PHC Chapter 2: Gastro-intestinal conditions

2.1 ABDOMINAL PAIN

R10.0-4

DESCRIPTION

Abdominal pain is a common symptom, which may be non-specific. It is frequently benign but may indicate a serious acute pathology. A thorough evaluation is necessary to exclude a surgical abdomen or other serious conditions.

The history should include:

» duration, location, type, radiation, and severity of pain.
» relieving or aggravating factors e.g. food, antacids, exertion.
» associated symptoms e.g. fever or chills, weight loss or gain, nausea, vomiting, diarrhoea, cramps, fresh blood per rectum, melaena stools, jaundice, change in stool or urine colour, and/or vaginal discharge.
» past medical and surgical history.
» medication history.
» alcohol intake or intake of other recreational substances.
» family history of bowel disorders.
» menstrual and contraceptive history in women.
» associated vaginal discharge in women with lower abdominal pain.

Examination should emphasise detection of:

» tachycardia.
» fever.
» jaundice or pallor.
» abdominal masses, distension, tenderness.
» signs of peritonitis (peri-umbilical percussion and guarding).
» possible associated diseases (e.g. HIV).

MEDICINE TREATMENT

Urinary tract infection:

See Section 8.4 Urinary tract infection.

Dyspepsia:

See Section 2.2: Dyspepsia, heartburn and indigestion, in adults.

Cancer pain e.g. pancreatic, gastric cancer

See Section 20.4: Chronic cancer pain.

Renal and biliary colic or acute surgical abdomen:

- Morphine, IM, 5–10 mg, (Doctor prescribed) *LoE:IVb*[1]
  - May be repeated after 4–6 hours if needed or until patient is referred.

OR

- Morphine, IV, (Doctor prescribed).
  - Dilute 10 mg up to 10 mL with sodium chloride, 0.9%.

- Administer morphine, IV, 3–5 mg as a single dose, then further boluses of 1–2 mg/minute and monitor closely.
- Total maximum as a single dose: 10 mg.
- Repeat after 4 hours if needed or until the patient is referred.
- Monitor response to pain and effects on respiration and BP.

LoE:IVb[2]

Symptomatic treatment if no specific cause or indication for referral is found:

Pain relief (adults):
Analgesia as appropriate. See Section 20.2 Acute Pain.

Abdominal cramp-like pains (adults):
- Hyoscine butylbromide, oral, 10 mg 6 hourly for a maximum of 3 days.

REFERRAL
» Severe pain that cannot be managed at primary level of care.
» Signs of acute abdomen.
» Associated bloody non-diarrhoeal stools. (Red currant jelly stools in children).
» Associated abdominal mass.

2.2 DYSPEPSIA, HEARTBURN AND INDIGESTION, IN ADULTS

K30/R12

DESCRIPTION
» Dyspepsia, heartburn and indigestion are common conditions and may be caused by gastro-oesophageal reflux or gastroduodenal pathology. These conditions often present with epigastric discomfort and minimal change in bowel habits.
» Intermittent indigestion, heartburn or dyspepsia may be associated with:
  - use of NSAIDs e.g. aspirin, ibuprofen, pain powders.
  - spicy food, alcohol, carbonated drinks.
  - smoking.

Note: Dyspeptic symptoms may possibly be due to acute coronary syndrome.

LoE:IIIb[3]

GENERAL MEASURES
» Stop smoking.
» Limit alcohol intake.
» Eat small frequent meals.
» Avoid late night meals.
» Avoid fatty meals.
» Avoid carbonated beverages.
» Lose weight if overweight.

» Sleep with upper body elevated.
» Sleep on the left side.
» Stop the use of potential ulcerogenic medicines e.g. NSAIDs.
» If pale, check haemoglobin and refer if anaemic.

MEDICINE TREATMENT

- Proton-pump inhibitor e.g.:
- Pantoprazole, oral, 40 mg daily for a maximum of 14 days.
  - Also indicated for short-term use in pregnancy.
  - Refer if symptoms recur after 14-day course of therapy.

