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Guidelines

National Institute for Health and Care Excellence (NICE)

Bronchiolitis in children
NICE guidelines [NG9] Published date: May 2015

New and Updated Cochrane Systematic Reviews

Updated Reviews – May 2015

Intravenous immunoglobulin for presumed viral myocarditis in children and adults
Oral protein calorie supplementation for children with chronic disease
Recombinant growth hormone therapy for cystic fibrosis in children and young adults
Sweet tasting solutions for reduction of needle-related procedural pain in children aged one to 16 years

New Reviews – June 2015

Antibiotic lock for the prevention of catheter-related infection in neonates
Assistive technology for children and young people with low vision
Needle size for vaccination procedures in children and adolescents
Short-course versus long-course intravenous therapy with the same antibiotic for severe community-acquired pneumonia in children aged two months to 59 months

Updated Reviews – June 2015

Antibiotics for acute otitis media in children
Corticosteroids including ACTH for childhood epilepsy other than epileptic spasms
Regional (spinal, epidural, caudal) versus general anaesthesia in preterm infants undergoing inguinal herniorrhaphy in early infancy
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1.Title: A pediatrician's practical guide to diagnosing and treating hereditary spherocytosis in neonates
Citation: Pediatrics, June 2015, vol./is. 135/6(1107-1114), 0031-4005;1098-4275 (01 Jun 2015)
Author(s): Christensen R.D., Yaish H.M., Gallagher P.G.
Language: English
Abstract: Newborn infants who have hereditary spherocytosis (HS) can develop anemia and hyperbilirubinemia. Bilirubin-induced neurologic dysfunction is less likely in these neonates if the diagnosis of HS is recognized and appropriate treatment provided. Among neonates listed in the USA Kernicterus Registry, HS was the third most common underlying hemolytic condition after glucose-6-phosphate dehydrogenase deficiency and ABO hemolytic disease. HS is the leading cause of direct antiglobulin test (direct Coombs) negative hemolytic anemia requiring
erythrocyte transfusion in the first months of life. We anticipate that as physicians become more familiar with diagnosing HS in the newborn period, fewer neonates with HS will develop hazardous hyperbilirubinemia or present to emergency departments with unanticipated symptomatic anemia. We predict that early suspicion, prompt diagnosis and treatment, and anticipatory guidance will prevent adverse outcomes in neonates with HS. The purpose of this article was to review the neonatal presentation of HS and to provide practical and up-to-date means of diagnosing and treating HS in neonates.

Publication type: Journal: Review
Source: EMBASE
Full text: Available Salisbury EJournals at Pediatrics

2. Title: Advance Care Planning: practicalities, legalities, complexities and controversies
Citation: Archives of disease in childhood, April 2015, vol./is. 100/4(380-385), 1468-2044 (01 Apr 2015)
Author(s): Horridge K.A.
Language: English
Abstract: Increasing numbers, complexities and technology dependencies of children and young people with life-limiting conditions require paediatricians to be well prepared to meet their changing needs. Paediatric Advance Care Planning provides a framework for paediatricians, families and their multidisciplinary teams to consider, reflect and record the outcome of their conversations about what might happen in the future in order to optimise quality of clinical care and inform decision-making. For some children and young people this will include discussions about the possibility of death in childhood. This may be unexpected and sudden, in the context of an otherwise active management plan or may be expected and necessitate discussions about the process of dying and attention to symptoms. Decision-making about appropriate levels of intervention must take place within a legal and ethical framework, recognising that the UK Equality Act (2010) protects the rights of disabled children and young people and infants and children of all ages to the same high quality healthcare as anyone else.

Publication type: Journal: Review
Source: EMBASE
Full text: Available ARCHIVES OF DISEASE IN CHILDHOOD at Archives of disease in childhood
Full text: Available ARCHIVES OF DISEASE IN CHILDHOOD at Salisbury District Hospital Healthcare Library

3. Title: Application of tactile/kinesthetic stimulation in preterm infants: A systematic review
Citation: Jornal de Pediatria, May 2015, vol./is. 91/3(213-233), 0021-7557 (01 May 2015)
Author(s): Pepino V.C., Mezzacappa M.A.
Language: English
Abstract: Objective To verify the methods used by the clinical trials that assessed the effect of tactile/kinesthetic stimulation on weight gain in preterm infants and highlight the similarities and differences among such studies. Sources This review collected studies from two databases, PEDro and PubMed, in July of 2014, in addition to bibliographies. Two researchers assessed the relevant titles independently, and then chose which studies to read in full and include in this review by consensus. Clinical trials that studied tactile stimulation or massage therapy whether or not associated with kinesthetic stimulation of preterm infants; that assessed weight gain after the intervention; that had a control group and were composed in English, Portuguese, or Spanish were included. Summary of the findings A total of 520 titles were found and 108 were selected for manuscript reading. Repeated studies were excluded, resulting in 40 different studies. Of these, 31 met all the inclusion criteria. There were many differences in the application of tactile/kinesthetic stimulation techniques among studies, which hindered the accurate reproduction of the procedure. Also, many studies did not describe the adverse events that occurred during stimulation, the course of action taken when such events occurred, and their effect on the outcome. Conclusions These studies made a relevant contribution towards indicating tactile/kinesthetic stimulation as a promising tool. Nevertheless, there was no standard for application among them. Future studies should raise the level of methodological rigor and describe the adverse events. This may permit other researchers to be more aware of expected outcomes, and a standard technique could be established.

