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Section on Neonatal-Perinatal Medicine

ARTICLES OF INTEREST – August 2021

A trial of hyperimmune globulin to prevent congenital cytomegalovirus infection
Brenna L Hughes, Rebecca G Clifton, Dwight J Rouse, et al. *N Engl J Med.*

This multi-center, double-blinded trial randomized women with primary CMV infection diagnosed before 24 weeks to receive a monthly infusion of CMV hyperimmune globulin or placebo until delivery. Of the 206,082 pregnant women who were screened, 712 tested positive (0.35%), and 399 underwent randomization. The trial was stopped early for futility. A primary outcome event (defined as congenital CMV infection or fetal or neonatal death if CMV testing of the fetus or neonate was not performed), occurred in the fetus or neonate of 46 of 203 women (22.7%) in the group that received hyperimmune globulin and of 37 of 191 women (19.4%) in the placebo group (relative risk, 1.17; 95% confidence interval [CI] 0.80 to 1.72; P = 0.42).

Effectiveness and safety of repeat dexamethasone for bronchopulmonary dysplasia
Alain Cuna, Anastasia Quiqley, Kevin Varghese, et al. *J Perinatol.*

This retrospective study included 132 infants who received one or two courses of dexamethasone for BPD and evaluated them for a step-down in respiratory support by end of treatment. Of those studied, 52% (69/132) of infants treated with initial dexamethasone achieved a step-down in respiratory support compared to 38% (20/52) of infants with repeat dexamethasone. Growth trajectory did not significantly differ among infants treated with 1 or 2 courses of dexamethasone compared with controls (weight: P = 0.23, length: P = 0.68, and head circumference: P = 0.77).

Randomized trial of oxygen saturation targets during and after resuscitation and reversal of ductal flow in an ovine model of meconium aspiration and pulmonary hypertension
Amy L Lesneski, Payam Vali, Morgan E Hardie, et al. *Children (Basel).*

To assess the appropriateness for NRP guidelines, the authors compared the time to reversal of ductal flow from fetal pattern (right-to-left) and changes in pulmonary (QPA), carotid (QCA) and ductal (QDA) blood flows using standard (85-94%) and high (95-99%) SpO2 targets during and after resuscitation in lambs with meconium aspiration syndrome (MAS) and pulmonary hypertension (PPHN). They found that targeting SpO2 of 95-99% during and after resuscitation hastens reversal of ductal flow in lambs with MAS and PPHN and transiently increase QPA.

Tidal volume measurements in the delivery room in preterm infants requiring positive pressure ventilation via endotracheal tube-feasibility study
Ruben Vaidya, Paul Visintainer and Rachana Singh. *J Perinatol.*

In this prospective, observational study, the authors sought to assess the feasibility of measuring TV in the DR, and to report the generated TV in intubated patients. Ten infants with mean GA 23.9(±1.5) weeks and mean BW 618.5(±155) gram were included. A total of 178 min (mean 17.8 min/patient) with 8175 individual breaths (mean 817.5 breaths/patient) were analyzed. Goal TV of 4-6 ml/kg was provided 23.5% of times with high TV (>6 ml/kg) provided 47.7% of times. TV measurement in DR is feasible but is associated with high intra- and inter-patient variability.

Efficacy of late postnatal dexamethasone on weaning from invasive mechanical ventilation in extreme premature infants
Waleed Kurtom, Augusto Schmidt, Deepak Jain, et al. *J Perinatol.*

The authors sought to evaluate the short-term respiratory effects of late postnatal dexamethasone (PND) in a cohort of ventilator-dependent premature infants. Clinical data from 106 infants 23-28 weeks gestation who received PND for weaning from MV were evaluated. Treatment success was defined as extubated and free from MV on d14 after start of PND. Treatment was successful in 83 (78%) infants. In most infants, PND resulted in successful weaning from MV. The long-term effects PND in ventilator dependent infants needs to be evaluated.

