Paediatrics Evidence Update
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NICE Guidance

1. Diabetes (type 1 and type 2) in children and young people: diagnosis and management. NICE quality standard [QS94]. Published date: August 2015
   This guideline covers the diagnosis and management of type 1 and type 2 diabetes in children and young people aged under 18. The guideline recommends strict targets for blood glucose control to reduce the long-term risks associated with diabetes. Click to view

2. Diabetic foot problems: prevention and management. NICE Guidance [NG 19].
   Published date: August 2015
   This guideline covers preventing and managing foot problems in children, young people and adults with diabetes. The guideline aims to reduce variation in practice. Click to view

   Published date: September, 2015
   This guideline covers the recognition, assessment and management of coeliac disease in children, young people and adults. It updates and replaces NICE guideline CG86 Click to view

4. Prophylaxis against infective endocarditis: Antimicrobial prophylaxis against infective endocarditis in adults and children undergoing interventional procedures. NICE guidelines [NG64]. Published date: September, 2015
   This guideline is an update of NICE guideline CG64 (published March 2008). No new recommendations have been added. For recommendations marked as [2015] the evidence has been reviewed but no change has been made to the recommended action. Click to view
Other Guidance

1. Clinical Knowledge Summaries

   a. Acute childhood limp. Last revised in August 2015
      Scenario: Management of acute childhood limp: covers when to admit, refer or manage a child presenting with acute limp in primary care. Click to view

      Scenario: Management: covers the management of acute glandular fever
      Click to view

      Scenario: Management of whooping cough: covers the management of people with suspected or confirmed whooping cough and their close contacts. Click to view

2. Canadian Paediatric Society

   Newborn male circumcision. Published: 8 September, 2015
   Abstract: The circumcision of newborn males in Canada has become a less frequent practice over the past few decades. This change has been significantly influenced by past recommendations from the Canadian Paediatric Society and the American Academy of Pediatrics, who both affirmed that the procedure was not medically indicated. Recent evidence suggesting the potential benefit of circumcision in preventing urinary tract infection and some sexually transmitted infections, including HIV, has prompted the Canadian Paediatric Society to review the current medical literature in this regard. While there may be a benefit for some boys in high-risk populations and circumstances where the procedure could be considered for disease reduction or treatment, the Canadian Paediatric Society does not recommend the routine circumcision of every newborn male. Click to view

3. Public Health England

   a. National child measurement programme operational guidance.
      Updated: 25 September 2015
      Comment: This 2015 to 2016 guidance advises local commissioners and providers on running the national child measurement programme (NCMP). Click to view

      Comment: This report, which analyses data published by Public Health England, looks at four key measures of young children’s health and well-being – obesity, tooth decay, injury and ‘school readiness’. Wide regional variations in the former two are highlighted. Click to view

   c. MenB vaccine and paracetamol. Updated: 02 September, 2015
      Comment: This protocol is intended for use by nurses currently registered with the Nursing and Midwifery Council (NMC), providing paracetamol following primary doses of MenB vaccination. This protocol supports the supply or administration of the first dose of oral paracetamol with MenB vaccination when timely access to a home supply is not available. Paracetamol suspension 120mg/5ml is recommended for the prevention of fever associated with administration of MenB vaccination,
Bexsero®, in accordance with the recommendations given in the recommendations given in the MenB bipartite letter.  Click to view

4. World Health Organization (WHO)
 Managing possible serious bacterial infection in young infants when referral is not feasible Guidelines. Published: 25 September, 2015
 Overview: This guideline, developed by a panel of international experts and informed by a thorough review of existing evidence, contains a number of recommendations on the use of antibiotics for neonates (0–28 days old) and young infants (0–59 days old) with PSBI in order to reduce young infant mortality rates. The guideline is intended for use in resource-limited settings in situations when families do not accept or cannot access referral care. The goal of the guideline is to provide clinical guidance on the simplest antibiotic regimens that are both safe and effective for outpatient treatment of clinical severe infections and fast breathing (pneumonia) in children 0–59 days old. In addition, the guideline seeks to provide programmatic guidance on the role of CHWs and home visits in identifying signs of serious infections in neonates and young infants.  Click to view