Publication type: Journal: Review
Source: EMBASE

Citation: JAMA pediatrics, Jun 2015, vol. 169, no. 6, p. e151025. (June 1, 2015)
Author(s): Amitay, Efrat L, Keinan-Boker, Lital
Abstract: Childhood cancer is a leading cause of mortality among children and adolescents in the developed world and the incidence increases by 0.9% each year. Leukemia accounts for about 30% of all childhood cancer but its
etiology is still mostly unknown. To conduct a meta-analysis of available scientific evidence on the association between breastfeeding and childhood leukemia. A thorough search for articles published between January 1960 and December 2014 researching the association between breastfeeding and childhood leukemia was conducted on PubMed, the Cochrane Library, and Scopus (performed in July and December 2014), supplemented by manual searches of reference lists. To be included in the meta-analyses, studies had to be case control; include breastfeeding as a measured exposure and leukemia as a measured outcome; include data on breastfeeding duration in months; and be published in a peer-reviewed journal with full text available in English. The search identified 25 relevant studies, 18 of which met all inclusion criteria. No publication bias or heterogeneity among these 18 studies were detected. The quality of each study that met the inclusion criteria was assessed using the Newcastle-Ottawa Scale. Multiple meta-analyses were conducted using the random effect model on raw data in the StatsDirect statistical program. No or short duration of breastfeeding and the incidence of childhood leukemia. The meta-analysis of all 18 studies indicated that compared with no or shorter breastfeeding, any breastfeeding for 6 months or longer was associated with a 19% lower risk for childhood leukemia (odds ratio, 0.81; 95% CI, 0.73-0.89). A separate meta-analysis of 15 studies indicated that ever breastfed compared with never breastfed was associated with an 11% lower risk for childhood leukemia (odds ratio, 0.89; 95% CI, 0.84-0.94), although the definition of never breastfed differed between studies. All meta-analyses of subgroups of the 18 studies showed similar associations. Based on current meta-analyses results, 14% to 19% of all childhood leukemia cases may be prevented by breastfeeding for 6 months or more. Breastfeeding is a highly accessible, low-cost public health measure. This meta-analysis that included studies not featured in previous meta-analyses on the subject indicates that promoting breastfeeding for 6 months or more may help lower childhood leukemia incidence, in addition to its other health benefits for children and mothers.

Source: Medline

5.Title: Cardiovascular support during neonatal intensive care
Citation: Paediatrics and Child Health (United Kingdom), June 2015, vol./is. 25/6(249-255), 1751-7222;1878-206X (01 Jun 2015)
Author(s): Brunton A., Turner M.A., Paize F.
Language: English
Abstract: Effective cardiovascular support for neonates requires an understanding of cardiovascular physiology, the developmental stages of the neonate and knowledge of the available treatment options. This review aims to provide physiologically-based recommendations for treatment, referring only to aspects of physiology that can be generally measured in neonates on neonatal units. This review is intended to give an insight into how physiology and pharmacology can be balanced when tailoring care to individual babies.
Publication type: Journal: Review
Source: EMBASE

6.Title: Congenital hypothyroidism - what's new?
Citation: Paediatrics and Child Health (United Kingdom), July 2015, vol./is. 25/7(302-307), 1751-7222;1878-206X (01 Jul 2015)
Author(s): Lane L.C., Cheetham T.
Language: English
Abstract: Congenital hypothyroidism (CHT) represents an anatomical, biochemical and clinical spectrum with associated implications in terms of management and outcome. At one end of the spectrum of primary thyroid dysfunction is the child with thyroid agenesis and no significant endogenous thyroid function. This baby will require full thyroxine replacement. At the other end of the spectrum is the baby with a subtle increase in thyroid-stimulating hormone (TSH) levels, a normally sited thyroid gland and significant associated endogenous thyroid hormone generation. This baby will require a smaller dose of thyroxine supplementation to normalise TSH concentrations. The TSH 'threshold' that warrants intervention is unknown, although local thyroid hormone 'normal ranges' may be derived from adults and hence may not be representative of thyroid hormone levels in healthy neonates. The outlook for treated babies with CHT is excellent but there may still be subtle, long-term consequences of relatively low thyroxine concentrations in utero despite prompt diagnosis and treatment.
Publication type: Journal: Review
Source: EMBASE

7.Title: Effectiveness of pediatric pill swallowing interventions: A systematic review
Citation: Pediatrics, May 2015, vol./is. 135/5(883-889), 0031-4005;1098-4275 (01 May 2015)
Author(s): Patel A., Jacobsen L., Jhaveri R., Bradford K.K.
BACKGROUND AND OBJECTIVE: Pediatric patients commonly have difficulty swallowing pills. Targeted interventions have shown to improve medication administration and treatment compliance. The objective was to evaluate studies performed on pill swallowing interventions in the pediatric population since 1987. METHODS: We performed a comprehensive PubMed search and a bibliography review to identify articles for our review. We selected articles published in English between December 1986 and December 2013 that included .10 participants aged 0 to 21 years with pill swallowing difficulties without a comorbid condition affecting their swallowing. Reviewers extracted the relevant information and rated the quality of each study as "poor," "fair," or "good" based on the sample size and study design. RESULTS: We identified 4 cohort studies and 1 case series that met our criteria. All 5 studies found their intervention to be successful in teaching children how to swallow pills. Interventions included behavioral therapies, flavored throat spray, verbal instructions, specialized pill cup, and head posture training. Quality ratings differed between the articles, with 3 articles rated as "fair," 1 article as "good," and 1 article as "poor." CONCLUSIONS: Pill swallowing difficulties are a barrier that can be overcome with a variety of successful interventions. Addressing this problem and researching more effective ways of implementing these interventions can help improve medication administration and compliance in the pediatric population.

