

APPENDIX 1. Treatment of constipation.

Laxatives.

Impaction. First-line treatment is with macrogols. These can be used in escalating doses, with advice to families about inevitable initial soiling and pain. A stimulant can be added if macrogols are not effective alone.

Maintenance. Again macrogols, +/- stimulants as needed. If stools are hard, use lactulose or docusate. Treatment needs to continue for several weeks after regular toileting is established, and withdrawal of treatment should be gradual, over several months

Macrogols

Macrogols - Paediatric formulation: [Macrogols are completely ineffective unless you give the large amounts of fluid with each dose, as recommended on the packet].

Disimpaction

- under 1 year: ½–1 sachet daily
- 1–5 years: 2 sachets on 1st day, then 4/day for 2 days, then 6/day for 2 days, then 8/day
- 5–12 years: 4 sachets on 1st day, increased in steps of 2 sachets/day to max of 12/day

Ongoing maintenance

- under 1 year: ½–1 sachet daily
- 1–6 years: 1 sachet daily; adjust dose to produce regular soft stools (max 4 sachets daily)
- 6–12 years: 2 sachets daily; adjust dose to produce regular soft stools (max 4/day)

Macrogols - adult formulation:

Disimpaction

- age 12–18 years: 4 sachets on 1st day, increased in steps of 2/day daily to max 8/day

Ongoing maintenance

- age 12–18 years: 1–3 sachets daily in divided doses adjusted according to response; maintenance, 1–2 sachets daily

Lactulose [this does not work on already constipated stool – it only prevents future stool from becoming hard]

- 1 month to 1 year: 2.5 ml twice daily, adjusted according to response
- 1–5 years: 2.5–10 ml twice daily, adjusted according to response
- 5–18 years: 5–20 ml twice daily, adjusted according to response

Stimulant laxatives

Sodium picosulfate

Elixir (5 mg/5 ml)

- 1 month to 4 years: 2.5–10 mg once a day
- 4–18 years: 2.5–20 mg once a day

Perles (1 tablet = 2.5mg)

- 4–18 years: 2.5–20mg once a day

Bisacodyl

- 4–18 years: 5–20 mg once daily by mouth
- 2–18 years: 5–10 mg once daily by rectum (suppository)

Senna syrup (7.5 mg/5 ml)

- 1 month to 4 years: 2.5–10 ml once daily
- 4–18 years: 2.5–20 ml once daily

Senna tablet (7.5 mg)

- 2–4 years: $\frac{1}{2}$ –2 tablets once daily
- 4–6 years: $\frac{1}{2}$ –4 tablets once daily
- 6–18 years: 1–4 tablets once daily

Docusate sodium

- 6 months–2 years: 12.5 mg three times daily (use paediatric oral solution)
- 2–12 years: 12.5–25 mg three times daily (use paediatric oral solution)
- 12–18 years: up to 500 mg daily in divided doses

Recommended fluid intake

Encourage children with a poor fluid intake to increase fluids to a recommended level. Approximately three-quarters of the daily fluid requirement in children is obtained from water in drinks. Higher intakes of total water will be required for children who are physically active, exposed to hot environments, or obese.

The following is a guide to adequate total water intake per day, including water contained in food. It should not be interpreted as a specific requirement:

Infants 0–6 months of age: 700 mL, assumed to be from milk.

Babies 7–12 months of age: 800 mL from milk and complementary foods and beverages, of which 600 mL is assumed to be water from drinks.

Children 1–3 years of age: 1300 mL (900 mL from drinks).

Children 4–8 years of age: 1700 mL (1200 mL from drinks).

Children 9–13 years of age:

- Boys 2400 mL (1800 mL from drinks)
- Girls 2100 mL (1600 mL from drinks).

Young people 14–18 years of age:

- Boys 3300 mL (2600 mL from drinks).

- Girls 2300 mL (1800 mL from drinks).

(adapted from the Institute of Medicine of the National Academies, 2005)

[I suggest avoiding fizzy drinks and encourage physical exercise – but note that almost all children will need treatment with medication in addition to this advice].

More information is available on the following links:

http://www.refhelp.scot.nhs.uk/dmdocuments/Paediatric_GI/Guidelines%20for%20management%20of%20idiopathic%20childhood%20constipation.pdf

APPENDIX 2. Fever – the Traffic Light System

Traffic light system for identifying risk of serious illness*

	Green – low risk	Amber – intermediate risk	Red – high risk
Colour (of skin, lips or tongue)	Normal colour	Pallor reported by parent/carer	Pale/mottled/ashen/blue
Activity	- Responds normally to social cues - Content/smiles - Stays awake or awakens quickly - Strong normal cry/not crying	- Not responding normally to social cues - No smile - Wakes only with prolonged stimulation - Decreased activity	- No response to social cues - Appears ill to a healthcare professional - Does not wake or if roused does not stay awake - Weak, high-pitched or continuous cry
Respiratory		- Nasal flaring - Tachypnoea: - RR >50 breaths/minute, age 6–12 months - RR >40 breaths/minute, age >12 months - Oxygen saturation ≤95% in air - Crackles in the chest	- Grunting - Tachypnoea: - RR >60 breaths/minute - Moderate or severe chest indrawing
Circulation and hydration	- Normal skin and eyes - Moist mucous membranes	- Tachycardia: >160 beats/minute, age <12 months >150 beats/minute, age 12–24 months >140 beats/minute, age 2–5 years - CRT ≥3 seconds - Dry mucous membranes - Poor feeding in infants - Reduced urine output	Reduced skin turgor
Other	None of the amber or red symptoms or signs	- Age 3–6 months, temperature ≥39°C - Fever for ≥5 days - Rigors - Swelling of a limb or joint - Non-weight bearing limb/not using an extremity	- Age <3 months, temperature ≥38°C - Non-blanching rash - Bulging fontanelle - Neck stiffness - Status epilepticus - Focal neurological signs - Focal seizures
CRT, capillary refill time; RR, respiratory rate			
* This traffic light table should be used in conjunction with the recommendations in the guideline on investigations and initial management in children with fever. See http://guidance.nice.org.uk/CG160 (update of NICE clinical guideline 47).			

