**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

- Normal daily protein excretion ≤ 150mg/24 hours or 10mg/100mL. In nephrotic syndrome >3.5g/day is excreted. “Trace” positive results = 10 mg/100 ml or about 150 mg/24 hours (the upper limit of normal).
- Causes: transient or orthostatic (most common and benign), click here for summary of causes in children
- False Positive: Concentrated or alkaline urine (pH >7.5), trace residue of bleach, NaHCO3, cefalosporins
- False Negative: Dilute urine or acidic urine (pH <5)
- Use spot, early morning urine testing for a protein/creatinine ratio if the urine dipstick test result is 1+ protein or more. A 24 hour collection is impractical.

<table>
<thead>
<tr>
<th>Dipstick protein reading</th>
<th>Protein excretion gm/24 hours</th>
<th>Protein excretion mg/dL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative</td>
<td>&lt;0.1</td>
<td>&lt;10</td>
</tr>
<tr>
<td>Trace</td>
<td>0.1-0.2</td>
<td>15</td>
</tr>
<tr>
<td>1+ (and above is abnormal)</td>
<td>0.2-0.5</td>
<td>30</td>
</tr>
<tr>
<td>2+</td>
<td>0.5-1.5</td>
<td>100</td>
</tr>
<tr>
<td>3+</td>
<td>2.0-5.0</td>
<td>300</td>
</tr>
<tr>
<td>4+</td>
<td>&gt;5.0</td>
<td>&gt;1000</td>
</tr>
</tbody>
</table>

**REFERENCES:**

http://lifeinthefastlane.com/investigations/urinalysis/
http://labtestonline.org.uk/understanding/analytes/urinalysis/ui-exams?start=1
http://www.aafp.org/afp/2010/0915/p645.html (comprehensive info)

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**URINALYSIS**

- 1+ protein/creatinine ratio
- >7.5), trace residue of bleach, NaHCO3
- benign), 2) pH (9), 3) nitrates (March ‘17), 4) leucocytes (April ’17) 5) blood (June ’17), 6) protein

<table>
<thead>
<tr>
<th>BP measurement</th>
<th>Classification</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 90th centile</td>
<td>Normotensive</td>
<td>Ensure healthy lifestyle</td>
</tr>
<tr>
<td>90th – 95th centile</td>
<td>Prehypertension</td>
<td>Evaluate for other risk factors**</td>
</tr>
<tr>
<td>Adolescents with BP &gt; 120/80</td>
<td>Prehypertension</td>
<td>Evaluate for other risk factors**</td>
</tr>
<tr>
<td>Consistently &gt; 95th centile</td>
<td>Hypertensive</td>
<td>Repeat twice to confirm (a few weeks apart). Request ABPM.* Refer promptly to specialist</td>
</tr>
</tbody>
</table>

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**PAEDIATRIC HYPERTENSIVE (HTN) continued from April 2017 and June 2017 newsletters (with thanks to Ms Eileen Brennan, nurse consultant in paediatric nephrology):**

- **DIAGNOSIS and Life-style recommendations to reduce high BP values:**
  - BMI < 85th percentile: Maintain BMI
  - BMI 85–95th percentile: Weight maintenance (younger children) or gradual weight loss in adolescents to reduce BMI to <85th percentile
  - BMI > 95th percentile: Gradual weight loss (1–2 kg/month) to achieve value <85th percentile
  - Moderate to vigorous physical aerobic activity 40 min, 3-5 days/week
  - Avoid intake of excess sugar, excess soft drinks, saturated fat and salt and recommend fruits, vegetables and grain products

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**What does a normal diaper look like?**

- In the first few days, your baby will pass meconium, the thick, green-black, tarry substance that accumulated in bowel walls in the 9 months pre-birth.
- From days three to five, stools gradually change, turning from dark green through to yellow and light brown.
- Your breast-fed baby's stools tend to be more formed and a slightly darker yellow to green color. Some formula can lead a greenish color to stools.

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**This is the colour of normal breastfed baby poo.** We welcome back Dr Marylyn Emedo for a series on pooping and constipation throughout infancy. First instalment: What is normal? In 90% of normal term babies, meconium (intestinal epithelial cells, lanugo, mucus, amniotic fluid, bile, and water) is passed within 24 hours of birth and by 48 hours in nearly all normal babies. Preterm infants may take longer than this to first open their bowels; one study reported only 37% of preterm infants (25–36 weeks gestation) open their bowels in the first 24 hours, and 32% are delayed over 48 hours. The ongoing frequency of stool output, and expected colour and consistency thereafter depends largely on what the baby is being fed.

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**NICE published a Quality Standard on Bedwetting in Children and Young People in 2014 based on their 2010 guidelines. 8% of 4 year olds wet the bed more than twice a week, 1.9% of 9 year olds. It is common but can have serious effects on the child and family.**

- Take a look at [https://www.ncbi.nlm.nih.gov/books/NBK62729/](https://www.ncbi.nlm.nih.gov/books/NBK62729/) which describes the impact on families of bedwetting in particular, the effect on self-image, the association with domestic violence in some cultures and the attitudes of families to nocturnal enuresis.

Self esteem is significantly lower in children with enuresis than in non-enuretics and, perhaps unsurprisingly, rises significantly once they have been dry at night for one month.

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**In nephrotic syndrome >3.5g/day** (comprehensive info)