Publication type: Journal: Review
Source: EMBASE
Full text: Available Salisbury Journals at Pediatrics

Title: Exercise interventions improve postural control in children with cerebral palsy: A systematic review
Citation: Developmental Medicine and Child Neurology, June 2015, vol./is. 57/6(504-520), 0012-1622;1469-8749 (01 Jun 2015)
Author(s): Dewar R., Love S., Johnston L.M.
Language: English
Abstract: Aim: The aim of this study was to evaluate the efficacy and effectiveness of exercise interventions that may improve postural control in children with cerebral palsy (CP). Method: A systematic review was performed using American Academy of Cerebral Palsy and Developmental Medicine (AACPDM) and Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) methodology. Six databases were searched using the following keywords: ('cerebral palsy' OR 'brain injury'); AND ('postur *' OR 'balance' OR 'postural balance' [MeSH]); AND ('intervention' OR 'therapy' OR 'exercise' OR 'treatment'). Articles were evaluated based on their level of evidence and conduct. Results: Searches yielded 45 studies reporting 13 exercise interventions with postural control outcomes for children with CP. Five interventions were supported by a moderate level of evidence: gross motor task training, hippotherapy, treadmill training with no body weight support (no-BWS), trunk-targeted training, and reactive balance training. Six of the interventions had weak or conflicting evidence: functional electrical stimulation (FES), hippotherapy simulators, neurodevelopmental therapy (NDT), treadmill training with body weight support, virtual reality, and visual biofeedback. Progressive resistance exercise was an ineffective intervention, and upper limb interventions lacked high-level evidence. Interpretation: The use of exercise-based treatments to improve postural control in children with CP has increased significantly in the last decade. Improved study design provides more clarity regarding broad treatment efficacy. Research is required to establish links between postural control impairments, treatment options, and outcome measures. Low-burden, low-cost, child-engaging, and mainstream interventions also need to be explored.

Publication type: Journal: Article
Source: EMBASE

Title: Glycerin enemas and suppositories in premature infants: A meta-analysis
Citation: Pediatrics, June 2015, vol./is. 135/6(1093-1106), 0031-4005;1098-4275 (01 Jun 2015)
Author(s): Livingston M.H., Shawyer A.C., Rosenbaum P.L., Williams C., Jones S.A., Walton J.M.
Language: English
Abstract: BACKGROUND AND OBJECTIVE: Premature infants are often given glycerin enemas or suppositories to facilitate meconium evacuation and transition to enteral feeding. The purpose of this study was to assess the available evidence for this treatment strategy. METHODS: We conducted a systematic search of Medline, Embase, Central, and trial registries for randomized controlled trials of premature infants treated with glycerin enemas or suppositories. Data were extracted in duplicate and meta-analyzed using a random effects model. RESULTS: We identified 185 premature infants treated prophylactically with glycerin enemas in one trial (n = 81) and suppositories in two other trials (n = 104). All infants were less than 32 weeks gestation and had no congenital malformations. Treatment was associated with earlier initiation of stooling in one trial (2 vs 4 days, P = .02) and a trend towards earlier meconium evacuation in another (6.5 vs 9 days, P = .11). Meta-analysis demonstrated no effect on transition
to enteral feeding (0.7 days faster, P = .43) or mortality (P = 0.50). There were no reports of rectal bleeding or perforation but there was a trend towards increased risk of necrotizing enterocolitis with glycerin enemas or suppositories (risk ratio = 2.72, P = .13). These three trials are underpowered and affected by one or more major methodological issues. As a result, the quality of evidence is low to very low. Three other trials are underway. CONCLUSIONS: The evidence for the use glycerin enemas or suppositories in premature infants in inconclusive. Meta-analyzed data suggest that treatment may be associated with increased risk of necrotizing enterocolitis. Careful monitoring of ongoing trials is required.

**Publication type:** Journal: Article  
**Source:** EMBASE  
**Full text:** Available Salisbury EJournals at Pediatrics

10. **Title:** Isotonic versus hypotonic saline solution for maintenance intravenous fluid therapy in children: a systematic review  
**Citation:** Pediatric Nephrology, July 2015, vol./is. 30/7(1163-1172), 0931-041X;1432-198X (29 Jul 2015)  
**Author(s):** Padua A.P., Macaraya J.R.G., Dans L.F., Anacleto F.E.  
**Language:** English  
**Abstract:** Background: The administration of hypotonic saline solution for maintenance intravenous fluid (IVF) therapy has been the standard of care, but recent evidence has shown this treatment to be associated with hyponatremia-related complications. The aim of this systematic review was to determine which IVF, i.e., a hypotonic or an isotonic saline solution, poses less risk for the development of hyponatremia among hospitalized children who require maintenance IVF therapy. Methods: Medline, Cochrane Library, LILACS, Current Controlled Trials, reference lists, and abstract proceedings were searched for randomized controlled trials (RCTs) comparing hypotonic and isotonic saline solutions for maintenance IVF therapy in hospitalized children. Two reviewers independently assessed all potentially relevant studies and subsequently extracted data and evaluated the methodological quality of the RCTs. Studies were then combined and analyzed using a random effects model. Results: Eleven RCTs met the inclusion criteria. Our analysis of these 11 RCTs showed that among hospitalized children receiving maintenance IVF therapy, isotonic solutions significantly decreased the risk of developing hyponatremia [relative risk (RR) 0.50, 95% confidence interval (CI) 0.40-0.62] without significantly increasing the risk for hypernatremia (RR 0.83, 95% CI 0.41-1.67). Conclusions: Current evidence does not support the standard practice of prescribing a hypotonic saline solution as maintenance IVF therapy to hospitalized children. Although there is no single IVF composition ideal for all children, an isotonic saline solution does appear to be the safer choice when maintenance IVF therapy is used in the general pediatric population.  
**Publication type:** Journal: Article  
**Source:** EMBASE

