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Guidelines

National Institute for Health and Care Excellence (NICE)

Depression in children and young people: Identification and management in primary, community and secondary care
NICE guidelines [CG28] Published date: March 2015

New and Updated Cochrane Systematic Reviews

New Reviews – February 2015
As required versus fixed schedule analgesic administration for postoperative pain in children

Updated Reviews – February 2015
Acupuncture for mumps in children
Cognitive behavioural therapy for anxiety disorders in children and adolescents
Early versus late antiepileptic drug withdrawal for people with epilepsy in remission
Ibuprofen for the treatment of patent ductus arteriosus in preterm or low birth weight (or both) infants
Inositol in preterm infants at risk for or having respiratory distress syndrome
Oral lactoferrin for the prevention of sepsis and necrotizing enterocolitis in preterm infants
Protein substitute for children and adults with phenylketonuria

New from UpToDate

What’s new in paediatrics
New additions to UpToDate considered by the editors and authors to be of particular interest.
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1. Title: A practical approach to classifying and managing feeding difficulties
   Citation: Pediatrics, February 2015, vol./is. 135/2(344-353), 0031-4005;1098-4275 (01 Feb 2015)
   Author(s): Kerzner B., Milano K., MacLean W.C., Berall G., Stuart S., Chatoor I.
   Language: English
   Abstract: Many young children are thought by their parents to eat poorly. Although the majority of these children are mildly affected, a small percentage have a serious feeding disorder. Nevertheless, even mildly affected children whose anxious parents adopt inappropriate feeding practices may experience consequences. Therefore, pediatricians must take all parental concerns seriously and offer appropriate guidance. This requires a workable classification of feeding problems and a systematic approach. The classification and approach we describe incorporate more recent considerations by specialists, both medical and psychological. In our model, children are categorized under the 3 principal eating behaviors that concern parents: limited appetite, selective intake, and fear of feeding. Each category includes a range from normal (misperceived) to severe (behavioral and organic). The feeding styles of caregivers (responsive, controlling, indulgent, and neglectful) are also incorporated. The objective is to allow the physician to efficiently sort out the wide variety of conditions, categorize them for therapy, and where necessary refer to specialists in the field.
   Publication type: Journal: Article
   Source: EMBASE
   Full text: Available Salisbury EJournals at Pediatrics

2. Title: A randomized, controlled trial of oral propranolol in infantile hemangioma
   Citation: New England Journal of Medicine, February 2015, vol./is. 372/8(735-746), 0028-4793;1533-4406 (19 Feb 2015)
   Language: English
   Abstract: Background: Oral propranolol has been used to treat complicated infantile hemangiomas, although data from randomized, controlled trials to inform its use are limited. Methods: We performed a multicenter, randomized, double-blind, adaptive, phase 2-3 trial assessing the efficacy and safety of a pediatric-specific oral propranolol solution in infants 1 to 5 months of age with proliferating infantile hemangioma requiring systemic therapy. Infants were randomly assigned to receive placebo or one of four propranolol regimens (1 or 3 mg of propranolol base per kilogram of body weight per day for 3 or 6 months). A preplanned interim analysis was conducted to identify the regimen to study for the final efficacy analysis. The primary end point was success (complete or nearly complete resolution of the target hemangioma) or failure of trial treatment at week 24, as assessed by independent, centralized, blinded evaluations of standardized photographs. Results: Of 460 infants who underwent randomization, 456 received treatment. On the basis of an interim analysis of the first 188 patients who completed 24 weeks of trial treatment, the regimen of 3 mg of propranolol per kilogram per day for 6 months was selected for the final efficacy analysis. The frequency of successful treatment was higher with this regimen than with placebo (60% vs. 4%, P<0.001). A total of 88% of patients who received the selected propranolol regimen showed improvement by week 5, versus 5% of patients who received placebo. A total of 10% of patients in whom treatment with propranolol was successful required systemic retreatment during follow-up. Known adverse events associated with propranolol (hypoglycemia, hypotension, bradycardia, and bronchospasm) occurred infrequently, with no significant difference in frequency between the placebo group and the groups receiving propranolol. Conclusions: This trial showed that propranolol was effective at a dose of 3 mg per kilogram per day for 6 months in the treatment of infantile hemangioma. (Funded by Pierre Fabre Dermatologie; ClinicalTrials.gov number,
3. Title: A review of episodic and chronic pediatric headaches of brief duration

citation: Pediatric Neurology, February 2015, vol./is. 52/2(137-142), 0887-8994;1873-5150 (01 Feb 2015)

author(s): McAbee G.N.

language: English

abstract: Background Headaches that last less than an hour in duration are uncommon, except for atypical migraine, and without a practitioner's appropriate knowledge, may result in misdiagnosis. Although most of these headaches are classified as primary headache syndromes, some have secondary etiologies such as structural lesions. Methods This pediatric-specific review updates these headache syndromes. Included are atypical migraine, the trigeminal autonomic cephalgias, idiopathic stabbing headache, cranial neuralgias, occipital neuralgia, thunderclap headache, nummular headache, the red ear syndrome, and the numb-tongue syndrome. Conclusion Knowledge of the clinical characteristics of these headache patterns in children allows physicians to quickly establish the headache diagnosis and develop the optimal treatment plan.

4. Title: An approach to renal masses in pediatrics

citation: Pediatrics, January 2015, vol./is. 135/1(142-158), 0031-4005;1098-4275 (01 Jan 2015)


language: English

abstract: Renal masses in children may be discovered during routine clinical examination or incidentally during the course of diagnostic or therapeutic procedures for other causes. Renal cancers are rare in the pediatric population and include a spectrum of pathologies that may challenge the clinician in choosing the optimal treatment. Correct identification of the lesion may be difficult, and the appropriate surgical procedure is paramount for lesions suspected to be malignant. The purpose of this article is to provide a comprehensive overview regarding the spectrum of renal tumors in the pediatric population, both benign and malignant, and their surgical management.

5. Title: Assessing the efficacy of oral immunotherapy for the desensitisation of peanut allergy in children (STOP II): A phase 2 randomised controlled trial


author(s): Anagnostou K., Islam S., King Y., Foley L., Pasea L., Bond S., Palmer C., Deighton J., Ewan P., Clark A.

language: English

abstract: Background Small studies suggest peanut oral immunotherapy (OIT) might be effective in the treatment of peanut allergy. We aimed to establish the efficacy of OIT for the desensitisation of children with allergy to peanuts. Methods We did a randomised controlled crossover trial to compare the efficacy of active OIT (using characterised peanut flour; protein doses of 2-800 mg/day) with control (peanut avoidance, the present standard of care) at the NIHR/Wellcome Trust Cambridge Clinical Research Facility (Cambridge, UK). Randomisation (1:1) was by use of an audited online system; group allocation was not masked. Eligible participants were aged 7-16 years with an immediate hypersensitivity reaction after peanut ingestion, positive skin prick test to peanuts, and positive by double-blind placebo-controlled food challenge (DBPCFC). We excluded participants if they had a major chronic illness, if the care provider or a present household member had suspected or diagnosed allergy to peanuts, or if there was an unwillingness or inability to comply with study procedures. Our primary outcome was desensitisation, defined as negative peanut challenge (1400 mg protein in DBPCFC) at 6 months (first phase). Control participants underwent OIT during the second phase, with subsequent DBPCFC. Immunological parameters and disease-specific quality-of-life scores were measured. Analysis was by intention to treat. Fisher's exact test was used to compare the proportion of those with desensitisation to peanut after 6 months between the active and control group at the end of the first phase. This trial is registered with Current Controlled Trials, number ISRCTN62416244. Findings The primary outcome, desensitisation, was recorded for 62% (24 of 39 participants; 95% CI 45-78) in the active group and none of the control group after the first phase (0 of 46; 95% CI 0-9; p<0001). 84% (95% CI 70-93) of the active group tolerated daily ingestion of 800 mg protein (equivalent to roughly five peanuts). Median increase in peanut threshold...
after OIT was 1345 mg (range 45-1400; p<0001) or 255 times (range 182-280; p<0001). After the second phase, 54% (95% CI 35-72) tolerated 1400 mg challenge (equivalent to roughly ten peanuts) and 91% (79-98) tolerated daily ingestion of 800 mg protein. Quality-of-life scores improved (decreased) after OIT (median change -161; p<0001). Side-effects were mild in most participants. Gastrointestinal symptoms were, collectively, most common (31 participants with nausea, 31 with vomiting, and one with diarrhoea), then oral pruritus after 63% of doses (76 participants) and wheeze after 041% of doses (21 participants). Intramuscular adrenaline was used after 001% of doses (one participant). Interpretation OIT successfully induced desensitisation in most children within the study population with peanut allergy of any severity, with a clinically meaningful increase in peanut threshold. Quality of life improved after intervention and there was a good safety profile. Immunological changes corresponded with clinical desensitisation. Further studies in wider populations are recommended; peanut OIT should not be done in non-specialist settings, but it is effective and well tolerated in the studied age group.

