education and use of visual aids.

**Methodology:** All medical staff (physician associates, resident doctors and consultants) working on the children' s wards were included over a period of 4 months (Dec 2024 - March 2025).

As part of the PDSA cycle, an initial anonymized survey (n=19) was conducted to assess staff's knowledge and adherence to transmission based precautions. This revealed that 31.6% were knowledgeable about transmission based precautions and 1 in 4 staff members do not practice hand hygiene after each patient. Pre and post-intervention audit data was collected using a local Infection Prevention PPE audit tool.

**Results:** At the start of the project, overall compliance with PPE protocols was found to be about 88% with the lowest adherence noted in hand hygiene before putting on PPE.

The major barrier was lack of awareness on the steps to putting on PPE and due to high pressure demand on the ward.

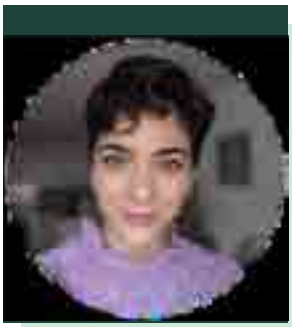
We introduced targeted interventions such as: educational sessions and reminders on correct PPE use. Visual aids were also placed in clinical areas. Following these interventions, overall compliance improved to 95%.

**Conclusion:**

Feedback was given to the Local Trust's Infection Prevention unit with recommendation to ensure regular check in sessions with the units involved. This project emphasized the importance of incorporating practical sessions on effective PPE compliance and hand hygiene to improve patient outcome.

**Biography:**

Kelechukwu Ayeni is a higher specialty trainee currently working as a Neonatal Registrar in Leicester Royal Infirmary, East Midlands Region. Prior to that, she has gained experience in General paediatrics, paediatric Respiratory and paediatric emergency medicine. She qualified as a Medical Doctor in University of Ibadan, Nigeria in 2015, and has been an ordinary member of the RCPCH since 2023. She has been involved in regional and National audits and is aspiring to be a Neonatologist.



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## From paper to digital growth charts in a tertiary NICU: A quality improvement project

**Background:** The widespread adoption of Electronic Patient Record (EPR) Systems in neonatal units has resulted in improved accuracy of documentation, more efficient storage and retrieval of patient data, and has the environmental benefit of reduced paper use. At a tertiary neonatal unit in London, UK, an electronic patient care record system was in use for daily clinical documentation. However, patient growth continued to be documented on paper growth charts. This Quality Improvement Project (QIP) aimed to demonstrate that use of the electronic growth chart function on the EPR would not result in a deterioration in the quality of growth data.

**Methods:** The medical team were provided with written instructions on how to plot weight and Head Circumference (HC) using the EPR, and asked to do this as well as continue the normal practice of plotting on the paper growth chart once a week. Growth chart data was then analysed from a 4 week period for all babies who had been admitted for the duration of the study period. After further education and implementation of the use of electronic growth charts only, the growth data was analysed again 6 weeks later.

**Results:** 19 patients were included in the first audit cycle. Electronic growth charts had more data points plotted for weight than paper growth charts, in all cases (average 6.3 vs 3.4). Paper growth charts were more likely to have long intervals (>7 days) between data points for both weight and HC. 9 patients were included in the second audit cycle, which included electronic growth charts only. The number of data points for weight was the same as during the first audit period (average 6.3). The number of data points for HC was improved compared with the first audit period (average 2.7 vs 2.3). The greatest time interval between data points was improved for weight (average 7.1 days vs 7.5 days in the first audit cycle), but worse for HC (12.4 days vs 8 days in the first audit cycle).

**Discussion:** This QIP demonstrated that use of electronic growth charts was not inferior to the use of paper growth charts. What more, transitioning to electronic growth charts resulted in more growth data being plotted, more accurate plotting of growth parameters, and the unification of patient data. This leads to more precise digital records of weight for prescribing purposes, better availability of historic growth data post-discharge, and the ability to continue plotting growth data in the same place in the outpatient setting. Further education of the team is likely to result in more regular documentation of growth parameters such as HC. This work can be translated to

other neonatal units where there is hybrid use of paper and electronic documentation systems.

**Biography**

Lauren is a senior neonatal registrar in Cambridge and London, UK. She studied Medicine at The University of Birmingham, from which she graduated with Honors in 2015. She achieved a distinction in her Master's in Genomics with Imperial College London and published a review article on the uses of pre-natal whole exome sequencing in diagnosing fetal abnormalities. She has an interest in whole genome sequencing and applies her experience as a member of the RCPCH Genomics Working Group and as an ambassador for the charity Medics4RareDiseases. She is also a Central Committee member for NeoTRIPS – a national trainee-led study group.

**Rohma Umar[1*], Jayabharathi Sakamudi[2]**

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## "Think hypo"- Improving hypoglycemia management in children on hospital arrival- A QI initiative

**Background:** Hypoglycemia in young children can lead to serious complications, including neurological damage if not addressed promptly and can lead to delay in diagnosis of serious endocrine/metabolic conditions (especially children <2 years of age).

**Morbidity case:** AC-2y4mo, M-recurrent hypoglycemic episodes, 6xED presentations, missed ketones/hypoglycemia screen. Developed milestone regression and MRI Head changing.

**Aims:** Based on this morbidity case decided to do a QI Project, aiming to analyse the current practice of hypoglycaemia management in children presenting to hospital, identifying knowledge gap and introducing practical, sustainable action plans.

**Method:** (Plan-Do-Study-Act Cycles) The 1st cycle involved a retrospective data collection to assess current practice and management of children over the 6 months period (Sept 2024-Feb 2025),8 out of 20 children met the inclusion criteria (age 1 months to 2 years old, presented with biochemical hypoglycaemia (<3mmol/L) to Paeds ED/PAU. Neonates and already inpatient cases were excluded.

**Results:** Our study revealed only half of hypoglycaemic pts had ketones checked, 2/3rd had blood gas done and NONE had hypoglycaemia screen performed, which led to Urgent Need for a unified Management Pathway.

**Discussion:**

- MDT approach: Study findings were shared in the joint Paeds and Paeds ED M&M, raising awareness and action plans were discussed and approved for further PDSA Cycles
- Regional Hypoglycaemia Management in Children Guideline was reviewed and a local Guideline was created including in-house lab/sample requirement and Contact details
- New guideline was presented in Paeds Clinical Governance Meeting with pre and post presentation knowledge assessment and staff awareness
- Catchy Posters and sticker alerts(on all glucometers in Paeds areas saying BM<3, think ketones/hyposcreen), with staff feedback survey
- Periodic assessments of the practice and compliance check- as next cycle

**Biography**

Dr. Umar is a Paediatric Speciality Year 3 Trainee in East Midlands-South Region, and has completed her Post-graduate Membership of Royal College of Children and Paediatric Health in 2021 from RCPCH. She has been involved in numerous local QIs and Audit Projects, and is an active member of East Midlands Paediatric Academic Network (EMPAN). She is very enthusiastic about Quality Initiative Programmes, and had been doing a lead role in Teaching Programme and Learning Bulletin.

# BOOK OF ABSTRACTS

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