

# Waltham Forest Guidelines for the Management of Constipation in Adults

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# 1. Principles for the management of constipation in adults

Constipation is defecation that is unsatisfactory because of infrequent stools, difficult stool passage, or seemingly incomplete defecation. Stools are often dry and hard, and may be abnormally large or abnormally small.

- o Functional constipation is chronic constipation without a known cause.
- Secondary constipation is caused by a drug or medical condition (such as endocrine and metabolic diseases, myopathic and neurological conditions, and certain bowel conditions).
- Faecal loading/impaction is retention of faeces to the extent that spontaneous evacuation is unlikely.

### Assessment should determine:

- o The patients' understanding of constipation.
- The severity and impact of the constipation, and the presence and degree of faecal impaction and faecal incontinence.
- o The role of predisposing factors.
- o If there are any organic causes of constipation.
- o The effectiveness of management to date.
- o The presence of 'red flags' that might indicate a serious underlying condition and require referral.

No investigations are routinely required in an adult with constipation unless a secondary cause is suspected.

# In adults with constipation:

- o Constipating medication should be adjusted.
- o An increase in dietary fibre, adequate fluid intake, and exercise should be advised.
- Oral laxatives should be offered if dietary measures are ineffective, or while waiting for them to take effect.
- o Initial treatment should be with a bulk-forming laxative.
- o If stools remain hard, an osmotic laxative should be added or switched to.
- o If stools are soft but the person still finds them difficult to pass or complains of inadequate emptying, a stimulant laxative should be added.

# Additional management of chronic constipation involves:

- o Initially relieving faecal loading/impaction, if present (strategies include use of oral laxatives, plus suppositories or enemas if the response to oral laxatives is insufficient or not fast enough).
- o Advising the person that it can take several months to be successfully weaned off all laxatives.
- Titrating the dose of laxative gradually upwards (or downwards) to produce one or two soft, formed stools per day.
- o Continuing laxatives long term for those with secondary causes.

Referral should be arranged if red flags are present, treatment is unsuccessful, or if there is faecal incontinence.

# 2. Algorithm for the management of constipation in adults

The following guidelines have been adapted from the National Institute of Health Care Excellence Clinical Knowledge Summary for constipation.

Click on this link to access the full details.

# Normal frequency of bowel movements

Bowel movement occurring less than three times a week is one of the Rome criteria for constipation [Longstreth et al, 2006].

Surveys in healthy adult populations have found that failure to defecate at least three times a week is reported by less than 1% of British people, [Connell et al, 1965], and 5% of North Americans [Drossman et al, 1982].

#### Goals

- Understanding diagnosis and treatment options
- Agree a management plan and encourage patient compliance
- Clear faecal loading/impaction, if present
- Relieve symptoms, and achieve a normal stool pattern
- Agree a realistic target date with patients with chronic constipation for withdrawing laxatives
- Identify and manage secondary causes of constipation (management of secondary causes is outside the scope of this guideline).

# PREDISPOSING FACTORS

# **Social factors**

Poor diet

Changes in routine/lifestyle

Lack of exercise

#### **Psychological factors**

Anxiety, depression, eating disorders

## **Physical factors**

Mild pyrexia, dehydration, immobility

History of sexual abuse

### **DRUG INDUCED**

Antimuscarinics

Antidepressants

Calcium supplements

Iron supplements

Opioids

Verapamil

Aluminium antacids

Diuretics

Antipsychotics

Etc

# **ORGANIC CAUSES**

## Endocrine & metabolic disease

Diabetes mellitus

Hypercalcaemia

Hyperparathyroidism

Hypothyroidism

#### **Neurological diseases**

Autonomic neuropathy

Parkinson's

Multiple sclerosis

Structural abnormalities

Anal fissures

Haemorrhoids

Inflammatory bowel disease

Obstructive colonic mass

# Myopathic conditions

Amyloidosis

Myotonic dystrophy

## Other:

Irritable bowel syndrome

Colonic inertia

Pregnancy, Elderly

# **RED FLAGS** [NICE 2005]

## > 40years

rectal bleeding, change in bowel habit, looser stools, and/or increased stool frequency, for +6weeks.