**Publication type:** Journal: Article  
**Source:** EMBASE  
**Full text:** Available **Lancet** at Lancet, The

**6. Title:** Benefits of strict rest after acute concussion: A randomized controlled trial  
**Citation:** Pediatrics, February 2015, vol./is. 135/2(213-223), 0031-4005;1098-4275 (01 Feb 2015)  
**Author(s):** Thomas D.G., Apps J.N., Hoffmann R.G., McCrea M., Hammeke T.  
**Language:** English  
**Abstract:** OBJECTIVES: To determine if recommending strict rest improved concussion recovery and outcome after discharge from the pediatric emergency department (ED). METHODS: Patients aged 11 to 22 years presenting to a pediatric ED within 24 hours of concussion were recruited. Participants underwent neurocognitive, balance, and symptom assessment in the ED and were randomized to strict rest for 5 days versus usual care (1-2 days rest, followed by stepwise return to activity). Patients completed a diary used to record physical and mental activity level, calculate energy exertion, and record daily postconcussive symptoms. Neurocognitive and balance assessments were performed at 3 and 10 days postinjury. Sample size calculations were powered to detect clinically meaningful differences in postconcussive symptom, neurocognitive, and balance scores between treatment groups. Linear mixed modeling was used to detect contributions of group assignment to individual recovery trajectory. RESULTS: Ninety-nine patients were enrolled; 88 completed all study procedures (45 intervention, 43 control). Postdischarge, both groups reported a 20% decrease in energy exertion and physical activity levels. As expected, the intervention group reported less school and after-school attendance for days 2 to 5 postconcussion (3.8 vs 6.7 hours total, P < .05). There was no clinically significant difference in neurocognitive or balance outcomes. However, the intervention group reported more daily postconcussive symptoms (total symptom score over 10 days, 187.9 vs 131.9, P < .03) and slower symptom resolution. CONCLUSIONS: Recommending strict rest for adolescents immediately after concussion offered no added benefit over the usual care. Adolescents’ symptom reporting was influenced by recommending strict rest.

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

**7. Title:** Bullying and suicidal ideation and behaviors: A meta-analysis  
**Citation:** Pediatrics, February 2015, vol./is. 135/2(e496-e509), 0031-4005;1098-4275 (01 Feb 2015)  
**Language:** English  
**Abstract:** BACKGROUND AND OBJECTIVES: Over the last decade there has been increased attention to the association between bullying involvement (as a victim, perpetrator, or bully-victim) and suicidal ideation/behaviors. We conducted a meta-analysis to estimate the association between bullying involvement and suicidal ideation and behaviors. METHODS: We searched multiple online databases and reviewed reference sections of articles derived from searches to identify cross-sectional studies published through July 2013. Using search terms associated with bullying, suicide, and youth, 47 studies (38.3% from the United States, 61.7% in non-US samples) met inclusion criteria. Seven observers independently coded studies and met in pairs to reach consensus. RESULTS: Six different meta-analyses were conducted by using 3 predictors (bullying victimization, bullying perpetration, and bully/victim status) and 2 outcomes (suicidal ideation and suicidal behaviors). A total of 280 effect sizes were extracted and multilevel, random effects meta-analyses were performed. Results indicated that each of the predictors were associated with risk for suicidal ideation and behavior (range, 2.12 [95% confidence interval (CI), 1.67-2.69] to 4.02
[95% CI, 2.39-6.76]). Significant heterogeneity remained across each analysis. The bullying perpetration and suicidal behavior effect sizes were moderated by the study's country of origin; the bully/victim status and suicidal ideation results were moderated by bullying assessment method. CONCLUSIONS: Findings demonstrated that involvement in bullying in any capacity is associated with suicidal ideation and behavior. Future research should address mental health implications of bullying involvement to prevent suicidal ideation/behavior.

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

8.Title: Cerebral near infrared spectroscopy oximetry in extremely preterm infants: Phase II randomised clinical trial
Citation: BMJ (Online), January 2015, vol./is. 350/, 0959-8146;1756-1833 (05 Jan 2015)
Language: English
Abstract: Objective: To determine if it is possible to stabilise the cerebral oxygenation of extremely preterm infants monitored by cerebral near infrared spectroscopy (NIRS) oximetry. Design: Phase II randomised, single blinded, parallel clinical trial. Setting Eight tertiary neonatal intensive care units in eight European countries. Participants: 166 extremely preterm infants born before 28 weeks of gestation: 86 were randomised to cerebral NIRS monitoring and 80 to blinded NIRS monitoring. The only exclusion criterion was a decision not to provide life support. Interventions: Monitoring of cerebral oxygenation using NIRS in combination with a dedicated treatment guideline during the first 72 hours of life (experimental) compared with blinded NIRS oxygenation monitoring with standard care (control). Main outcome measures: The primary outcome measure was the time spent outside the target range of 55-85% for cerebral oxygenation multiplied by the mean absolute deviation, expressed in %hours (burden of hypoxia and hyperoxia). One hour with an oxygenation of 50% gives 5%hours of hypoxia. Secondary outcomes were all cause mortality at term equivalent age and a brain injury score assessed by cerebral ultrasonography. Randomisation: Allocation sequence 1:1 with block sizes 4 and 6 in random order concealed for the investigators. The allocation was stratified for gestational age (<26 weeks or >26 weeks). Blinding: Cerebral oxygenation measurements were blinded in the control group. All outcome assessors were blinded to group allocation. Results: The 86 infants randomised to the NIRS group had a median burden of hypoxia and hyperoxia of 36.1%hours (interquartile range 9.2-79.5%hours) compared with 81.3 (38.5-181.3) %hours in the control group, a reduction of 58% (95% confidence interval 35% to 73%, P<0.001). In the experimental group the median burden of hypoxia was 16.6 (interquartile range 5.4-68.1) %hours, compared with 53.6 (17.4-171.3) %hours in the control group (P=0.0012). The median burden of hyperoxia was similar between the groups: 1.2 (interquartile range 0.3-9.6) %hours in the experimental group compared with 1.1 (0.1-23.4) %hours in the control group (P=0.98). We found no statistically significant differences between the two groups at term corrected age. No severe adverse reactions were associated with the device. Conclusions: Cerebral oxygenation was stabilised in extremely preterm infants using a dedicated treatment guideline in combination with cerebral NIRS monitoring. Trial registration: ClinicalTrial.gov NCT01590316.
Publication type: Journal: Article
Source: EMBASE
Full text: Available BMJ (Clinical research ed.) at The BMJ

9.Title: Childhood body mass index and wheezing disorders: A systematic review and meta-analysis
Citation: Pediatric Allergy and Immunology, February 2015, vol./is. 26/1(62-72), 0905-6157;1399-3038 (01 Feb 2015)
Author(s): Mebrahtu T.F., Feltbower R.G., Greenwood D.C., Parslow R.C.
Language: English
Abstract: Background: It has been claimed that overweight/obesity, childhood asthma and wheezing disorders are associated, although the results of observational studies have remained inconsistent. We conducted a systematic review and meta-analysis to investigate this. Methods: An online search of published papers linking childhood asthma and wheezing with overweight/obesity up to May 2014 using EMBASE and MEDLINE medical research databases was carried out. Summary odds ratios (OR) were estimated using random-effects models. Subgroup meta-analyses were performed to assess the robustness of risk associations and between-study heterogeneity. Results: A total of 38 studies comprising 1,411,335 participants were included in our meta-analysis. The summary ORs of underweight (<5th percentile), overweight (>85th to <95th percentile) and obesity (>95th percentile) were 0.85 (95% CI: 0.75 to 0.97; p = 0.02), 1.23 (95% CI: 1.17 to 1.29; p < 0.001) and 1.46 (95% CI: 1.36 to 1.57, p < 0.001), respectively. Heterogeneity was significant and substantial in all three weight categories, and not accounted for by
pre-defined study characteristics. Conclusion: Our results suggest that underweight is associated with a reduced risk of childhood asthma, and overweight and obesity are associated with an increased risk of childhood asthma. Although our findings assert that overweight/obesity and childhood asthma are associated, the causal pathway and temporal aspects of this relationship remain unanswered and deserve further epidemiological investigation.

**Publication type:** Journal: Review

**Source:** EMBASE

10. **Title:** Chorioamnionitis: Implications for the neonate  
**Citation:** Clinics in Perinatology, March 2015, vol./is. 42/1(155-165), 0095-5108;1557-9840 (01 Mar 2015)  
**Author(s):** Ericson J.E., Laughon M.M.  
**Language:** English  
**Abstract:** Chorioamnionitis (CA) is characterized by inflammation of the fetal membranes. The incidence increases with decreasing gestational age at birth. When suspected on clinical criteria, pathologic assessment of the placenta should be performed. Although the mechanisms are not entirely clear, CA predisposes to premature birth, neonatal sepsis, and intraventricular hemorrhage. Its role in respiratory distress syndrome, bronchopulmonary dysplasia, and neurodevelopmental impairment is mixed. Prevention and treatment are ill-defined; antibiotics for preterm premature rupture of membranes reduce the incidence and increase the length of time to delivery. Antibiotics are recommended for infants exposed to CA while laboratory studies are being performed.

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

11. **Title:** Clinical presentation and microbiological diagnosis in paediatric respiratory tract infection: A systematic review  
**Citation:** British Journal of General Practice, February 2015, vol./is. 65/631(e69-e81), 0960-1643 (01 Feb 2015)  
**Author(s):** Thornton H.V., Blair P.S., Lovering A.M., Muir P., Hay A.D.  
**Language:** English  
**Abstract:** Background: Antibiotic prescribing decisions for respiratory tract infection (RTI) in primary care could be improved if clinicians could target bacterial infections. However, there are currently no evidence-based diagnostic rules to identify microbial aetiology in children presenting with acute RTIs. Aim: To analyse evidence of associations between clinical symptoms or signs and detection of microbes from the upper respiratory tract (URT) of children with acute cough. Design and setting: Systematic review and meta-analysis. Method: A literature search identified articles reporting relationships between individual symptoms and/or signs, and microbes detected from URT samples. Associations between pathogens and symptoms or signs were summarised, and meta-analysis conducted where possible. Results: There were 9984 articles identified, of which 28 met inclusion criteria. Studies identified 30 symptoms and 41 signs for 23 microbes, yielding 1704 potential associations, of which only 226 (13%) have presently been investigated. Of these, relevant statistical analyses were presented for 175 associations, of which 25% were significant. Meta-analysis demonstrated significant relationships between respiratory syncytial virus (RSV) detection and chest retractions (pooled odds ratio [OR] 1.9, 95% confidence interval [CI] = 1.6 to 2.3), wheeze (pooled OR 1.7, 95% CI = 1.5 to 2.0), and crepitations/crackles (pooled OR 1.7, 95% CI = 1.3 to 2.2). Conclusions: There was an absence of evidence for URT pathogens other than RSV. The meta-analysis identified clinical signs associated with RSV detection, suggesting clinical presentation may offer some, albeit poor, diagnostic value. Further research is urgently needed to establish the value of symptoms and signs in determining microbiological aetiology and improve targeting of antibiotics in primary care.