REFERRAL

» Presence of warning signs:
  - weight loss
  - persistent vomiting
  - dysphagia
  - anaemia
  - haematemesis
  - palpable abdominal mass

» No response within 7 days of starting proton-pump inhibitor therapy treatment.
» Recurrence of symptoms, especially:
  - > 50 years of age
  - family history of gastric carcinoma
  - previous gastric surgery

2.3 GASTRO-OESOPHAGEAL REFLUX/DISEASE IN INFANTS

P78.8-9

DESCRIPTION

Gastro-oesophageal reflux (GOR) is the passive regurgitation of gastric content into the oesophagus. It may be a normal physiological phenomenon in infants, children and adults. It is noted by frequent positing/regurgitation of small amounts of milk/food. Gastro-oesophageal reflux disease (GORD) is when GOR results in abnormal or pathological complications.

GENERAL MEASURES

» Medicine treatment is not required in the absence of indications that necessitate referral (e.g. features of GORD).
» Counsel parent/guardian on the following:
  - Explain that GOR is common and resolves in most children by the age of 12–18 months.
  - Position infant upright after feeds.

REFERRAL

» Failure to thrive (growth faltering).
» Abnormal posturing with opisthotonus or torticollis (Sandifer's syndrome).

» Respiratory symptoms, i.e. recurrent wheeze or cough, chronic obstructive airway disease, recurrent aspiration/pneumonia, stridor, apnoea and apparent life-threatening events.
» Infants with suspected cow's milk allergy.
» Infants who are overweight or obese.

2.4 NAUSEA AND VOMITING, NON-SPECIFIC

R11

DESCRIPTION

There are many possible causes of nausea and vomiting. Some important causes to exclude are:

» gastro-intestinal disease
» liver disease
» renal failure
» alcohol abuse
» early pregnancy
» medicines

Establish if the vomiting is associated with:

» abdominal pain
» diarrhoea
» headache
» constipation

GENERAL MEASURES

» Maintain adequate hydration with clear fluids (see Section 2.9: Diarrhoea).
» Neonates and infants should not stop feeds for more than 1 hour. Restart feeds in smaller and more frequent amounts.
» Exclude pregnancy in women of childbearing age.

MEDICINE TREATMENT

Children

Do not use anti-emetics. Give small volumes of fluids more frequently.

Adults

- Metoclopramide, IM/IV, 10 mg 8 hourly

OR

- Metoclopramide, oral, 10 mg 8 hourly

REFERRAL

Refer urgently if any of these are noted:

» Severe dehydration.
» Shock.
» Diabetes.
» Severe pain.
» Wasting.
» Jaundice.
» Clinical features of sepsis.
» Associated abdominal tenderness with guarding during peri-umbilical percussion
» Signs of intestinal obstruction i.e. no stool or flatus passed.
» Infants with that have projectile vomiting or are vomiting everything.
» Vomiting with presence of fresh or digested blood/ melaena.

2.5 ANAL CONDITIONS

2.5.1 ANAL FISSURES

K60.0-2

DESCRIPTION

Painful small cracks just inside the anal margin, sometimes a linear ulcer. It is often seen together with a sentinel pile or external haemorrhoids. These may cause spasm of the anal sphincter, or bleeding on defaecation.

GENERAL MEASURES

» Dietary advice to promote soft stools.

MEDICINE TREATMENT

Children

- Lactulose, oral, 0.5 mL/kg/dose once daily. See dosing tables, pg. 23.6.
  - If poor response, increase frequency to 12 hourly.

Adults

- Lactulose, oral, 10–20 mL once daily.
  - If poor response, increase frequency to 12 hourly.

AND

- Bismuth subgallate compound, ointment, topical, applied 2–4 times daily.

AND

Topical anaesthetic:

- Lidocaine 2%, cream, topical, applied before and after each bowel action.

OR

- Amethocaine 1% topical, applied before and after each bowel action.

REFERRAL

» Severe pain.
» Recurrent episodes.
» Poor response to symptomatic treatment.
» Persistent anal bleeding.

2.5.2 HAEMORRHOIDS

K64.0-5/K64.8-9

DESCRIPTION

Varicose veins of the ano-rectal area that are usually accompanied by a history of constipation. Consider a diagnosis of underlying carcinoma in older patients.

GENERAL MEASURES

» High-fibre diet.
» Counsel against chronic use of laxatives.
» Avoid straining at stool.

MEDICINE TREATMENT

Painful haemorrhoids:

- Bismuth subgallate compound, ointment, topical, applied 2–4 times daily.

OR

- Bismuth subgallate compound suppositories, insert one into the rectum 3 times daily.

