Paediatrics Evidence Update
October 2018
Produced by the Clinical Librarian Service

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If you have any further enquiries please do not hesitate to get in touch.

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The Clinical Librarian team endeavours to find as much of the latest evidence in your clinical area as possible, however make no claim as to the exhaustive nature of the update.

For more specific areas of interest within Paediatrics we would recommend a literature search or KnowledgeShare bulletin.

UpToDate®
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KnowledgeShare

Would you like your own, tailored evidence updates? Email the Clinical Librarian team to receive bulletins every two weeks on the topics of your choice.
Most recent guidance published:

Urinary tract infection in under 16s: diagnosis and management [CG54]

Decision-making and mental capacity [NG108]

Other Guidance/Reports

Caring for patients nearing the end of life: a guide to good practice
Royal College of Surgeons – section on paediatric population

Inhaled antibiotics for pulmonary exacerbations in cystic fibrosis

Heliox for croup in children

Gabapentin add-on treatment for drug-resistant focal epilepsy
Carbamazepine versus phenobarbitone monotherapy for epilepsy: an individual participant data review

Oxcarbazepine versus phenytoin monotherapy for epilepsy: an individual participant data review

Psychological interventions for needle-related procedural pain and distress in children and adolescents

Psychological therapies for the management of chronic and recurrent pain in children and adolescents

Naloxone for opioid-exposed newborn infants

Family therapy approaches for anorexia nervosa

Parent-mediated interventions for promoting communication and language development in young children with Down syndrome

Systematic reviews from other sources

Clinical Outcomes Associated With Sickle Cell Trait: A Systematic Review
Annals of Internal Medicine

A transdisciplinary team approach to scoping reviews: the case of pediatric polypharmacy.
BMC Medical Research Methodology

Clinical significance in pediatric oncology randomized controlled treatment trials: a systematic review.
Trials

Single Bone Fixation versus Both Bone Fixation for Pediatric Unstable Forearm Fractures: A Systematic Review and Metaanalysis.
Indian Journal of Orthopaedics

Medical Versus Surgical Treatment of Pediatric Acute Mastoiditis: A Systematic Review.
The Laryngoscope

Deep brain stimulation for pediatric dystonia: a meta-analysis with individual participant data.
Developmental Medicine and Child Neurology

Solid Pseudopapillary Neoplasm of the Pancreas in a Young Pediatric Patient: A Case Report and Systematic Review of the Literature.
Pancreas

Journal of Clinical Medicine

Pediatric tibia and femur fractures in patients weighing more than 50 kg (110 lb): mini-review on current treatment options and outcome.
Musculoskeletal Surgery

Antibiotics and Cure Rates in Childhood Febrile Urinary Tract Infections in Clinical Trials: A Systematic Review and Meta-analysis.
Drugs

Can infant sleeping bags be recommended by medical professionals as protection against sudden infant death syndrome?
Archives of Disease in Childhood

Interventions for developmental delays in children born to HIV-infected mothers: a systematic review.
AIDS Care

Effectiveness of artificial pancreas in the non-adult population: a systematic review and network meta-analysis.
Metabolism: clinical and experimental

Age-specific global epidemiology of hydrocephalus: Systematic review, metanalysis and global birth surveillance.
PLoS One

Efficacy and Safety of Anti-D Immunoglobulins versus Intravenous Immunoglobulins for Immune Thrombocytopenia in Children: Systematic Review and Meta-analysis of Randomized Controlled Trials.
The Journal of Pediatrics

Streptococcal Infections and Exacerbations in PANDAS: A Systematic Review and Meta-Analysis.
The Pediatric Infectious Disease Journal

Cannabis and cannabinoids for the treatment of people with chronic noncancer pain conditions: a systematic review and meta-analysis of controlled and observational studies
Pain

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Cochrane Clinical Answers

This month’s clinical questions are…

What are the effects of vasopressin receptor antagonists (VRAs) for people with chronic non-hypovolemic hypotonic hyponatremia?

What are the benefits and harms of smectite (diosmectite) for children with acute infectious diarrhea?

