- **PATIENT AND CARER ADVICE** Patients or carers should be given advice on how to administer ispaghula husk with mebeverine granules.

- **MEDICINAL FORMS** There can be variation in the licensing of different medicines containing the same drug.

Effervescent granules

CAUTIONARY AND ADVISORY LABELS 13, 22
EXCIPIENTS: May contain Aspartame
ELECTROLYTES: May contain Potassium

- **Fybogel Mebeverine** (Reckitt Benckiser Healthcare (UK) Ltd)
  Mebeverine hydrochloride 135 mg, Ispaghula husk 3.5 gram Fybogel Mebeverine effervescent granules sachets orange sugar-free | 10 sachet [P] £4.81 DT = £4.81

Peppermint oil

- **INDICATIONS AND DOSE**

COLPERMIN ®

Relief of abdominal colic and distension, particularly in irritable bowel syndrome

- BY MOUTH
- Child 15–17 years: 1–2 capsules 3 times a day for up to 3 months if necessary, capsule to be swallowed whole with water

- **CAUTIONS** Sensitivity to menthol
- **INTERACTIONS** → Appendix 1: peppermint oil
- **SIDE-EFFECTS** Ataxia · bradycardia · gastrointestinal discomfort · gastrooesophageal reflux disease · headache · nausea · paraesthesia · rash erythematous · tremor · vomiting
- **PREGNANCY** Not known to be harmful.
- **BREAST FEEDING** Significant levels of menthol in breast milk unlikely.
- **DIRECTIONS FOR ADMINISTRATION** Capsules should not be broken or chewed because peppermint oil may irritate mouth or oesophagus.

- **MEDICINAL FORMS** There can be variation in the licensing of different medicines containing the same drug.

Modified-release capsule

CAUTIONARY AND ADVISORY LABELS 5, 22, 25
EXCIPIENTS: May contain Arachis (peanut) oil

- **Colpermin** (Johnson & Johnson Ltd)
  Peppermint oil 200 microlitre Colpermin gastro-resistant modified-release capsules | 20 capsule [GSL] £3.77 | 100 capsule [GSL] £14.33 DT = £14.33

1.4 Short bowel syndrome

Short bowel syndrome

31-Aug-2016

Description of condition

Children with a shortened bowel due to large surgical resection (with or without stoma formation) may require medical management to ensure adequate absorption of nutrients and fluid. Absorption of oral medication is also often impaired.

Aims of treatment

The management of short bowel syndrome focuses on ensuring adequate nutrition and drug absorption, thereby reducing the risk of complications resulting from these effects.

Drug treatment

Nutritional deficiencies

[EvGr] Children with a short bowel may require replacement of vitamins and minerals depending on the extent and position of the bowel resection. Deficiencies in vitamins A, B_{12}, D, E, and K, essential fatty acids, zinc and selenium can occur.

Hypomagnesaemia is common and is treated with oral or intravenous magnesium supplementation (see Magnesium imbalance p. 617), though administration of oral magnesium may cause diarrhoea. Occasionally the use of oral alfacalcidol p. 653 and correction of sodium depletion may be useful. Nutritional support can range from oral supplements to parenteral nutrition, depending on the severity of intestinal failure. [A]

Diarrhoea and high output stomas

Diarrhoea is a common symptom of short bowel syndrome and can be due to multiple factors. [EvGr] The use of oral rehydration salts can be considered in order to promote adequate hydration. Oral intake influences the volume of stool passed, so reducing food intake will lessen diarrhoea, but will also exacerbate the problems of undernutrition. A child may require parenteral nutrition to allow them to eat less if the extent of diarrhoea is unacceptable.

Pharmacological treatment may be necessary, with the choice of drug depending on the potential for side-effects and the degree of resection. [A]

Antimotility drugs

[EvGr] Loperamide hydrochloride p. 51 reduces intestinal motility and thus exerts antidiarrhoeal actions. Loperamide hydrochloride is preferred over other antimotility drugs as it is not sedative and does not cause dependence or fat malabsorption. High doses of loperamide hydrochloride [unlicensed] may be required in children with a short bowel due to disrupted enterohepatic circulation and a rapid gastro-intestinal transit time.

Co-phenotrope p. 50 has traditionally been used alone or in combination with other medications to help decrease faecal output. Co-phenotrope crosses the blood–brain barrier and can produce central nervous system side-effects, which may limit its use; the potential for dependence and anticholinergic effects may also restrict its use. [A]

Colestyramine

[EvGr] In children with an intact colon and less than 100 cm of ileum resected, colestyramine p. 131 can be used to bind the unabsorbed bile salts, which reduces diarrhoea. When colestyramine is given to these children, it is important to monitor for evidence of fat malabsorption (steatorrhoea) or fat-soluble vitamin deficiencies. [A]

Antisecretory drugs

[EvGr] Drugs that reduce gastric acid secretion reduce jejunostomy output. Omeprazole p. 60 is readily absorbed in the duodenum and upper small bowel, but if less than 50 cm of jejunum remains, it may need to be given intravenously. Use of a proton pump inhibitor alone does not eliminate the need for further intervention for fluid control (such as antimotility agents, intravenous fluids, or oral rehydration salts). [A]

Growth factors

Growth factors can be used to facilitate intestinal adaptation after surgery in children with short bowel syndrome, thus enhancing fluid, electrolyte, and micronutrient absorption.

Teduglutide p. 38 is an analogue of endogenous human glucagon-like peptide 2 (GLP-2) which is licensed for use in the management of short bowel syndrome in children aged one year and over. It may be considered after a period of stabilisation following surgery, during which intravenous fluids and nutritional support should have been optimised.

Drug absorption

For *Prescribing in children with stoma* see Stoma care p. 75.