11. **Title:** Levetiracetam Monotherapy in Children with Epilepsy: A Systematic Review.  
**Citation:** CNS drugs, May 2015, vol. 29, no. 5, p. 371-382, 1172-7047 (May 2015)  
**Author(s):** Weijenberg, Amerins, Brouwer, Oebele F, Callenbach, Petra M C  
**Abstract:** Levetiracetam, a second-generation anti-epileptic drug (AED) with a good efficacy and safety profile, is licensed as monotherapy for adults and children older than 16 years with focal seizures with or without secondary generalization. However, it is increasingly being used off-label in younger children. We critically reviewed the available evidence and discuss the present status of levetiracetam monotherapy in children 0-16 years old. We systematically searched the literature using PubMed, Web of Science and Embase up to August 2014 for articles on levetiracetam monotherapy in children. Keywords were levetiracetam, monotherapy and child*. The titles and abstracts of 532 articles were evaluated by AW, of which 480 were excluded. The full texts of the other 52 articles were assessed for relevance. We covered one review, one opinion statement and 32 studies in this review, including four randomized controlled trials, ten open-label prospective studies, eight retrospective studies, and ten case reports. The formal evidence for levetiracetam monotherapy in children is minimal: it is potentially efficacious or effective as initial monotherapy in children with benign epilepsy with centrotemporal spikes. In all of the published studies, however, efficacy and tolerability of levetiracetam seemed to be good and comparable to other AEDs. The data of 32 studies on levetiracetam monotherapy in children were insufficient to confirm that levetiracetam is effective as initial monotherapy for different types of seizures and/or epilepsy syndromes. There is still an urgent need for well designed trials to justify the widespread use of levetiracetam monotherapy in children of all ages.  
**Source:** Medline

12. **Title:** Management of neonatal jaundice  
**Citation:** Paediatrics and Child Health (United Kingdom), June 2015, vol./is. 25/6(276-281), 1751-7222;1878-206X (01
Jaundice is the most common clinical sign in neonatal medicine, but only rarely is it associated with bilirubin neurotoxicity or the harbinger of significant underlying disease. Cases of kernicterus, which should be a never event, are still occurring. Delays in the diagnosis of pathological causes of prolonged jaundice, such as biliary atresia are still resulting in life long morbidity. These are salutary reminders that healthcare professionals should never take neonatal jaundice for granted. Phototherapy remains the mainstay of treatment of significant unconjugated hyperbilirubinaemia, and its optimal use will usually prevent the need for exchange blood transfusion. In cases of antibody-mediated haemolysis high-dose immunoglobulin is indicated if the serum bilirubin is continuing to rise despite multiple phototherapy. For babies with prolonged jaundice investigation should be directed towards making a timely diagnosis and avoiding secondary complications.

Objective To provide a diagnostic and management approach for narcolepsy in children. Methods Narcolepsy is a chronic disabling disorder characterized by excessive daytime sleepiness, cataplexy, hypnagogic and/or hypnopompic hallucinations, and sleep paralysis. All four features are present in only half of the cases. Excessive daytime sleepiness is the essential feature of narcolepsy at any age and is usually the first symptom to manifest. A combination of excessive daytime sleepiness and definite cataplexy is considered pathognomonic of narcolepsy syndrome. Results New treatment options have become available over the past few years. Early diagnosis and management can significantly improve the quality of life of patients with narcolepsy with cataplexy. Conclusion This review summarizes the pathophysiology, clinical features, and management options for children with narcolepsy.

Infection is a leading cause of mortality and morbidity in the newborn. The smaller and more preterm the baby, the higher the risk of infection and its consequences. Babies with risk factors or symptoms of infection should be screened and treated promptly. Group B streptococcus remains the leading cause of early onset infection. Late onset infection is predominated by coagulase negative staphylococci and gram-negative pathogens with increasingly resistant and unusual profiles. Increasing antimicrobial resistance is a global issue, and must be combated by robust infection control measures and implementation of antibiotic stewardship programmes including surveillance of infection episodes. While early detection and prompt management are vital in the prevention of adverse consequences of neonatal infection, it is imperative that antibiotic therapy is appropriately targeted to reduce the short and long term consequences of antibiotic use.

Point-of-care (POC) ultrasound has been used by a variety of nonradiologist physicians. Recently, POC ultrasound use by pediatricians has received increased attention with the practice of both established and novel applications. To review various uses of ultrasound by pediatricians, discuss challenges and potential pitfalls as pediatric physicians seek to use ultrasound in their practices, and consider various areas of research needs and opportunities. Available English-language publications from 1970 through December 31, 2014. Limited research supports the notion that many POC ultrasound applications practiced by nonradiologist pediatricians can assist in
clinical decision making and procedural success. Future challenges include the need for institutions to train and credential large numbers of health care professionals in the use of pediatric POC ultrasound, as well as the necessity of diverse research efforts, including the establishment of pediatric-specific norms, consideration of optimal educational strategies, and inquiry intended to identify best practices for clinical effectiveness and efficiency. Although considerable effort needs to be devoted to the continued development of pediatric POC ultrasound, there is potential for useful application in a variety of clinical and educational settings.

