Movicol is first line treatment for constipation in children < 12 yrs. The NICE recommended doses are not quite the same as the BNFc:

**Polyethylene glycol 3350 + electrolytes**

<table>
<thead>
<tr>
<th>Strength</th>
<th>Dosage</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>3350 mg + 635 mg</td>
<td>Child under 1 year: 1-4 sachets daily (non-BNFc recommended dose)</td>
<td></td>
</tr>
<tr>
<td>3350 mg + 1270 mg</td>
<td>Child 1-6 years: 2 sachets daily, then 4 sachets daily for 2 days, then 6 sachets daily for 2 days, then 3 sachets daily (non-BNFc recommended dose)</td>
<td></td>
</tr>
<tr>
<td>3350 mg + 2055 mg</td>
<td>Child 5-12 years: 4 sachets daily, then increased in steps of 2 sachets daily to maximum of 12 sachets daily (non-BNFc recommended dose)</td>
<td></td>
</tr>
<tr>
<td>3350 mg + 2740 mg</td>
<td>Child &gt;12 years: 3 sachets daily in divided doses adjusted according to response; maintenance, 1-2 sachets daily</td>
<td></td>
</tr>
</tbody>
</table>

Osmotic and stimulant laxative doses (if Movicol not tolerated or disimpaction not achieved with a macrogol alone) available here.

**URINALYSIS – WHAT EACH COMPONENT MEANS...**

1) SG (Jan '17), 2) pH (Feb '17), 3) nitrates (March '17), 4) leucocytes (April '17) 5) blood (June '17), 6) protein (July '17), 7) ketones (Aug '17), 8) glucose (Sept '17), 9) bilirubin and urobilinogen:

**DIPSTICK ANALYSIS**

<table>
<thead>
<tr>
<th>Component</th>
<th>Normal</th>
<th>Bilirubin</th>
<th>Ketones</th>
<th>Glucose</th>
<th>Bilirubin and urobilinogen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bilirubin</td>
<td>-ive</td>
<td>+ive</td>
<td>+ive</td>
<td>-ive</td>
<td></td>
</tr>
<tr>
<td>Urobilinogen</td>
<td>+ive</td>
<td>-ive or decreased</td>
<td>increased</td>
<td>increased</td>
<td></td>
</tr>
</tbody>
</table>

Very informative resource: https://lifeinthefastlane.com/investigations/urinalysis/

**HAEMOLYTIC DISEASE**

- Bilirubin is converted to urobilinogen by intestinal bacteria in the duodenum. Most urobilinogen is excreted in the faeces or transported back to the liver and converted into bile. The remaining urobilinogen (<1%) is excreted in the urine. It appears in low concentrations (0.2-1.0 mg/dL or <17 µmol/L).
- In haemolytic anaemia, malaria, infectious hepatitis incl. EBV, bilirubin is not normally present in urine. Only conjugated bilirubin can be excreted in the urine so its presence is a marker of obstructive jaundice eg. cirrhosis, biliary atresia.

**LESSONS FROM THE FRONT LINE**

Last month in the Urinalysis box I made a brief mention of glycosuria in children usually meaning that they have diabetes mellitus (DM). Although we are seeing type 2 DM in children now because of the obesity epidemic, most children with new onset diabetes have type 1 and are at risk of diabetic ketoacidosis at presentation. Please discuss all children with glycosuria and a high BMI with a paediatrician immediately rather than doing blood tests like HbA1c and fasting blood sugars in primary care.

We have had a case of diptheria (non-toxicogenic as it turned out) on the ward this week. Dr Oliver Rabie, GPST2, filled in the gaps in our knowledge......

- A bacterial disease (Corynebacterium diphtheriae) causing cutaneous or respiratory symptoms. Gram +ive rod. Carriers may be asymptomatic.
- Primarily affects children under 15 yrs of age.
- Toxigenic and non-toxigenic strains. Only the toxigenic variety is dangerous but the strain is identified a few days after the initial swab result so all patients should be treated with anti-toxin (figns to toxin and stops it entering cells) as well as antibiotics (macrolide). With a toxigenic strain, the leathery plaque above can form anywhere in the respiratory tree. Cutaneous infection appears as a punched-out lesion with a grey base. Non-toxigenic strains manifest as a mild URTI.
- Droplet spread, highly contagious. Throat swabs and prophylaxis advised for close contacts if the strain is toxigenic.
- Vaccine developed in 1940, now incorporated into the 6-in-1 vaccine. Prior to vaccine, 10% of American children caught diphtheria with a 5-10% case fatality rate. Immunisation has been a huge success; prior to vaccine, 1 of 10 children died. From 2010-2016, 7,097 cases worldwide in 2016, mainly in resource poor areas of the world.
- Infectious for up to 4 weeks if no treatment, < 4 days if given antibiotics.

Why do we continue to deprive older infants of pain relief when taking blood?

If you are new to seeing children in the ED or in general practice, take a look at these Children’s Emergency Medicine Easy Note Tutorials (CEMENT) from Leicester. Good simple summaries of common presentations with links to further resources: https://static1.squarespace.com/static/546e1217e4b093626abfbac7/t/59cbb8129f18769fb74d32e/1506523896329/Paediatric+CEMENT+Cards+%28v1+%2B+2017%29.pdf. But (see their SOP for local anaesthetic cream), is “magic cream” really only for the >1 year olds?

From www.medicines.org.uk: in term newborns and infants below 3 months, only one single dose of EMLA should be applied in any 24 hour period. For children aged 3 months and above, a maximum of 2 doses, separated by at least 12 hours can be given within any 24 hour period. EMLA Cream should not be used in newborn infants/infants up to 12 months of age receiving concomitant treatment with methaemoglobin-inducing agents nor in preterm newborn infants with a gestational age less than 37 weeks as they are at risk of developing increased methaemoglobin levels.

From MHRA on Metnoz: Do not use if the patient is less than 1 month old or if the patient is a premature baby up until one month after the expected delivery date (44 weeks gestation).

October 2017

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!