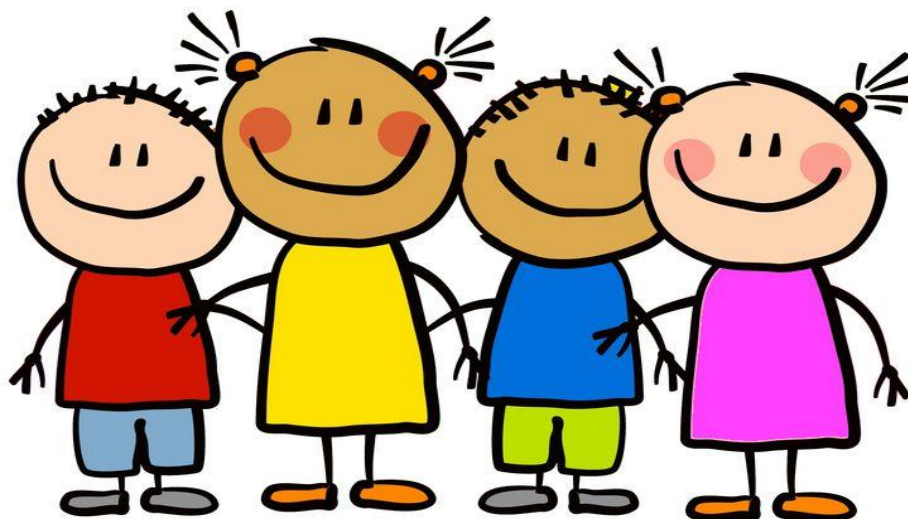


# General Paediatrics

Evidence Update

September 2017

(Bimonthly)



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# Training Calendar 2017

*All sessions are one hour*

## September (13.00-14.00)

Fri 1st	Literature Searching
Mon 4th	Critical Appraisal
Tue 12th	Interpreting Statistics
Wed 20th	Literature Searching
Thu 28th	Critical Appraisal

## October (12.00-13.00)

Fri 6th	Interpreting Statistics
Mon 9th	Literature Searching
Tue 17th	Critical Appraisal
Wed 25th	Interpreting Statistics

## Your Outreach Librarian – **Helen Pullen**

Whatever your information needs, the library is here to help. Just email us at [library@uhbristol.nhs.uk](mailto:library@uhbristol.nhs.uk)

**Outreach:** Your Outreach Librarian can help facilitate evidence-based practice for all in the team, as well as assisting with academic study and research. We also offer one-to-one or small group training in **literature searching, critical appraisal and medical statistics**. Get in touch: [library@uhbristol.nhs.uk](mailto:library@uhbristol.nhs.uk)

**Literature searching:** We provide a literature searching service for any library member. For those embarking on their own research it is advisable to book some time with one of the librarians for a one-to-one session where we can guide you through the process of creating a well-focused literature research. Please email requests to [library@uhbristol.nhs.uk](mailto:library@uhbristol.nhs.uk)

## Updates

**NICE** National Institute for  
Health and Care Excellence

[Developmental follow-up of children and young people born preterm](#)

[Fever in under 5s: assessment and initial management](#)



[Non-steroidal anti-inflammatory drugs \(NSAIDs\) for chronic non-cancer pain in children and adolescents.](#)

[Antidepressants for chronic non-cancer pain in children and adolescents.](#)

### UpToDate

#### GENERAL PEDIATRICS AND ADOLESCENT MEDICINE

##### Interpretation of blood lead levels <5 mcg/dL (0.24 micromol/L) (August 2017)

Interpretation of blood lead levels <5 mcg/dL (0.24 micromol/L) is complicated by an increased risk of specimen contamination arising from blood collection equipment (eg, needles, blood collection tubes, or cryovials) causing false positives and the inability for many laboratories to quantify low levels of blood lead resulting in false negatives [1]. However, any detectable lead <5 mcg/dL (0.24 micromol/L) warrants careful patient evaluation and an attempt at determining the source of lead exposure. (See "[Childhood lead poisoning: Management](#)", section on 'Detectable BLL <5 mcg/dL (current reference level)').

##### Risk of tympanic membrane perforation with topical quinolones after tympanostomy

**(August 2017)**

An observational study reported that treatment with quinolone ear drops, with or without added topical corticosteroids, after tympanostomy tube (TT) placement was associated with increased risk of tympanic membrane (TM) perforation compared with treatment with neomycin plus [hydrocortisone](#) drops [2]. While the study raises concerns regarding the safety of quinolone ear drops, the findings should be viewed as preliminary given the observational design and source of the data (Medicaid encounter and pharmacy billing data). In addition, this study evaluated only the risk of TM perforation and did not address other adverse effects, including ototoxicity, which is a well-established side effect of neomycin (and other aminoglycosides). Until additional data are available, we continue to suggest fluoroquinolone-containing drops as our preferred treatment for uncomplicated acute TT otorrhea. (See "[Tympanostomy tube otorrhea in children: Causes, prevention, and management](#)", section on 'Uncomplicated acute TTO'.)

