News

What's New in Paediatrics – Neonatology:

Indomethacin not a risk factor for spontaneous intestinal perforation in ELBW infants (November 2014)

Low Apgar scores: Predictors of neonatal and infant deaths (November 2014)

Transcutaneous bilirubin measurements after discontinuation of phototherapy in neonates (November 2014)

New and Updated Cochrane Systematic Reviews

Full-text evidence-based systematic reviews prepared by the Cochrane Collection. Please click on the title to access full text.

Updated Reviews – December

Delayed introduction of progressive enteral feeds to prevent necrotising enterocolitis in very low birth weight infants

Restricted versus liberal water intake for preventing morbidity and mortality in preterm infants

Slow advancement of enteral feed volumes to prevent necrotising enterocolitis in very low birth weight infants

New Reviews – November

Pentoxifylline for the prevention of bronchopulmonary dysplasia in preterm infants

Pharmacological treatment of children with gastro-oesophageal reflux
Updated Reviews - November

**Antibiotics for meconium-stained amniotic fluid in labour for preventing maternal and neonatal infections**

### Key Journals Latest Edition

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**Infant & Infant Grapevine**  
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**Journal of Neonatal Nursing**  
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### Journal Articles

Please click on the blue link at the end of the abstract (where available) to access full text. You may need an [Athens](#) username and password. To register for an [Athens](#) account click [here](#).

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25. Tracheal Occlusion for Fetal Diaphragmatic Hernia.

26. Transcutaneous bilirubinometry

Journal Articles:

1. Adolescent Parenting in the Neonatal Intensive Care Unit.
   
   Citation: Journal of Adolescent Health, 01 December 2014, vol./is. 55/6(723-729), 1054139X
   
   Author(s): Rosenstock, Amanda, van Manen, Michael
   
   Language: English
   
   Abstract: This review presents data from studies that report on adolescent parents as part of larger neonatal intensive care unit (NICU) parent populations, as well as studies where adolescent parents are given central consideration. A systematic search for English publications from 1990 onward relevant to adolescent parenting in the NICU was conducted. Most studies reporting on adolescent parents focus on parental stress or parenting practices in the NICU. A few studies examine parent–staff communication, parental needs, and parent intervention programs. One study presents a qualitative examination of teenage mothers’ experiences in the NICU. Areas for further research include experiences of younger adolescent parents, adolescent fathers, and same-sex partners; issues unique to adolescent parents; and support programs for adolescent parents in the NICU.

   Publication type: journal article
   
   Source: CINAHL
   

2. Apnea in acute bilirubin encephalopathy
   
   Citation: Seminars in Perinatology, November 2014, vol./is. 38/7(407-411), 0146-0005;1558-075X (01 Nov 2014)
   
   Author(s): Amin S.B., Bhutani V.K., Watchko J.F.
   
   Language: English
   
   Abstract: Central apnea, defined as cessation of breathing for >20s, is frequent in premature infants born at <34 weeks[U+05F3] gestation but uncommon among healthy late preterm (34<sup>0/7</sup>-36<sup>6/7</sup>) gestation and term (>37 weeks[U+05F3] gestation) infants, where it is usually a clinical manifestation of a neurological or metabolic problem. There is growing evidence that marked unconjugated hyperbilirubinemia is associated with central apnea in neonates. This article explores the reported association between acute bilirubin encephalopathy and symptomatic apneic events in newborns and the possible
mechanisms involved in the pathogenesis of this phenomenon. The prevalence of symptomatic apneic events in reports of acute bilirubin encephalopathy suggests this clinical finding should be considered a sign of bilirubin neurotoxicity.

**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available *Seminars in perinatology* at No link? Ask Salisbury Healthcare Library - please click here to request article.