AND

Topical anaesthetic:

- Lidocaine 2%, cream, topical, applied before and after each bowel action.

OR

- Amethocaine 1% topical, applied before and after each bowel action.

Constipation:

See Section 2.8: Constipation.

REFERRAL

» For surgical intervention if necessary:
  - if the haemorrhoid cannot be reduced
  - if the haemorrhoid is thrombosed
  - poor response to conservative treatment
» Children.
» Persistent anal bleeding.

2.5.3 PERIANAL ABSCESSES

K61.0-4

DESCRIPTION

» An abscess adjacent to the anus.
» Caused by organisms spreading through the wall of the anus into peri-anal soft tissues.
» Presents as an indurated or tender area adjacent to the anus.

GENERAL MEASURES

» Treatment is by surgical drainage.
» Treat associated pain (See Section 20.2: Acute Pain).

2.6 APPENDICITIS

K35.0-3/K35.8-9/K36/K37

DESCRIPTION

This is characterised by inflammation of the appendix, and usually requires urgent surgical intervention. Clinical features include:

» Sudden peri-umbilical pain often migrating to the right iliac fossa.
» Nausea and vomiting.

» Loss of appetite.
» Fever.
» Constipation or occasionally diarrhoea.
» Bloated abdomen.
» Abdominal tenderness with guarding and rigidity during peri-umbilical percussion.
» Right iliac fossa tenderness.
» Right iliac fossa rebound pain.
» Severe persistent abdominal pain.

GENERAL MEASURES
» Keep nil per mouth and stabilise as appropriate.

MEDICINE TREATMENT
Hydrate if required:
- Sodium chloride, 0.9%, IV.

REFERRAL
» All patients.

2.7 CHOLERA
A00.0-1/A00.9
Note: This is a notifiable condition.

DESCRIPTION
Very acute severe watery diarrhoea due to infection with *Vibrio cholerae.* Clinical features include:
» rice water appearance of stools:
  - no blood in stools
  - no pus in stools
  - no faecal odour
» possible vomiting
» rapid severe dehydration

GENERAL MEASURES
Rehydrate aggressively with oral rehydration solution (ORS).

MEDICINE TREATMENT
To treat dehydration:
Children
Treat dehydration. See Section 2.9.1: Diarrhoea, acute in children.
Adults
Oral treatment:
- Oral rehydration solution.

OR

- Homemade sugar and salt solution. See Section 2.9: Diarrhoea.

Note:

» The volume of fluid required for oral rehydration depends on the severity of the dehydration.
» Oral rehydration is preferred. Administer IV fluids or ORS by nasogastric tube in patients with reduced levels of consciousness.

IV treatment:

- Ringers lactate, IV (preferred).

OR

LoE:IVb[4]

- Sodium chloride, 0.9%, IV.

Antibiotic treatment:

Children

- Ciprofloxacin, oral, 20 mg/kg as a single dose (See dosing tables, pg. 23.4).
  - Maximum dose: 750 mg.

LoE:IVb[5]

Adults

- Ciprofloxacin, oral, 1 g as a single dose.
  - Adjust antibiotic choice, according to the sensitivity of the isolate responsible for the local epidemic.

LoE:IVb[6]

Nutritional supplementation:

In all children who are able to take oral medication:

- Zinc (elemental), oral 10 mg/day for 14 days.

LoE:IV[7]

Caution

Dextrose 5% should not be used for fluid replacement in patients with cholera as it does not contain electrolytes, which are required to ensure adequate fluid resuscitation.

REFERRAL

» Severely ill patients.
» According to provincial and local policy.

2.8 CONSTIPATION

K59.0

DESCRIPTION

» A condition characterised by a change in usual bowel habits, along with dry, hard stools.
» There is a decreased frequency of bowel action.
» Constipation may have many causes, including:
  – incorrect diet (insufficient fibre and fluid)
  – lack of exercise
  – pregnancy
  – old age
  – medicines, e.g. opiates and anticholinergics
  – ignoring the urge

- hypothyroidism
- lower bowel abnormalities
- chronic use of enemas and laxatives
- behavioural problems in children
- neurogenic
- psychogenic disorders
- bowel cancer

CAUTION
Be especially suspicious of a change in bowel habits in adults, as this may indicate cancer of the large bowel.