**Publication type:** Journal: Article  
**Source:** EMBASE

12. **Title:** Development of hospital-based guidelines for skeletal survey in young children with bruises  
**Citation:** Pediatrics, February 2015, vol./is. 135/2(e312-e320), 0031-4005;1098-4275 (01 Feb 2015)  
**Author(s):** Wood J.N., Fakeye O., Mondestin V., Rubin D.M., Localio R., Feudtner C.  
**Language:** English  
**Abstract:** OBJECTIVE: To develop guidelines for performing an initial skeletal survey (SS) for children <24 months of age presenting with bruising in the hospital setting, combining available evidence with expert opinion. METHODS: Applying the Rand/UCLA Appropriateness Method, a multispecialty panel of 10 experts relied on evidence from the literature and their own clinical expertise in rating the appropriateness of performing SS for 198 clinical scenarios characterizing children <24 months old with bruising. After a moderated discussion of initial ratings, the scenarios were revised. Panelists re-rated SS appropriateness for 219 revised scenarios. For the 136 clinical scenarios in which SS was deemed appropriate, the panel finally assessed the necessity of SS. RESULTS: Panelists agreed that SS is
"appropriate" for 62% (136/219) of scenarios, and "inappropriate" for children >12 months old with nonpatterned bruising on bony prominences. Panelists agreed that SS is "necessary" for 95% (129/136) of the appropriate scenarios. SS was deemed necessary for infants 6 months old regardless of bruise location, with rare exceptions, but the necessity of SS in older children depends on bruise location. According to the panelists, bruising on the cheek, eye area, ear, neck, upper arm, upper leg, hand, foot, torso, buttock, or genital area necessitates SS in children <12 months. CONCLUSIONS: The appropriateness and necessity of SS in children presenting for care to the hospital setting with bruising, as determined by a diverse panel of experts, depends on age of the child and location of bruising.

**Publication type:** Journal: Article

**Source:** EMBASE

**Full text:** Available Salisbury EJournals at *Pediatrics*

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13. **Title:** Diagnosing significant PDA using natriuretic peptides in preterm neonates: A systematic review

**Citation:** Pediatrics, February 2015, vol./is. 135/2(e510-e525), 0031-4005;1098-4275 (01 Feb 2015)

**Author(s):** Kulkarni M., Gokulakrishnan G., Price J., Fernandes C.J., Leeflang M., Pammi M.

**Language:** English

**Abstract:** BACKGROUND AND OBJECTIVES: Echocardiogram is the gold standard for the diagnosis of hemodynamically significant patent ductus arteriosus (hsPDA) in preterm neonates. A simple blood assay for brain natriuretic peptide (BNP) or amino-terminal pro-B-type natriuretic peptide (NT-proBNP) may be useful in the diagnosis and management of hsPDA. Our objectives were to determine the diagnostic accuracy of BNP and NT-proBNP for hsPDA in preterm neonates and to explore heterogeneity by analyzing subgroups. METHODS: The systematic review was performed as recommended by the Cochrane Diagnostic Test Accuracy Working Group. Electronic databases, conference abstracts, and cross-references were searched. We included studies that evaluated BNP or NT-proBNP (index test) in preterm neonates with suspected hsPDA (participants) in comparison with echocardiogram (reference standard). A bivariate random effects model was used for meta-analysis, and summary receiver operating characteristic curves were generated. RESULTS: Ten BNP and 11 NT-proBNP studies were included. Studies varied by methodological quality, type of commercial assay, thresholds, age at testing, gestational age, and whether the assay was used to initiate medical or surgical therapy. Sensitivity and specificity for BNP at summary point were 88% and 92%, respectively, and for NT-proBNP they were 90% and 84%, respectively. CONCLUSIONS: The studies evaluating the diagnostic accuracy of BNP and NT-proBNP for hsPDA varied widely by assay characteristics (assay kit and threshold) and patient characteristics (gestational and chronological age); therefore, generalizability between centers is not possible. We recommend that BNP or NT-proBNP assays be locally validated for specific patient population and outcomes, to initiate therapy or follow response to therapy.

**Publication type:** Journal: Article

**Source:** EMBASE

**Full text:** Available Salisbury EJournals at *Pediatrics*

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14. **Title:** Duration of pertussis immunity after DTaP immunization: A meta-analysis

**Citation:** Pediatrics, February 2015, vol./is. 135/2(331-343), 0031-4005;1098-4275 (01 Feb 2015)

**Author(s):** McGirr A., Fisman D.N.

**Language:** English

**Abstract:** BACKGROUND AND OBJECTIVES: Pertussis incidence is increasing, possibly due to the introduction of abstract acellular vaccines, which may have decreased the durability of immune response. We sought to evaluate and compare the duration of protective immunity conferred by a childhood immunization series with 3 or 5 doses of diphtheria-tetanus-acellular pertussis (DTaP). METHODS: We searched Medline and Embase for articles published before October 10, 2013. Included studies contained a measure of long-term immunity to pertussis after 3 or 5 doses of DTaP. Twelve articles were eligible for inclusion; 11 of these were included in the meta-analysis. We assessed study quality and used meta-regression models to evaluate the relationship between the odds of pertussis and time since last dose of DTaP and to estimate the probability of vaccine failure through time. RESULTS: We found no significant difference between the annual odds of pertussis for the 3- versus 5-dose DTaP regimens. For every additional year after the last dose of DTaP, the odds of pertussis increased by 1.33 times (95% confidence interval: 1.23-1.43). Assuming 85% vaccine efficacy, we estimated that 10% of children vaccinated with DTaP would be immune to pertussis 8.5 years after the last dose. Limitations included the statistical model extrapolated from data and the different study designs included, most of which were observational study designs. CONCLUSIONS: Although acellular pertussis vaccines are considered safer, the adoption of these vaccines may necessitate earlier booster vaccination and repeated boosting strategies to achieve necessary "herd effects " to control the spread of pertussis.

**Publication type:** Journal: Article
15. **Title:** Efficacy and safety of pharmacological and psychological interventions for the treatment of psychosis and schizophrenia in children, adolescents and young adults: A systematic review and meta-analysis  
**Citation:** PLoS ONE, February 2015, vol./is. 10/2, 1932-6203 (11 Feb 2015)  
**Author(s):** Stafford M.R., Mayo-Wilson E., Loucas C.E., James A., Hollis C., Birchwood M., Kendall T.  
**Language:** English  
**Abstract:** Background: Studies report contrasting results regarding the efficacy and safety of pharmacological, psychological, and combined interventions in psychosis and schizophrenia in children, adolescents and young adults.  
Methods: Systematic review and meta-analysis. Embase, Medline, PreMedline, PsycINFO, and CENTRAL were searched to July 2013 without restriction to publication status. Randomised trials comparing any pharmacological, psychological, or combined intervention for psychosis and schizophrenia in children, adolescents and young adults were included. Studies were assessed for bias, and GRADE criteria were used to describe the quality of the results.  
Results: Twenty-seven trials including 3067 participants were identified. Meta-analyses were performed for 12 comparisons: symptoms, relapse, global state, psychosocial functioning, depression, weight and discontinuation. Low quality evidence demonstrated that antipsychotics have small beneficial effects on psychotic symptoms (SMD = -0.42, 95% CI -0.58 to -0.26), and a medium adverse effect on weight gain (WMD = 1.61, 95% CI 0.61 to 2.60) and discontinuation due to side effects (RR = 2.44, 95% CI, 1.12 to 5.31). There were no trials of psychological treatments in under-18 year olds. There was no evidence of an effect of psychological interventions on psychotic symptoms in an acute episode, or relapse rate, but low quality evidence of a large effect for family plus individual CBT on the number of days to relapse (WMD = 32.25, 95% CI -36.52 to -27.98). Conclusions: For children, adolescents and young adults, the balance of risk and benefit of antipsychotics appears less favourable than in adults. Research is needed to establish the potential for psychological treatments, alone and in combination with antipsychotics, in this population.  
**Publication type:** Journal: Article  
**Source:** EMBASE  
**Full text:** Available ProQuest at PLoS ONE