3. Bilirubin-albumin binding, bilirubin/albumin ratios, and free bilirubin levels: Where do we stand?  
**Citation:** Seminars in Perinatology, November 2014, vol./is. 38/7(412-421), 0146-0005;1558-075X (01 Nov 2014)  
**Author(s):** Hulzebos C.V., Dijk P.H.  
**Language:** English  
**Abstract:** Treatment for unconjugated hyperbilirubinemia is predominantly based on one parameter, i.e., total serum bilirubin (TSB) levels. Yet, overt kernicterus has been reported in preterm infants at relatively low TSB levels, and it has been repeatedly shown that free unconjugated bilirubin (freeUCB) levels, or bilirubin/albumin (B/A) ratios for that matter, are more closely associated with bilirubin neurotoxicity. In this article, we review bilirubin-albumin binding, UCBfree levels, and B/A ratios in addition to TSB levels to individualize and optimize treatment especially in preterm infants. Methods to measure bilirubin-albumin binding or UCBfree are neither routinely performed in Western clinical laboratories nor incorporated in current management guidelines on unconjugated hyperbilirubinemia. For bilirubin-albumin binding, this seems justified because several of these methods have been challenged, and sufficiently powered prospective trials on the clinical benefits are lacking. Technological advances in the measurement of UCBfree may provide a convenient means for integrating UCBfree measurements into routine clinical management of jaundiced infants. A point-of-care method, as well as determination of UCBfree levels in various newborn populations, is desirable to learn more about variations in time and how various clinical pathophysiological conditions affect UCBfree levels. This will improve the estimation of approximate UCBfree levels associated with neurotoxicity. To delineate the role of UCBfree in the management of jaundiced (preterm) infants, trials are needed using UCBfree as treatment parameter. The additional use of the B/A ratio in jaundiced preterms has been evaluated in the Bilirubin Albumin Ratio Trial (BARTrial; Clinical Trials: ISRCTN74465643) but failed to demonstrate better neurodevelopmental outcome in preterm infants <32 weeks assigned to the study group. Awaiting a study in which infants are assigned to be managed solely on the basis of their B/A ratio (with TSB excluded) versus TSB levels alone-and determining which group does better-the additional use of the B/A ratio in the management of hyperbilirubinemia in preterms is not advised. In conjunction with TSB levels, other parameters possibly allow for more accurate prediction of bilirubin toxicity. Yet, different methodologies for estimating these parameters exist, and sufficiently powered, prospective clinical trials supporting their clinical benefit, i.e., reduced bilirubin neurotoxicity when using these parameters, are lacking. Their use in addition to TSB needs to be prospectively evaluated, especially in preterm neonates, and preferentially in randomized clinical trials, which include specific risk factors and assessment of clinical relevant outcome measures for detecting those infants at risk of bilirubin toxicity.

**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available *Seminars in perinatology* at No link? Ask Salisbury Healthcare Library - please click here to request article.

4. Biomarkers to decide red blood cell transfusion in newborn infants  
**Citation:** Transfusion, October 2014, vol./is. 54/10(2574-2582), 0041-1132;1537-2995 (01 Oct 2014)  
**Author(s):** Banerjee J., Aladangady N.  
**Language:** English  
**Abstract:** Almost 90% of extremely low birthweight infants receive red blood cell (RBC) transfusion during their stay in the neonatal unit (NNU). Currently most NNUs use a combination of clinical signs and laboratory findings such as hemoglobin (Hb), hematocrit (Hct), and cardiorespiratory or ventilation status to decide the need for RBC transfusion. Various other laboratory (lactate, reticulocyte count, RBC volume) and bedside measurements (near infrared spectroscopy and Doppler ultrasound scan) have been investigated to identify a suitable trigger for RBC transfusion in newborn infants. The evidence to apply any of these investigations or measurements to clinical practice is lacking. Further research is required to identify a suitable biomarker for RBC transfusion in newborn infants.
5. Borderline viability: Controversies in caring for the extremely premature infant
Citation: Clinics in Perinatology, December 2014, vol./is. 41/4(799-814), 0095-5108;1557-9840 (01 Dec 2014)
Author(s): Leuthner S.R.
Language: English
Abstract: Controversy surrounding the decision to resuscitate at the limits or borderline of viability has been at the center of neonatal ethical debate for decades. This debate has led to numerous reports from individual institutions, councils, and advisory committees that all have remarkable consistency in the development of gestational age-based guidelines. This article reviews legal or regulatory concerns that may contradict ethical discussion and guidelines, discriminatory and scientific basis concerns with consensus guidelines, and personal controversy about how to determine best interest. Guidelines are a reasonable place to start in helping determine parental authority and autonomy. The article also addresses controversies raised in counseling and costs.

