Paediatric Pearls

by Dr Julia Thomson, Paediatrician

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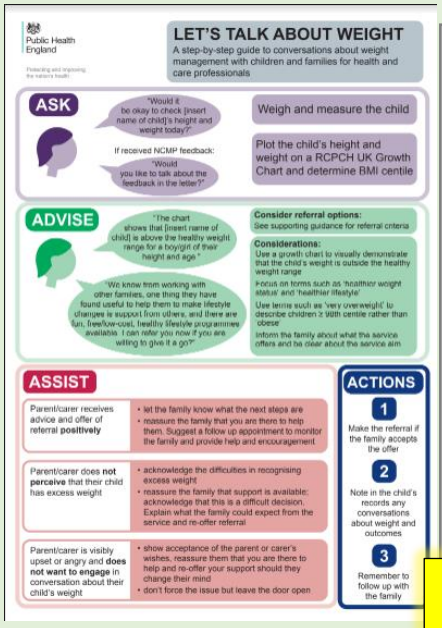
Monthly paediatric update newsletter for all health professionals working with children – put together by Dr Julia Thomson, Paediatric Consultant at Homerton University Hospital, London, UK. Housed at www.paediatricpearls.co.uk where comments and requests are welcome!

"The time they stick a piece of Lego up their nose may be the one and only opportunity for a health professional to notice and speak to their parents about obesity"

The Paediatric Emergency Department team at Whipps Cross Hospital, headed up by Dr Amutha Anpananthar, has put together and piloted an "obesity bundle" and wrote about it in this month's Emergency Medicine Journal supplement. Their point is that the responsibility of talking about paediatric obesity is all of ours and not just primary care. I have found in clinic that many families are unaware that their children are overweight and are not as reluctant to talk about it as we fear. Amutha is keen to emphasise how to effectively and sensitively communicate this topic with first the parent on their own and then the child if the parent agrees. The team's communication advice sheet is here. They are happy to share their bundle - which forms part of a QI project - with any interested ED or ward team.

Link to work out BMI centile: https://www.nhs.uk/live-well/healthy-weight/bmi-calculator/



Step 1: measure all children to assess for obesity (exclude those in resus, unwell, under 2yrs, non-weight bearing)

- Measure height and weight of all children attending the ED
- Obesity is diagnosed by BMI *centile*

Step 2: diagnose, communicate, record

- Recognise that obesity is a relevant medical diagnosis
- Communicate that the child is overweight and that it has negative health implications
- Record on discharge summary that obesity has been diagnosed

Step 3: signpost

- Recommend that the family make an appointment with the GP
- Offer leaflet to summarise basic advice
- Many local weight management schemes are self-referral so have information available in your ED on local services

Try the UK-WHO growth charts app! It's an easy way of working out the BMI and centile.

Useful parent resources:
https://www.nhs.uk/live-well/healthy-weight/very-overweight-children-advice-for-parents/
Barts Health parent information leaflet on Getting children active
Barts Health parent information leaflet on Weight
https://www.paediatricpearls.co.uk/wp-content/uploads/Towards-a-healthy-lifestyle-final.pdf

Ahmed is 2 years old and has not been weighed during the pandemic. His mother says that he has stopped vomiting after 2 days but still has diarrhoea. He looks a bit washed out but managed to keep his porridge down this morning and his nappy was damp when he woke up. She has bought some Diarolyte from the chemist but is not sure how much to give Ahmed.

Estimated weight for children aged 1-5yrs = (age x 2) + 8 = 12kgs for Ahmed

Daily maintenance fluid = 100mls/kg for first 10kgs = 1000mls
Plus 50mls/kg for the next 2kgs = 100mls
Total maintenance over 24 hour period for Ahmed is therefore 1100mls (46ml/hr)

Replacement fluid as he's a bit dehydrated = 50mls/kg over the next 4 hours AS WELL AS his maintenance fluid = 600mls over the next 4 hours (150ml/hr)

So Ahmed needs 150 + 46ml ≈ 200mls/hr for the next 4 hours and ≈50mls/hr after that.

