Paediatric Pearls

April 2017

Put together by: Dr Julia Thomson, Consultant Paediatrician, julia.thomson@bartshealth.nhs.uk

Previous editions are all available at www.paediatricpearls.co.uk

People who "DNA" hospital appointments are usually discharged back to their referring GP. At Whipps, the paediatric consultant in charge of the clinic reviews the notes and GP letter and decides, based on clinical information and known safeguarding concerns, whether the family should be offered another appointment. **It is always tricky because it is never the child's fault that they "Did Not Attend". Or should we term it "Was Not Brought"**? See below from Nottingham City Safeguarding Children Board:

Rethinking 'did not attend'

Any WNB (Was Not Brought) child should have their notes reviewed by the lead clinician and then a decision needs to be made about whether a referral is required for children's social care for either protection or help and support prior to them being discharged from a service. In addition, inform the person who referred them to your clinic in the first place as well as the GP.

Nottingham City Safeguarding Children Board has produced a short video animation to encourage practitioners to identify children as 'Was Not Brought' as opposed to 'Did Not Attend' (DNA) when referring to them not being presented at medical appointments. The NSPCC thematic briefing on learning from case reviews for the health sector finds that the DNA category does not recognise the real issue which is children not being taken to appointments, a potential indicator of neglect.

Further information: Rethinking 'Did not attend' (YouTube)

PAEDIATRIC HYPERTENSION

Childhood blood pressure (BP) tracks into adulthood; the earlier discovery of hypertension in an individual could protect them from the late effects. The 2016 European Society of Hypertension guidelines are available here; they stop short of the American screening recommendation that all children between 3 and 18 years have their BP measured at least annually but do advise that **all children > 3 years seen in a medical setting should have their BP measured and, as long as normal, every 2 years after that**. How many of us do that? Do we even know what constitutes hypertension in our patients? Are we confident in measuring it? What do we do if we find it? What might have caused it?

A very good review article was published last month in *Frontiers in Paediatrics* and is available in full text here. I am going to draw heavily from it over the next few months for a series on paediatric blood pressure. Thank you to Eileen Brennan, nurse consultant in paediatric nephrology at Great Ormond Street Hospital for teaching me about the topic, pointing me towards suitable resources and for checking what I put in my text boxes.

STEP 1: what constitutes "hypertension" in a child? Link to PDFs of the current recommended normative data according to age, height and gender.

References:

Lurbe E et al. 2016 European Society of Hypertension guidelines for the management of high blood pressure in children and adolescents. *J Hypertens*. 2016 Oct;**34**(10):1887-920

National High Blood Pressure Education Program Working Group on High Blood Pressure in Children and Adolescents. The fourth report on the diagnosis, evaluation, and treatment of high blood pressure in children and adolescents. National Heart, Lung, and Blood Institute, Bethesda, Maryland. *Pediatrics* 2004; **114**:555–576

Lewis M et al. Screening for Hypertension in Children and Adolescents: Methodology and Current Practice Recommendations. *Front Pediatr*. 2017; **5**: 51

www.diabetes.co.uk is warning its readers that, as of this month, 100mls Lucozade will contain 8.9g carbs instead of 17g. Type 1 diabetics with low blood sugar are advised to take 15-20g sugar. Instead of 100mls, this will now be 170mls Lucozade. Ribena and Orangina will also change this year. Good for the obesity epidemic but please warn your IDDM patients to check the labels.

URINALYSIS – 1) specific gravity (Jan 2017), 2) pH (Feb '17), 3) nitrites (March '17), 4) leucocytes

- Determines the presence of whole or lysed white cells in the urine (pyuria) by detecting leucocyte esterase activity.
- A positive leucocyte esterase test correlates well with pyuria. **BUT**, pyuria does not necessarily indicate a UTI. The white cells may be increased because of infection elsewhere. NICE "do not do recommendation": *Do not test urine if the infant or child has an obvious alternative source of infection.*
- Conversely, a UTI diagnosis may be missed if a negative urinalysis dipstick is used to exclude UTI. Especially true in children less than 3 years old. NICE recommendation: if you suspect a UTI clinically, send urine for MC&S and do **not** rely on the dipstick result alone; we are supposed to diagnose a UTI if there is bacteriuria on microscopy, even without pyuria. Click here for further information on diagnosing UTI in children; it's not quite as straight forward as you would hope.

Resources: http://lifeinthefastlane.com/investigations/urinalysis/
NICE guideline on Urinary Tract Infections in under 16s. Diagnosis and Management. Full text available here. Update due later in 2017.

Part 3 of Decoding the Full Blood Count with thanks to Whipps Cross paediatric registrar Dr Alexandra Briscoe and Oxford professor of paediatric haematology, Professor Irene Roberts. Mean Corpuscular Volume (MCV):

- **MCV is a measure of the size of red blood cells and is expressed in femtoliters**
- **MCV cutoffs vary by age and by lab reference**
- **MCV Normal Range:**
  - **Newborn: 95 to 121 fl**
  - **Ages 6 months to 2 years: 70 to 86 fl**
  - **Ages 12 to 18 years**
  - **Boys: 78 - 98**
  - **Girls: 78 - 102**
  - **Age over 18 years: 78 to 98 fl**
- **MCV Cutoffs for Microcytic Anemia:**
  - **Age 1-2 years: <77 fl**
  - **Age 3-5 years: <79 fl**
  - **Age 6-11 years: <80 fl**
  - **Age 12-15 years: <82 fl**
  - **Age >15 years: <85 fl**
  - **Recommended adult microcytic MCV cutoff varies Some sources advocate MCV <78 and others <82**

Source: http://www.fpnotebook.com/HemeOnc/Lab/MnCrpsclrVlm.htm

So, you've got the FBC back and it shows microcytic anaemia. How can you work out which of these factors is causative? Click here!

Possible causes of high or low MCV:

Increased MCV (macrocytosis)	Decreased MCV (microcytosis)
Vitamin B12 Deficiency	Iron Deficiency Anemia
Folic Acid Deficiency	Thalassemia
Alcohol Abuse	Hemoglobinopathy
Liver disease	Anemia of Chronic Disease
Marrow aplasia	Sideroblastic Anemia
Myelofibrosis	Chronic Renal Failure
Reticulocytosis	Lead Poisoning
Hypothyroidism	