GENERAL MEASURES

» Patients should be assessed individually.
» Encourage exercise.
» Increase intake of fibre-rich food, e.g. vegetables, coarse maize meal, bran, and cooked dried prunes.
» Ensure adequate hydration.
» Encourage regular bowel habits.
» Discourage continuous use of laxatives.
» Refer people at risk of neurogenic bowel dysfunction to rehabilitation services for multidisciplinary bowel care (e.g. frail older people, postpartum women following obstetric injury, and people with neurological or spinal disease/injury, severe cognitive impairment, urinary incontinence, pelvic organ prolapse and/or rectal prolapse and who have had colonic resection or anal surgery.

MEDICINE TREATMENT

Children >12 months of age:

- Lactulose, oral, 0.5 mL/kg/dose once daily. See dosing tables, pg. 23.6.
  - If poor response, increase frequency to 12 hourly.

Children > 15 years of age and adults:

- Sennosides A and B, oral, 13.5 mg, 1 tablet at night.
  - Total daily dose may be increased up to 4 tablets if initial response is inadequate.

OR

- Lactulose, oral 10–20 mL once or twice daily.

CAUTION
Prolonged severe constipation may present with overflow “diarrhoea”.
Rectal examination should be done in all adults.

REFERRAL

» Recent change in bowel habits.
» Faecal impaction.
» Poor response to treatment.
» Uncertain cause of constipation.

2.9 DIARRHOEA

CAUTION

There is no place for anti-diarrhoeal preparations in the treatment of acute diarrhoea in children or in dysentery.

2.9.1 DIARRHOEA, ACUTE IN CHILDREN

A09.0/A09.9

DESCRIPTION

A sudden onset of increased frequency of stools that are looser than normal, with or without vomiting. Commonly caused by a virus but may be caused by bacteria or parasites. The cause of acute diarrhoea cannot be diagnosed without laboratory investigation. It may be an epidemic if many patients are infected at the same time.

GENERAL MEASURES

» Assess and manage dehydration according to the table below.
» All children with severe dehydration require referral. Begin management for dehydration immediately whilst awaiting referral (see below).
» All children should be assessed and treated for associated conditions e.g. hypothermia, convulsions, altered level of consciousness, respiratory distress, surgical abdomen.

Special types of diarrhoea:

» Bloody diarrhoea: consider dysentery. See Section 2.10: Dysentery.
» Diarrhoea with high fever or very ill: consider typhoid. See Section 2.13: Typhoid fever.
» Persistent diarrhoea: See section 2.9.2: Diarrhoea, persistent in children.
» Diarrhoea in children in the context of an adult epidemic: consider cholera. See Section 2.7: Cholera

Treatment according to hydration classification			
Assess level of hydration and start with appropriate management plan (Plan A, B or C). Re-assess and review management regularly. →			
Classification	**Plan C: Severe dehydration**	**Plan B: Some dehydration**	**Plan A: No visible dehydration**
	Two or more of the signs below: » lethargic or unconscious » eyes sunken » drinks poorly or not able to drink » severe decrease in skin turgor (skin pinch returning ≥ 2 seconds)	Two of the signs below, but not severely dehydrated: » restless or irritable » eyes sunken » thirsty, drinks eagerly » moderate decrease in skin turgor - by slow skin pinch, returning in < 2 seconds	Only one or none of the signs of dehydration.
Treatment	**Plan C: Severe dehydration**	**Plan B: Some dehydration**	**Plan A: No visible dehydration**
	Give rapidly: • Ringers lactate or sodium chloride, 0.9%, IV, 20 mL/kg. o If signs of acute severe malnutrition: decrease the bolus to 10 mL/kg over 10 minutes. o Repeat up to twice if radial pulse is weak or undetectable. o Continue with 20 mL/kg every hour for the next 5 hours. o If using Ringers lactate: See caution box below on use of ceftriaxone and calcium-containing fluids in neonates. **Then:** o Refer urgently for further management, continuing with 20 mL/kg every hour for the next 5 hours unless child is reclassified as **Plan B: Some dehydration**.	Give: • Oral rehydration solution, oral, 80 mL/kg over 4 hours, e.g. 5 mL/kg every 15 minutes. » Give more if the child wants more. » Show the caregiver how to give ORS with a cup and spoon using frequent small sips. » If child vomits wait 10 minutes and then continue more slowly. » Encourage the caregiver to continue feeding the child, especially breastfeeding. If after 4 hours there are: » No signs of dehydration	» Show the caregiver how to give ORS with a cup and spoon using frequent small sips. » Encourage caregiver to give: • Oral rehydration solution, oral, 10 mL/kg after each diarrhoeal stool until diarrhoea stops. o Child ≤ 2 years of age: 50–100 mL. o Child >2 years of age: 100–200 mL. » Continue at home. » Encourage the caregiver to continue feeding the child, especially breastfeeding. » Provide instructions to the caregiver on how to make