6. Impact of common treatments given in the perinatal period on the developing brain
Citation: Neonatology, November 2014, vol./is. 106/3(163-172), 1661-7800;1661-7819 (07 Nov 2014)
Author(s): Favrais G., Tourneux P., Lopez E., Durrmeyer X., Gascoin G., Ramful D., Zana-Taieb E., Baud O.
Language: English
Abstract: Background: Over the last decades, considerable progress has been made in the perinatal management of high-risk preterm neonates, changing the landscape of pathological conditions associated with neurological impairments. Major focal destructive lesions are now less common, and the predominant neuropathological lesion is diffuse white-matter damage in the most immature infants. Similarly, over the last few years, we have observed a trend towards a decrease in neurological impairment in the absence of treatments specifically aimed at neuroprotection. Objectives: We examined whether recent changes in treatment strategies in perinatal care during the perinatal period could have had an indirect beneficial impact on the occurrence of brain lesions and their consequences. Methods: Thus, we reviewed the effects of the most common treatments administered during the perinatal period to the mother or to very preterm infants on brain damage and neurocognitive follow-up. Results: Ante-natal steroids and exogenous surfactant are the two main treatments capable of leading to neuroprotection in very preterm infants. Randomized controlled trials are currently investigating the effects of inhaled nitric oxide and erythropoietin, while antenatal magnesium sulphate and caffeine are also likely to provide some neuroprotection, but this needs to be further investigated. Finally, other common treatments against pain, haemodynamic failure and patent ductus arteriosus have conflicting or no effects on the developing brain. Conclusion: While specific neuroprotective drugs are still awaited, recent advances in perinatal care have been associated with an unexpected but significant decrease in the incidence of both severe brain lesions and neurological impairment.

7. Invasive Candida infections in the nursery: State of the art
Citation: Signa Vitae, 2014, vol./is. 9/2(5-8), 1334-5605;1845-206X (2014)
Author(s): Manzoni P., Castagnola E., Jacqz-Aigrain E., Mostert M., Stronati M., Farina D.
Language: English
Abstract: Neonatal sepsis caused by fungi (mainly Candida spp.) causes a huge burden of morbidity and mortality, poor late outcomes, as well as increased hospital costs. Invasive Candida Infections (ICI) include bloodstream, urine, cerebrospinal, peritoneal infections, infections starting from burns and wounds, or from any other usually sterile site. Premature neonates are particularly prone to this kind of disease, due to their decreased innate and adaptive immunities, translating into a specific, decreased resistance to candidiasis. This specific, increased risk for
ICI is greatest when gestational age and birth weight are lowest. As the burden of ICI has been increasing over the last years, research efforts have been focused towards identifying key risk factors, effective preventative strategies, and efficacious and well-tolerated antifungal drugs for the neonatal population. This article summarizes the most remarkable issues in these areas, and features an overview of the current diagnostic, preventative and treatment strategies.

**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available *Signa Vitae* at No link? Ask Salisbury Healthcare Library - please click here to request article.

8. Management and prevention of pertussis infection in neonates  
**Citation:** Expert Review of Anti-Infective Therapy, December 2014, vol./is. 12/12(1515-1531), 1478-7210;1744-8336 (01 Dec 2014)  
**Author(s):** Berti E., Venturini E., Galli L., De Martino M., Chiappini E.  
**Language:** English  
**Abstract:** Despite the fact that universal immunization against pertussis led to a dramatic decrease in the incidence and mortality in high-income countries, it has left a window of vulnerability for newborns. Although specific guidelines concerning management of neonatal whooping cough have not yet been developed, the present review summarizes the main available recommendations on diagnostic work-up and treatment of neonatal pertussis. Additionally, new prevention strategies are explored, including the use of an additional booster dose of vaccine to adolescents and adults, vaccination of healthcare workers, immunization of household contacts and caregivers (cocooning strategy), vaccination of pregnant women and, finally, neonatal immunization with novel vaccines. These strategies are analyzed and discussed in terms of efficacy, safety and cost-effectiveness.  
**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available Expert review of anti-infective therapy at No link? Ask Salisbury Healthcare Library - please click here to request article.