Normal Paediatric Vital Signs

Age	Pulse	Respirations	Systolic BP
<1 year	110-160	30-40	70-90
1-2 years	100-150	25-35	80-95
2-5 years	95-140	25-30	80-100
5-12 years	80-120	20-25	90-110
over 12 years	60-100	15-20	100-120

APPENDIX 3. Imaging in childhood UTI

Ultrasound

This can accurately assess renal size and outline and identify most congenital abnormalities, renal calculi and hydronephrosis or hydroureter, indicating the presence of obstruction or severe reflux. It is less effective in detecting mild or moderate vesico-ureteric reflux in children with UTIs.

As GPs can usually organise this test, it is useful to know NICE's recommended imaging schedule:

	< 6 months old	> 6 months old
Arrange an USS within 6 weeks of UTI diagnosis	Yes, in <i>all</i> cases (if recurrent or atypical UTI, an immediate USS is needed)	Only if recurrent or atypical UTI (in atypical UTI, an immediate USS is needed)

Micturating cystography

This is the gold standard investigation for reflux and is the only imaging technique that provides information about the urethra. The disadvantage of micturating cystography is its invasiveness, as it requires catheterisation.

DMSA scintigraphy

This is the gold standard for detecting renal parenchymal defects, and studies renal function using a radio-pharmaceutical such as technetium 99m. The isotope is concentrated in the proximal renal tubules, and its distribution correlates with functioning renal tissue.

APPENDIX 4. When Your Child has a Fever

Is a fever dangerous?

A fever is very common in children. Usually a fever is a sign of an infection, most commonly caused by viruses that are *not* serious. A fever is a normal part of fighting this infection. Unless the fever is very high (over 42°C), it is not harmful by itself. More important than the actual temperature is the answer to the question, “Does my child seem sick?” So treat the child, NOT the fever.

How can I tell if my child has a fever?

There are four ways you can take your child’s temperature: by the mouth (oral), by the bum (rectal), under the armpit (axillary) or in the ear (tympanic). Use a digital thermometer. It’s made of unbreakable plastic and is easy to read. It’s best not to use fever strips as they are not accurate.

How do I treat my child’s fever?

Remember that fever is usually not harmful to your child, and most children are not uncomfortable until fever reaches 39.5°C – 40°C. Lowering the temperature may help your child feel better and less grumpy. You can use either paracetamol or ibuprofen. These medications come in many different forms, such as drops (for infants) and chewable tablets, syrup and tablets for older children.

Never give aspirin to your child as it may cause Reye’s syndrome, a serious illness that can lead to death.

How much medication do I give my child?

Children’s paracetamol and ibuprofen can help to reduce a fever, but they’re not always needed. If your child doesn’t seem distressed, there’s no need to give them medicine to lower their temperature.

If your child is distressed, don’t give them paracetamol and ibuprofen at the same time. Try one on its own first. If they’re still distressed before the next dose is due, you could try the other medicine instead. Please follow the doses recommended on the packet unless you have been advised not to by a qualified health professional.

What else can I do?

- ☐ Make sure your child is comfortable and resting quietly. Check them during the night, too
- ☐ Offer plenty of fluids – which means breast-milk, in breast-fed babies. Call for advice if concerned about dehydration, signs of which include sunken fontanelle (“soft spot”), dry mouth, sunken eyes, poor overall appearance
- ☐ Remove extra blankets and clothing, but don’t take off all clothing. Your child may become too cold and start shivering, producing more body heat and causing the temperature to rise again.
- ☐ Avoid fanning or sponging, cold or ice water baths, and alcohol baths and rubs.
- ☐ More info is available at <http://www.whenshouldiworry.com/>

When should I seek medical attention?

Contact your GP or NHS 24 if your child:

- ☐ is overly grumpy, fussy or irritable, or has a fit
- ☐ is very sleepy, low in energy or unresponsive
- ☐ has a fever and is less than three months old
- ☐ has a fever and a purple rash
- ☐ has a fever higher than 39°C or a fever that lasts longer than 5 days or is becoming more sick.

Adapted from: 1) Fever, Advice for Parents on Fever & How to Take a Child's Temperature, Canadian Paediatric Society 2000, 2) National Institute for Health and Clinical Excellence (NICE) clinical guideline 47. Feverish illness in children: Assessment and initial management in children younger than 5 years. May 2007. <http://www.nhs.uk/conditions/feverchildren/Pages/Introduction.aspx> accessed 29.5.17