

Paediatric Pearls

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

Reminder about **Cows Milk Protein Allergy (CMPA)** which is commonly referred to us but can easily be managed initially in Primary Care. No testing is necessary; diagnosis is by dietary exclusion and the comprehensive guideline for management of CMPA specifically for primary care is at <http://cowsmilkallergyguidelines.co.uk/>. Think about it in babies with symptoms such as severe cradle cap, eczema less than 6 weeks of age, blood and/or mucus in stools, persistent snuffiness, reflux and/or colic. Try an extensively hydrolysed formula (eg. Similac Alimentum, Nutramigen Lipil, Aptamil Pepti, Althera) for 4 weeks and see if the baby's symptoms get better. Refer if you're struggling but straight to a paediatric dietitian is as good, if not better, than a paediatrician. Other resources:

- milks for [CMPA here](#) and from [British Dietetic Association](#)
- Excellent annual course for primary care professionals from the Allergy Academy (London, Tues 25th April and Weds 18th Oct 2017): <http://www.allergyacademy.org/course/practical-allergy-primary-care-2017>

MOST ALLERGENIC → **LEAST ALLERGENIC**

- All basic formulas (dairy + soy)** are made of complete protein chains that trigger allergic reactions.
- Hydrolysate formulas** break the protein chain into pieces. This is better tolerated by many, but can still trigger an allergic reaction.
- Amino Acid-based formulas** are made with individual non-allergenic amino acids. They are very well tolerated and classified as hypoallergenic.

Similac, Nutramigen, Aptamil Pepti | Neocate, Nutramigen Puramino

When an intentional scald must be excluded	When an intentional scald must be considered	When an intentional scald is unlikely
<p>Physical features</p> <p>Mechanism:</p> <ul style="list-style-type: none"> • Immersion <p>Agent:</p> <ul style="list-style-type: none"> • Hot tap water <p>Pattern:</p> <ul style="list-style-type: none"> • Clear upper limits • Scald symmetry (extremities) <p>Distribution:</p> <ul style="list-style-type: none"> • Isolated scald buttock / perineum • +/- lower extremities • Isolated scald lower extremities <p>Clinical features</p> <ul style="list-style-type: none"> • Associated unrelated injury • History incompatible with examination findings • Co-existing fractures <p>Historical / Social features</p> <ul style="list-style-type: none"> • Passive, introverted, fearful child • Previous abuse • Domestic violence • Numerous prior accidental injuries • Sibling blamed for scald 	<p>Physical features</p> <p>Pattern:</p> <ul style="list-style-type: none"> • Uniform scald depth • Skin fold sparing • Central sparing buttocks <p>Distribution:</p> <ul style="list-style-type: none"> • Glove and stocking distribution • 1 limb glove / stocking <p>Clinical features</p> <ul style="list-style-type: none"> • Previous burn injury • Neglect / faltering growth • History inconsistent with assessed development <p>Historical / Social features</p> <p>Trigger, such as:</p> <ul style="list-style-type: none"> • Soiling / enuresis / misbehaviour • Differing historical accounts • Lack of parental concern • Unrelated adult presenting child • Child known to social services 	<p>Physical features</p> <p>Mechanism:</p> <ul style="list-style-type: none"> • Spill injury • Flowing water injury <p>Agent:</p> <ul style="list-style-type: none"> • Non tap water (hot beverage) <p>Pattern:</p> <ul style="list-style-type: none"> • Irregular margin and burn depth • Lack stocking distribution <p>Distribution:</p> <ul style="list-style-type: none"> • Asymmetric involvement lower limbs • Head, neck and trunk or face and upper body

SAFEGUARDING SLOT

How worried are you about that burn? The Scalds Triage tool (<http://www.core-info.cardiff.ac.uk/reviews/burns/scalds-key-messages/triage-tool>)

When you look at a full blood count result, do you look any further than Hb, WBC (perhaps a glance at the neutrophils) and platelets? Do you understand what MCHC is or RDW?

Whipps Cross paediatric registrar Dr Alexandra Briscoe has worked with Oxford professor of paediatric haematology, Professor Irene Roberts to put together an article called **Decoding the Full Blood Count** for www.paediatricpearls.co.uk. I shall be serialising it over the next few months. Snippets in the newsletters and a wealth of information on the blog site behind.

First instalment: **Red cell count and Haemoglobin**

Red cell count = number of red cells per ml of blood

Haemoglobin = concentration of O₂ carrying protein expressed nowadays in the UK as g/L

Age	Hb (g/L)	RBC (x10 ¹² /l)
Birth	149-237	3.7-6.5
2 weeks	134-198	3.9-5.9
4 weeks	94-130	3.1-4.3
2-6 months	114-141	3.9-5.5
6 months to 1 year	115-135	4.1-5.3
1-6 years	115-135	3.9-5.3
6-12 years	115-155	4.0-5.2
12-18 yrs Female	120-160	4.1-5.1
12 - 18 yrs Male	130-160	4.5-5.3

They tend to go up or down at the same time. Newborns have a higher Hb and RBC than adults but from 3 months of age Hb is lower than adults until they catch up in the teenage years.

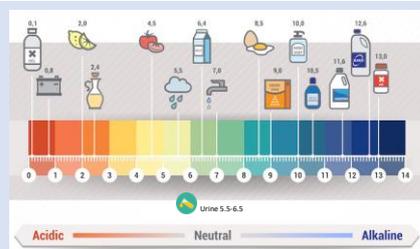
[North Bristol NHS Trust](#) normals

URINALYSIS – 1) specific gravity (Jan 2017), 2) pH

◆ Glomerular filtrate has a pH of about 7.4 which is acidified to about 6 by the time it is passed as urine. Not a helpful test as can vary from 4.5 to 8:

Causes of alkaline urine (pH)	Causes of acidic urine (pH)
Old sample, vegetarian diet, salicylate overdose, UTI, citrus fruit ++, low carb diet	Metabolic / respiratory acidosis, diarrhoea, high protein diet, DKA, cranberries, malabsorption

◆ Stones can form with either alkaline or acidic urine



- Resources:
- <http://lifeinthefastlane.com/investigations/urinalysis/>
 - <http://labtestsonline.org.uk/understanding/analytes/urinalysis/ui-exams?start=1>

POLYCYTHAEMIA	ANAEMIA
Congenital heart disease	Physiological nadir (8-12 weeks in term infants, 4-8 weeks in preterm babies). Rarely drops < 90g/L.
Neonates	Iron deficiency, haemolysis, blood loss, haemoglobinopathies, red cell enzymes defects, bone marrow failure – need some other FBC parameters to guide diagnosis.
Chronic hypoxia	
Altitude	

More information on Red Cell Count and Haemoglobin available [here](#).