Maternal antibody response, neutralizing potency, and placental antibody transfer after Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection
Naima T Joseph, Carolynn M Dude, Hans P Verkerke, et al. *Obstet Gynecol.*

This was a prospective cohort study of pregnant patients who tested positive for SARS CoV-2 infection at any point in their pregnancy, to characterize their immune response and quantify the efficiency of transplacental antibody transfer. ELISA and neutralization assays were performed to measure maternal plasma and cord blood concentrations and neutralizing potency of immunoglobulin (Ig)G, IgA, and IgM antibodies directed against the SARS-CoV-2 spike protein on 32 paired samples. Detectable anti-receptor-binding domain IgG was detected in 100% (n=32) of maternal and 91% (n=29) of cord blood samples while functional neutralizing antibody was present in 94% (n=30) of the maternal and 25% (n=8) of cord blood samples. The authors conclude that this study demonstrates robust maternal neutralizing and anti-receptor-binding domain IgG response after SARS-CoV-2 infection, yet a lower-than-expected efficiency of transplacental antibody transfer and a significant reduction in neutralization between maternal blood and cord blood, which requires further study.

CPAP protects against hyperoxia-induced increase in airway reactivity in neonatal mice
Peter M MacFarlane, Catherine A Mayer, Anjum Jafri, et al. *Pediatr Res.*

To investigate the effects of combined neonatal hyperoxia and CPAP exposure on airway function and morphology, the authors exposed newborn mice to hyperoxia alone (40% O2) 24hrs/day for 7 consecutive days with or without daily (3hrs/day) concomitant CPAP. Lungs were assessed for airway (AW) hyperreactivity and morphology 2 weeks after treatment ended. CPAP and hyperoxia exposure alone increased airway reactivity, while CPAP alone was also associated with epithelial and smooth muscle proliferation compared to untreated control mice. Combined CPAP and hyperoxia treatment no longer resulted in increased airway reactivity and was associated with normalization of smooth muscle and epithelial proliferation similar to untreated mice. The authors conclude that their findings support their hypothesis that combined CPAP and mild hyperoxic exposure attenuate individual adverse effects of either CPAP or hyperoxia exposure alone.

Association of co-exposure of antenatal steroid and prophylactic indomethacin with spontaneous intestinal perforation
Hemasree Kandraju, Jaideep Kanungo, Kyong-Soon Lee, et al. *J Pediatr.*

This retrospective study investigated the association of a combined exposure to antenatal steroids and prophylactic indomethacin with spontaneous intestinal perforation (SIP) among neonates born <26 weeks of gestation or <750 g, admitted to Canadian Neonatal Network units (2010 – 2018). Among 4720 eligible infants, 4121 (87%) received antenatal steroids and 1045 (22.1%) received prophylactic indomethacin. Results showed that co-exposure of antenatal steroids and prophylactic indomethacin was associated with SIP (aOR 1.61, 95% CI 1.14-2.28). In those receiving indomethacin, subgroup analysis revealed higher odds of SIP (aOR 1.67, 95% CI 1.15-2.43) with recent antenatal steroids (≤7 days before birth). Among those unexposed to antenatal steroids, prophylactic indomethacin was associated with lower odds of mortality (aOR 0.45, 95% CI 0.28-0.73).

Effect of prophylactic dextrose gel on continuous measures of neonatal glycemia: secondary analysis of the Pre-hPOD trial
Joanne E Hegarty, Jane M Alsweiler, Gregory G Gamble, et al. *J Pediatr.*

Continuous glucose monitoring was used to determine glycemic stability in the first 48 hours in babies at risk of neonatal hypoglycemia with prophylactic dextrose gel (pre-hPOD randomized dosage trial; n=133). Low glucose concentrations were detected in 41% (blood glucose) and 68% infants (continuous monitoring) with a mean ± SD duration of low glucose at 295 ± 351 minutes. Low glucose concentration (<47 mg/dL) was less likely with Dextrose gel compared to placebo, particularly with a single dose of 200mg/kg (RR 0.70; 95% CI, 0.50-0.10; P = .049). The authors concluded that low glucose concentrations were common in infants at risk of hypoglycemia, and that prophylactic dextrose gel reduced the risk of hypoglycemia without adverse effects on glucose stability.