16. **Title:** Eradicating polio: How the world's pediatricians can help stop this crippling illness forever  
**Citation:** Pediatrics, January 2015, vol./is. 135/1(196-202), 0031-4005;1098-4275 (01 Jan 2015)  
**Language:** English  
**Abstract:** The American Academy of Pediatrics strongly supports the Polio Eradication and Endgame Strategic Plan of the Global Polio Eradication Initiative. This plan was endorsed in November 2012 by the Strategic Advisory Group of Experts on Immunization of the World Health Organization and published by the World Health Organization in April 2013. As a key component of the plan, it will be necessary to stop oral polio vaccine (OPV) use globally to achieve eradication, because the attenuated viruses in the vaccine rarely can cause polio. The plan includes procedures for elimination of vaccine-associated paralytic polio and circulating vaccine-derived polioviruses (cVDPVs). cVDPVs can proliferate when vaccine viruses are transmitted among susceptible people, resulting in mutations conferring both the neurovirulence and transmissibility characteristics of wild polioviruses. Although there are 3 different types of wild poliovirus strains, the polio eradication effort has already resulted in the global elimination of type 2 poliovirus for more than a decade. Type 3 poliovirus may be eliminated because the wild type 3 poliovirus was last detected in 2012. Thus, of the 3 wild types, only wild type 1 poliovirus is still known to be circulating and causing disease. OPV remains the key vaccine for eradicating wild polioviruses in polio-infected countries because it induces high levels of systemic immunity to prevent paralysis and intestinal immunity to reduce transmission. However, OPV is a rare cause of paralysis and the substantial decrease in wild-type disease has resulted in estimates that the vaccine is causing more polio-related paralysis annually in recent years than the wild virus. The new endgame strategic plan calls for stepwise removal of the type 2 poliovirus component from trivalent oral vaccines, because type 2 wild poliovirus appears to have been eradicated (since 1999) and yet is the main cause of cVDPV outbreaks and approximately 40% of vaccine-associated paralytic polio cases. The Endgame and Strategic Plan will be accomplished by shifting from trivalent OPV to bivalent OPV (containing types 1 and 3 poliovirus only). It will be necessary to introduce trivalent inactivated poliovirus vaccine (IPV) into routine immunization programs in all countries using OPV to provide population immunity to type 2 before the switch from trivalent OPV to bivalent OPV. The Global Polio Eradication Initiative hopes to achieve global eradication of polio by 2018 with this strategy, after which all OPV use
will be stopped. Challenges expected for adding IPV into routine immunization schedules include higher cost of IPV compared with OPV, cold-chain capacity limits, more complex administration of vaccine because IPV requires injections as opposed to oral administration, and inferior intestinal immunity conferred by IPV. The goal of this report is to help pediatricians understand the change in strategy and outline ways that pediatricians can help global polio eradication efforts, including advocating for the resources needed to accomplish polio eradication and for incorporation of IPV into routine immunization programs in all countries.

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

17. Title: Is physiotherapy effective in the management of child and adolescent conversion disorder? A systematic review  
Citation: Journal of Paediatrics and Child Health, February 2015, vol./is. 51/2(159-167), 1034-4810;1440-1754 (01 Feb 2015)  
Language: English  
Abstract: Child and adolescent conversion disorder has the potential to impart significant burden on health-care services and affect quality of life. Clinically, physiotherapists are involved in conversion disorder management; however, no systematic reviews have examined physiotherapy effectiveness in its management. The aim of this review is to identify the efficacy of physiotherapy management of child and adolescent conversion disorder. A search of multiple databases (Medline, CINAHL, Embase, PsycINFO, PEDro and the Cochrane Library) was completed along with manual searching of relevant reference lists to identify articles including children 0-18 years with a diagnosis of conversion disorder who received physical management. Two independent reviewers screened titles and abstracts using criteria. Data were extracted regarding study characteristics, functional outcome measures, length of stay, physiotherapy service duration and resolution of conversion symptoms. Methodological quality was assessed using a tool designed for observational studies. Twelve observational studies were included. No functional outcome measures were used to assess the effectiveness of the treatment protocols in the case studies. Resolution of symptoms occurred in all but two cases, with conversion symptoms still present at 11 months and at 2 years. Length of stay varied from 3 days to 16 weeks, with similar variation evident in length of physiotherapy service provision (2.5 weeks to 16 weeks). There was limited and poor quality evidence to establish the efficacy of physiotherapy management of child and adolescent conversion disorders. More rigorous study designs with consistent use of reliable, valid and sensitive functional outcome measures are needed in this area.

Publication type: Journal: Review  
Source: EMBASE

18. Title: Memory in children with epilepsy: A systematic review  
Citation: Seizure, February 2015, vol./is. 25/(126-135), 1059-1311;1532-2688 (01 Feb 2015)  
Author(s): Menlove L., Reilly C.  
Language: English  
Abstract: Purpose Research suggests an increased risk for cognitive impairment in childhood epilepsy with memory being one area of cognition most likely to be affected. Understanding the prevalence and predictors of memory difficulties may help improve awareness of the difficulties and allow efficacious supports to be put in place. Method A systematic review was carried out using the search terms 'memory', 'children' and 'epilepsy' in the database PUBMED. Eighty-eight studies met inclusion criteria. The review focuses on comparisons of memory scores of children with epilepsy and controls, and comparison of memory scores of children with epilepsy to normative scores. Predictors of memory impairment and the effect of surgery on memory functioning are also reviewed. Results The majority (78%) of studies reviewed revealed that children with epilepsy scored lower than controls and normative scores on measures of memory. Post-surgery, memory scores were reported to improve in 50% of studies. Predictors of memory impairment included a greater number of AEDs used, younger age of onset, increased seizure frequency and longer duration of epilepsy. Conclusion Children with epilepsy have a high frequency of memory impairments. However, the exact prevalence of difficulties is not clear due to the lack of population-based data. Most studies have not controlled for IQ and thus it is unclear if difficulties are always related to global cognitive difficulties. There is need for future population-based studies and studies focussing on the neurobiology of memory problems in children with epilepsy.

Publication type: Journal: Article  
Source: EMBASE
19. Title: Modern Stone Management in Children
Citation: European Urology, Supplements, April 2015, vol./is. 14/1(12-19), 1569-9056;1878-1500 (01 Apr 2015)
Author(s): Landau E.H.
Language: English
Abstract: Shock wave lithotripsy (SWL) for the treatment of pediatric stone disease was initiated almost three decades ago, ushering in a new era of noninvasive techniques for stone disintegration in children. Initially, all urinary stones—regardless of their size, site, or composition—were treated by this modality, eliminating the necessity of open surgery. SWL became less painful and more accessible for children when modern modular lithotripters, with smaller foci and better stone-targeting options, were introduced. Stone-free rates (SFRs) vary between 46% and 100%, depending on patient, lithotripter, and stone factors. Short- and long-term complications are rare. Recent refinements in endoscope design and intrarenal and ureteral imaging have added percutaneous nephrolithotomy (PCNL) and ureteroscopy (URS) as alternatives to SWL for stone disintegration in children and infants. The main advantage of these modalities over SWL is their ability to actively remove stone fragments from the urinary system to achieve better SFRs compared with SWL in ureteral and large renal calculi. Current stone management guidelines for children have been established and updated by the European Association of Urology. Hand- and robot-assisted laparoscopic pyelolithotomy have recently been introduced for special cases. We conclude that SWL is an effective and safe treatment modality for small renal stones and for upper ureteral calculi but not for cystine stones. URS is very efficient for distal ureteral stones and recently has become more popular for renal stones. PCNL is the first-line treatment for large or staghorn calculi. Extra- and intracorporeal lithotripsy are safe and efficient for the treatment of pediatric stone disease. These modalities have entirely replaced open stone surgery in children.
Publication type: Journal: Review
Source: EMBASE

20. Title: Morphine or ibuprofen for post-tonsillectomy analgesia: A randomized trial
Citation: Pediatrics, February 2015, vol./is. 135/2(307-313), 0031-4005;1098-4275 (01 Feb 2015)
Author(s): Kelly L.E., Sommer D.D., Ramakrishna J., Hoffbauer S., Arbab-Tafti S., Reid D., Maclean J., Koren G.
Language: English
Abstract: BACKGROUND: Pediatric sleep disordered breathing is often caused by hypertrophy of the tonsils and is commonly managed by tonsillectomy. There is controversy regarding which postsurgical analgesic agents are safe and efficacious. METHODS: This prospective randomized clinical trial recruited children who had sleep disordered breathing who were scheduled for tonsillectomy +/- adenoid removal. Parents were provided with a pulse oximeter to measure oxygen saturation and apnea events the night before and the night after surgery. Children were randomized to receive acetaminophen with either 0.2-0.5 mg/kg oral morphine or 10 mg/kg of oral ibuprofen. The Objective Pain Scale and Faces Scale were used to assess effectiveness on postoperative day 1 and day 5. The primary endpoint was changes in respiratory parameters during sleep. RESULTS: A total of 91 children aged 1 to 10 years were randomized. On the first postoperative night, with respect to oxygen desaturations, 86% of children did not show improvement in the morphine group, whereas 68% of ibuprofen patients did show improvement (14% vs 68%; P < .01). The number of desaturation events increased substantially in the morphine group, with an average increase of 11.17 +/- 15.02 desaturation events per hour (P < .01). There were no differences seen in analgesic effectiveness, tonsillar bleeding, or adverse drug reactions. CONCLUSIONS: Ibuprofen in combination with acetaminophen provides safe and effective analgesia in children undergoing tonsillectomy. Post-tonsillectomy morphine use should be limited, as it may be unsafe in certain children.
Publication type: Journal: Article
Source: EMBASE
Full text: Available Salisbury EJournals at Pediatrics

21. Title: Neonatal hyperbilirubinemia and childhood allergic diseases: A systematic review
Citation: Pediatric Allergy and Immunology, February 2015, vol./is. 26/1(2-11), 0905-6157;1399-3038 (01 Feb 2015)
Author(s): Das R.R., Naik S.S.
Language: English
Abstract: Studies have found a link between neonatal hyperbilirubinemia (NNH) and/or neonatal phototherapy (NPT) and childhood allergic diseases. The present systematic review was conducted to provide updated evidence and to provide direction regarding future research. A systematic search of the published literature was carried out. Observational studies including children up to 12 yr of age were included. Data extraction was carried out using a standardized data extraction form that was designed and pilot tested a priori. The analysis was carried out with the statistical software RevMan (version 5.2) [Protocol is registered at PROSPERO: CRD42014009943]. Of 79 citations retrieved, a total of 7 good quality studies (n = 101,499) were included in the final analysis. There was a significant
increase in the odds of asthma and allergic rhinitis (AR) after NNH [asthma, OR 4.26 (95% CI 4.04-4.5); AR, OR 5.37 (95% CI 4.16-6.92)] and after NPT [asthma, OR 3.81 (95% CI 3.53-4.11); AR, OR 3.04(95% CI 2.13-4.32)]. A similar increase in the trend was noted for late onset of asthma after NNH [OR 4.1 (95% CI 2.82-5.94)], and hospitalization due to asthma after NPT [OR 3.56 (95% CI 2.93-4.33)]. The GRADE evidence generated was of 'low quality'. The current evidence finds a significant increase in the odds of childhood allergic diseases after NNH and/or NPT. As observational studies were included, the evidence generated was of 'low quality'. Future studies should try to elucidate the pathophysiologic link between NNH and/or NPT and childhood allergic diseases.