# >60years

rectal bleeding, +6weeks, without change in bowel habit, without anal symptoms

<u>Or</u> a change in bowel habit with looser stools and/or more frequent stools, +6weeks, without rectal bleeding.

#### Any age

right abdominal mass consistent with involvement of the large bowel. A palpable rectal mass.

unexplained iron deficiency anaemia and low Hb

Woman (non-menstruating) <10g/mL. Man <11g/mL

#### Laxatives are recommended:

- if lifestyle measures are insufficient, or whilst waiting for them to take effect.
- for people taking a constipating drug that cannot be stopped.
- for people with other secondary causes of constipation.
- as 'rescue' medicines for episodes of faecal loading.

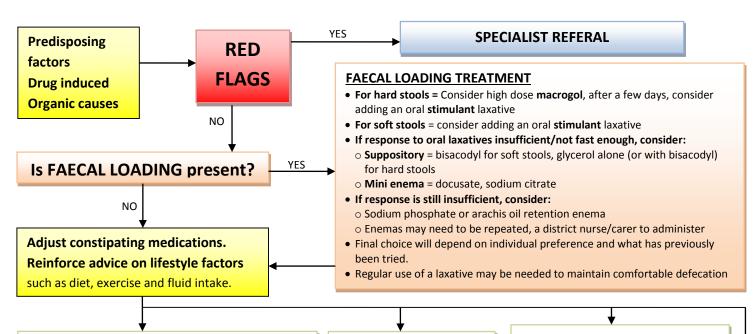
- Adjust any constipating medication.
- Advise all patients on lifestyle measures:
  - setting toileting routines
  - increasing dietary fibre (including the importance of regular meals
  - drinking adequate fluid intake
  - exercise

## Dietary advice

- Diet should be balanced and contain whole grains, fruits, and vegetables. This is recommended as part of the treatment for constipation. It is also recommended for general health and promoted by the 'five-a-day' policy.
- Fibre intake should be increased gradually (to minimize flatulence and bloating) and maintained for life.
  - Adults should aim to consume 18–30 g fibre per day.
  - Although the effects of a high fibre diet may be seen in a few days, it may take as long as 4 weeks.
- Adequate fluid intake is important (particularly with a high fibre diet or fibre supplements), but can be difficult for some people (for example, the frail or elderly).
- Fruits high in fibre and sorbitol, and fruit juices high in sorbitol can help prevent and treat constipation.
- For further information on natural laxatives and good sources of dietary fibre, see <u>natural laxatives</u>.

# Natural laxatives Link:

http://cks.nice.org.uk/constipation#!scenarioclarification:1



#### **CHRONIC CONSTIPATION**

- Start treatment with a **bulk-forming** laxative.
  - maintain good hydration when taking bulk-forming laxatives (for example the frail or elderly)
- If stools remain hard, add or switch to an osmotic laxative.
  - Use **macrogols** as first choice of an osmotic laxative.
  - Use lactulose if macrogols are not effective, or not tolerated.
- If stools are soft but the person still finds them difficult to pass or complains of inadequate emptying, add a stimulant laxative.
- Adjust the dose, choice, and combination of laxative according to symptoms, speed with which relief is required, response to treatment, and individual preference.
- The dose of laxative should be gradually titrated upwards (or downwards) to produce one or two soft, formed stools per day.
- If at least two laxatives (from different classes) have been tried at the highest tolerated recommended doses for at least 6 months, consider the use of prucalopride in women only.
  - Before prescribing, ensure National Institute for Health and Care Excellence <u>criteria</u> are fulfilled.