**Low-dose ferrous sulfate for iron deficiency anemia (June 2017)**

For infants and children with iron deficiency anemia, standard oral iron dosing is 3 to 6 mg/kg elemental iron per day, but the optimal dose and preparation have not been established. Now, a study reports that [ferrous sulfate](#) 3 mg/kg once daily without food was effective in most patients and was more effective than an equivalent dose of an iron polysaccharide complex formulation [3]. These findings support administering ferrous sulfate at the low end of the standard dose range as first-line treatment for nutritional iron deficiency in children. (See "[Iron deficiency in infants and young children: Treatment](#)", section on 'Dose and scheduling'.)

**Updated American Academy of Pediatrics guidelines on fruit juice for infants (June 2017)**

Updated guidelines from the American Academy of Pediatrics (AAP) recommend avoiding fruit juice for infants younger than 12 months; previous guidelines recommended avoiding fruit juice for infants younger than 6 months [6]. Fruit juice provides no nutritional benefit over mashed or puréed whole fruit and may have adverse consequences, such as undernutrition, overnutrition, diarrhea, flatulence, abdominal distension, and dental caries. We agree with the AAP recommendation and now suggest mashed or puréed whole fruit rather than fruit juice for infants age 6 to 12 months. (See "[Introducing solid foods and vitamin and mineral supplementation during infancy](#)", section on 'Beverages to avoid'.)

# Journal Tables of Contents

If you would like any of the papers in full text then please email the library:  
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## Pediatrics

August 2017, Vol. 140, No. 2

### [Probiotics and Child Care Absence Due to Infections: A Randomized Controlled Trial](#)

**OBJECTIVES:** The risk of infections is higher in children attending child care compared with children cared for at home. This study examined the effect of a combination of probiotics on absence from child care because of respiratory and gastrointestinal infections in healthy infants aged 8 to 14 months at the time of enrollment in child care.

**METHODS:** The ProbiComp study was a randomized, double-blind, placebo-controlled study. A total of 290 infants were randomly allocated to receive a placebo or a combination of *Bifidobacterium animalis* subsp *lactis* and *Lactobacillus rhamnosus* in a dose of 109 colony-forming units of each daily for a 6-month intervention period. Absence from child care, occurrence of infant symptoms of illness, and doctor visits were registered by the parents using daily and weekly Web-based questionnaires.

**RESULTS:** Median absence from child care was 11 days (interquartile range: 6–16). Intention-to-treat analysis showed no difference between the probiotics and placebo groups ( $P = .19$ ). Additionally, there was no difference in any of the secondary outcomes between groups; the number of children with doctor-diagnosed upper or lower respiratory tract infections, the number of doctor visits, antibiotic treatments, occurrence and duration of diarrhea, and days with common cold symptoms, fever, vomiting, or caregivers' absence from work.

**CONCLUSIONS:** A daily administration of a combination of *B animalis* subsp *lactis* and *L rhamnosus* for 6 months did not reduce the number of days absent from child care in healthy infants at the time of enrollment in child care.

### [Pediatric Readmissions After Hospitalizations for Lower Respiratory Infections](#)

**BACKGROUND AND OBJECTIVE:** Lower respiratory infections (LRIs) are among the most common reasons for pediatric hospitalization and among the diagnoses with the highest number of readmissions. Characterizing LRI readmissions would help guide efforts to prevent them. We assessed variation in pediatric LRI readmission rates, risk factors for readmission, and readmission diagnoses.

**METHODS:** We analyzed 2008–2009 Medicaid Analytic eXtract data for patients <18 years of age in 26 states. We identified LRI hospitalizations based on a primary diagnosis of bronchiolitis, influenza, or community-acquired pneumonia or a secondary diagnosis of one of these LRIs plus a primary diagnosis of asthma, respiratory failure, or sepsis/bacteremia. Readmission rates were calculated as the proportion of hospitalizations followed by  $\geq 1$  unplanned readmission within 30 days. We used

logistic regression with fixed effects for patient characteristics and a hospital random intercept to case-mix adjust rates and assess risk factors.

**RESULTS:** Of 150 590 LRI hospitalizations, 8233 (5.5%) were followed by  $\geq 1$  readmission. The median adjusted hospital readmission rate was 5.2% (interquartile range: 5.1%–5.4%), and rates varied across hospitals ( $P < .0001$ ). Infants (patients  $< 1$  year of age), boys, and children with chronic conditions were more likely to be readmitted. The most common primary diagnoses on readmission were LRIs (48.2%), asthma (10.0%), fluid/electrolyte disorders (3.4%), respiratory failure (3.3%), and upper respiratory infections (2.7%).

**CONCLUSIONS:** LRI readmissions are common and vary across hospitals. Multiple risk factors are associated with readmission, indicating potential targets for strategies to reduce readmissions. Readmission diagnoses sometimes seem related to the original LRI.

### [Promoting Early Child Development With Interventions in Health and Nutrition: A Systematic Review](#)

**CONTEXT:** Although effective health and nutrition interventions for reducing child mortality and morbidity exist, direct evidence of effects on cognitive, motor, and psychosocial development is lacking.