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Primary Research

Identifying the "Blip on the Radar Screen": Leveraging Big Data in Defining Drug Safety and Efficacy in Pediatric Practice
Journal of Clinical Pharmacology

Acceleration of BMI in Early Childhood and Risk of Sustained Obesity
New England Journal of Medicine

Research with children and young people: not on them. What can we learn from the non-clinical research?
Archives of Disease in Childhood

Screening for coeliac disease in 1624 mainly asymptomatic children with type 1 diabetes: is genotyping for coeliac-specific human leucocyte antigen the right approach?
Archives of Disease in Childhood
Managing cyclic vomiting syndrome in children: beyond the guidelines.
European Journal of Pediatrics

Cleaning the genitalia with plain water improves accuracy of urine dipstick in childhood.
European Journal of Pediatrics

Childhood Seizures After Phototherapy
Pediatrics

Hyperbilirubinemia, Phototherapy, and Childhood Asthma
Pediatrics

Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents
Pediatrics

The powerful practice of distraction
Pediatric Nursing

Implementation of a Structured Rounding Tool for Interprofessional Care Team Rounds to Improve Communication And Collaboration in Patient Care.
Pediatric Nursing

Oral glucocorticoids not effective for hearing loss in children with chronic otitis media with effusion (October 2018)
Randomized trials suggest that oral glucocorticoids hasten the otoscopic resolution of otitis media with effusion (OME), but few studies have assessed hearing loss, the predominant symptom. In a multicenter trial, nearly 400 children age two to eight years with OME for ≥3 months and bilateral hearing loss were randomly assigned to one week of prednisolone or placebo [1]. At the five-week follow-up, similar proportions of children in each group had resolution of hearing loss. Measures of quality of life (eg, school and social functioning) were also similar for both groups. These findings support our suggestion not to use oral glucocorticoids for the treatment of chronic OME in children. (See "Otitis media with effusion (serous otitis media) in children: Management", section on 'Oral glucocorticoids'.)

Indications for ABPM based on office-based BP (October 2018)
Ambulatory blood pressure monitoring (ABPM) provides a more accurate description of an adolescent's blood pressure (BP) than office-based BP measurements but is more costly and burdensome to the family and patient. Data from the SHIP AHoy study (Study of Hypertension in Pediatrics, Adult Hypertension Onset in Youth) demonstrated that office-based BP measurements >85th percentile for age, height, and sex were predictive of ABPM systolic hypertension in adolescents [2]. These results suggest that an office-based BP threshold >85th percentile can be used to decide when to perform ABPM in this age group. (See "Definition and diagnosis of hypertension in children and adolescents", section on 'Ambulatory BP measurements'.)

Association between weight gain in early childhood and future obesity (October 2018)
Persistence ("tracking") of obesity from childhood into adulthood has been recognized, but the timing and strength of the association has been unclear. Now, a population-based study from Germany reports that almost 90 percent of children who were obese at three years of age remained overweight or obese during adolescence, and that the greatest acceleration in weight gain occurred before age six years [3]. Thus, excessive weight gain in early childhood is a strong predictor of persistent obesity. It remains unclear whether the association is causal versus a marker of underlying inherent or environmental risk. (See "Definition; epidemiology; and etiology of obesity in children and adolescents", section on 'Persistence into adulthood'.)

**EMERGENCY MEDICINE**

**CDC pediatric mild traumatic brain injury guideline (October 2018)**

Mild traumatic brain injury (TBI) is defined as an acute brain injury after head trauma with a Glasgow Coma Scale score of 13 to 15, loss of consciousness, posttraumatic amnesia, or other transient neurologic findings. The Centers for Disease Control and Prevention have released the first evidence-based guideline for mild TBI in children [32]. It emphasizes clinical assessment using validated symptom rating scales and application of decision tools to limit the need for neuroimaging. It also endorses restriction of physical and cognitive activity for the first several days after injury based upon the degree of symptoms; the need for a gradual increase in the duration and intensity of academic and physical activities, as tolerated, during recovery; and the importance of frequent reassessment until the child is well. This guideline applies to children and adolescents with concussion as well as more severe mild TBI. (See "Concussion in children and adolescents: Clinical manifestations and diagnosis" and "Concussion in children and adolescents: Management").

**NEUROLOGY**

**Rise in acute flaccid myelitis cases in the United States (October 2018)**

Similar to occurrences in the fall of 2014 and 2016, the United States Centers for Disease Control and Prevention (CDC) is again reporting an increase in cases of acute flaccid myelitis (AFM), a rare polio-like illness of unknown etiology affecting primarily children 18 years of age and younger [64,65]. Patients present with acute flaccid limb weakness, variable cranial nerve involvement, and magnetic resonance imaging evidence of gray matter involvement of the spinal cord. Although case clustering in past years has occurred during periods of enterovirus D68 circulation, a causal link has not been established, and patients should be evaluated for a range of infectious and noninfectious causes of acute flaccid paralysis. Cases meeting clinical criteria for AFM in the United States should be reported to state and local health departments using the patient summary form available online at [www.cdc.gov/acute-flaccid-myelitis/hcp/data.html][66]. (See "Polio and other infectious causes of acute flaccid paralysis", section on 'Acute flaccid myelitis'.)