# SHORT TERM CONSTIPATION

- Adjust any constipating <u>medication</u>
- Advise on <u>dietary fibre</u>, fluid intake, and exercise.
- Offer oral laxatives if dietary measures are ineffective, or while waiting for them to take effect.
  - Start treatment with a bulk-forming laxative
  - If stools remain hard, add or switch to an **osmotic** laxative.
  - If stools are soft but the person still finds them difficult to pass or complains of inadequate emptying, add a stimulant laxative.
- Laxatives can be stopped once the stools become soft and easily passed again.

# OPIOD RELATED CONSTIPATION

- Advise to increase intake of fluid, fruit and vegetables if necessary
- AVOID bulk-forming laxatives.
- Use an osmotic laxative (or docusate which also softens stools) and a stimulant laxative.
- Adjust the laxative dose to optimize the response.

#### **PREGNANCY**

If poor response to the above lifestyle measures, consider the following:

- Bulk-forming laxatives.
- Lactulose
- Glycerol suppositories
- Bisacodyl
- Senna (but avoid near term, or if a history of unstable pregnancy).
   For further information on the use of laxatives during pregnancy, contact the UK Teratology Information Service (UKTIS), formerly the National Teratology Information Service (NTIS), on 0844 892 0909.

## How & when to stop laxatives

- Laxatives can be *slowly* withdrawn when regular bowel movements occur without difficulty (for example, 2–4 weeks after defecation has become comfortable and a regular bowel pattern with soft, formed stools has been established).
  - The rate at which doses are reduced should be guided by the frequency and consistency of the stools.
  - Weaning should be gradual in order to minimize the risk of requiring 'rescue therapy' for recurrent faecal loading. Laxative medication should not be suddenly stopped.
  - If a combination of laxatives has been used, reduce and stop one laxative at a time. Begin by reducing stimulant laxatives first, if possible. However, it may be necessary to also adjust the dose of the osmotic laxative to compensate.
- Advise the person that it can take several months to be successfully weaned off all laxatives.
- Relapses are common and should be treated early with increased doses of laxatives.
- Laxatives need to be continued long term for:
  - People taking a constipating drug that cannot be stopped, such as an opioid.
  - People with a medical cause of constipation.

# SPECIALIST REFERAL

- Cancer
- Underlying cause
- Pain and bleeding on defecation is severe
- Constipation treatment is unsuccessful
- Assessment is required prior to referral for other interventions
- Faecal incontinence is present
- Dietetic referral for detailed support with diet

# 3. Prescribing information

Important aspects of prescribing information relevant to primary healthcare are covered in this section specifically for the drugs recommended in the CKS topic. For further information on contraindications, cautions, drug interactions, and adverse effects, see the <u>electronic Medicines Compendium</u> (eMC) (http://medicines.org.uk/emc), or the <u>British National Formulary</u> (BNF) (www.bnf.org).

The final choice of laxative will often depend on individual preference, and what has previously been tried.