**Publication type:** Journal: Review

**Source:** EMBASE

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22. **Title:** Neurodevelopmental outcome of infantile spasms: A systematic review and meta-analysis

**Citation:** Epilepsy Research, 2015, vol./is. 109/1(155-162), 0920-1211;1872-6844 (2015)

**Author(s):** Widjaja E., Go C., McCoy B., Snead O.C.

**Language:** English

**Abstract:** Background: The aims of this systematic review and meta-analysis were to assess (i) estimates of good neurodevelopmental outcome in infantile spasms (IS), (ii) if neurodevelopmental outcome has changed since the publication of the first guideline on medical treatment of IS in 2004 and (iii) effect of lead time to treatment (LTTT)

**Methods:** The Medline, Embase, Cochrane, PsyclINFO, Web of Science and Scopus databases, and reference lists of retrieved articles were searched

**Studies inclusion criteria were:** (i) >5 patients with IS, (ii) mean/median follow-up of >6 months, (iii) neurodevelopmental outcome, and (iv) randomized and observational studies

**The data extracted included proportion of good neurodevelopmental outcome, year of publication, cryptogenic or symptomatic IS and LTTT Results:** Of the 1436 citations screened, 55 articles were included in final analysis, with a total of 2967 patients

**The pooled estimate for good neurodevelopmental outcome was 0.236 (95% CI: 0.193-0.286)**

There was no difference between the proportions of good neurodevelopmental outcome for the 21 studies published after 2004 [0.264 (95% CI: 0.197-0.344)] compared to the 34 studies published before 2004 [0.220 (95% CI: 0.168-0.283)] (Q value=0.862, p=0.353)

The pooled estimate of good neurodevelopmental outcome for cryptogenic IS [0.543 (95% CI: 0.458-0.625)] was higher than symptomatic IS [0.125 (95% CI: 0.09-0.171)] (Q value=69.724, p<0.001)

Risk ratio of LTTT <4 weeks relative to >4 weeks for good neurodevelopmental outcome of 8 studies was 1.519 (95% CI: 1.064-2.169) Conclusion: Neurodevelopmental outcome was overall poor in patients with IS and has not changed since the publication of first guideline on IS

Although cryptogenic IS has better prognosis than symptomatic IS, the outcome for cryptogenic IS remained poor There was heterogeneity in neurodevelopmental outcome ascertainment methods, highlighting the need for a more standardized and comprehensive assessment of cognitive, behavioural, emotional and functional outcomes.

**Publication type:** Journal: Article

**Source:** EMBASE

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23. **Title:** New antibiotic dosing in infants

**Citation:** Clinics in Perinatology, March 2015, vol./is. 42/1(105-117), 0095-5108;1557-9840 (01 Mar 2015)

**Author(s):** Pineda L.C., Watt K.M.

**Language:** English

**Abstract:** To prevent the devastating consequences of infection, most infants admitted to the neonatal intensive care unit are exposed to antibiotics. However, dosing regimens are often extrapolated from data in adults and older children, increasing the risk for drug toxicity and lack of clinical efficacy because they fail to account for developmental changes in infant physiology. However, newer technologies are emerging with minimal-risk study designs, including ultra-low-volume assays, pharmacokinetic modeling and simulation, and opportunistic drug protocols. With minimal-risk study designs, pharmacokinetic data and dosing regimens for infants are now available for ampicillin, clindamycin, meropenem, metronidazole, and piperacillin/tazobactam.

**Publication type:** Journal: Review

**Source:** EMBASE

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24. **Title:** Outcome after resuscitation beyond 30 minutes in drowned children with cardiac arrest and hypothermia: Dutch nationwide retrospective cohort study

**Citation:** BMJ (Online), February 2015, vol./is. 350/, 0959-8146;1756-1833 (10 Feb 2015)

**Author(s):** Kieboom J.K., Verkade H.J., Burgerhof J.G., Bierens J.J., Van Rheenen P.F., Kneyber M.C., Albers M.J.

**Language:** English

**Abstract:** Objectives To evaluate the outcome of drowned children with cardiac arrest and hypothermia, and to determine distinct criteria for termination of cardiopulmonary resuscitation in drowned children with hypothermia
and absence of spontaneous circulation. Design Nationwide retrospective cohort study. Setting Emergency departments and paediatric intensive care units of the eight university medical centres in the Netherlands. Participants Children aged up to 16 with cardiac arrest and hypothermia after drowning, who presented at emergency departments and/or were admitted to intensive care. Main outcome measure Survival and neurological outcome one year after the drowning incident. Poor outcome was defined as death or survival in a vegetative state or with severe neurological disability (paediatric cerebral performance category (PCPC) = 4). Results From 1993 to 2012, 160 children presented with cardiac arrest and hypothermia after drowning. In 98 (61%) of these children resuscitation was performed for more than 30 minutes (98/160, median duration 60 minutes), of whom 87 (89%) died (95% confidence interval 83% to 95%; 87/98). Eleven of the 98 children survived (11%, 5% to 17%), but all had a PCPC score = 4. In the 62 (39%) children who did not require prolonged resuscitation, 17 (27%, 16% to 38%) survived with a PCPC score = 3 after one year: 10 (6%) had a good neurological outcome (score 1), five (3%) had mild neurological disability (score 2), and two (1%) had moderate neurological disability (score 3). From the original 160 children, only 44 were alive at one year with any outcome. Conclusions Drowned children in whom return of spontaneous circulation is not achieved within 30 minutes of advanced life support have an extremely poor outcome. Good neurological outcome is more likely when spontaneous circulation returns within 30 minutes of advanced life support, especially when the drowning incident occurs in winter. These findings question the therapeutic value of resuscitation beyond 30 minutes in drowned children with cardiac arrest and hypothermia.

Publication type: Journal: Article
Source: EMBASE
Full text: Available BMJ (Clinical research ed.) at The BMJ

25. Title: Part i - Evaluation of pediatric post-traumatic headaches
Citation: Pediatric Neurology, March 2015, vol./is. 52/3(263-269), 0887-8994;1873-5150 (01 Mar 2015)
Author(s): Pinchesky E., Dubrovsky A.S., Friedman D., Shevell M.
Language: English
Abstract: Background Brain injury is one of the most common injuries in the pediatric age group, and post-traumatic headache is one of the most common symptoms following mild traumatic brain injury in children. Methods This is an expert opinion-based two-part review on pediatric post-traumatic headaches. Part I will focus on an overview and approach to the evaluation of post-traumatic headache. Part II will focus on the medical management of post-traumatic headache. Relevant articles were reviewed, and an algorithm is proposed. Results We review the epidemiology, classification, pathophysiology, and clinical approach to evaluating patients with post-traumatic headache. A comprehensive history and physical examination are fundamental to identifying the headache type(s). Identifying the precise headache phenotype is important to help guide treatment. Most of the post-traumatic headaches are migraine or tension type, but occipital neuralgia, cervicogenic headache, and medication overuse headache also occur. Postconcussive signs often resolve within 1 month, and individuals whose signs persist longer may benefit from an interprofessional approach. Conclusions Rigorous evaluation and diagnosis are vital to treating post-traumatic headaches effectively. A multifaceted approach is needed to address all the possible contributing factors to the headaches and any comorbid conditions that may delay recovery or alter treatment choices.
Publication type: Journal: Review
Source: EMBASE

26. Title: Part II - Management of pediatric post-traumatic headaches
Citation: Pediatric Neurology, March 2015, vol./is. 52/3(270-280), 0887-8994;1873-5150 (01 Mar 2015)
Author(s): Pinchesky E., Dubrovsky A.S., Friedman D., Shevell M.
Language: English
Abstract: Background Post-traumatic headache is one of the most common symptoms occurring after mild traumatic brain injury in children. Methods This is an expert opinion-based two-part review on pediatric post-traumatic headaches. In part II, we focus on the medical management of post-traumatic headaches. There are no randomized controlled trials evaluating the efficacy of therapies specifically for pediatric post-traumatic headaches. Thus, the algorithm we propose has been extrapolated from the primary headache literature and small noncontrolled trials of post-traumatic headache. Results Most post-traumatic headaches are migraine or tension type, and standard medications for these headache types are used. A multifaceted approach is needed to address all the possible causes of headache and any comorbid conditions that may delay recovery or alter treatment choices. For acute treatment, nonsteroidal anti-inflammatory drugs can be used. If the headaches have migraineous features and nonsteroidal anti-inflammatory drugs are not effective, triptans may be beneficial. Opioids are not indicated. Medication overuse should be avoided. For preventive treatments, some reports indicate that amitriptyline, gabapentin, or topiramate may be beneficial. Amitriptyline is a good choice because it can be used to treat both migraine and tension-type headaches.
Nerve blocks, nutraceuticals (e.g. melatonin), and behavioral therapies may also be useful, and lifestyle factors, especially adequate sleep hygiene and strategies to cope with anxiety, should be emphasized. Conclusions Improved treatment of acute post-traumatic headache may reduce the likelihood of developing chronic headaches, which can be especially problematic to effectively manage and can be functionally debilitating.