	○ Reassess every 2 hours while awaiting transfer. ○ If hydration status does not improve, give IV fluids more rapidly. » As soon as the child can drink, usually after 3–4 hours in infants and 1–2 hours in children, also give: • Oral rehydration solution, oral, 5 mL/kg/hour. ○ If IV administration is not possible, insert a nasogastric (NG) tube. » While awaiting, and during urgent transfer, give: • Oral rehydration solution, NG, 20 mL/kg/hour over the next 6 hours. » If only oral administration is possible, or the condition is not improving, transfer the child urgently. While awaiting, and during urgent transfer, give: • Oral rehydration solution, oral, 20 mL/kg/hour. » Reassess and reclassify the child every **4 hours**. If hydration status improves, reclassify as **Plan B: Some dehydration** and treat accordingly.	– treat with **Plan A: No visible dehydration** » Still some dehydration signs – Continue as above. (Refer if dehydration still present after 8 hours of treatment). » Signs of severe dehydration: – Treat as **Plan C: Severe dehydration**.	ORS/SSS at home and to continue treatment.

Table 2.1: Management of patients according to severity of dehydration

Child should return immediately if:

- » condition does not improve
- » condition deteriorates
- » poor drinking or feeding
- » blood in stool
- » fever develops
- » eyes sunken
- » slow skin pinch

MEDICINE TREATMENT

The following children should receive ceftriaxone prior to referral:

- Neonates with severe dehydration.
- Children with Severe Acute Malnutrition (SAM) AND severe dehydration or shock.

- Ceftriaxone, IM/IV, 100 mg/kg/dose immediately as a single dose. See dosing table, pg. 23.3.
  - For IM administration: do not inject more than 1 g at one injection site. *LoE:IVb*[8]
  - For IV administration: Doses greater than 2 g must be given in two divided doses (i.e. 12 hourly), preferably by intravenous infusion over 30 minutes. *LoE:IVb*[9]

CAUTION: USE OF CEFTRIAXONE IN NEONATES AND CHILDREN

- » If neonate is suspected to have a serious bacterial infection, give ceftriaxone, even if jaundiced.
- » Avoid giving calcium-containing IV fluids (e.g. Ringers Lactate) together with ceftriaxone:
  - If ≤ 28 days old, avoid calcium-containing IV fluids for 48 hours after ceftriaxone administered.
  - If > 28 days old, ceftriaxone and calcium-containing IV fluids may be given sequentially provided the giving set is flushed thoroughly with sodium chloride, 0.9% before and after.
  - Preferably administer IV fluids without calcium contents.
- » Always include the dose and route of administration of ceftriaxone in the referral letter.

In children who are able to take oral medication:

- Zinc (elemental), oral 10 mg/day for 14 days

AND

- Homemade sugar and salt solution (SSS) for use at home to prevent dehydration. *LoE:IVb*[10]

Homemade sugar and salt solution (SSS)

½ level medicine measure of table salt

plus

8 level medicine measures of sugar

dissolved in 1 litre of boiled (if possible) then cooled water

(1 level medicine measure = approximately 1 level 5 mL teaspoon)

REFERRAL

» Severe dehydration: Failure to maintain hydration with oral fluids/feeds, i.e. continued dehydration despite managing with "Plan B: Some dehydration".
» Children with general danger signs, e.g.:
  - convulsions
  - altered level of consciousness
  - intractable vomiting
  - inability to feed or drink
» Children with dysentery if:
  - < 12 months of age
  - signs of dehydration
» Malnourished children.
» Suspected acute abdomen or other surgical problem.

2.9.2 DIARRHOEA, PERSISTENT IN CHILDREN

A09.0/A09.9/K52.2/K52.8/K52.9

DESCRIPTION

Defined as diarrhoea for 7–14 days.