**Source:** Medline

16. **Title:** Potential safety issues in the use of the hormone melatonin in paediatrics  
**Citation:** Journal of Paediatrics and Child Health, June 2015, vol./is. 51/6(584-589), 1034-4810;1440-1754 (01 Jun 2015)  
**Author[s]:** Kennaway D.J.  
**Language:** English  
**Abstract:** Melatonin is a hormone produced by the pineal gland during the night in response to light/dark information received by the retina and its integration by the suprachiasmatic nucleus. When administered to selected populations of adults, in particular those displaying delayed sleep phase disorder, melatonin may advance the time of sleep onset. It is, however, being increasingly prescribed for children with sleep disorders despite the fact that (i) it is not registered for use in children anywhere in the world; (ii) it has not undergone the formal safety testing expected for a new drug, especially long-term safety in children; (iii) it is known to have profound effects on the reproductive systems of rodents, sheep and primates, as well as effects on the cardiovascular, immune and metabolic systems; and (iv) there is the potential for important interactions with drugs sometimes prescribed for children. In this review, I discuss properties of melatonin outside its ability to alter sleep timing that have been widely ignored but which raise questions about the safety of its use in infants and adolescents.  
**Publication type:** Journal: Review  
**Source:** EMBASE

17. **Title:** Preterm patent ductus arteriosus: Are we any closer to knowing when to treat?  
**Citation:** Paediatrics and Child Health (United Kingdom), June 2015, vol./is. 25/6(256-260), 1751-7222;1878-206X (01 Jun 2015)  
**Author[s]:** Evans N.  
**Language:** English  
**Abstract:** Debate about the importance of the preterm patent ductus arteriosus (PDA) remains unresolved. Ultrasound studies of PDA have suggested that the haemodynamic impact may be much earlier after birth than previously thought but we still don’t know when to treat a PDA. Studies that have tested symptomatic or pre-symptomatic treatment are mainly historical and have not tested the effect of no treatment. Prophylactic treatment is the best studied regimen but improvements in some short term outcomes do not translate to any difference in longer term outcomes. Neonatologists have been reluctant to engage in trials which test treatment against almost never treating. Observations of very early postnatal haemodynamic significance suggest targeting treatment on the basis of the early postnatal constrictive response of the duct may optimize benefits. A pilot trial of this strategy showed reduction in the incidence of pulmonary haemorrhage but more trials of this strategy are needed.  
**Publication type:** Journal: Review  
**Source:** EMBASE

18. **Title:** Preventing necrotising enterocolitis in very preterm infants: Current evidence  
**Citation:** Paediatrics and Child Health (United Kingdom), June 2015, vol./is. 25/6(265-270), 1751-7222;1878-206X (01 Jun 2015)  
**Author[s]:** McGuire W., Young L., Morgan J.  
**Language:** English  
**Abstract:** Necrotising enterocolitis (NEC) is the most common serious gastrointestinal disorder affecting very preterm or very low birth weight infants. The risk is inversely proportional to gestational age and weight at birth. Fetal growth restriction and compromise may be additional specific risk factors. Postnatally, a variety of practices have been implicated in the pathogenesis of NEC including formula feeding, early and rapid advancement of enteral feed volumes, and exposure to H<sub>2</sub>-receptor antagonists. NEC, particularly severe NEC requiring surgical intervention, is associated with acute morbidity and mortality, prolonged hospital stay, and adverse long term neurodevelopmental outcomes. With the exception of feeding with human milk, only limited evidence is currently available to support interventions to prevent NEC. Promising strategies that merit further evaluation in randomized controlled trials include the use of standardized feeding protocols and immuno-prophylaxis with prebiotics and
Surgical resection of the lesion was effective at improving seizures in over 98% of patients and at achieving MEDLI to identify all reports of DNET resections in pediatric patients published over the past 20 years. In all, over 3000 removal should be, continues to be debated. Methods: We performed a systematic review of the relevant literature advocate early surgical resection of these lesions, but how effective this approach is, and drugs which, themselves, can be associated with long-term side effects method. Results: Pediatric asthma patients (n = 1797) presented lower overall QoL (MD = -7.48, CI: -10.67/-4.29), physical functioning (MD = -9.36, CI: -11.85/-6.86), psychological functioning (MD = -5.00, CI: -7.17/-2.82) and social functioning (MD = -3.76, CI: -5.80/-1.72), compared to controls (n = 13,266). For parents (666 cases and 7328 controls), asthma was associated with lower physical functioning (MD = -10.15, CI: -12.21/-8.08). Between-studies heterogeneity was explained by type of informant and selection of controls. Conclusion: The ascertainment of the magnitude of QoL impairments and the most affected QoL dimensions for pediatric asthma patients/parents may contribute to the outlining of realistic goals for multidisciplinary interventions in healthcare settings and evaluate its cost-effectiveness.

Abstract: Up until 2014, the use of probiotics in infantile colic has shown promise. However, the past year has seen the publication of controversial results and rigorous debate on whether probiotics are effective in infantile colic. It is time to review the evidence and discuss whether probiotics should be used for infants with colic. Recent findings Despite previous trials indicating the probiotic Lactobacillus reuteri DSM 17938 to be effective in treating infantile colic in predominantly breastfed infants, a recent larger trial controversially concluded it to be ineffective for both breastfed and formula-fed infants. A further smaller trial indicated it to be effective, yet again, for treating breastfed infants with colic. Meanwhile, L. reuteri DSM 17938 has been suggested, for the first time, to be possibly effective in preventing infantile colic. Summary L. reuteri DSM 17938 may be effective for certain subgroups of breastfed infants with colic, and this will be clarified by an ongoing individual participant data meta-analysis. At this stage, the probiotic cannot be recommended for treating infantile colic in formula-fed infants, nor can it be routinely used to prevent infantile colic.