**Publication type:** Journal: Review

**Source:** EMBASE

**27. Title:** Pathogenesis of childhood idiopathic nephrotic syndrome: a paradigm shift from T-cells to podocytes

**Citation:** World Journal of Pediatrics, 2015, vol./is. 11/1(21-28), 1708-8569;1867-0687 (2015)

**Author(s):** Kaneko K., Tsuji S., Kimata T., Kitao T., Yamanouchi S., Kato S.

**Language:** English

**Abstract:** Background: Nephrotic syndrome is the most common cause of kidney disease in children, but its pathogenesis remains unclear. This article reviews the novel aspects of the mechanisms underlying massive proteinuria in minimal-change disease, which is the most common form of childhood nephrotic syndrome. Data sources: This article integrates the findings of a PubMed database search for English language articles published in the past 40 years (from September 1974 to February 2014) using the key words "pathogenesis", "minimal change nephrotic syndrome" or "idiopathic nephrotic syndrome". Results: Unknown humoral factors associated with T-cell dysfunction have been thought to play an important role in the pathogenesis of minimal-change disease. However, recent findings are changing this paradigm, i.e., visceral glomerular epithelial cells (podocytes) may be involved via expression of molecules such as CD80 and angiopoietin-like 4. Conclusions: Recent evidence suggests that minimal-change disease results from interactions between humoral factors and dysfunctional podocytes. In addition to immunosuppressant drugs that target lymphocytes, a biological agent such as an antibody against the abnormal molecule(s) expressed by podocytes may provide novel drug treatment for minimal-change disease.

**Publication type:** Journal: Review

**Source:** EMBASE

**28. Title:** Pediatric emergency department thoracotomy: A large case series and systematic review

**Citation:** Journal of Pediatric Surgery, 2015, vol./is. 50/1(177-181), 0022-3468;1531-5037 (2015)


**Language:** English

**Abstract:** Background/purpose: The emergency department thoracotomy (EDT) is rarely utilized in children, and is thus difficult to identify survival factors. We reviewed our experience and performed a systematic review of reports of EDT in pediatric patients. Methods: Patients age <18 years who received an EDT from 1991 to 2012 at our institution and all published case series were reviewed. Data analyzed include age, sex, mechanism of injury (MOI), injury patterns, presence of vital signs (VS) or signs of life (SOL) in the field/ED, return of spontaneous circulation (ROSC), and survival. Results: A total of 252 patients were analyzed. 84% were male. 51% sustained penetrating injuries, and median age was 15 years. Upon arrival, 17% had VS, and 35% had SOL. After EDT, 30% experienced ROSC. The survival rate was 1.6% for blunt trauma, 10.2% for penetrating injuries, and 6.0% overall. Conclusion: Survival of pediatric patients following EDT is comparable to recent analyses in adults. Children who sustain blunt injury and are without SOL have been uniformly unsalvageable. Children who sustain penetrating trauma and have SOL or are without SOL for a short time prior to arrival have been salvageable. There are no reported EDT survivors less than 14 years of age following blunt injury.

**Publication type:** Journal: Article

**Source:** EMBASE

**29. Title:** Pediatric nodular fasciitis in the head and neck evaluation and management

**Citation:** JAMA Otolaryngology - Head and Neck Surgery, January 2015, vol./is. 141/1(54-59), 2168-6181 (01 Jan 2015)

**Author(s):** Hseu A., Watters K., Perez-Atayde A., Silvera V.M., Rahbar R.

**Language:** English

**Abstract:** IMPORTANCE: Nodular fasciitis is a rare benign tumor that can present in the head and neck in children. A better understanding of this rare condition is critical to optimize management. OBJECTIVE: To review the presentation, evaluation, diagnosis, and management of pediatric nodular fasciitis of the head and neck. DESIGN, SETTING, AND PARTICIPANTS: Retrospective review of all patients treated for nodular fasciitis of the head and neck over a 20-year period at a pediatric tertiary care center. INTERVENTION: Surgical excision. MAIN OUTCOMES AND MEASURES: Clinical data, including age, presenting symptoms, anatomical site(s), evaluation, treatment, and complications. RESULTS: Fifteen children with pathologically confirmed nodular fasciitis of the head and neck were
identified, including 8 boys and 7 girls. The median (range) age at diagnosis was 9.3 years (2 months to 18 years). Patients most commonly presented with a firm, enlarging soft-tissue mass. Two patients reported pain, and 1 patient presented with erythema. The most common location was the maxillofacial region (5 patients). Other locations included the scalp (3 patients), forehead (2 patients), neck (2 patients), mandible (1 patient), postauricular region (1 patient), and nasal dorsum (1 patient). One patient reported a preceding trauma, and 1 patient, a preceding infection. Presurgical imaging varied; imaging modalities used included computed tomography, magnetic resonance imaging, radiography, ultrasound, and sialography. All patients underwent surgical excision, which focused on excising the mass while preserving surrounding normal tissues. Mean (range) follow-up was 7.69 (0-46) months. Two minor complications were reported: 1 patient who underwent a near-total excisional biopsy experienced residual firmness and tenderness at the site of the lesion and another patient was left with an unfavorable cosmetic scar that necessitated intralesional steroid injection. No patient demonstrated recurrence at follow-up. CONCLUSIONS AND RELEVANCE: Although an uncommon diagnosis, nodular fasciitis should be considered in the evaluation and treatment of head and neck soft-tissue masses in children. Preoperative imaging is nonspecific and variable. Pathological findings are necessary for diagnosis. Surgical excisional biopsy is curative, with no instances of recurrence in our series.

**Publication type:** Journal: Review

**Source:** EMBASE

30. **Title:** Rapid normalization of vitamin D levels: A meta-analysis

**Citation:** Pediatrics, January 2015, vol./is. 135/1(e152-e166), 0031-4005;1098-4275 (01 Jan 2015)

**Author(s):** McNally J.D., Illiriani K., Pojsupap S., Sampson M., O'Hearn K., McIntyre L., Fergusson D., Menon K.

**Language:** English

**Abstract:** BACKGROUND: Vitamin D deficiency may represent a modifiable risk factor to improve outcome in severe illness. The efficacy of high-dose regimens in rapid normalization of vitamin D levels is uncertain. METHODS: We conducted a systematic review of pediatric clinical trials administering high-dose vitamin D to evaluate 25-hydroxyvitamin D (25(OH)D) response and characteristics associated with final 25(OH)D levels by using Medline, Embase, and the Cochrane Central Register of Controlled Trials, including reference lists of systematic reviews and eligible publications. Uncontrolled and controlled trials reporting 25(OH)D levels after high-dose (>1000 IU) ergocalciferol or cholecalciferol were selected. Two reviewers independently extracted and verified predefined data fields. RESULTS: We identified 88 eligible full-text articles. Two of 6 studies that administered daily doses approximating the Institute of Medicine's Tolerable Upper Intake Level (1000-4000 IU) to vitamin D-deficient populations achieved group 25(OH)D levels >75 nmol/L within 1 month. Nine of 10 studies evaluating loading therapy (>50 000 IU) achieved group 25(OH)D levels >75 nmol/L. In meta-regression, baseline 25(OH)D, regimen type, dose, age, and time factors were associated with final 25(OH)D levels. Adverse event analysis identified increased hypercalcemia risk with doses >400 000 IU, but no increased hypercalcemia or hypercalciuria with loading doses <400 000 IU (or 10 000 IU/kg). Few studies in adolescents evaluated loading dose regimens >300 000 IU. CONCLUSIONS: Rapid normalization of vitamin D levels is best achieved by using loading therapy that considers disease status, baseline 25(OH)D, and age (or weight). Loading doses >300 000 IU should be avoided until trials are conducted to better evaluate risk and benefit.

**Publication type:** Journal: Article

**Source:** EMBASE

**Full text:** Available Salisbury EJournals at Pediatrics

31. **Title:** Rare complications of pediatric diabetic ketoacidosis

**Citation:** World Journal of Diabetes, 2015, vol./is. 6/1(167-174), 1948-9358 (2015)

**Author(s):** Bialo S.R., Agrawal S., Boney C.M., Quintos J.B.

**Language:** English

**Abstract:** The incidence of type 1 diabetes (T1D) among youth is steadily increasing across the world. Up to a third of pediatric patients with T1D present with diabetic ketoacidosis, a diagnosis that continues to be the leading cause of death in this population. Cerebral edema is the most common rare complication of diabetic ketoacidosis in children. Accordingly, treatment and outcome measures of cerebral edema are vastly researched and the pathophysiology is currently the subject of much debate. Nevertheless, cerebral edema is not the only sequela of diabetic ketoacidosis that warrants close monitoring. The medical literature details various other complications in children with diabetic ketoacidosis, including hypercoagulability leading to stroke and deep vein thrombosis, rhabdomyolysis, pulmonary and gastrointestinal complications, and long-term memory dysfunction. We review the pathophysiology, reported cases, management, and outcomes of each of these rare complications in children. As the incidence of T1D continues to rise, practitioners will care for an increasing number of pediatric patients with diabetic ketoacidosis and...
should be aware of the various systems that may be affected in both the acute and chronic setting.