5. American Heart Association
 Infective Endocarditis in Childhood: 2015 Update. A Scientific Statement From the American Heart Association. Published: 15 September 2015
 Comment: This review emphasizes changing management perspectives and discussion of new agents that have utility for treatment of resistant organisms. In addition, proper use of the diagnostic microbiology laboratory remains critical to the diagnosis and management of children with IE, and newer diagnostic guidelines that have improved sensitivity and specificity for confirming the diagnosis of IE will be reviewed.  Click to view

6. Medicines Compendium
 a. Revised SPC: Xylocaine 1% and 2% with Adrenaline. EMC.  Last Updated on: 23/09/2015
 Comment: The SPC has been updated with paediatric indication so this product is now also licensed for regional anaesthesia in children over 1 year of age.  Click to view

 b. Revised SPC: Bexsero Meningococcal Group B vaccine for injection in pre-filled syringe. Updated: 21 August 2015
 Comment: Section 4.8 updated to include headache and arthralgia as adverse effects in children under 2 years old.  Click to view

New and Updated Cochrane Systematic Reviews

7. Antimicrobial-impregnated central venous catheters for prevention of catheter-related bloodstream infection in newborn infants. Published 27 September 2015
 Author’s Conclusions: We found no evidence to support or refute patient use of home pulse oximetry in self-management of asthma; therefore, we can make no recommendations about use of a pulse oximeter as part of a PAAP. People should not use a pulse oximeter without seeking the advice of a qualified healthcare professional. We identified no compelling rationale for home monitoring of oxygen levels in isolation for most people with asthma. Some people have a reduced perception of the severity of their own breathlessness when exposed to hypoxia (when the whole or part of the body
is deprived of adequate oxygen supply). If trials on self-monitoring of oxygen levels in the blood by pulse oximeter at home by people with asthma are conducted, the pulse oximeter must be given as part of a personalised asthma action plan. **Click to view**

8. **Pulse oximeters to self-monitor oxygen saturation levels as part of a personalised asthma action plan for people with asthma. Published: 27 September, 2015**

**Authors’ conclusions:** Treating children known to have worm infection may have some nutritional benefits for the individual. However, in mass treatment of all children in endemic areas, there is now substantial evidence that this does not improve average nutritional status, haemoglobin, cognition, school performance, or survival. **Click to view**

9. **Antibiotics for preventing lower respiratory tract infections in high-risk children aged 12 years and under. Published: 26 SEP 2015**

**Authors’ conclusions:** There is inconclusive evidence that antibiotic prophylaxis in certain groups of high-risk children can reduce pneumonia, exacerbations, hospital admission and mortality in certain conditions. However, limitations in the evidence base mean more clinical trials assessing the effectiveness of antibiotics for preventing LRTIs in children at high risk should be conducted. Specifically, clinical trials assessing the effectiveness of antibiotics for preventing LRTIs in congenital heart disease, metabolic disease, endocrine and renal disorders, neurological disease or prematurity should be a priority. **Click to view**

10. **Calcium channel blockers for pulmonary arterial hypertension. First published: 25 SEP 2015**

**Authors’ conclusions:** Currently, as there is lack of valid evidence, the efficacy and safety of CCBs is unproven in the treatment of PAH. However, the search strategy used for this review did identify four controlled clinical trials without randomization, three of which suggested treatment with CCBs may be beneficial in PAH. No adverse side effects of CCBs were reported. Confirmation of these findings by RCTs is recommended. **Click to view**

11. **Macrolides for chronic asthma. Publication date: 12 September 2015**

**Authors’ conclusions:** Existing evidence does not show macrolides to be better than placebo for the majority of clinical outcomes. However, they may have a benefit on some measures of lung function, and we cannot rule out the possibility of other benefits or harms because the evidence is of very low quality due to heterogeneity among patients and interventions, imprecision and reporting biases. The review highlights the need for researchers to report clinically relevant outcomes accurately and completely using guideline definitions of exacerbations and validated scales. The possible benefit of macrolides in patients with non-eosinophilic asthma based on subgroup analyses in two of the included studies may require further investigation. **Click to view**

**Good Quality Systematic Reviews**

12. **Otitis Media**

An open randomised study of autoinflation in 4- to 11-year-old school children with otitis media with effusion in primary care *Health Technology Assessment, Vol. 19, No. 72. Published: September 2015*
**Author’s conclusions:** We found the use of autoinflation in young children with OME to be feasible in primary care and effective in both clearing effusions and improving child and parent ear-related QoL and symptoms. This method has scope to be used more widely. Further research is needed for very young children, and to inform prudent use in different health settings. [Click to view](#)