9. Managing palliation in the neonatal unit  
**Citation:** Archives of Disease in Childhood. Fetal and Neonatal Edition, Sep 2014, vol. 99, no. 5, p. F349., 1359-2998 (September 2014)  
**Author(s):** Uthaya, Sabita, Mancini, Alex, Beardsley, Christina, Wood, Daniel, Ranmal, Rita, Modi, Neena  
**Abstract:** Professionals working in neonatology have a duty to act in the best interests of the infant. Normally, the goal of care is to sustain life and restore health. However, there are circumstances in which treatments that sustain life are not considered to be in the infant's best interests. The Royal College of Paediatrics and Child Health (RCPCH) guidance, Withholding or Withdrawing Life Sustaining Treatment in Children: A Framework for Practice, focuses on the decision making process. The British Association of Perinatal Medicine guidance, Palliative Care (Supportive and End of Life Care) A Framework for Clinical Practice in Perinatal Medicine, sets out the principles of palliative care for infants. Following a systematic review of the literature we have developed evidence-based guidance for the practical aspects of caring for an infant receiving palliative and end of life care. We define palliative care as the 'the active, total care of infants whose disease is not responsive to curative treatment; the goal of palliative care is achievement of the best possible quality of life for infants and their families'. Here we summarise the Guidance, a publication from Chelsea and Westminster NHS Foundation Trust developed in collaboration with the RCPCH. [PUBLICATION] 5 references  
**Source:** BNI  
**Full text:** Available Highwire Press at Salisbury District Hospital Healthcare Library  
**Full text:** Available Highwire Press at No link? Ask Salisbury Healthcare Library - please click here to request article.  
**Full text:** Available Highwire Press at Fetal and Neonatal

10. Mechanical ventilation in the newborn; A simplified approach Part 2: High-frequency ventilation  
**Citation:** Journal of Paediatrics and Child Health, October 2014, vol./is. 50/10(E10-E13), 1034-4810;1440-1754 (01 Oct 2014)  
**Author(s):** Muhlethaler V., Malcolm G.  
**Language:** English
Abstract: High frequency oscillatory ventilation (HFOV) is becoming an increasingly popular intervention in the neonatal intensive care unit. This article will attempt to explain the principles of HFOV. It is inherently more difficult to become skilled in this technique than in other forms of mechanical ventilation, so caution is warranted.

Publication type: Journal: Review
Source: EMBASE
Full text: Available Journal of paediatrics and child health at No link? Ask Salisbury Healthcare Library - please click here to request article.

11. Necrotizing enterocolitis: The mystery goes on
Citation: Neonatology, November 2014, vol./is. 106/4(289-295), 1661-7800;1661-7819 (19 Nov 2014)
Author(s): Neu J.
Language: English
Abstract: Necrotizing enterocolitis (NEC) has largely been present in neonatal intensive care units for the past 60 years. NEC prevalence has corresponded with the continued development and sophistication of neonatal intensive care. Despite major efforts towards its eradication, NEC has persisted and appears to be increasing in some centers. The pathophysiology of this disease remains poorly understood. Several issues have hampered our quest to develop a better understanding of this disease. These include the fact that what we have historically termed 'NEC' appears to be several different diseases. Animal models that are commonly used to study NEC pathophysiology and treatment do not directly reflect the most common form of the disease seen in human infants. The pathophysiology appears to be multifactorial, reflecting several different pathways to intestinal necrosis with different inciting factors. Spontaneous intestinal perforations, ischemic bowel disease secondary to cardiac anomalies as well as other entities that are clearly different from the most common form of NEC seen in preterm infants have been put into the same database. Here I describe some of the different forms of what has been called NEC and make some comments on its pathophysiology, where available studies suggest involvement of genetic factors, intestinal immaturity, hemodynamic instability, inflammation and a dysbiotic microbial ecology. Currently utilized approaches for the diagnosis of NEC are presented and innovative technologies for the development of diagnostic and predictive biomarkers are described. Predictions for future strategies are also discussed.
Publication type: Journal: Review
Source: EMBASE
Full text: Available Neonatology at No link? Ask Salisbury Healthcare Library - please click here to request article.