Abstract: This meta-analytic review was conducted to estimate the magnitude of quality of life (QoL) impairments in children/adolescents with asthma and their parents. Method: A systematic search in four electronic databases revealed 15 quantitative studies published between 1994-2013 that directly compared the QoL of 7-18-year-old asthma patients/parents to community/healthy controls. Pooled mean differences (MD) with 95% CI were estimated using the inverse-variance random-effects method. Results: Pediatric asthma patients (n = 1797) presented lower overall QoL (MD = -7.48, CI: -10.67/-4.29), physical functioning (MD = -9.36, CI: -11.85/-6.86), psychological functioning (MD = -5.00, CI: -7.17/-2.82) and social functioning (MD = -3.76, CI: -5.80/-1.72), compared to controls (n = 13,266). For parents (666 cases and 7328 controls), asthma was associated with lower physical functioning (MD = -10.15, CI: -12.21/-8.08). Between-studies heterogeneity was explained by type of informant and selection of controls. Conclusion: The ascertainment of the magnitude of QoL impairments and the most affected QoL dimensions for pediatric asthma patients/parents may contribute to the outlining of realistic goals for multidisciplinary interventions in healthcare settings and evaluate its cost-effectiveness.

Abstract: In children and adolescents, dysembryoplastic neuroepithelial tumors (DNETs) of the brain present with seizures almost 100% of the time, potentially creating significant long-term morbidity and disability despite the generally indolent course of the lesion. These tumors also tend to be quite resistant to anti-epileptic drugs which, themselves, can be associated with long-term side effects and resultant disability. Many clinicians advocate early surgical resection of these lesions, but how effective this approach is, and how aggressive tumor removal should be, continues to be debated. Methods: We performed a systematic review of the relevant literature to identify all reports of DNET resections in pediatric patients published over the past 20 years. In all, over 3000 MEDLINE abstracts were reviewed, ultimately resulting in 13 studies with 185 pediatric DNET patients to review. Results: Surgical resection of the lesion was effective at improving seizures in over 98% of patients and at achieving
long-term seizure freedom in 86%. Surgical resection of DNETs also appeared to be quite safe, with no reported perioperative deaths and an overall rate of postoperative complications of 12%; the vast majority of these complications were transient. Conclusions: Total gross resection of the lesion was the only factor statistically correlated with long-term seizure freedom ($r = 0.63, p = 0.03$). However, data remain lacking regarding whether this translates into more extensive procedures-like brain mapping and partial lobectomies-being any more effective than simple lesionectomies alone. Further research is clearly needed to address this and other crucial questions.

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

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**22. Title:** Sialendoscopy for the management of juvenile recurrent parotitis: A systematic review and meta-analysis.  
**Citation:** The Laryngoscope, Jun 2015, vol. 125, no. 6, p. 1472-1479 (June 2015)  
**Author(s):** Ramakrishna, Jayant, Strychowsky, Julie, Gupta, Michael, Sommer, Doron D  
**Abstract:** To determine the effectiveness and safety of sialendoscopy for the treatment of juvenile recurrent parotitis (JRP). The study was conducted and reported in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines. A comprehensive search strategy in MEDLINE, EMBASE, the Cochrane library, and Google Scholar was completed and limited to studies published in English. Relevant reference lists were reviewed. Two independent reviewers selected prospective or retrospective studies of pediatric patients treated with interventional sialendoscopy for the management of JRP. Outcome measures included rates of successful treatment (no further episodes of parotid swelling or need for further sialendoscopy) and complications. Two reviewers appraised the level of evidence using the Oxford Clinical Evidence-based Medicine (OCEBM) guidelines, extracted data, and resolved discrepancies by consensus. Weighted pooled proportion, 95% confidence interval (CI), and test results for heterogeneity and publication bias are reported. Seven studies were included. Levels of evidence varied from OCEBM level 3 to 4. The weighted pooled proportion of success rates for no further episodes by patient ($n = 120$) was 73% (95% CI: 64%-82%) and by gland ($n = 165$) 81% (95% CI: 75%-87%). The weighted pooled proportion of success rates for no further sialendoscopy by patient was 87% (95% CI: 81%-93%). Heterogeneity was low, and publication bias was not detected. There were no major complications reported. Surgical techniques and endoscopic findings are summarized. The results from this analysis suggest that sialendoscopy is effective and safe for the treatment of JRP and may be offered to appropriate patients. NA Laryngoscope, 125:1472-1479, 2015. © 2014 The American Laryngological, Rhinological and Otological Society, Inc.

**Source:** Medline

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**23. Title:** Systematic review with meta-analysis: Comparison between therapeutic regimens for paediatric chronic hepatitis C  
**Citation:** Alimentary Pharmacology and Therapeutics, July 2015, vol./is. 42/1(12-19), 0269-2813;1365-2036 (01 Jul 2015)  
**Author(s):** El Sherbini A., Mostafa S., Ali E.  
**Language:** English  
**Abstract:** Background To decide when and how to treat children with chronic hepatitis C is an ongoing debate. Aim To compare the outcomes of therapy for children with chronic hepatitis C. Methods An electronic database assessed clinical trials with sustained virological response rates specified by genotype. The data were extracted according to the therapeutic regimen; interferonalpha+/-ribavirin and pegylated interferonalpha+/-ribavirin. Results The search sourced 23 peer-reviewed articles which enrolled 934 cases, aged 2-19 years. Sustained virological response rates were significantly higher with the addition of ribavirin to either interferonalpha or pegylated interferonalpha vs. their monotherapies for genotypes 1,2&3 with crude and weighted estimates. The weighted estimate indicated higher sustained virological response rates for those treated with pegylated interferonalpha+ribavirin vs. interferonalpha+ribavirin for genotype 1 (50% vs. 40%) and genotypes 2&3 (90% vs. 84%), (odds ratio 1.5, 95% confidence interval 1.2-1.8, and 1.8, 1.2-2.9 respectively). Cases with genotype 4 treated with pegylated interferonalpha+ribavirin had a lower sustained virological response (41%) vs. genotype 1 (1.4, 1.2-1.8), and vs. genotypes 2&3 (13.5, 10.3-17.9). Some adverse events were significantly higher among cases treated with pegylated interferonalpha+ribavirin vs. interferonalpha+ribavirin. Conclusions Despite the superiority of pegylated interferonalpha+ribavirin to interferonalpha+ribavirin for the treatment of chronic hepatitis C among children, the significant higher adverse events along with the modest outcome for genotypes 1&4 render that regimen a suboptimal therapy. These data indicated the need for the future comparison with clinical trials of direct anti-viral drugs for children with chronic hepatitis C.