13. **Cerebral Palsy (CP)**

Adaptive seating systems in children with severe cerebral palsy across International Classification of Functioning, Disability and Health for Children and Youth version domains: A systematic review. *Developmental Medicine and Child Neurology*

Published: October 2015

**Interpretation:** Because of a low level of evidence and the moderate methodological quality of the studies available, no robust conclusions can be drawn. Nevertheless, the data suggest that AdSSs may be able to improve activity and participation at home among children with severe CP. More studies of high methodological quality addressing the effect of AdSSs on activity and participation are urgently needed. Suggestions for future research are provided. What this paper adds: Low levels of evidence from the available studies precludes pertinent conclusions on the effectiveness of adaptive seating systems (AdSSs) in children with severe cerebral palsy. Limited evidence suggests that special-purpose AdSSs may improve self-care and play behaviour. [Click to view](#)

14. **Community-acquired pneumonia (CAP)**


Published: September 2015

**Authors conclusions:** Our study indicates viral CAP is an underestimated disease and points out hMPV as a new important target for the prevention of childhood CAP. [Click to view](#)

15. **Hospital-associated venous thromboembolism**


Published: August, 2015

**Author’s conclusions:** This meta-analysis confirms central venous catheter, intensive care unit stay, mechanical ventilation, and length of stay as risk factors. A few pediatric hospital-acquired venous thromboembolism risk scores have emerged employing these factors. Prospective validation is necessary to inform risk-stratified prevention trials [Click to view](#)

16. **Atopic Dermatitis**


Published: July 2015

**Author’s conclusions:** Pimecrolimus was similar to tacrolimus in both efficacy and safety for AD in children, but both were better than vehicles. [Click to view](#)

17. **Epilepsy**

Safety of lamotrigine in paediatrics: A systematic review. *Dermatology.*

Published: July 2015
Authors conclusions: Rash was the most common ADR of lamotrigine and the most common reason for treatment discontinuation. Children receiving polytherapy have a higher risk of AEs than monotherapy users. Click to view

18. Septic Arthritis
Dexamethasone Therapy for Septic Arthritis in Children *Pediatrics*. Published: September 2015
Author’s conclusions: Children with septic arthritis treated early with a short course of adjuvant dexamethasone show earlier improvement in clinical and laboratory parameters than children treated with antibiotics alone. Click to view

Practice Changing Research

19. Juvenile Fibromyalgia
Author’s Conclusions. Children with fibromyalgia can be successfully treated without medications with a very intensive PT/OT and psychotherapy program. They have significantly improved pain and function by subject report and objective measures of function. Click to view

20. Maternal Versus Infant Vitamin D Supplementation
Maternal Versus Infant Vitamin D Supplementation During Lactation: A Randomized Controlled Trial. *Pediatrics*. Published: September, 2015
Authors Conclusions: Maternal vitamin D supplementation with 6400 IU/day safely supplies breast milk with adequate vitamin D to satisfy her nursing infant’s requirement and offers an alternate strategy to direct infant supplementation. Click to view

21. Bronchiolitis
a. Use of Intermittent vs Continuous Pulse Oximetry for Nonhypoxemic Infants and Young Children Hospitalized for Bronchiolitis: A Randomized Clinical Trial. *Jama Pediatrics*. Published: 31 August 2015
Author’s conclusions: Intermittent pulse oximetry monitoring of nonhypoxemic patients with bronchiolitis did not shorten hospital length of stay and was not associated with any difference in rate of escalation of care or use of diagnostic or therapeutic measures. Our results suggest that intermittent pulse oximetry monitoring can be routinely considered in the management of infants and children hospitalized for bronchiolitis who show clinical improvement Click to view

Author’s conclusions: Nebulized HS is a safe and potentially effective treatment of infants with acute bronchiolitis. Click to view

22. Pediatric oncology
Authors conclusions: In paediatric oncology, patients’/parents’ knowledge of managing oral medicines was improved. Pharmaceutical counselling substantially reduced high knowledge deficits but no significant improvement was seen with the handbook
approach. Pharmaceutical counselling should be offered to patients/parents with high knowledge deficits to reduce errors in managing medicines and increase safety. [Click to view]