Transfusions and neurodevelopmental outcomes in extremely low gestation neonates enrolled in the PENUT Trial: a randomized clinical trial
Phuong T Vu, Robin K Ohls, Dennis E Mayock, et al. *Pediatr Res.*

This study reports on the impact of transfusions on neurodevelopmental outcome in post hoc analysis of the PENUT Trial. 628 ELGANs were evaluated with BSID-III scores at 2 years of age. Transfusions were more frequent in the placebo group compared to the Epo group, and 116 patients remained transfusion free throughout the study. Each transfusion was associated with worse cognitive, motor, and language scores. Negative outcomes were associated with increased transfusion volume and with increased donor exposure in the placebo group. The authors propose there may be benefit to care strategies that reduce transfusions in the NICU.

Multisite veno-venous cannulation for neonates and non-ambulatory children
Jon Lillie, Alison Pienaar, Jenny Budd, et al. *Pediatr Crit Care Med.*

Neonatal V-V ECMO has declined in recent years due to limited supply of appropriate double lumen cannulae for neonates. This study reports on a series of 11 patients <10kg successfully treated with double cannula Vj-Vf ECMO for respiratory failure. The circuit design uses a venous output cannula inserted through the patients right IJ with the tip at the junction of the SVC and right atrium. The return cannula is tunneled through the skin of the patient's right thigh, inserted into the femoral vein, and secured at 5-6cm. Screening for thrombosis continued for 6-8 weeks after ECMO, and the patients were followed up for at least 1 year. 12 patients were evaluated for Vj-Vf ECMO. One patient (2.7kg) was found to have femoral veins too small to cannulate. 11 patients treated with Vj-Vf ECMO had a median weight of 3.6kg; the smallest was 2.1kg. Adequate flows (median 126mL/kg/min) were achieved in all patients. Leg cannulation caused leg swelling due to venous congestion that resolved after decannulation. All but one ECMO survivor was treated with LMWH post ECMO for thrombosis with no long-term adverse effects. The authors challenge the long-standing assumption that Vj-Vf ECMO is not possible in neonates <10kg.

OTHER NOTEWORTHY PUBLICATIONS

COVID – 19

Cord blood antibodies following maternal coronavirus disease 2019 vaccination during pregnancy (PDF)
https://www.ajog.org/article/S0002-9378(21)00215-5/pdf
Editorial: COVID-19 in pregnant women and their newborn infants
https://pubmed.ncbi.nlm.nih.gov/33885744
Maternal and neonatal morbidity and mortality among pregnant women with and without COVID-19 infection: The INTERCOVID multinational cohort study
https://pubmed.ncbi.nlm.nih.gov/33885740
Neonates born to COVID-19 mother and risk in management within 4 weeks of life: a single-center experience, systematic review, and meta-analysis
https://pubmed.ncbi.nlm.nih.gov/34082444
Severe brain damage in a moderate preterm infant as complication of post-covid-19 response during pregnancy
https://pubmed.ncbi.nlm.nih.gov/34126613
Maternal antibody response, neutralizing potency, and placental antibody transfer after Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) infection
https://pubmed.ncbi.nlm.nih.gov/33910220

Pediatrics

Quality of care in US NICUs by race and ethnicity
https://pubmed.ncbi.nlm.nih.gov/34301773
Gestational age at term and educational outcomes at age nine
https://pubmed.ncbi.nlm.nih.gov/34244451
Maternal and paternal depression symptoms during NICU stay and transition home (PDF)
https://pediatrics.aappublications.org/content/pediatrics/148/2/e2020042747.full.pdf
Cost-effectiveness of nasal high flow versus CPAP for newborn infants in special-care nurseries
https://pubmed.ncbi.nlm.nih.gov/29550238
Prenatal and infancy home visiting in Germany: 7-year outcomes of a randomized trial
https://pubmed.ncbi.nlm.nih.gov/34326178
Moral distress in neonatology
https://pubmed.ncbi.nlm.nih.gov/34285081
The timing of planned delivery: is it time to make the case for 41 weeks? (commentary)
https://pubmed.ncbi.nlm.nih.gov/34244450
Parental depression after preterm birth: an opportunity for prevention (commentary)
https://pediatrics.aappublications.org/content/148/2/e2021051136
What helps us decide to adopt an intervention: efficacy, costs, or both? (commentary)
https://pubmed.ncbi.nlm.nih.gov/34272342
Expanding our understanding of moral distress in the NICU (commentary)
https://pubmed.ncbi.nlm.nih.gov/34285079

