

# Paediatric Pearls

(Emergency Department update)

Date: December 2009

Put together by: Dr Julia Thomson, Consultant Paediatrician, Whipps Cross Hospital, bleep 880, julia.thomson@whippsx.nhs.uk

## 4 hour target

Please remind yourself of the escalation policy within A and E. 5 children booking in in an hour is a trigger for escalation and this happens most days. It has been great to see 2 A and E juniors up the paediatric end this week. If I am in the department please use me as a resource rather than stumble on yourselves not knowing what to do with a child. 11<sup>th</sup> (well, 3<sup>rd</sup>) hour referrals are unhelpful for specialty teams. Efficiency, efficiency, efficiency please! Long waits are bad for children and bad for families; most paediatric "breaches" do not need to happen. To help us investigate the ones that do slip through, please **write down the time** that you are seeing a child.

## Pain ladder

There is a very comprehensive "Pain protocol" within the Paediatric Guidelines on the intranet. Please do use it. No child should be left in pain unnecessarily. Even very young children can use pain scoring systems such as "smiley faces". Children with burns or fractures may have had nothing before coming to A and E. Children with sickle cell disease may already have had paracetamol, ibuprofen and codeine at home. Take this into account as well as their pain score when deciding where to start on the pain ladder. Please involve paediatricians if you are considering opiates outside the trauma situation; some abdo pain responds better to reassurance than to oromorph.

### FROM THE LITERATURE:

**Do all virus-induced wheezers need oral prednisolone?** In pre-school children with mild-to-moderate wheezing associated with a viral infection, prednisolone was not superior to placebo. Primary outcome: duration of hospitalisation. Secondary outcomes: amount of  $\beta$ -agonist used, time to return to normal activities, number of readmissions in a month. Authors suggest we do NOT give oral prednisolone routinely to this group of patients. *NEJM* 2009;360(4):329-338

## A and E clinical question

### What investigations should I do on a 4 year old child with an atraumatic limp?

Most young children who develop a limp overnight with no obvious precipitating factors have transient synovitis usually secondary to a preceding viral illness. You need to be able to rule out septic arthritis, NAI, Perthes disease and oncological diagnoses like osteosarcoma and leukaemia. Take a good targeted history bearing the above list of differentials in mind (NB: hip pain in children is often referred to the knee), examine carefully and discuss with orthopaedics. Most children will need a CRP, FBC and film, hip x-ray +/- ultrasound and follow-up in fracture clinic. Any oncological or NAI concerns need to be discussed with me or the on-call paediatric registrar; please don't do (or ask the nurses to do) social work referrals without discussing the case with us first.

Please e-mail me your clinical questions. Nothing is too basic; if you are thinking it, chances are most of your colleagues don't know the answer either.

## Oral rehydration (ORS) in D and V

(worked example)

25kg child with clinical dehydration but no shock:

**MAINTENANCE** over full 24 hours = 100mls/kg for first 10 kgs  
50mls/kg for next 10kgs  
20mls/kg thereafter  
= 1600mls = 67mls/hr for 24 hrs

**REHYDRATION** over initial 4 hours = 50mls/kg = 1250mls = 313mls/hr

Therefore in first 4 hours of ORS therapy give 313 + 67mls/hr = 380mls/hr  
For the remaining 20 hours aim at 67mls/hr

Fluids should be given little and often eg. 16mls every 10 minutes for first 4 hours in this example. If tolerated, a higher (more practical) volume can be given every 20 -30 minutes.

## This month's featured NICE guideline: *Diarrhoea and vomiting caused by gastroenteritis; diagnosis, assessment and management in children younger than 5 years (CG84 issued April 2009)*

**DIAGNOSIS:** Suspect gastroenteritis if there is a sudden change in stool consistency to loose or watery stools, and/or a sudden onset of vomiting.

- \* diarrhoea usually lasts for 5-7 days but can go on for up to 2 weeks
- \* vomiting lasts for 1-2 days, occasionally up to 3 days
- \* send stool for MC&S if child is septicaemic, immunocompromised or passing blood +/- mucus
- \* consider also sending stool if child has been abroad or still has diarrhoea on day 7

**ASSESSMENT:** You can access Table 1: symptoms and signs of clinical dehydration and shock at [www.nice.org.uk/CG84](http://www.nice.org.uk/CG84) where it forms part of a 16 page, easy to follow Quick Reference Guide. Red flag icons on the table help to identify which dehydrated children are at increased risk of becoming shocked.

**MANAGEMENT:** An easy to follow algorithm appears after Table 1 in the NICE guideline showing how to manage fluids and rehydration. The emphasis is all on oral rehydration; very few children ever need intravenous fluids.

- \* never discontinue breastmilk
- \* rehydrate over 4 hours with oral rehydration solution (ORS) and breast milk if breastfed. Give 50mls/kg (100mls/kg if shocked) for fluid deficit replacement over the 4 hours as well as maintenance fluid as calculated in the worked example in the text box above
- \* give small amounts of ORS often eg. 10mls every 10 minutes. Use nasogastric tube if child refusing oral fluids or asleep. Vomiting is not a contraindication to n.g. tube
- \* only use intravenous fluids if child shocked, has persistent red flag symptoms or is persistently vomiting with nasogastric tube in situ
- \* blood tests are only indicated if iv fluids are to be used or if there are signs of hypernatraemia. Consider a venous blood gas if doing blood tests.
- \* once rehydrated over 4 hours, child should go straight back on to normal diet and/or normal milk but discourage fruit juices and fizzy drinks until diarrhoea has stopped
- \* advise a 5mls/kg bolus of ORS after each subsequent vomit or diarrhoeal stool
- \* a parent information leaflet is available at <http://guidance.nice.org.uk/CG84>