		Factors affecting choice of laxative		
Laxative	1. Drug Tariff Prices April 2014 2. BNF March 2014 3. Dm+D accessed 1.4.2014	Points to note	Method of action	Common adverse effects
<b>Bulk forming lax</b>	<u>ratives</u>			
Ispaghula (also known as psyllium)	Ispaghula husk 3.5g effervescent granules sachets gluten free sugar-free £1.69 (30sachets, Ispagel Orange) <sup>2</sup> £2.20 (30 sachets, Fybogel) <sup>1</sup>	Useful first-line choice in adults when it is difficult to get enough fibre in the diet. Better tolerated than bran. Must not be taken immediately before bed. Adequate fluid intake is important, to prevent intestinal obstruction. This may be difficult for the frail or children. Not recommended for people taking constipating drugs.	Bulk-forming laxatives (such as ispaghula husk, methylcellulose, and sterculia) act by retaining fluid within the stool and increasing faecal mass, leading to stimulation of peristalsis. They also	Flatulence, bloating
Sterculia	Sterculia 62% granules 7g sachets gluten free £5.77 (60sachets, Normacol) <sup>1</sup>	Time to effect: 2–3 days	have stool-softening properties.	Flatulence, bloating
Methylcellulose	Methylcellulose 500mg tablets £3.22 (112 tablets, Celevac) <sup>1</sup>	Useful first-line choice in adults when it is difficult to get enough fibre in the diet. Better tolerated than bran. Must not be taken immediately before bed. Adequate fluid intake is important, to prevent intestinal obstruction. This may be difficult for the frail or children. Tablets swell in the mouth on contact with water.  Time to effect: 2–3 days		Flatulence, bloating
Wheat or oat bran		Finely ground bran can be given as bran bread or biscuits, but these are less effective than unprocessed bran. May be unpalatable. Can be added to food or fruit juice. Often poorly tolerated (causes flatulence and bloating) unless increased slowly and can be difficult to take enough to be effective on its own. Adequate fluid intake is important.		Flatulence, bloating
Osmotic laxative	<u>s</u>			
Lactulose	Lactulose 3.1-3.7g/5ml oral solution £2.82 (500ml) <sup>1</sup> £1.87 (300ml) <sup>2</sup>	Palatable — although some find it sickly sweet. Adequate fluid intake recommended as drugs can be dehydrating. If used alone in opioid—induced constipation, it often needs to be given in large doses that cause bloating and colic.  Time to effect: 2–3 days	Osmotic laxatives (such as lactulose, macrogols, phosphate enemas, and sodium citrate enemas) act by increasing the amount of fluid in the large bowel, by retaining fluid in the bowel, and by drawing fluid from the body into	Flatulence, cramps, bloating
Macrogols (polyethylene glycol)	Macrogol compound oral powder sachets NPF sugar free £5.34 (30sachets, Laxido orange powder, available as sugar free) <sup>3</sup> £6.68 (30sachets, Movicol) <sup>1</sup>	Some people find it difficult to drink the prescribed volume of macrogol. Licensed for use in faecal impaction. Idrolax® does not contain electrolytes. Movicol-Half® contains half the dose and electrolytes of Movicol®. Adequate fluid intake recommended as drugs can be dehydrating.  Time to effect: 2–3 days	the bowel. Fluid accumulation in the lower bowel produces distension, leading to stimulation of peristalsis. Lactulose and macrogols also have stool-softening properties.	Bloating, nausea