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

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**32.**
**Title:** Review of growth hormone therapy in adolescents and young adults with Prader-Willi syndrome  
**Citation:** Expert Review of Endocrinology and Metabolism, March 2015, vol./is. 10/2(259-267), 1744-6651;1744-8417 (01 Mar 2015)  
**Author(s):** Lucas-Herald A.K., Perry C.G., Shaikh M.G.  
**Language:** English  
**Abstract:** Consensus guidelines from the Growth Hormone Research Society Workshop recommend growth hormone therapy in all children with genetically confirmed Prader-Willi syndrome (PWS) in combination with dietary, lifestyle and environmental interventions. As yet, however, there are limited published data regarding the use of growth hormone therapy in adolescents and young adults with PWS. This review focuses on the advantages and disadvantages of growth hormone therapy in this particular group. The risk of complications, challenges with consent for therapy, the need for contraception in females with PWS and the appropriate monitoring required are all factors which must be carefully considered in this challenging patient group. Transition from paediatric to adult services can be difficult for most adolescents, but especially so for PWS adolescents and should be undertaken under the care of experienced paediatric and adult endocrinologists and a multidisciplinary team approach. Further research is, however, still required in the management of PWS patients during adolescence.

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**33.**
**Title:** Risk factors associated with iatrogenic opioid and benzodiazepine withdrawal in critically ill pediatric patients: A systematic review and conceptual model  
**Citation:** Pediatric Critical Care Medicine, February 2015, vol./is. 16/2(175-183), 1529-7535;1947-3893 (13 Feb 2015)  
**Author(s):** Best K.M., Boullata J.I., Curley M.A.Q.  
**Language:** English  
**Abstract:** OBJECTIVES: Analgesia and sedation are common therapies in pediatric critical care, and rapid titration of these medications is associated with iatrogenic withdrawal syndrome. We performed a systematic review of the literature to identify all common and salient risk factors associated with iatrogenic withdrawal syndrome and build a conceptual model of iatrogenic withdrawal syndrome risk in critically ill pediatric patients. DATA SOURCES: Multiple databases, including PubMed/Medline, EMBASE, CINAHL, and the Cochrane Central Registry of Clinical Trials, were searched using relevant terms from January 1, 1980, to August 1, 2014. STUDY SELECTION: Articles were included if they were published in English and discussed iatrogenic withdrawal syndrome following either opioid or benzodiazepine therapy in children in acute or intensive care settings. Articles were excluded if subjects were neonates born to opioid- or benzodiazepine-dependent mothers, children diagnosed as substance abusers, or subjects with cancer-related pain; if data about opioid or benzodiazepine treatment were not specified; or if primary data were not reported. DATA EXTRACTION: In total, 1,395 articles were evaluated, 33 of which met the inclusion criteria. To facilitate analysis, all opioid and/or benzodiazepine doses were converted to morphine or midazolam equivalents, respectively. A table of evidence was developed for qualitative analysis of common themes, providing a framework for the construction of a conceptual model. The strongest risk factors associated with iatrogenic withdrawal syndrome include duration of therapy and cumulative dose. Additionally, evidence exists linking patient, process, and system factors in the development of iatrogenic withdrawal syndrome. FINDINGS: Most articles were prospective observational or interventional studies. CONCLUSIONS: Given the state of existing evidence, well-designed prospective studies are required to better characterize iatrogenic withdrawal syndrome in critically ill pediatric patients. This review provides data to support the construction of a conceptual model of iatrogenic withdrawal syndrome risk that, if supported, could be useful in guiding future research.

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**34.**
**Title:** Seizure-Related Autonomic Changes in Children  
**Citation:** Journal of Clinical Neurophysiology, February 2015, vol./is. 32/1(5-9), 0736-0258;1537-1603 (13 Feb 2015)  
**Author(s):** Moseley B.D.  
**Language:** English  
**Abstract:** SUMMARY:: Although sudden unexpected death in epilepsy is encountered less frequently in children versus adults, it is still an important direct epilepsy-related cause of death in this population. Just as in adults, the pathophysiology of sudden unexpected death in epilepsy in children is believed to involve seizure-related autonomic
dysfunction. Seizures that develop during the pediatric period can be marked by some of the most dramatic alterations in autonomic functions seen at any age. This article reviews such seizure-related autonomic changes, including ictal nausea/emesis, hypersalivation, hypoxemia, apnea, tachycardia, bradycardia, cardiac repolarization anomalies, reduced heart rate variability, and postictal generalized EEG suppression. Understanding age-related changes in the autonomic effects of seizures and how they relate to risk of sudden death may help us to one day better elucidate the pathophysiology of sudden unexpected death in epilepsy. Given the high rate of sudden unexpected death in epilepsy in certain pediatric populations (such as those with Dravet syndrome), this knowledge is desperately needed.

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

35. **Title:** Systemic treatments in paediatric psoriasis: A systematic evidence-based update  
**Citation:** Journal of the European Academy of Dermatology and Venereology, March 2015, vol./is. 29/3(425-437), 0926-9959;1468-3083 (01 Mar 2015)  
**Author(s):** Van Geel M.J., Mul K., De Jager M.E.A., Van De Kerkhof P.C.M., De Jong E.M.G.J., Seyger M.M.B.  
**Language:** English  
**Abstract:** In 2008, a systematic review revealed that evidence-based data on efficacy and safety of treatments in paediatric psoriasis are scarce and with low level of evidence. In recent years, publications on this topic have increased exponentially. To present a systematic, evidence-based update on the efficacy and safety of systemic treatments in paediatric psoriasis and to provide treatment recommendations, an update of the previous review was performed. PubMed, EMBASE and the Cochrane Controlled Clinical Trial Register were searched between January 2007 and March 2014 for all available literature on efficacy and safety of all systemic treatments in paediatric psoriasis. The levels of evidence were determined on the Oxford Centre for Evidence-based Medicine Levels of Evidence. The newly retrieved evidence was combined with the evidence available in the former review. Fifty-two studies were included: 36 from the former review, plus 16 new articles. New evidence on induction therapy was mainly available on fumaric acid esters (FAEs), which are shown to be effective in a subgroup of patients. Long-term (96 weeks) safety and efficacy data on etanercept were found. Prospective studies are scarce. Most conclusions are formulated on studies with low level of evidence. Of the conventional systemic treatments, methotrexate still has the most evidence albeit in a low number of patients and with a low level of evidence. FAEs seem to be effective in a subgroup of patients, with gastro-intestinal complaints, flushes and temporary shifts in leucocyte counts and liver enzymes being the main side-effects. Etanercept has still accumulated most evidence of the available systemic treatments, with a large efficacy and reassuring safety profile in a 96-week follow-up.

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

36. **Title:** The efficacy of isotonic and hypotonic intravenous maintenance fluid for pediatric patients: A meta-analysis of randomized controlled trials  
**Citation:** Pediatric Emergency Care, February 2015, vol./is. 31/2(122-126), 0749-5161;1535-1815 (13 Feb 2015)  
**Author(s):** Yang G., Jiang W., Wang X., Liu W.  
**Language:** English  
**Abstract:** AIM: This study aimed to analyze the effect of isotonic versus hypotonic solution as intravenous maintenance fluid on level of plasma sodium in hospitalized children. METHODS: A fully recursive literature search in May 2013 was conducted in PubMed and EMBASE to identify potentially relevant randomized controlled trials. Jadad score and allocation concealment were adopted to evaluate the methodological quality of each trial. RevMan5.2 was used for statistical analysis. RESULTS: Eight randomized controlled trials with 752 patients were included. Combined analysis showed a significant lower risk of hyponatremia with isotonic solution (odds ratio, 0.36; 95% confidence interval, 0.26-0.51). The isotonic intravenous maintenance did not increase the possibility of hypernatremia (odds ratio, 0.86; 95% confidence interval, 0.36-2.06). CONCLUSIONS: The meta-analysis revealed that there was potential risk of hyponatremia for routine infusion of hypotonic maintenance fluid. The use of isotonic solution was warranted in hospitalized pediatric patients.

**Publication type:** Journal: Article  
**Source:** EMBASE

37. **Title:** The management of peanut allergy  
**Citation:** Archives of Disease in Childhood, January 2015, vol./is. 100/1(68-72), 0003-9888;1468-2044 (01 Jan 2015)  
**Author(s):** Anagnostou K., Clark A.  
**Language:** English
Abstract: Peanut allergy is common and can be a cause of severe, life-threatening reactions. It is rarely outgrown like other food allergies such as egg and milk. Measures aiming to reduce its prevalence via maternal avoidance during pregnancy and lactation, or delayed introduction into the diet, have failed to show any benefit. Peanut allergy has a significant effect on the quality of life of sufferers and their families due to dietary and social restrictions, but mainly stemming from fear of accidental peanut ingestion. The current management consists of strict avoidance, education and provision of emergency medication. Families find avoidance challenging as peanut is hidden in various food products. Despite the fact that food labelling has improved, with a legal obligation to declare certain food allergens (including nuts) in prepacked products, it still causes confusion and does not extend to cross-contamination. In an effort to address issues of safety at school, a lot of work has been undertaken to better care for peanut-allergic children in that environment. This includes training of school staff on how to recognise and treat allergic reactions promptly. Recent developments in the management of peanut allergy, such as immunotherapy, have shown some promise as an active form of treatment, but larger studies are required to further investigate safety and efficacy.