23. **Computed Tomography Scans- Pediatric Renal Colic**  
Avoiding Computed Tomography Scans By Using Point-Of-Care Ultrasound When Evaluating Suspected Pediatric Renal Colic. *New England Journal of Medicine.* Published: 28 September 2015  
**Case Report:** This is a case series where the sonographic findings of hydronephrosis, ureteral jets, ”twinkling artifact,” and the identification of urinary tract stones were used to evaluate adolescent and pediatric patients with renal colic. We report five cases of renal colic in adolescent and pediatric patients where urolithiasis was confirmed by using POCUS and irradiation by CT was avoided in all 5 patients. WHY SHOULD AN EMERGENCY PHYSICIAN BE AWARE OF THIS?: POCUS can provide information about the presence or absence of urinary tract stones as well as obstruction of the collecting system without the cost and radiation exposure of CT. [Click to view]

24. **Severe Molybdenum Cofactor Deficiency Type A**  
Efficacy and safety of cyclic pyranopterin monophosphate substitution in severe molybdenum cofactor deficiency type A: a prospective cohort study. *The Lancet* Published: 3 September 2015  
**Interpretation:** cPMP substitution is the first effective therapy for patients with MoCD type A and has a favourable safety profile. Restoration of molybdenum cofactor-dependent enzyme activities results in a greatly improved neurodevelopmental outcome when started sufficiently early. The possibility of MoCD type A needs to be urgently explored in every encephalopathic neonate to avoid any delay in appropriate cPMP substitution, and to maximise treatment benefit. [Click to view]

25. **Obesity**  
Cardiometabolic Risks and Severity of Obesity in Children and Young Adults. *New England Journal of Medicine.* Published: 1 October, 2015,  
**Author’s Conclusions:** Severe obesity in children and young adults was associated with an increased prevalence of cardiometabolic risk factors, particularly among boys and young men. [Click to view]

26. **Depression-Paroxetine and Imipramine Treatment**  
Restoring Study 329: efficacy and harms of paroxetine and imipramine in treatment of major depression in adolescence. *BMJ.* Published: 3 September 2015,  
**Author’s Conclusions:** Neither paroxetine nor high dose imipramine showed efficacy for major depression in adolescents, and there was an increase in harms with both drugs. Access to primary data from trials has important implications for both clinical practice and research, including that published conclusions about efficacy and safety should not be read as authoritative. The reanalysis of Study 329 illustrates the necessity of making primary trial data and protocols available to increase the rigour of the evidence base. [Click to view]

27. **Venous Thromboembolism**  
**Author’s conclusions:** This meta-analysis confirms central venous catheter, intensive care unit stay, mechanical ventilation, and length of stay as risk factors. A few pediatric
hospital-acquired venous thromboembolism risk scores have emerged employing these factors. Prospective validation is necessary to inform risk-stratified prevention trials. 

Click to view

28. Adenotonsillectomy (AT)


Published: 17 September, 2015,

**Author’s Conclusions:** The most frequent early complications after AT are respiratory compromise and secondary hemorrhage. Based on the current limited evidence, children with OSA appear to have more respiratory complications. Conversely, hemorrhage appears to be more frequent in children without OSA.  

Click to view

29. Diabetes Mellitus


Published: 31 August, 2015,

**Author’s Conclusions:** Diabetic retinopathy is rare in children regardless of duration and control of DM. On the basis of our study and literature review, screening examinations for type 1 diabetes could begin at age 15 years or at 5 years after the diagnosis of DM, whichever occurs later, unless the child is judged by the endocrinologist as being at unusually high risk. Other ocular complications are identifiable through existing amblyopia screening methods.  

Click to view

**Economic Evaluations**

30. Quality of life impacts from rotavirus gastroenteritis on children and their families in the UK. *Vaccine,* Sep 2015

**Author’s conclusions:** We have found the HRQoL loss associated with RVAGE in children and their carers to be significantly higher than estimates used for all RV medical attendances in UK cost-effectiveness calculations.  

Click to view

31. Saline in acute bronchiolitis RCT and economic evaluation: Hypertonic saline in acute bronchiolitis - Randomised controlled trial and systematic review. Published: Health Technology Assessment, Aug 2015

**Author’s conclusions:** In this trial, HS had no clinical benefit on LoS or readiness for discharge and was not a cost-effective treatment for acute bronchiolitis. Claims that HS achieves small reductions in LoS must be treated with scepticism.  