GENERAL MEASURES

» Assess for possible HIV infection and manage appropriately (See Section 11.1: Antiretroviral therapy, Adults).
» Prevent dehydration using homemade sugar and salt solution.
» Counsel mother regarding feeding.
  - If breastfeeding, give more frequent, longer feeds.
  - If replacement feeding, replace milk with breast milk or with fermented milk products such as amasi (maas) or yoghurt, if available.
  - Continue with solids: give small, frequent meals at least 6 times a day.
» Follow-up 5 days later. If diarrhoea persists, refer to doctor.

MEDICINE TREATMENT

Vitamin A supplementation:

- Vitamin A (retinol), oral.

Age range	Dose IU	Capsule 100 000 IU	Capsule 200 000 IU
Infants 6–11 months old	100 000	1 capsule	–
Children 12 months to 5 years	200 000	2 capsules	1 capsule

Administration of a vitamin A capsule:

- Cut the narrow end of the capsule with scissors.
- Open the child's mouth by gently squeezing the cheeks.
- Squeeze the drops from the capsule directly into the back of the child's mouth. If a child spits up most of the vitamin A liquid **immediately**, give one more dose.
- Do **NOT** give the capsule to the mother or the caregiver to take home.

Zinc supplementation:

- Zinc (elemental), oral 10mg/day for 14 days.

REFERRAL

» Child < 2 months of age.
» Signs of dehydration. See Section 2.9.1: Diarrhoea, acute in children.
» Malnutrition or weight loss.
» Diarrhoea still present at 5-day follow-up.

2.9.3 DIARRHOEA, ACUTE, WITHOUT BLOOD, IN ADULTS

A09.0/A09.9/K52.2/K52.8/K52.9

DESCRIPTION

Acute diarrhoea is usually self-limiting and is managed by fluid replacement.

MEDICINE TREATMENT

Treat dehydration vigorously:

- Oral rehydration solution (ORS).

OR

- Homemade sugar and salt solution (SSS).

Homemade sugar and salt solution (SSS)
½ level medicine measure of table salt
plus
8 level medicine measures of sugar
dissolved in 1 litre of boiled (if possible) then cooled water
(1 level medicine measure = approximately 1 level 5 mL teaspoon)

- Loperamide, oral, 4 mg immediately and 2 mg as required after each loose stool. *LoE:IVb*[11]
  - Maximum daily dose for adults: refer to dose table below.

Weight band	Maximum daily dose (equivalent maximum number of 2 mg tablets per day)
34-39 kg	10 mg (5 tablets)
40-46 kg	12 mg (6 tablets)
47-53 kg	14 mg (7 tablets)
≥ 54 kg	16 mg (8 tablets)

REFERRAL

» Suspected acute surgical abdomen.
» Dehydration not corrected with rehydration.

2.9.4 DIARRHOEA, CHRONIC, IN ADULTS

A07.1/A09.0/A09.9/K52.2/K52.8/K52.9

DESCRIPTION

Defined as diarrhoea lasting > 4 weeks. *LoE:IVb*[12]

GENERAL MEASURES

» Encourage HIV testing: Most cases are likely to be HIV related.
» Send a stool sample for microscopy for ova, cysts and parasites.
» Do not request culture and sensitivity of the stool sample. Giardiasis is a common cause of chronic diarrhoea in adults and may be difficult to diagnose on stools. Empiric treatment for giardiasis is recommended before referring such patients.

MEDICINE TREATMENT

Giardiasis:

- Metronidazole, oral, 2 g daily for 3 days.
  - Avoid alcohol.

Chronic diarrhoea in HIV/AIDS:

See Section 11.3.5: Diarrhoea, HIV-associated.

REFERRAL

All HIV negative cases with no pathogen identified and significant diarrhoea.

2.10 DYSENTERY

A06.0

DESCRIPTION

Dysentery, or diarrhoeal stool with blood or mucus, is usually due to bacteria. Commonly encountered infectious conditions include *Shigella, Salmonella*, *E. Coli*, *Entamoeba histolytica* and *Campylobacter*.

GENERAL MEASURES

» Treat initial presentations as bacillary dysentery (See Section 2.10.1: Dysentery, bacillary).
» If there is no clinical response within three days, manage as amoebic dysentery (See Adult Hospital Level STGs and EML, Section 1.3.5: Amoebic dysentery) or refer for formal assessment.
» Exclude surgical conditions, e.g. intussusception in children.