12. Neonatal skin cleansing revisited: Whether or not to use skin cleansing products
Citation: British Journal of Midwifery, Oct 2014, vol. 22, no. 10, p. 694-698, 0969-4900 (October 2014)
Author(s): Hugill, Kevin
Abstract: Beyond the need to effectively remove urine and faeces from the nappy area and ensure that skin folds and creases do not become a potential focus of infection, the hygiene needs of most neonates are fairly minimal. Despite this limited need intense debate about skin cleansing and whether or not to use skincare products has endured. Currently the use of skincare products and preparations with neonates is widely proscribed. However, recent research is now challenging one of the central dogmas of neonatal skin care; that water alone is best. This article revisits advice about the use of skin cleansing products in term healthy newborns in the light of new research and suggests there is a need for a more considered and nuanced articulation of the advice provided to parents on this important aspect of care. [PUBLICATION] 38 references
Source: BNI
Full text: Available EBSCOhost at No link? Ask Salisbury Healthcare Library - please click here to request article.
Full text: Available EBSCOhost at British Journal of Midwifery

13. Neonatal volkmann ischemic contracture: Case report and review of literature
Citation: AJP Reports, May 2014, vol./is. 4/2(e77-e80), 2157-6998;2157-7005 (12 May 2014)
Author(s): Agrawal H., Dokania G., Wu S.-Y.
Language: English
Abstract: Background Neonatal Volkmann ischemic contracture in newborns is a devastating condition with lifelong consequences. Case Report We report a neonate born with necrotic skin lesions and bullae on right dorsal thenar aspect of hand, who subsequently developed compartment syndrome requiring fasciotomy. Review and Conclusion Necrotic skin lesions with/without swelling, bullae are invariably present at birth in these patients and
should be recognized as a sentinel finding of underlying tissue ischemia/compartment syndrome. Early recognition and prompt surgical intervention can be limb saving. A range of radiologic abnormalities and contractures were noted in up to 84% of such patients followed long term. Hence, we recommend close follow-up until occurrence of epiphyseal fusion in these patients.

**Publication type:** Journal: Review  
**Source:** EMBASE

### 14. Pain management in newborns

**Citation:** Clinics in Perinatology, December 2014, vol./is. 41/4(895-924), 0095-5108;1557-9840 (01 Dec 2014)  
**Author(s):** Hall R.W., Anand K.J.S.  
**Language:** English  
**Abstract:** As a standard of care for preterm/term newborns effective pain management may improve their clinical and neurodevelopmental outcomes. Neonatal pain is assessed using context-specific, validated, and objective pain methods, despite the limitations of currently available tools. Therapeutic approaches reducing invasive procedures and using pharmacologic, behavioral, or environmental measures are used to manage neonatal pain. Nonpharmacologic approaches like kangaroo care, facilitated tucking, non-nutritive sucking, sucrose, and others can be used for procedural pain or adjunctive therapy. Local/topical anesthetics, opioids, NSAIDs/acetaminophen and other sedative/anesthetic agents can be incorporated into NICU protocols for managing moderate/severe pain or distress in all newborns.

**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available [Clinics in perinatology](#) at [No link? Ask Salisbury Healthcare Library - please click here to request article](#).

### 15. Parents as practitioners in preterm care

**Citation:** Early Human Development, November 2014, vol./is. 90/11(781-785), 0378-3782;1872-6232 (01 Nov 2014)  
**Author(s):** Jiang S., Warre R., Qiu X., O'Brien K., Lee S.K.  
**Language:** English  
**Abstract:** The very preterm birth of an infant is physiologically traumatic for the infant and physiologically and psychologically traumatic for the parents. The manner of care delivery in the first few days and weeks of the infant’s life plays a large role in determining the impact of that trauma. For optimal outcomes parents need to be integrated into the care process as the primary practitioners of their infant’s care in the neonatal intensive care unit. Supporting and enabling parents to be central to the care process establishes a consistent care environment where parents are in control and able to support their infant’s physiological and psychological needs, thereby improving infant outcomes and reducing parent stress and anxiety. This article reviews the role of parents in the optimal development of preterm neonates, and discusses the elements crucial to promoting parent involvement in the neonatal intensive care unit and supporting parents following discharge.

**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available [Early human development](#) at [No link? Ask Salisbury Healthcare Library - please click here to request article](#).