**Publication type:** Journal: Review  
**Source:** EMBASE
24. Title: The child with the large head  
Citation: Paediatrics and Child Health (United Kingdom), May 2015, vol./is. 25/5(239-242), 1751-7222;1878-206X (01 May 2015)  
Author(s): Nguyen K., Thomson A.  
Language: English  
Abstract: Macrocephaly is usually a benign condition that does not require intervention. However, there are some underlying causes that clinicians need to be aware of and exclude prior to reassuring parents. This review aims to give a practical approach to assessing the child with the large head and identify features that warrant further investigations.  
Publication type: Journal: Review  
Source: EMBASE  

25. Title: The differential diagnosis of spastic diplegia  
Citation: Archives of Disease in Childhood, May 2015, vol./is. 100/5(500-504), 0003-9888;1468-2044 (01 May 2015)  
Author(s): Huntsman R., Lemire E., Norton J., Dzus A., Blakley P., Hasal S.  
Language: English  
Abstract: Spastic diplegia is the most common form of cerebral palsy worldwide. Many disorders mimic spastic diplegia, which can result in misdiagnosis for the child with resultant negative treatment and family counselling implications. In this paper, the authors provide a brief review of spastic diplegia and the various disorders in the differential diagnosis. We also provide a diagnostic algorithm to assist physicians in making the correct diagnosis.  
Publication type: Journal: Review  
Source: EMBASE  

26. Title: Thyroid-related neurological disorders and complications in children  
Citation: Pediatric Neurology, April 2015, vol./is. 52/4(373-382), 0887-8994;1873-5150 (01 Apr 2015)  
Author(s): Nandi-Munshi D., Taplin C.E.  
Language: English  
Abstract: Background Thyroid hormones exert critical roles throughout the body and play an important and permissive role in neuroendocrine, neurological, and neuromuscular function. Methods We performed a PubMed search through June 2014 with search terms including "hypothyroidism," "hyperthyroidism," "neurological complications," "neuropathy," "myopathy," "congenital hypothyroidism," and "encephalopathy." Relevant publications reviewed included case series, individual case reports, systematic reviews, retrospective analyses, and randomized controlled trials. The neurological outcomes of congenital hypothyroidism were reviewed, along with the clinical features of associated neuromuscular syndromes of both hypothyroidism and hyperthyroidism, including other autoimmune conditions. Evidence for, and pathophysiological controversies surrounding, Hashimoto encephalopathy was also reviewed. Results The establishment of widespread newborn screening programs has been highly successful in attenuating or preventing early and irreversible neurological harm resulting from congenital thyroid hormone deficiency, but some children continue to display neuromuscular, sensory, and cognitive defects in later life. Acquired disorders of thyroid function such as Hashimoto thyroiditis and Graves' disease are associated with a spectrum of central nervous system and/or neuromuscular dysfunction. However, considerable variation in clinical phenotype is described, and much of our knowledge of the role of thyroid disease in childhood neurological disorders is derived from adult case series. Conclusions Early and aggressive normalization of thyroxine levels in newborn infants with congenital hypothyroidism is important in minimizing neurological sequelae, but maternal thyroid hormone sources are also critically important to the early developing brain. A spectrum of neurological disorders has been reported in older children with acquired thyroid disease, but the frequency with which these occur remains poorly defined in the literature, and much must be extrapolated from adult data. A high index of suspicion for acquired thyroid disease is paramount in the investigation of many neurological disorders of youth, as many reported sequelae of hypothyroidism and hyperthyroidism are reversible with appropriate endocrine management.  
Publication type: Journal: Review  
Source: EMBASE  

27. Title: Treatment of ankyloglossia and breastfeeding outcomes: A systematic review  
Citation: Pediatrics, June 2015, vol./is. 135/6(e1458-e1466), 0031-4005;1098-4275 (01 Jun 2015)
OBJECTIVE: Ankyloglossia is a congenital condition characterized by an abnormally short, thickened, or tight lingual frenulum that restricts tongue mobility. The objective of this study was to systematically review literature on surgical and nonsurgical treatments for infants with ankyloglossia. METHODS: Medline, PsycINFO, Cumulative Index of Nursing and Allied Health Literature, and Embase were searched up to August 2014. Two reviewers independently assessed studies against predetermined inclusion/exclusion criteria. Two reviewers independently extracted data regarding participant and intervention characteristics and outcomes and assigned quality and strength-of-evidence ratings. RESULTS: Twenty-nine studies reported breastfeeding effectiveness outcomes (5 randomized controlled trials [RCTs], 1 retrospective cohort, and 23 case series). Four RCTs reported improvements in breastfeeding efficacy by using either maternally reported or observer ratings, whereas 2 RCTs found no improvement with observer ratings. Although mothers consistently reported improved effectiveness after frenotomy, outcome measures were heterogeneous and short-term. Based on current literature, the strength of the evidence (confidence in the estimate of effect) for this issue is low. We included comparative studies published in English. The evidence base is limited, consisting of small studies, short-term outcomes, and little information to characterize participants adequately. No studies addressed nonsurgical interventions, longer-term breastfeeding or growth outcomes, or surgical intervention compared with other approaches to improve breastfeeding, such as lactation consultation. CONCLUSIONS: A small body of evidence suggests that frenotomy may be associated with mother-reported improvements in breastfeeding, and potentially in nipple pain, but with small, short-term studies with inconsistent methodology, strength of the evidence is low to insufficient.