Journal of Pediatrics

Editorial: Neonatal network data based associations based on large numbers that may be spurious (PDF)
https://www.jpeds.com/action/showPdf?pii=S0022-3476%2821%2900334-6
Association of co-exposure of antenatal steroid and prophylactic indomethacin with spontaneous intestinal perforation (PDF)
https://www.jpeds.com/article/S0022-3476(21)00226-2/pdf

Health outcomes of infants with vitamin B12 deficiency identified by newborn screening and early treated
https://pubmed.ncbi.nlm.nih.gov/33581104
Outcomes of extremely premature infants comparing patent ductus arteriosus management approaches
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Changes in patent ductus arteriosus treatment strategy and respiratory outcomes in premature infants
https://pubmed.ncbi.nlm.nih.gov/33894266
Eligibility criteria and representativeness of randomized clinical trials that include infants born extremely premature: a systematic review
https://pubmed.ncbi.nlm.nih.gov/33894262
Cerebral oxygenation and perfusion when positioning preterm infants: clinical implications
https://pubmed.ncbi.nlm.nih.gov/33857466
Development, reliability, and testing of a new rating scale for neonatal encephalopathy
https://pubmed.ncbi.nlm.nih.gov/33857465
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Effect of prophylactic dextrose gel on continuous measures of neonatal glycemia: secondary analysis of the Pre-hPOD trial
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Racial and economic neighborhood segregation, site of delivery, and morbidity and mortality in neonates born very preterm
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Pediatric Research
Editorial: The twofold NICU challenge: avoiding hypoxia and hyperoxia
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Favorable outcomes among neonates not separated from their symptomatic SARS-CoV-2-infected mothers (PDF)
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7607894/pdf/41390_2020_Article_1226.pdf
Comment: Transfusions and neurodevelopmental outcomes in extremely low gestation neonates: to transfuse or not to transfuse, that is the question…
https://www.ncbi.nlm.nih.gov/pubmed/33927344
Comment: Early EEG in neonates with mild hypoxic–ischemic encephalopathy: more than meets the eye
https://www.ncbi.nlm.nih.gov/pubmed/33824445
Comment: Improving VLBW infant outcomes with big data analytics (PDF)
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8042621/pdf/41390_2021_Article_1507.pdf
Congenital chloride diarrhea clinical features and management: a systematic review
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CPAP protects against hyperoxia-induced increase in airway reactivity in neonatal mice
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Short exposure to hyperoxia causes cultured lung epithelial cell mitochondrial dysregulation and alveolar simplification in mice (PDF)
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Prediction of ABO hemolytic disease of the newborn using pre- and perinatal quantification of maternal anti-A/anti-B IgG titer
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Multichannel EEG abnormalities during the first 6 hours in infants with mild hypoxic–ischaemic encephalopathy
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Vital sign metrics of VLBW infants in three NICUs: implications for predictive algorithms
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Early oxygen levels contribute to brain injury in extremely preterm infants
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Early infant feeding effect on growth and body composition during the first 6 years and neurodevelopment at age 72 months
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T cell cytokines in the diagnostic of early-onset sepsis
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Prone sleeping affects cardiovascular control in preterm infants in NICU
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Correction: Neonatal sepsis: need for consensus definition, collaboration and core outcomes
https://www.ncbi.nlm.nih.gov/pubmed/33122842
Correction: Vital sign metrics of VLBW infants in three NICUs: implications for predictive algorithms
https://www.ncbi.nlm.nih.gov/pubmed/34262133