**OBJECTIVE:** To review existing evidence for health and nutrition interventions affecting direct measures of (and pathways to) early child development.

**DATA SOURCES:** Reviews and recent overviews of interventions across the continuum of care and component studies.

**STUDY SELECTION:** We selected systematic reviews detailing the effectiveness of health or nutrition interventions that have plausible links to child development and/or contain direct measures of cognitive, motor, and psychosocial development.

**DATA EXTRACTION:** A team of reviewers independently extracted data and assessed their quality.

**RESULTS:** Sixty systematic reviews contained the outcomes of interest. Various interventions reduced morbidity and improved child growth, but few had direct measures of child development. Of particular benefit were food and micronutrient supplementation for mothers to reduce the risk of small for gestational age and iodine deficiency, strategies to reduce iron deficiency anemia in infancy, and early neonatal care (appropriate resuscitation, delayed cord clamping, and Kangaroo Mother Care). Neuroprotective interventions for imminent preterm birth showed the largest effect sizes (antenatal corticosteroids for developmental delay: risk ratio 0.49, 95% confidence interval 0.24 to 1.00; magnesium sulfate for gross motor dysfunction: risk ratio 0.61, 95% confidence interval 0.44 to 0.85).

**LIMITATIONS:** Given the focus on high-quality studies captured in leading systematic reviews, only effects reported within studies included in systematic reviews were captured.

CONCLUSIONS: These findings should guide the prioritization and scale-up of interventions within critical periods of early infancy and childhood, and encourage research into their implementation at scale.

## [Archives of disease in Childhood](#)

September 2017 - Volume 102 – 9

### [The United Kingdom Child Health Research Collaboration](#)

Lindsey Hunter, Angela Mensah, Matthew Jordan, Neena Modi, Anne Greenough

Research is essential to advance the science of paediatrics and improve the health and well-being of children. Importantly, many of the determinants of poor adult health have their origins in early life. In 2012, the report 'Turning the Tide' from the Royal College of Paediatrics and Child Health (RCPCH)<sup>1</sup> highlighted that the evidence base for child specific treatments was sparse. It was highlighted that only 5% of the annual UK public and charitable research expenditure was allocated to children, approximately £2.2 billion, which is equivalent to less than £10 per child per year.<sup>1</sup> The report called for all those parties involved in research to come together to develop a national vision to ensure that child health research was given the same importance as adult research.<sup>1</sup> The report made a number of recommendations including expansion of research posts, support for parents' and young people's advocacy, improved research training for paediatric trainees and collaboration between children's research charities.<sup>1</sup> Those recommendations were further emphasised in the report 'A healthy nation: strengthening child health research in the UK'.<sup>2</sup> This article highlights how collaboration between children's research charities has been taken forward.

The United Kingdom Child Health Research Collaboration (UKCHRC) was formally launched in January 2015 at the Wellcome Trust following a series of workshops held earlier at the Medical Research Council (MRC). The UKCHRC is a partnership of funders of child health research (box 1). Administrative support is provided by the RCPCH. Meetings are held biannually at one of the charities' headquarters. In 2016, the UKCHRC met at the British Heart Foundation and the Cystic Fibrosis Trust and in 2017 the meeting was at the British Lung Foundation. Each charity retains their own identity, ...

### [Lancet](#) Child and Adolescent Health

The Lancet Child & Adolescent Health is committed to giving a platform to these diverse but allied disciplines. We aim to provide a home for the highest quality research and opinion, and endeavour to unite and engage the varied experts and all they encompass. It is imperative that all partners within the discipline document and share their expertise to facilitate the best care for patients and an optimal state of personal wellbeing for all children and adolescents. We aim to be a vital voice for improving young lives, and we invite you to join us in this challenge to secure their future.

[JAMA Pediatrics](#)

[Comparative Effectiveness of Clinical-Community Childhood Obesity Interventions](#)

Key Points

Question: What is the effectiveness of 2 clinical-community interventions in improving child body mass index z score and parent-report of their child's health-related quality of life?

Findings: In this randomized clinical trial that included 721 children, there were significant improvements in body mass index z score in both intervention groups, as well as some aspects of quality of life. However, no statistically significant differences were found between the 2 intervention arms.

Meaning: Two interventions that included a package of high-quality clinical care for obesity and linkages to community resources resulted in improved family-centered outcomes for childhood obesity and improvements in child body mass index.

*JAMA Pediatr.* 2017;171(8):e171325. doi:10.1001/jamapediatrics.2017.1325

[Effect of Nebulized Hypertonic Saline Treatment in Emergency Departments on the Hospitalization Rate for Acute Bronchiolitis](#)

François Angoulvant, MD, PhD; Xavier Bellétre, MD; Karen Milcent, MD, PhD; et al.

This randomized clinical trial examines whether hypertonic saline nebulization treatment can decrease the hospital admission rate among infants with a first episode of acute bronchiolitis.

*JAMA Pediatr.* 2017;171(8):e171333. doi:10.1001/jamapediatrics.2017.1333