### 16. Phototherapy in ELBW newborns: Does it work? Is it safe? The evidence from randomized clinical trials

**Citation:** Seminars in Perinatology, November 2014, vol./is. 38/7(452-464), 0146-0005;1558-075X (01 Nov 2014)  
**Author(s):** Arnold C., Pedroza C., Tyson J.E.  
**Language:** English  
**Abstract:** Phototherapy is assumed to be both effective and safe for extremely low-birth-weight infants. Our objective was to critically assess the relevant evidence from randomized trials. In the decades-old Collaborative Phototherapy Trial, phototherapy reduced serum bilirubin but not neurodevelopmental impairments. In the recent and larger Neonatal Network Trial, aggressive phototherapy compared to conservative phototherapy reduced both peak serum bilirubin (7.0 vs. 9.8. mg/dL) and profound impairment at 18-22 months adjusted age (relative risk = 0.68). However, both trials suggested that phototherapy increased deaths among the smallest infants. Conservative Bayesian analyses of ventilator-treated infants under 751. g birth weight in the Network trial...
identified a 99% probability of increased deaths and 99% probability of reduced profound impairment with aggressive phototherapy. Potential strategies to optimize the risk/benefit ratio in achieving low serum bilirubin levels, e.g., use of lowered irradiance levels, light-emitting diode phototherapy units, cycled phototherapy, and/or porphyrin compounds, deserve rigorous evaluation.

**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available [Seminars in perinatology](https://www.sciencedirect.com/science/article/pii/S0095510815579840) at No link? Ask Salisbury Healthcare Library - please click here to request article.

17. Postpartum depression on the neonatal intensive care unit: Current perspectives  
**Citation:** International Journal of Women's Health, November 2014, vol./is. 6/(975-987), 1179-1411 (24 Nov 2014)  
**Author(s):** Tahirkheli N.N., Cherry A.S., Tackett A.P., McCaffree M.A., Gillaspy S.R.  
**Language:** English  
**Abstract:** As the most common complication of childbirth affecting 10%-15% of women, postpartum depression (PPD) goes vastly undetected and untreated, inflicting long-term consequences on both mother and child. Studies consistently show that mothers of infants in the neonatal intensive care unit (NICU) experience PPD at higher rates with more elevated symptomatology than mothers of healthy infants. Although there has been increased awareness regarding the overall prevalence of PPD and recognition of the need for health care providers to address this health issue, there has not been adequate attention to PPD in the context of the NICU. This review will focus on an overview of PPD and psychological morbidities, the prevalence of PPD in mothers of infants admitted to NICU, associated risk factors, potential PPD screening measures, promising intervention programs, the role of NICU health care providers in addressing PPD in the NICU, and suggested future research directions.  
**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available [International Journal of Women's Health](https://www.sciencedirect.com/science/article/pii/S174485961400362X) at International Journal of Women's Health  
**Full text:** Available [International Journal of Women's Health](https://www.sciencedirect.com/science/article/pii/S174485961400362X) at No link? Ask Salisbury Healthcare Library - please click here to request article.

18. Preventing herpes simplex virus in the newborn  
**Citation:** Clinics in Perinatology, December 2014, vol./is. 41/4(945-955), 0095-5108;1557-9840 (01 Dec 2014)  
**Author(s):** Pinninti S.G., Kimberlin D.W.  
**Language:** English  
**Abstract:** Genital herpes simplex virus (HSV) infections are very common worldwide. Approximately 22% of pregnant women are infected genitally with HSV, and most of them are unaware of this. The most devastating consequence of maternal genital herpes is HSV disease in the newborn. Although neonatal HSV infections remain uncommon, due to the significant morbidity and mortality associated with the infection, HSV infection in the newborn is often considered in the differential diagnosis of ill neonates. This review summarizes the epidemiology and management of neonatal HSV infections and discusses strategies to prevent HSV infection in the newborn.  
**Publication type:** Journal: Review  
**Source:** EMBASE  
**Full text:** Available [Clinics in perinatology](https://www.sciencedirect.com/science/article/pii/S0095510815579840) at No link? Ask Salisbury Healthcare Library - please click here to request article.