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		Factors affecting choice of laxative		
Laxative	1. Drug Tariff Prices April 2014 2. BNF March 2014 3. Dm+D accessed 1.4.2014	Points to note	Method of action	Common adverse effects
Surface-wetting				1
Docusate sodium	Docusate 100mg capsules £2.09 (30capsules, Dioctyl) <sup>1</sup> £6.98 (100capsules Dioctyl) <sup>2</sup> Docusate 50mg/5ml oral solution sugar free £5.49 (300ml, Docusol) <sup>1</sup>	Probably acts both as a softening agent and a stimulant. May be a useful alternative for people who find it hard to increase their fluid intake.  Time to effect: 12–72 hours	Surface-wetting agents (docusate and poloxamer [an active ingredient of codanthramer]) reduce the surface tension of the stool, allowing water to penetrate and soften it. Docusate also has a relatively weak stimulant effect.	
Stimulant laxati	ives			1
Senna	Senna 7.5mg tablets £11.70 (60tablets) <sup>1</sup> Senna 7.5mg/5ml oral solution sugar free £2.69 (500ml, Senokot Pharmacy) <sup>1</sup>	Licensed only for short-term use. Syrup is unpalatable.  Time to effect: 8–12 hours	Stimulant laxatives cause peristalsis by stimulating colonic nerves (senna) or colonic and rectal nerves (bisacodyl, sodium picosulfate).	Abdominal cramps, diarrhoea
Sodium	Sodium picosulfate 5mg/5ml oral solution sugar	Licensed only for short-term use. Syrup is palatable.	Senna is hydrolyzed to the active	Abdominal
picosulfate	free £5.80 (300ml) <sup>1</sup>	Time to effect: 6–12 hours	metabolite by bacterial enzymes in the large bowel.	cramps, diarrhoea
Bisacodyl	Bisacodyl 5mg gastro-resistant tablets £2.27 (60 tablets) <sup>1</sup> Bisacodyl 5mg e/c tablet £3.43 (100tablets) <sup>2</sup>	No syrup available. Licensed only for short-term use. <b>Time to effect:</b> 6–12 hours	Bisacodyl and sodium picosulfate are hydrolyzed to the same active metabolite. However, bisacodyl is hydrolyzed by intestinal enzymes, whilst sodium	Abdominal cramps, diarrhoea
Dantron	With poloxamer '188' (as co-danthramer) Co-danthramer capsules 25mg/200mg	Restricted to use in terminal care. Prolonged contact with the skin (e.g. faecal or urinary incontinence) can cause a dantron burn —	picosulfate relies on colonic bacteria.	Abdominal cramps,
(Terminal care only)	£12.86 (60 capsules)  Co-danthramer capsules 37.5mg/500mg £15.55 (60capsules)  Co-danthramer 25mg/200mg/5ml oral suspension sugar free. £103.60 (300ml).  Co-danthramer 75mg/1000mg/5ml oral suspension sugar free. £252.50 (300ml).  With docusate sodium (as co-danthrusate)  Co-danthrusate 50mg/60mg capsules £42.50 (63capsules)  Co-danthrusate 50mg/60mg/5ml oral suspension sugar free £89.92 (200ml)	an erythematous rash with a sharply demarcated border. Available only combined with a softener: Co-danthramer (dantron with poloxamer). Co-danthrusate (dantron with docusate). Concerns about possible carcinogenicity (from high-dose studies in rats). People should be warned that it discolours urine red (occasionally blue or green).  Time to effect: 6–12 hours		diarrhoea
5HT4-receptor				
Prucalopride	Prucalopride 1mg tablet - £38.69 (28tablet) <sup>3</sup> 2mg tablet - £59.52 (28tablet) <sup>3</sup>	May be considered for women in whom treatment with other laxatives has failed to produce an adequate response. Should only be prescribed by clinicians experienced in treating chronic constipation.	<b>Prucalopride</b> is a selective, high-affinity, serotonin (5HT4) receptor agonist, and has enterokinetic effects, enhancing intestinal motility.	

# 4. Adverse effects of laxatives

Most adverse effects can be avoided or reduced by increasing the dose of oral laxatives gradually. Advise people to start at the lowest dose and, if necessary, increase it every few days until one or two soft, formed stools are produced each day.

**Avoid excessive doses of laxatives.** This leads to diarrhoea and, if prolonged, electrolyte disturbances such as hypokalaemia.

If intestinal obstruction is suspected, do not use laxatives.

The timing of stimulant laxatives can be particularly important for children and the frail or elderly, so that they provoke a single stool each day, at a time when the individual has adequate time to reach the toilet [Clayden et al, 2005].

There have been concerns in the past that prolonged use of stimulant laxatives (off-licence use) might reduce colonic function or lead to tolerance. However, there is no convincing evidence that this is the case [Wald, 2006].

Current information on contraindications, cautions, drug interactions and adverse effects can be accessed from:

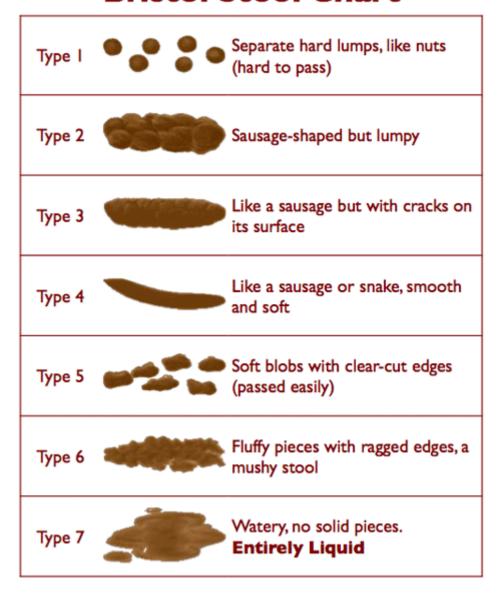
- the electronic Medicines Compendium (eMC) (http://medicines.org.uk/emc)
- the British National Formulary (BNF) (www.bnf.org).

