

# Paediatric Pearls

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Put together by: Dr Julia Thomson, Consultant Paediatrician, [julia.thomson@whippsx.nhs.uk](mailto:julia.thomson@whippsx.nhs.uk)  
Dr Amutha Anpananthur, Paediatric registrar, Whipps Cross Hospital

Previous editions are now all available at [www.paediatricpearls.co.uk](http://www.paediatricpearls.co.uk)

In a diarrhoeal child with a venous gas of pH 7.35, pCO<sub>2</sub> 4.0, HCO<sub>3</sub><sup>-</sup> 18, BE -7.5, Cl<sup>-</sup> of 100 what does an anion gap of 19 mean? The anion gap is normal (12-20mmol/L) in dehydration secondary to diarrhoea. It goes up in lactic acidosis, ketoacidosis and renal failure. [http://en.wikipedia.org/wiki/Anion\\_gap](http://en.wikipedia.org/wiki/Anion_gap) has an enlightening, if rather technical, article on this subject. There is an anion gap,  $([Na^+] + [K^+]) - ([Cl^-] + [HCO_3^-])$ , calculator at [http://www.pediatricncall.com/fdoctor/pedcalc/anion\\_gap.asp](http://www.pediatricncall.com/fdoctor/pedcalc/anion_gap.asp)

## Measles!

**Symptoms:** Flu-like prodrome, Kopliks spots, maculopapular rash, conjunctivitis, cough

**Complications:** Bacterial pneumonia (most common cause of death), diarrhoea, acute otitis media, laryngitis, croup, encephalitis, myocarditis

**If child well enough to go home ensure**

ISOLATE until 6 days post-onset of rash.

Give advice sheet e.g. <http://www.patient.co.uk/health/Measles.htm>

Maintain hydration and comfort (simple analgesia)

Ensure up-to-date contact number for parents

**Inform HPA** (020722045000) **within 24 hours**. They will send IgG saliva testing kit to parents and organise prophylaxis for contacts.

**References and resources:** HPA measles guideline 2008. [http://www.hpa.org.uk/web/HPAwebFile/HPAweb\\_C/1274088429847](http://www.hpa.org.uk/web/HPAwebFile/HPAweb_C/1274088429847)

**This month's featured NICE guideline:** Surgical management of otitis media with effusion (OME) in children (publ. Sept 2008, <http://guidance.nice.org.uk/CG60>)

OME (glue ear) represents a collection of fluid within the middle ear and without signs of acute inflammation. 8% of 7-8 year olds have it and by the age of 10, 80% of children have had at least one episode. Mean duration is 6-10 weeks. There is a particularly high incidence amongst those with a cleft palate or Downs syndrome. Vast majority resolve spontaneously. NICE has set out appropriate criteria for referral, assessment and optimum surgical management of children <12 yrs.

### FORMAL ASSESSMENT:

- History:** poor listening skills, delayed/indistinct language, inattention and behaviour problems, recurrent URTIs, poor balance
- Clinical examination:** otoscopy, general upper respiratory tract health and general developmental status
- Hearing test and tympanometry**

**INDICATIONS FOR SURGERY:** persistent OME over a 3 month period with hearing level in the better ear of 25-30dBHL or worse averaged at 0.5, 1, 2 and 4kHz.

**Surgery** = ventilation tubes (grommets). No need for adenoidectomy at the same time unless there are persistent and/or frequent URTIs.

Alternative = **hearing aids**. Should be offered to those with Downs syndrome.

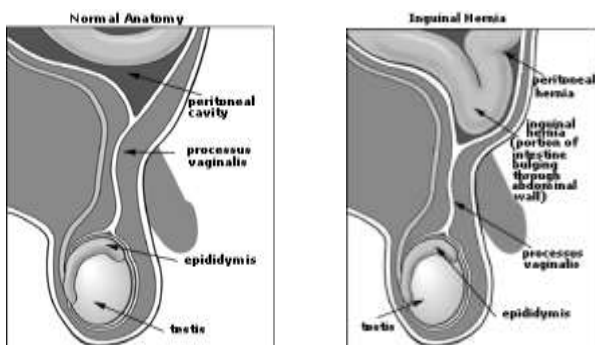
NICE does *not* recommend: antibiotics, antihistamines, steroids, decongestants, homeopathy, cranial osteopathy, acupuncture, probiotics, massage.

Quick reference guide available at: <http://www.nice.org.uk/nicemedia/live/11928/39564/39564.pdf>

[Click here](#) for updated **"Surgery at Whipps Cross"**

**information.** Our policy is that children under the age of 3 can not be operated on as an emergency. Age cut offs for elective work vary amongst the individual surgical specialties.

## INGUINAL HERNIAS – Dr Jemma Say



Surgery is indicated for all paediatric patients with inguinal hernia. The risks of not performing surgery include bowel, testicular or ovarian incarceration or necrosis. This risk is greatest in early infancy; premature infants have an incarceration risk of up to 30%. Children >1 yr can be referred to Mr Brearley at Whipps Cross Hospital. <1yr olds (and any age child if irreducible (a surgical emergency)) should be referred to the Royal London Hospital.

Dr Jemma Say has put together a concise summary on this topic at <http://www.paediatricpearls.co.uk/2011/05/inguinal-hernias/> - includes links to other relevant sites (patient information, surgical videos).

## The limping child: Common differential diagnosis of limp by age:

(Perry, D.C. and C. Bruce, *Evaluating the child who presents with an acute limp*. BMJ, 2010. **341**: p. c4250)

0-3 years	3-10years	10-15 years
Septic arthritis or osteomyelitis	Transient synovitis (Irritable hip)	Slipped Upper Femoral epiphysis (SUFE)
Developmental dysplasia of hip (usually does not present with pain)	Septic arthritis or osteomyelitis	Septic arthritis or osteomyelitis
Fracture or soft tissue injury (toddler fractures or non accidental injury)	Perthes' disease (often no pain initially)	Perthes' disease
Also consider at all ages:	Fracture or soft tissue injury	Fracture or soft tissue injury
	Neoplasms, neurological/ neuromuscular causes, rheumatological disease such as juvenile idiopathic arthritis	

## Distinguishing between transient synovitis and septic arthritis:

Check for Kocher's risk factors:

- Not weight bearing
- History of fever (> 38.5 C)
- WCC >12x 10<sup>9</sup> cells/L
- ESR ≥40

Probability of having septic arthritis was 3% with one predictor, 40% with two predictors, 93.1% with three and 99.6% with all four predictors. If none of the criteria was positive, the probability of septic arthritis was less than 0.2%.

Kocher, M.S., D. Zurakowski, and J.R. Kasser, *Differentiating between septic arthritis and transient synovitis of the hip in children: an evidence-based clinical prediction algorithm*. J Bone Joint Surg Am, 1999. **81**(12): p. 1662-70.

[Click here](#) for more on this topic plus suggested algorithm for management of limp (with thanks to Dr Raiashree Ravindran).