Archives of Disease in Childhood - Fetal & Neonatal Edition
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Journal of Perinatology
Review: Postnatal steroid management in preterm infants with evolving bronchopulmonary dysplasia.
https://pubmed.ncbi.nlm.nih.gov/34012057
Review: Malnutrition, poor post-natal growth, intestinal dysbiosis and the developing lung.
https://pubmed.ncbi.nlm.nih.gov/33057133
Review: Feasibility of universal screening for postpartum mood and anxiety disorders among caregivers of infants hospitalized in NICUs: a systematic review
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Pre-pregnancy body mass index, gestational weight gain and postnatal growth in preterm infants
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Sex differences in postnatal weight gain trajectories of extremely preterm newborns
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Are small-for-gestational-age preterm infants at increased risk of overweight? Statistical pitfalls in overadjusting for body size measures
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Association between body composition at term equivalent age and Bayley scores at 2 years in preterm infants
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Growth outcomes of small for gestational age preterm infants before and after implementation of an exclusive human milk-based diet
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A cross-sectional analysis of infant-driven and traditional feeding outcomes for neonatal intensive care unit infants
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Transmission of cytomegalovirus in fresh and freeze–thawed mother's own milk to very preterm infants: a cohort study
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A multidisciplinary chronic lung disease team in a neonatal intensive care unit is associated with increased survival to discharge of infants with tracheostomy
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Does prenatal surgical repair of myelomeningoceles lead to better school-age outcomes?
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Neonatology
Survival without bronchopulmonary dysplasia of extremely preterm infants: a predictive model at birth
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Machine learning models for predicting neonatal mortality: a systematic review
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Sex-specific long-term trends in length of hospital stay, postmenstrual age at discharge, and survival in very low birth weight infants
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Associations of stylet use during neonatal intubation with intubation success, adverse events, and severe desaturation: a report from near4neos
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Commentary: can we predict bronchopulmonary dysplasia early in life?
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Early renal ultrasound in congenital solitary kidney may help to select patients at lower risk of associated vesicoureteral reflux
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Delivery room management of asphyxiated term and near-term infants
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Diamond-blackfan anemia: a case report and review of the literature
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American Journal of Perinatology
Is exposure to intrapartum prostaglandins for labor induction associated with a lower incidence of neonatal respiratory distress syndrome?
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Parents matter: examination of family presence in the neonatal intensive care unit
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Umbilical blood levels of IL-6 and TNF-α as predictors of the central nervous system damage and retinopathy in preterm infants
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Effects of umbilical cord milking on term infants delivered by cesarean section
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The etiology of neonatal intensive care unit death in extremely low birth weight infants: a multicenter survey in China
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Antenatal glucocorticoids reduce the incidence of refractory hypotension in low birthweight infants during the early neonatal period, but do not affect it beyond this time
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Effects of caffeine on splanchnic oxygenation in preterm infants
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Breast milk and saliva lactoferrin levels and postnatal cytomegalovirus infection
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Determinants of neonatal readmission in healthy term infants: results from a nested case–control study
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Gestational age at birth and risk of developmental delay: the upstate KIDS study
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Low birth weight and prematurity are associated with hypertensive disorder of pregnancy in later life: a cross-sectional study in Japan
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Maternal Health, Neonatology and Perinatology
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Parental stress and mental health symptoms in the NICU: recognition and interventions
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Nephrotoxicity in neonates
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Marijuana use during pregnancy and lactation and long-term outcomes
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Neurologic and cognitive outcomes in sickle cell disease from infancy through adolescence

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Extinguishing the TORCH differential: evaluation of a neonate with blueberry muffin rash
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An infant with recurrent hypocalcemic seizures
https://pubmed.ncbi.nlm.nih.gov/34341162
An infant with failure to thrive and hypotonia
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JAMA Pediatrics