# 5. Nursing home stool chart assessment form

Patient Name	Date of Birth (DD/MM/YYYY)	NHS Number

ools & Time	Stool type (see Bristol Stool Chart overleaf)	Colour	Quantity (small, moderate, large)	Vomiting Yes / No	Offensive odour (Yes / No)

# **Bristol Stool Chart**



First published: Lewis SJ, Heaton KW (1997) Stool form scale as a useful guide to intestinal transit time. Scandinavian Jorunal of Gastroenterology 32: 920–4

# 7. Summary of guidelines for the management of constipation in adults

Assess Patient	What is patient's normal bowel habit?	When were bowels' last opened?	Any previous laxative used? OTC?	Obstructed or impacted?	Faecal incontinence?
Identify cause	Drug induced	Poor diet, fluid intake, exercise	Psychological / physical factors	Medical conditions	Red flags
Initial management	Educate patient	Set realistic management plan	Advice on increasing fluid intake, fibre intake and increase in exercise	Adjust any constipating medication	Advice on toileting routine

Which laxative?				
Short term constipation	Chronic constipation	Opiod related constipation	Pregnancy	
Offer oral laxatives if dietary measures are ineffective, or while waiting for them to take effect.  Start treatment with a bulk-forming laxative  If stools remain hard, add or switch to an osmotic laxative.  If stools are soft but the person still finds them difficult to pass or complains of inadequate emptying, add a stimulant laxative.  Laxatives can be stooped once the stools become soft and easily passed again.	<ul> <li>Start treatment with a bulk-forming laxative.</li> <li>maintain good hydration when taking bulk-forming laxatives (for example the frail or elderly)</li> <li>If stools remain hard, add or switch to an osmotic laxative.</li> <li>Use macrogols as first choice of an osmotic laxative.</li> <li>Use lactulose if macrogols are not effective, or not tolerated.</li> <li>If stools are soft but the person still finds them difficult to pass or complains of inadequate emptying, add a stimulant laxative.</li> <li>Adjust the dose, choice, and combination of laxative according to symptoms, speed with which relief is required, response to treatment, and individual preference.</li> <li>The dose of laxative should be gradually titrated upwards (or downwards) to produce one or two soft, formed stools per day.</li> <li>If at least two laxatives (from different classes) have been tried at the highest tolerated recommended doses for at least 6 months, consider the use of prucalopride in women only.</li> <li>Before prescribing, ensure NICE criteria are fulfilled.</li> </ul>	<ul> <li>Advise to increase intake of fluid, fruit and vegetables if necessary</li> <li>AVOID bulkforming laxatives.</li> <li>Use an osmotic laxative (or docusate which also softens stools) and a stimulant laxative.</li> <li>Adjust the laxative dose to optimize the response.</li> </ul>	If poor response to the above lifestyle measures, consider the following:  Bulk-forming laxatives.  Lactulose Glycerol suppositories Bisacodyl Senna (but avoid near term, or if a history of unstable pregnancy). For further information on the use of laxatives during pregnancy, contact the UK Teratology Information Service (UKTIS), formerly the National Teratology Information Service (NTIS), on 0844 892 0909.	

Where clinically appropriate consider gradually withdrawing laxative when regular bowel movements occur without difficulty. Weaning should be gradual in order to minimize the risk of requiring 'rescue therapy' for recurrent faecal loading.

Advise the person that it can take several months to be successfully weaned off all laxatives.

Laxative medication should not be suddenly stopped. Laxatives may need to be continued for some long term conditions.