19. Probiotics and necrotizing enterocolitis  
**Citation:** Clinics in Perinatology, December 2014, vol./is. 41/4(967-978), 0095-5108;1557-9840 (01 Dec 2014)  
**Author(s):** Neu J.  
**Language:** English  
**Abstract:** One of the most controversial areas in neonatology is whether probiotics should be provided routinely to preterm infants to prevent necrotizing enterocolitis (NEC). This review provides the reader with a brief overview of NEC and current concepts of its pathophysiology, discusses the microbial ecology of the intestine in preterm infants and factors that may lead to a "dysbiosis", summarizes studies of probiotics in preterm infants, elaborates on the need for regulation in this area, and discusses alternatives to probiotics and what is the future for the prevention of NEC.  
**Publication type:** Journal: Review
20. Pulse oximetry in very low birth weight infants

Citation: Clinics in Perinatology, December 2014, vol./is. 41/4(1017-1032), 0095-5108;1557-9840 (01 Dec 2014)

Author(s): Polin R.A., Bateman D.A., Sahni R.

Language: English

Abstract: Pulse oximetry has become ubiquitous and is used routinely during neonatal care. Emerging evidence highlights the continued uncertainty regarding definition of the optimal range to target pulse oximetry oxygen saturation levels in very low birth weight infants. Furthermore, maintaining optimal oxygen saturation targets is a demanding and tedious task because of the frequency with which oxygenation changes, especially in these small infants receiving prolonged respiratory support. This article addresses the historical perspective, basic physiologic principles behind pulse oximetry operation, and the use of pulse oximetry in targeting different oxygen ranges at various time-points throughout the neonatal period.

Publication type: Journal: Review

Source: EMBASE

Full text: Available Clinics in perinatology at No link? Ask Salisbury Healthcare Library - please click here to request article.


Citation: American Journal of Perinatology, 15 November 2014, vol./is. 31/11(965-974), 07351631

Author(s): Grizelj, Ruza, Vukovic, Jurica, Bojanic, Katarina, Loncarevic, Damir, Stern-Padovan, Ranka, Filipovic-Grcic, Boris, Weingarten, Toby N., Sprung, Juraj

Language: English

Abstract: Objective Proper position of umbilical venous catheter (UVC) is of importance to avoid severe complications. We review clinical presentations of neonates with UVC who developed catheter-associated liver injury. Study Design We reviewed institutional intensive care database (2008-2013) and identified neonates with UVCs who developed severe hepatic injury. We recorded admission diagnosis, gestational age, birth weight, number of days the umbilical catheter was in place, its radiological position at insertion and at the time of injury, presenting clinical signs, and outcomes. Results Of 1,081 neonates, 9 (0.8% [95% exact binomial confidence interval, 0.4-1.6%]) with UVC developed severe hepatic injury. All had the UVC malpositioned within the liver circulation. All presentations were life threatening, with acute abdominal distension (hepatomegaly) being the most consistent sign. Two neonates died from complications which were unrelated to catheter-associated liver injury. Conclusions : In all neonates with liver injury, UVC was malpositioned within the portal circulation. All presentations were life threatening, with acute abdominal distension (hepatomegaly) being the most consistent sign. Two neonates died from complications which were unrelated to catheter-associated liver injury. Despite the fact that our report provides only circumstantial evidence for the mechanism of injury, it supports reports which suggest that "low" UVC position increases potential for this type of complication. Acute onset of abdominal distension in a neonate with UVC should prompt ultrasonographic evaluation of position of the catheter tip.

Publication type: journal article

Source: CINAHL

Full text: Available American journal of perinatology at No link? Ask Salisbury Healthcare Library - please click here to request article.

22. The case for quality improvement in the Neonatal Intensive Care Unit

Citation: Early Human Development, November 2014, vol./is. 90/11(719-723), 0378-3782;1872-6232 (01 Nov 2014)

Author(s): Lachman P., Jayadev A., Rahi M.

Language: English

Abstract: Quality improvement (QI) is now a central part of the work of clinicians throughout healthcare. It is based on clear scientific principles, a valid way of measuring change and has theories of reliability and human factors that underpin the interventions. The Neonatal Intensive Care Unit (NICU) is a highly complex adaptive system that lends itself to the application of QI principles. This will require the development of a safety culture that continually seeks to improve. Clinicians and all those who work in NICU will require training in the methodologies of QI and patient safety to effect change. Working together in collaborative networks can accelerate change. In this paper we discuss some of the key concepts and provide some examples of improvement
23. The Effect of Kangaroo Care on Neurodevelopmental Outcomes in Preterm Infants.