The ED stock recommendation of "5mls every 5 minutes" is not going to be enough for Ahmed. He needs about 15mls every 5 minutes for the first 4 hours. Good luck if he falls asleep. Fortunately, Ahmed has finished the vomiting stage of his illness so the ORS could be given as one drink of 200mls per hour for 4 hours. Hopefully he would then eat and drink normally which would cover the 50ml/hr.

He also needs 5ml/kg = 60mls of ORS every time he has diarrhoea.

Attention deficit hyperactivity disorder: diagnosis and management

NICE guideline [NG87] Published: 14 March 2018 Last updated: 13 September 2019

The update in September 2019 was that **an ECG is no longer needed for CYP being started on medications for ADHD**, providing the cardiovascular history and examination is normal and the young person is not on medicine that poses an increased cardiovascular risk. https://www.nice.org.uk/guidance/ng87

This is good news for lots of families who were having to wait ages for their child to have a formal cardiological assessment before starting on methylphenidate. Most children no longer require an ECG, but BP and HR should be measured 6 monthly when on treatment. Some resources on this topic that might help:

ECG crib sheet: http://learnpediatrics.sites.olt.ubc.ca/files/2010/07/ECG-basics.pdf
BP centiles: https://www.paediatricpearls.co.uk/wp-content/uploads/child-bp-centiles.pdf
ECG reading for psychiatrists: https://portal.e-lfh.org.uk/Component/Details/528929
Psychoactive medications: https://www.minded.org.uk/Component/Details/525075

October seems to have been **diarrhoea** month

I saw a child in clinic with "peas and carrots" stools or Toddler's Diarrhoea. I haven't seen it in ages so I think most of these are well managed in primary care. Toddler's diarrhoea:

- is not a sign of malabsorption and weight gain is normal
- affects children mainly 1-5 yrs old, M>F
- presents as loose stools with undigested vegetable matter 4-6 (up to 10 sometimes) times per day
- might be helped by increasing fat in the child's diet, reducing juice and maintaining a normal amount of fibre
- see: https://patient.info/childrens-health/acute-diarrhoea-in-children/toddlers-diarrhoea

We have also seen a lot of viral gastroenteritis this month. We advise parents to give their children oral rehydration solution (ORS) "little and often" but what sort of volumes does that really mean? The 2020 updated NICE Clinical Knowledge Summary on this topic says:

If using low-osmolarity oral rehydration salt (ORS) solution to rehydrate a child (240–250 mOsm/L) [NICE, 2009]:

- Age 5 years or younger: give 50 mL/kg body weight for fluid deficit replacement, as well as maintenance volume of ORS solution, over 4 hours.
  - Note: breastfeeding can continue, but do not routinely give oral fluids other than ORS solution.
- Age 5–11 years: give 200 mL ORS solution after each loose stool, in addition to the child's normal fluid intake. Note: the British National Formulary recommends this dose for children aged 1–11 years [Joint Formulary Committee, 2019].
- Age 12–16 years: give 200–400 mL ORS solution after every loose stool, dose according to fluid loss [Joint Formulary Committee, 2019].
- After rehydration, for children at increased risk of dehydration: give 5 mL/kg body weight after each large watery stool, to prevent recurrence of dehydration.

See https://cks.nice.org.uk/topics/gastroenteritis/management/child-gastroenteritis/: "maintenance volume" in the first bullet point means 100ml/kg/day for infants under 10kgs and 50mls/kg on top of this for children between 10 and 20kgs. See worked example to the left.

Don't forget the last bullet point; 5ml/kg ORS after every diarrhoeal stool helps prevent dehydration.

Assessing D&V remotely? https://what0-18.nhs.uk/application/files/4115/8661/2975/CS50218_NHS_DV_pathway_for_remote_assessment_in_primary_care_Oct_19_v4.pdf

Safety netting: https://what0-18.nhs.uk/professionals/gp-primary-care-staff/safety-netting-documents-parents/diarrhoea-andor-vomiting-advice-sheet