# 8. Cost-effective laxative choice

Laxative	Brand where applicable	1. Drug Tariff Prices April 201 2. BNF March 2014 3. Dm+D accessed 1.4.2014	
	Bulk forming laxatives	<u>'</u>	
Ispaghula husk 3.5g effervescent	Ispagel Orange <sup>2</sup>	£1.69	30sachets <sup>2</sup>
granules sachets gluten free sugar-free	Fybogel <sup>1</sup>	£2.20	30 sachets <sup>1</sup>
Sterculia 62% granules 7g sachets gluten free	Normacol <sup>1</sup>	£5.77	60sachets <sup>1</sup>
Methylcellulose 500mg tablets		£3.22	112 tablets <sup>1</sup>
Wheat or oat bran			
	Osmotic laxatives		
Lactulose 3.1-3.7g/5ml oral solution		£1.87	300ml <sup>1</sup>
Č		£2.82	500ml <sup>2</sup>
Macrogol compound oral powder sachets NPF sugar free	Laxido orange powder, available as sugar free <sup>3</sup>	£5.34	30sachets <sup>3</sup>
1411 Sugai nec	Movicol <sup>1</sup>	£6.68	30sachets <sup>1</sup>
	Surface-wetting laxatives	20.00	Josachets
Docusate 100mg capsules	Surface weeting taxatives	£2.09	30capsules <sup>1</sup>
		£6.98	100capsules <sup>2</sup>
D			1
Docusate 50mg/5ml oral solution sugar free		£5.49	300ml <sup>1</sup>
	Stimulant laxatives		
Bisacodyl 5mg gastro-resistant tablets		£2.27	60 tablets <sup>1</sup>
Bisacodyl 5mg e/c tablet		£3.43	100tablets <sup>2</sup>
Senna 7.5mg/5ml oral solution sugar free		£2.69	500ml <sup>1</sup>
Senna 7.5mg tablets		£11.70	60tablets <sup>1</sup>
Sodium picosulfate 2.5mg		£2.03	20 capsules <sup>2</sup>
		£2.87	50 capsules <sup>2</sup>
Sodium picosulfate 5mg/5ml oral solution sugar free		£5.80	300ml <sup>1</sup>
Glycerol Suppositories	1 gram	£0.98	12 suppositories <sup>2</sup>
• • • • • • • • • • • • • • • • • • • •	2 gram	£0.89	12 suppositories <sup>2</sup>
	4 gram	£3.16	12 suppositories <sup>2</sup>
Dantron with docusate sodium (as codanthrusate)	Co-danthrusate 50mg/60mg capsules	£42.50	63capsules <sup>2</sup>
(Terminal care only)	Co-danthrusate 50mg/60mg/5ml oral suspension sugar free	£89.92	200ml <sup>2</sup>
Dantron with poloxamer '188' (as codanthramer)	Co-danthramer capsules 25mg/200mg	£12.86	60 capsules <sup>2</sup>
univi univi )	Co-danthramer capsules 37.5mg/500mg	£15.55	60capsules <sup>2</sup>
(Terminal care only)	Co-danthramer 25mg/200mg/5ml oral suspension sugar free.	£103.60	300ml <sup>2</sup>
	Co-danthramer 75mg/1000mg/5ml	£252.50	300ml <sup>2</sup>
	oral suspension sugar free.		
Division and a law stall of	5HT4-receptor agonists	C20 C0	204-1-1-4-3
Prucalopride 1 mg tablet		£38.69	28tablet <sup>3</sup>
Prucalopride 2mg tablet		£59.52	28tablet <sup>3</sup>

# 9. References

- 1. National Institute of Clinical Excellence, Clinical Knowledge and Skills on Constipation. Revised in January 2013. Accessed on 31.01.2014.
- 2. Drug Tariff April 2014.
- 3. British National Formulary (BNF) March 2014.
- 4. NHS Business Services drugs database, Dm+D. Accessed on 01.04.2014.
- 5. NICE CG99 Bristol Stool Chart. Accessed on 01.04.2014.