Citation: Journal of Perinatal & Neonatal Nursing, 01 October 2014, vol./is. 28/4(290-299), 08932190
Author(s): Head, Lauren M.
Language: English
Abstract: Preterm birth is associated with long-term deficits in executive functioning and cognitive performance. As advances in neonatal care enable more preterm infants to survive, development of strategies to address high rates of neurodevelopmental disabilities and poor academic achievement in preterm infants are crucial. Evidence suggests that infants' brains are plastic in nature and, therefore, can be shaped by the environment. Kangaroo care has become popularized as a means of modifying the stress of the NICU environment. However, few studies have examined whether kangaroo care affects neurodevelopmental outcomes in preterm infants. This review examined available literature that investigated the effect of kangaroo care on cognition in preterm infants. Current evidence suggests that short-term benefits of kangaroo care are associated with improved neurodevelopment. However, few studies have examined the long-term impact of kangaroo care on cognitive outcomes in preterm infants. To address neurological disparities in children born preterm, research using kangaroo care as a strategy to improve neurodevelopment in preterm infants is warranted.

24. The imperative of implementing delayed cord clamping to improve maternal and neonatal outcomes

Citation: British Journal of Midwifery, Sep 2014, vol. 22, no. 9, p. 651-656, 0969-4900 (September 2014)
Author(s): Holvey, Nicola
Abstract: Immediately following birth, the newborn remains attached to the mother via the placenta and umbilical cord. During this period, the blood transferred from the placenta to newborn is known as placental transfusion. Placental transfusion can contribute between one-quarter and one-third of the total blood volume of the newborn (80-85 ml/kg) and delayed cord clamping (DCC), can reduce the hypovolemic damage, long term difficulties and even disability associated with early cord clamping (ECC). DCC also increases iron stores in infancy (Andersson et al, 2011); higher iron levels have been found to correlate with improved neurological and cognitive development (Szajewska, 2010). Through integrating DCC into routine third stage management, both mother and newborn can benefit from improved outcomes. With such compelling evidence, why do hospital protocols and guidelines not reflect the latest evidence? And why are women not being given the opportunity for informed choice on such an important issue? [PUBLICATION] 48 references

25. Tracheal Occlusion for Fetal Diaphragmatic Hernia.

Citation: American Journal of Perinatology, 01 August 2014, vol./is. 31/7(605-615), 07351631
Author(s): Snowise, Saul, Johnson, Anthony
Language: English
Abstract: Despite advances in neonatal care, diaphragmatic hernia still inflicts significant morbidity and mortality on affected neonates. Abnormal embryologic events disrupt the formation of the diaphragm allowing the abdominal viscera to occupy the intrathoracic space. This interrupts normal pulmonary development with resulting pulmonary hypoplasia and pulmonary hypertension in neonatal survivors. This review will outline the relevant embryology, etiologies, and pertinent historical aspects of diaphragmatic hernia treatments to better
understand the current antenatal approach to therapy for this disease process.

Publication type: journal article
Source: CINAHL
Full text: Available American journal of perinatology at No link? Ask Salisbury Healthcare Library - please click here to request article.

26. Transcutaneous bilirubinometry
Citation: Seminars in Perinatology, November 2014, vol./is. 38/7(438-451), 0146-0005;1558-075X (01 Nov 2014)
Author(s): Engle W.D., Jackson G.L., Engle N.G.
Language: English
Abstract: Although the modern era of transcutaneous bilirubin monitoring (TcB) began only about 35 years ago, this screening tool is now widely used in newborn nurseries and outpatient clinics, offices, and emergency departments to obtain a rapid and non-invasive estimate of the degree of hyperbilirubinemia. TcB devices have become more sophisticated, and major breakthroughs include the following: (a) ability to report a bilirubin value rather than an index value, (b) enhanced correction for chromophores other than bilirubin, and (c) technologic improvements including interface with electronic medical records. Good agreement with laboratory bilirubin measurement has been demonstrated, and the ability of TcB screening to predict and decrease the incidence of subsequent hyperbilirubinemia has been well-documented. To date, it has not been shown that this screening results in improved long-term outcomes.
Publication type: Journal: Review
Source: EMBASE
Full text: Available Seminars in perinatology at No link? Ask Salisbury Healthcare Library - please click here to request article.

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