Click to view

32. Ultrasound for infants at risk for developmental dysplasia of the hip. *Orthopedics* Published ahead of print: August, 2015

**Author’s conclusions:** The results suggested that selective ultrasound screening may be effective in infants with risk factors and normal findings on physical examination. Selective ultrasound screening changed treatment management in almost 8% of patients and clinical follow-up in 6.5%. Analysis of the cost-effectiveness of screening is needed.  

Click to view

33. Implementation and operational research: Expedited results delivery systems using GPRS technology significantly reduce early infant diagnosis test turnaround times: *Journal of Acquired Immune Deficiency Syndromes.* Published: September, 2015

**Author’s conclusions:** The results suggested that selective ultrasound screening may be effective in infants with risk factors and normal findings on physical examination.
Selective ultrasound screening changed treatment management in almost 8% of patients and clinical follow-up in 6.5%. Analysis of the cost-effectiveness of screening is needed.

Children's Health in the News – media stories explained

34. No conclusive evidence that e-cigs tempt teens to smoke. Wednesday 9 September 2015. “Young people who try e-cigarettes are much more likely to start smoking, scientists have concluded,” The Daily Telegraph reports. Though the conclusion, such as it is, is based on just 16 teenagers...... Click to view

35. Television and computer use 'linked to lower GCSE grades'. Friday Sep 4 2015. "Just one hour of TV or internet use each night can damage a child’s GCSE chances," says the Mail Online. Worrying headlines like this are being widely reported in the UK media based on the results of a 10-year-old study...... Click to view

36. Is shop-bought baby food 'too sweet'? Thursday Sep 3 2015. "Baby foods found too sweet to encourage variety of tastes in children," says The Guardian. The newspaper reports on a survey of how much...... Click to view

37. Goth teens 'at increased risk of depression and self-harm'. Friday August 28 2015. "Goths are three times more likely to be depressed than other teenagers, with 37% admitting to self-harming," the Daily Mail reports...... Click to view

38. Kids Who Snore May Have Poorer Grades in School. September 2015. (Reuters Health) - Snoring and other breathing problems during sleep can put kids at risk for poorer performance in school, a new study confirms.... Click to view

Topical Issues

39. Hypothyroidism and Down syndrome
      Author’s conclusions: The frequency of congenital hypothyroidism cases associated with NKX2.1 mutations is expected to be higher in a subgroup of patients, selected according to the neurological presentation. In these patients the analysis of NKX2.1 mutational status is recommended Click to view

   b. NKX2-1 mutations in brain-lung-thyroid syndrome: a case series of four patients: 29 March 2015
      Abstract: Brain-lung-thyroid syndrome (BLTS) characterized by congenital hypothyroidism, respiratory distress syndrome, and benign hereditary chorea is caused by thyroid transcription factor 1 (NKX2-1/TTF1) mutations. We report the clinical and molecular characteristics of four cases presenting with primary hypothyroidism, respiratory distress, and neurological disorder. Click to view

      Abstract: Despite normal newborn screens, the incidence of any hypothyroidism (early compensated hypothyroidism and primary hypothyroidism) was higher than previously reported. Click to view

**Conclusions:** Physicians should not rule out suggested hypothyroidism, even when thyroid function of a newborn screening test is normal. We suggest retesting TSH and free thyroxine in high risk preterm infants with an initially normal TSH level using a newborn screening test. [Click to view](#)

40. **Medicines Compendium**
   a. **Revised SPC: Gonapeptyl (triptorelin) Depot 3.75 mg.** Last Updated on eMC: 29-Sep-2015

   Sections 4.4 (warnings and precautions), 4.5 (interactions) and 4.8 (side-effects) have been updated to incorporate information related to the risk of QT interval prolongation with androgen deprivation therapy. [Click to view](#)

   b. **EU approves Shire’s long-acting ADHD drug.** *Pharmatimes Digital.* Comment: The alpha-2A adrenergic receptor agonist guanfacine (Intuniv) has been approved in the EU for the treatment of Attention Deficit Hyperactivity Disorder (ADHD) in patients aged 6-17 years for whom stimulants are not suitable, not tolerated or have been shown to be ineffective. [Click to view](#)

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   i. E-cigarette use and use of combustible tobacco products (August 2015) 
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b. What's New in Neonatology
   i. Filtered sunlight phototherapy for neonatal hyperbilirubinemia (September 2015) 
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   ii. Acetaminophen alone not effective in reducing neonatal pain (August 2015) 
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   iii. Prolonged hypoxia and increased late mortality and morbidity for extremely premature infants (August 2015) 
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