**Autoimmune encephalitis after herpes simplex virus encephalitis (October 2018)**

Individual cases of anti-N-methyl-D-aspartate (NMDA) receptor encephalitis have been described in the convalescent phase of herpes simplex virus encephalitis (HSVE) in both children and adults, but larger studies have been lacking. In a series of 58 patients with antibody-confirmed autoimmune encephalitis after HSVE (mostly attributable to NMDA receptor antibodies), the most common symptoms were change of behavior, decreased level of consciousness, choreoathetosis (all in children four years of age or younger), seizures, and dysautonomia [67]. Symptoms developed at a median of four to six weeks after HSVE diagnosis, and recurrent HSVE was excluded by HSV polymerase chain reaction testing in cerebrospinal fluid. Autoimmune encephalitis is important to recognize after HSVE, as patients may benefit from glucocorticoids and other immunosuppressive therapies. (See "Paraneoplastic and autoimmune encephalitis", section on 'Association with HSVE'.)
Summary: CDHSG score predicts risk of death in infant congenital diaphragmatic hernia (Pediatrics 2014 Aug)

Topic: Antiviral medications for the treatment of influenza
Summary: single-dose baloxavir is similar to 5-day oseltamivir for shortening duration of influenza symptoms, but baloxavir has greater antiviral activity (N Engl J Med 2018 Sep 6)

Topic: Clinical presentation of influenza in children
Summary: annual influenza-associated respiratory deaths estimated to range from 4 to 8.8 per 100,000 persons worldwide (Lancet 2018 Mar 31)

Topic: Influenza in children
Summary: high-dose vitamin D3 might prevent influenza infection in infants and reduce duration of symptoms in those developing influenza infection compared to low-dose vitamin D3 (Pediatr Infect Dis J 2018 Aug)

Topic: Bronchiolitis
Summary: trial sequential analysis suggesting no significant effect of nebulized hypertonic saline in infants with acute bronchiolitis (Pediatrics 2018 Sep)

Topic: Hypoglycemia in infants and children - approach to the patient
Summary: review of inborn errors of metabolism with hypoglycemia (Pediatr Clin North Am 2018 Apr)

Topic: Lead poisoning in children
Summary: lead poisoning requiring chelation due to chewing tobacco imported from Thailand in 12-year-old boy in case report (Clin Toxicol (Phila) 2018 Apr 6)

Topic: Insulin management
Summary: day-and-night hybrid closed-loop insulin delivery system may improve glycemic control compared to sensor-augmented pump in patients ≥ 6 years with suboptimally controlled type 1 diabetes (Lancet 2018 Oct 13)

Topic: Pharmacologic management of acute asthma exacerbation in children
Summary: single intramuscular corticosteroid injection in emergency department may be associated with similar risk of relapse compared to oral corticosteroids for 3-5 days in children with acute asthma presenting to emergency department (Cochrane Database Syst Rev 2018 Jun 2)

Topic: Acne - pharmacologic therapy
Summary: sarecycline may improve moderate-to-severe acne (J Drugs Dermatol 2018 Sep 1)

Topic: Risk factors for hypertension
Summary: increased dietary phosphate might be associated with increased blood pressure and pulse rate in young adults with normal renal function (J Am Soc Nephrol 2018 Aug)

Topic: Tetralogy of Fallot in infants and children
Summary: 15-year survival reported to be 89% after repair of Tetralogy of Fallot at age < 21 years (J Am Coll Cardiol 2018 May 29)

Topic: Neonatal herpes
Summary: blood PCR test may have high specificity but moderate sensitivity for detecting herpes simplex virus infection of central nervous system in infants ≤ 60 days old (J Pediatr 2018 Sep)

**Topic:** Antibiotics for cystic fibrosis (CF)
**Summary:** adding azithromycin to standardized tobramycin inhalation solution therapy may reduce risk of pulmonary exacerbation in children with cystic fibrosis and P. aeruginosa infection (Am J Respir Crit Care Med 2018 Jun 11 early online)

**Topic:** Medical use of cannabinoids for pediatric epilepsies
**Summary:** addition of cannabidiol 10-20 mg/kg/day to current antiepileptic therapy reduces drop seizures in children and adults with treatment-resistant Lennox-Gastaut syndrome (N Engl J Med 2018 May 17)

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### Paediatrics in the News

*Cannabis has 'more lasting effect on teenage brains than alcohol'*
BBC News report analysed by NHS

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### Online Resources

**BestBETs** - BETs bring the evidence one step closer to the bedside, by providing answers to very specific clinical problems, using the best available evidence.

**British National Formulary (BNCF) for Children**

**Children and Young People** – Government Policy

**The Royal Marsden Manual of Clinical Procedures** – available via your Athens login

**NHS Choices** - Behind the Headlines – the latest newspaper headlines debunked.

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### Journals & table of contents alerts

The Clinical Librarian team can help set up table of content alerts to the journal of your choice.

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