Publication type: Journal: Article
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

38. Title: The relationship between zinc intake and growth in children aged 1-8 years: A systematic review and meta-analysis
Citation: European Journal of Clinical Nutrition, February 2015, vol./is. 69/2(147-153), 0954-3007;1476-5640 (05 Feb 2015)
Language: English
Abstract: Background/objectives: It is estimated that zinc deficiency affects 17% of the world's population, and because of periods of rapid growth children are at an increased risk of deficiency, which may lead to stunting. This paper presents a systematic review and meta-analysis of the randomised controlled trials (RCTs) that assess zinc intake and growth in children aged 1-8 years. This review is part of a larger systematic review by the European Micronutrient Recommendations Aligned Network of Excellence that aims to harmonise the approach to setting micronutrient requirements for optimal health in European populations (www.eurreca.org). Subject/methods: Searches were performed of literature published up to and including December 2013 using MEDLINE, Embase and the Cochrane Library databases. Included studies were RCTs in apparently healthy child populations aged from 1 to 8 years that supplied zinc supplements either as capsules or as part of a fortified meal. Pooled meta-analyses were performed when appropriate. Results: Nine studies met the inclusion criteria. We found no significant effect of zinc supplementation of between 2 weeks and 12 months duration on weight gain, height for age, weight for age, length for age, weight for height (WHZ) or WHZ scores in children aged 1-8 years. Conclusions: Many of the children in the included studies were already stunted and may have been suffering from multiple micronutrient deficiencies, and therefore zinc supplementation alone may have only a limited effect on growth.

Publication type: Journal: Review
Source: EMBASE

39. Title: Topical intranasal corticosteroids and growth velocity in children: A meta-analysis
Citation: International Forum of Allergy and Rhinology, February 2015, vol./is. 5/2(95-103), 2042-6976;2042-6984 (01 Feb 2015)
Author(s): Mener D.J., Shargorodsky J., Varadhan R., Lin S.Y.
Language: English
Abstract: Background: There is no consensus regarding the effects on growth velocity of intranasal topical corticosteroid (ITC) use in children. The objective of this study was to determine whether ITC use reduces growth velocity in children with allergic rhinitis (AR). Methods: A literature search of the National Center for Biotechnology Information PubMed, EMBASE, SCOPUS, and Cochrane databases from January 1, 1988 to October 7, 2013. The study selection was composed of randomized clinical trials investigating ITC for treatment of AR in children (age <18 years of age) with appropriate controls. Studies must have included interval change in growth as an outcome. Two authors independently extracted data and assessed study quality. Eligible studies were pooled using a random-effects approach. Results: Eight studies with 755 participants from 3 countries provided data for the meta-analysis (khenometry, n =342 participants; stadiometry, n =413 participants). Study duration ranged from 2 to 4 weeks for trials evaluating knemometry outcomes, and 12 months for trials evaluating stadiometry outcomes. Age of
participants ranged from 3 to 12 years. The pooled standardized mean difference showed that among studies using knemometry, mean growth was statistically significantly lower among children using ITC vs placebo (-223 mm/week; 95% confidence interval [CI], -0.429 to -0.017; p < 0.034). The pooled standardized mean difference showed that among studies using stadiometry, there was no significant growth difference among children using ITC vs placebo (-0.053 cm/year; 95% CI, -0.491 to 0.385; p = 0.813). The limitations of this study were the difficulty in predicting longer-term or catch-up growth in children. Conclusion: Meta-analytic pooling of trials suggest that short-term ITC for the treatment of AR in children may decrease short-term growth velocity using knemometry; however, the effect on longer-term growth velocity as measured by stadiometry is unclear.

Publication type: Journal: Article
Source: EMBASE

40. Title: Treatment of Pediatric Multiple Sclerosis
Citation: Current Treatment Options in Neurology, 2015, vol./is. 17/3(1-12), 1092-8480;1534-3138 (2015)
Author(s): Narula S., Hopkins S.E., Banwell B.
Language: English
Abstract: The past 10 years have borne witness to increased recognition and diagnosis of pediatric multiple sclerosis (MS). Additionally, during this time period, the number of treatment options available for MS patients has increased significantly, as has the number of studies evaluating the use of these therapies in children. Though the U.S. Food and Drug Administration has not formally approved any of these therapies for use in pediatric MS, a number of injectable, oral, and intravenous treatments are currently being used off-label in these children. Disease modifying therapy should be initiated promptly following a diagnosis of MS. The patient and family should be engaged in the choice of therapy as this is likely to promote adherence. First-line options include any of the injectable therapies (glatiramer acetate, interferon beta), which have roughly similar efficacy (approximately 30% reduction of clinical relapses). If a patient has breakthrough disease or persistent, unmanageable side effects, transition to a different first-line therapy or escalation to a second-line therapy, such as natalizumab, should be considered. Though the efficacy of second-line agents is higher, the potential risk of serious adverse effects also increases. New therapies, including oral agents, are now being rigorously studied with pediatric clinical trials and may provide safe alternatives for patients that are either unresponsive or intolerant to currently available medications. When necessary, acute exacerbations can be treated with corticosteroids. Intravenous methylprednisolone at a dosage of 30 mg/kg/day (maximum dose 1000 mg/day) for 3-5 days is recommended with severe attacks. If patients are unresponsive to corticosteroids, treatment with either intravenous immunoglobulin or plasma exchange may be required. Fatigue, spasticity, and pain can also occur in pediatric patients with MS. Medications are needed if symptoms are severe and impact quality of life.
Publication type: Journal: Review
Source: EMBASE

41. Title: Variation in treatment of acute childhood wheeze in emergency departments of the United Kingdom and Ireland: An international survey of clinician practice
Citation: Archives of Disease in Childhood, February 2015, vol./is. 100/2(121-125), 0003-9888;1468-2044 (01 Feb 2015)
Author(s): Lyttle M.D., O’Sullivan R., Doull I., Hartshorn S., Morris I., Powell C.V.E.
Language: English
Abstract: Objective: National clinical guidelines for childhood wheeze exist, yet despite being one of the most common reasons for childhood emergency department (ED) attendance, significant variation in practice occurs in other settings. We, therefore, evaluated practice variations of ED clinicians in the UK and Ireland. Design: Two-stage survey undertaken in March 2013. Stage one examined department practice and stage two assessed ED consultant practice in acute childhood wheeze. Questions interrogated pharmacological and other management strategies, including inhaled and intravenous therapies. Setting and participants: Member departments of Paediatric Emergency Research in the United Kingdom and Ireland and ED consultants treating children with acute wheeze. Results: 30 EDs and 183 (81%) clinicians responded. 29 (97%) EDs had wheeze guidelines and 12 (40%) had care pathways. Variation existed between clinicians in dose, timing and frequency of inhaled bronchodilators across severities. When escalating to intravenous bronchodilators, 99 (54%) preferred salbutamol first line, 52 (28%) magnesium sulfate (MgSO₄) and 27 (15%) aminophylline. 87 (48%) administered intravenous bronchodilators sequentially and 30 (16%) concurrently, with others basing approach on case severity. 146 (80%) continued inhaled therapy after commencing intravenous bronchodilators. Of 170 who used intravenous salbutamol, 146 (86%) gave rapid boluses, 21 (12%) a longer loading dose and 164 (97%) an ongoing infusion, each with a range of doses and durations. Of 173 who used intravenous MgSO₄, all used a bolus only. 41 (24%) used non-invasive ventilation.
Conclusions: Significant variation in ED consultant management of childhood wheeze exists despite the presence of national guidance. This reflects the lack of evidence in key areas of childhood wheeze and emphasises the need for further robust multicentre research studies.

Publication type: Journal: Article
Source: EMBASE
Full text: Available ARCHIVES OF DISEASE IN CHILDHOOD at Archives of disease in childhood
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42. Title: Vitamin D and the neonate: An update
Citation: Journal of Clinical Neonatology, January 2015, vol./is. 4/1(1-7), 2249-4847 (01 Jan 2015)
Author(s): Aly H., Abdel-Hady H.
Language: English
Abstract: In this review, we aim to summarize available data on vitamin D in neonates critically. Vitamin D is a fat-soluble, steroid hormone with pleiotrophic effects not only on bone metabolism but also on optimal functioning of many organ systems. Deficiency is considered when 25-hydroxyvitamin D value is 20 ng/ml. Vitamin D deficiency is a global problem that prevales even in developed countries. Vitamin D deficiency is closely related to multiple disease states. It may influence obstetrical complications as preeclampsia, gestational diabetes, bacterial vaginosis, preterm birth, low-birth weight and cesarean section. Long-term outcomes in the offspring including asthma, multiple sclerosis, schizophrenia, abnormal neurocognitive outcome, type 1 diabetes mellitus, and insulin resistance can occur with vitamin D deficiency. Trials are needed to assess the effect of vitamin D supplementation and its dosage during pregnancy and lactation on clinical outcomes. The American Academy of Pediatrics recommends 400 IU/day of supplemental vitamin D for breastfed infants from the 1st day of life. Preterm infants born <32 weeks are at a greater risk to develop vitamin D deficiency. The European Society for Pediatric Gastroenterology, Hepatology and Nutrition has recommended higher intakes of vitamin D of 800-1000 IU/day for preterm infants. However, studies are needed to evaluate the dose and duration of vitamin D supplementation to preterm infants.
Publication type: Journal: Review
Source: EMBASE

News

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