Viewpoint: Use of probiotics to prevent necrotizing enterocolitis: Evidence to clinical practice
https://pubmed.ncbi.nlm.nih.gov/34047767
Viewpoint: Use of probiotics to prevent necrotizing enterocolitis: Evidence to clinical practice
https://pubmed.ncbi.nlm.nih.gov/34047767
Editorial: Human milk fortification for preterm infants: the right kind at the right time for the right baby
https://pubmed.ncbi.nlm.nih.gov/33970204
Fortification of breast milk with preterm formula powder vs human milk fortifier in preterm neonates: a randomized noninferiority trial
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Association of very preterm birth or very low birth weight with intelligence in adulthood: An individual participant data meta-analysis
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Case report: risk of skin necrosis related to injectable vancomycin in critically ill newborn infants (PDF)
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Performing central venous catheters in neonates and small infants undergoing cardiac surgery using a wireless transducer for ultrasound guidance: a prospective, observational pilot study (PDF)
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Association between humidifier disinfectant exposure during infancy and subsequent neuropsychiatric outcomes during childhood: a nation-wide cross-sectional study (PDF)
https://bmcpediatr.biomedcentral.com/track/pdf/10.1186/s12887-021-02825-7.pdf

Pediatric Critical Care Medicine

Multisite veno-venous cannulation for neonates and non-ambulatory children
https://www.ncbi.nlm.nih.gov/pubmed/33950887
Expanding extracorporeal membrane oxygenation cannulation strategies in neonatal respiratory failure
https://www.ncbi.nlm.nih.gov/pubmed/34397991

New England Journal of Medicine

Risdiplam-treated infants with Type 1 Spinal Muscular Atrophy versus historical controls
https://pubmed.ncbi.nlm.nih.gov/34320287
A trial of hyperimmune globulin to prevent congenital cytomegalovirus infection
https://pubmed.ncbi.nlm.nih.gov/34320288

Lancet

Comment: Paediatric surgery for congenital anomalies: the next frontier for global health
https://pubmed.ncbi.nlm.nih.gov/34270931

JAMA

Trends in gestational diabetes at first live birth by race and ethnicity in the US, 2011-2019
https://pubmed.ncbi.nlm.nih.gov/34402831
First oral blood thinner is approved for children
https://pubmed.ncbi.nlm.nih.gov/34402847
Screening for gestational diabetes: Updated evidence report and systematic review for the US Preventive Services Task Force
https://pubmed.ncbi.nlm.nih.gov/34374717
Effect of systemic hydrocortisone initiated 7 to 14 days after birth in ventilated preterm infants on mortality and neurodevelopment at 2 years' corrected age
https://pubmed.ncbi.nlm.nih.gov/34313697

BMJ

No new content

Pediatric Infectious Disease Journal

Risk factors for acquisition of extended-spectrum beta-lactamase and AmpC resistant gram-negative bacteria in critically ill infants with congenital heart disease
https://pubmed.ncbi.nlm.nih.gov/33742614
Piloting the feasibility and preliminary impact of adding birth HIV polymerase chain reaction testing to the early infant diagnosis guidelines in Kenya
https://pubmed.ncbi.nlm.nih.gov/33990521
Congenital measles in a premature 25-week gestation infant
https://pubmed.ncbi.nlm.nih.gov/34250975

Pediatric Cardiology

High output cardiovascular physiology and outcomes in fetal diagnosis of vein of galen malformation
https://pubmed.ncbi.nlm.nih.gov/33963894

Pediatric Neurology

Magnetic resonance imaging findings in preterm infants with bilirubin encephalopathy beyond three years corrected age
https://pubmed.ncbi.nlm.nih.gov/34153814
Clinical profile and long-term outcome in neonatal cerebral sinus venous thrombosis
https://pubmed.ncbi.nlm.nih.gov/34126318

Obstetrics and Gynecology

Prediction and prevention of spontaneous preterm birth: ACOG Practice Bulletin Summary, Number 234
https://pubmed.ncbi.nlm.nih.gov/34293771

American Journal of Obstetrics & Gynecology

New developments in fetal and neonatal alloimmune thrombocytopenia
https://www.ncbi.nlm.nih.gov/pubmed/33839095
Neonatal intensive care unit admission is associated with lower breastfeeding in late preterm infants (PDF)
https://www.ajog.org/article/S0002-9378(21)00483-X/pdf
Prediction of obstetrical and fetal complications (PDF)
https://www.ajog.org/article/S0002-9378(21)00487-7/pdf
Categorization of cerebral palsy cases: a different perspective (PDF)
https://www.ajog.org/article/S0002-9378(21)00094-6/pdf
Categorization of cerebral palsy cases: a different perspective (PDF)
https://www.ajog.org/article/S0002-9378(21)00095-8/pdf