Publication type: Journal: Review
Source: EMBASE
Full text: Available Salisbury EJournals at Pediatrics

28. Title: Treatment of ankyloglossia for reasons other than breastfeeding: A systematic review
Citation: Pediatrics, June 2015, vol./is. 135/6(e1467-1474), 0031-4005;1098-4275 (01 Jun 2015)
Author(s): Chinnadurai S., Francis D.O., Epstein R.A., Morad A., Kohanim S., McPheeters M.
Language: English
Abstract: BACKGROUND AND OBJECTIVE: Children with ankyloglossia, an abnormally short, thickened, or tight lingual frenulum, may have restricted tongue mobility and sequelae, such as speech and feeding difficulties and social concerns. We systematically reviewed literature on feeding, speech, and social outcomes of treatments for infants and children with ankyloglossia. METHODS: Medline, PsycINFO, Cumulative Index of Nursing and Allied Health Literature, and Embase were searched. Two reviewers independently assessed studies against predetermined inclusion/exclusion criteria. Two investigators independently extracted data on study populations, interventions, and outcomes and assessed study quality. RESULTS: Two randomized controlled trials, 2 cohort studies, and 11 case series assessed the effects of frenotomy on feeding, speech, and social outcomes. Bottle feeding and social concerns, such as ability to use the tongue to eat ice cream and clean the mouth, improved more in treatment groups in comparative studies. Supplementary bottle feedings decreased over time in case series. Two cohort studies reported improvement in articulation and intelligibility with treatment. Other benefits were unclear. One randomized controlled trial reported improved articulation after Z-frenuloplasty compared with horizontal-to-vertical frenuloplasty. Numerous noncomparative studies reported speech benefits posttreatment; however, studies primarily discussed modalities, with outcomes including safety or feasibility, rather than speech. We included English-language studies, and few studies addressed longer-term speech, social, or feeding outcomes; nonsurgical approaches, such as complementary and alternative medicine; and outcomes beyond infancy, when speech or social concerns may arise. CONCLUSIONS: Data are currently insufficient for assessing the effects of frenotomy on nonbreastfeeding outcomes that may be associated with ankyloglossia.

Publication type: Journal: Review
Source: EMBASE
Full text: Available Salisbury EJournals at Pediatrics

29. Title: Understanding hypopituitarism
Citation: Paediatrics and Child Health (United Kingdom), July 2015, vol./is. 25/7(295-301), 1751-7222;1878-206X (01 Jul 2015)
Language: English
Abstract: The pituitary gland releases hormones, which regulate growth, metabolism, reproduction and homeostasis. Hypopituitarism is diagnosed when there is impaired secretion of one or more of these hormones. Depending on the severity and number of hormone deficiencies present, the clinical features of hypopituitarism can vary considerably.
Infants with multiple pituitary hormone abnormalities are frequently unwell in the neonatal period whereas children with isolated growth hormone deficiency tend to present later in childhood with growth failure. Children with clinical features suggestive of a diagnosis of hypopituitarism should undergo further investigations. The diagnosis is based on a combination of the following: clinical history and examination, baseline biochemical investigations, provocative testing of the hypothalamo-pituitary axis, genetic investigations and magnetic resonance imaging (MRI). All children being investigated for possible hypopituitarism should be under the care of a paediatrician or a paediatric endocrinologist. Baseline biochemical investigations vary according to the age of the child. Detailed pituitary function tests (e.g. GH stimulation tests, water deprivation test) should be performed in a centre with expertise in endocrinology where these tests are performed regularly. This review outlines the pathophysiology, clinical presentation, diagnosis and management of hypopituitarism.

Publication type: Journal: Review
Source: EMBASE

30.Title: Ureteroscopy for stone disease in the paediatric population: a systematic review.
Citation: BJU international, Jun 2015, vol. 115, no. 6, p. 867-873 (June 2015)
Author(s): Ishii, Hiro, Griffin, Stephen, Somani, Bhaskar K
Abstract: The aim of the present review was to look at the role of ureteroscopy (URS) for treatment of paediatric stone disease. We conducted a systematic review using studies identified by a literature search between January 1990 and May 2013. All English-language articles reporting on a minimum of 50 patients aged ≤18 years treated with URS for stone disease were included. Two reviewers independently extracted the data from each study. A total of 14 studies (1718 procedures) were reported in patients with a mean (range) age of 7.8 (0.25-18.0) years. The mean (range) stone burden was 9.8 (1-30) mm and the mean (range) stone-free rate (SFR) 87.5 (58-100)% with initial therapeutic URS. The majority of these stones were in the ureter (n = 1427, 83.4%). There were 180 (10.5%) Clavien I-III complications and 38 cases (2.2%) where there was a failure to complete the initial ureteroscopic procedure and an alternative procedure was performed. To assess the impact of age on failure rate and complications, studies were subcategorized into those that included children with either a mean age <6 years (four studies, 341 procedures) or a mean age ≥6 years (10 studies, 1377 procedures). A higher failure rate (4.4 vs 1.7%) and a higher complication rate (24.0 vs 7.1%) were observed in children whose mean age was <6 years. URS for paediatric stone disease is a relatively safe procedure with a reasonably good SFR, but there seems to be a higher failure and complication rate in children aged <6 years. © 2014 The Authors. BJU International © 2014 BJU International.
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News

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