Hospital Pediatrics

Within-hospital concordance of opioid exposure diagnosis coding in mothers and newborns
https://pubmed.ncbi.nlm.nih.gov/34230061

Neonatal abstinence syndrome and maternal opioid-related diagnoses: analysis of ICD-10-cm transition, 2013-2017
https://pubmed.ncbi.nlm.nih.gov/34321311

BASIC SCIENCE SELECTIONS

Systematic analysis of candidate reference genes for gene expression analysis in hyperoxia-based mouse models of bronchopulmonary dysplasia
Mary Linge, Marius Alexander Möbius, Angela Rösen-Wolff, et al. *Am J Physiol Lung Cell Mol Physiol.*

Honeymoon period in newborn rats with CDH is associated with changes in the VEGF signaling pathway
Karina Miura da Costa, Alexandre Todorovic Fabro, Christiane Becari, et al. *Front Pediatr.*

Dextromethorphan dampens neonatal astrocyte activation and endoplasmic reticulum stress induced by prenatal exposure to buprenorphine
Chun-Hua Lin, Pao-Luh Tao, Huey-Jen Tsay, et al. *Behav Neurol.*

Randomized trial of oxygen saturation targets during and after resuscitation and reversal of ductal flow in an ovine model of meconium aspiration and pulmonary hypertension
Amy L Lesneski, Payam Vali, Morgan E Hardie, et al. *Children (Basel).*

Function and biomarkers of the blood-brain barrier in a neonatal germinal matrix haemorrhage model
Erik Axel Andersson, Eridan Rocha-Ferreira, Henrik Hagberg, et al. *Cells.*

ADDITIONAL JOURNAL SELECTIONS

Outcomes associated with antibiotic administration for isolated maternal fever in labor
Tracy Caroline Bank, Emily Nuss, Keshab Subedi, et al. *Am J Obstet Gynecol.*

Ultrasonographic estimation of total brain volume: 3d reliability and 2d estimation. enabling routine estimation during NICU admission in the preterm infant
Isabel Benavente-Fernández, Estefanía Ruiz-González, Manuel Lubian-Gutiérrez, et al. *Front Pediatr.*

C-reactive protein, interleukin-6, and procalcitonin in diagnosis of late-onset bloodstream infection in very preterm infants
Ivan Berka, Peter Korček and Zbyněk Straňák. *J Pediatric Infect Dis Soc.*

Association of time of first corticosteroid treatment with bronchopulmonary dysplasia in preterm infants
Alain Cuna, Joanne M Lagatta, Rashmin C Savani, et al. *Pediatr Pulmonol.*

A novel multi-nutrient human milk based human milk fortifier promotes growth and tolerance in premature infants
Amy Gates, Amy B Thompson, Terri Marin, et al. *JPEN J Parenter Enteral Nutr.*

Risk factors for hyperglycemia in extremely low birth weight infants during the first 14 days
Yuka Inage, Daishi Hirano, Ai Nakagawa, et al. *Pediatr Neonatol.*

Cardiorespiratory effects of NIV-NAVA, NIPPV and NCPAP shortly after extubation in extremely preterm infants: a randomized crossover trial
Samantha Latremouille, Monica Bhuller, Wissam Shalish, et al. *Pediatr Pulmonol.*

Association of preterm birth with myocardial fibrosis and diastolic dysfunction in young adulthood
Adam J Lewandowski, Betty Raman, Mariane Bertagnolli, et al. *J Am Coll Cardiol.*

Treatment outcomes of combination of anti-vascular endothelial growth factor injection and laser photocoagulation in type 1 ROP and APROP
Parveen Sen, Aditi Ashok Kumar Agarwal, Pramod Bhende, et al. *Int Ophthalmol.*