REFERRAL

» No response to treatment.
» Abdominal distension.
» Intussusception.

2.10.1 DYSENTERY, BACILLARY

A02.0/A02.9/A03.0-3/A03.8-9/A04.2-3/A04.5/A04.8-9

DESCRIPTION

Acute infection of the bowel usually caused by Shigella, Salmonella or Campylobacter.

There is sudden onset diarrhoea with:

» blood (not due to haemorrhoids or anal fissure) or mucous in the stools.
» convulsions (in children).
» fever.
» tenesmus.

GENERAL MEASURES

Prevent spread of micro-organism by:

» good sanitation to prevent contamination of food and water.
» washing hands thoroughly before handling food.
» washing soiled garments and bed clothes.

MEDICINE TREATMENT

Fluid replacement in dehydration

Treat dehydration vigorously.

Children

Treat dehydration according to Section 2.9.1: Diarrhoea, acute in children.

Adults

If dehydration is not severe:

- Oral rehydration solution (ORS).

OR

- Homemade sugar and salt solution.

Homemade sugar and salt solution (SSS)
½ level medicine measure of table salt
plus
8 level medicine measures of sugar
dissolved in 1 litre of boiled (if possible) then cooled water
(1 level medicine measure = approximately 1 level 5 mL teaspoon)

Note:

» Oral rehydration volume will depend on the severity of dehydration.

If dehydration is severe:

- Sodium chloride, 0.9%, IV.

OR

- Ringers lactate, IV

Antibiotic therapy

Indicated in:

» Children < 12 months of age.
» Children ≥ 1 year of age and adults with blood in the stools.
» All people living with HIV.

Children < 12 months of age

LoE:IVb[13]

Give single dose of ceftriaxone and refer.

- Ceftriaxone, IM/IV, 100 mg/kg/dose immediately as a single dose. See dosing table, pg. 23.3.
  - For IM administration: do not inject more than 1 g at one injection site.
  - For IV administration: Doses greater than 2 g must be given in two divided doses (i.e. 12 hourly), preferably by intravenous infusion over 30 minutes. *LoE:IVb*[14]

CAUTION: USE OF CEFTRIAXONE IN NEONATES AND CHILDREN

» If neonate is suspected to have a serious bacterial infection, give ceftriaxone, even if jaundiced.
» Avoid giving calcium-containing IV fluids (e.g. Ringers Lactate) together with ceftriaxone:
  - If ≤ 28 days old, avoid calcium-containing IV fluids for 48 hours after ceftriaxone administered.
  - If > 28 days old, ceftriaxone and calcium-containing IV fluids may be given sequentially provided the giving set is flushed thoroughly with Sodium chloride, 0.9% before and after.
  - Preferably administer IV fluids without calcium contents.
» Always include the dose and route of administration of ceftriaxone in the referral letter.

Children ≥ 12 months of age

- Ciprofloxacin, oral, 15 mg/kg/dose 12 hourly for 3 days. See dosing tables, pg. 23.4.

Adults

- Ciprofloxacin, oral, 500 mg 12 hourly for 3 days.

Note:

» Check for complications such as intestinal perforation or peritonitis.
» Ensure adequate urine output to exclude haemolytic uraemic syndrome.

REFERRAL

» Severe illness.
» Persistent blood in urine macroscopically, or on dipstick urinalysis.
» Acute abdominal signs (severe pain, acute tenderness, persistent or bilious vomiting).
» Bloody mucous passed in absence of diarrhoea.
» Failure to respond within 3 days.
» Malnutrition in children.
» Dehydration in children.
» Children < 12 months of age.

2.11 HELMINTHIC INFESTATION

2.11.1 HELMINTHIC INFESTATION, TAPEWORM

B68.0-1/B68.9

DESCRIPTION

Infestation with tapeworm that occurs after eating infested, undercooked or raw meat like beef or pork.

Infestation may be caused by:
» beef tapeworm – *Taenia saginata*
» pork tapeworm – *Taenia solium*

Signs and symptoms include:
» vague abdominal pain
» diarrhoea
» flat white worm segments seen in the stool (blunt ended)
» weight loss
» anal (nocturnal) itch

GENERAL MEASURES

Health education about adequate preparation and cooking of meat.

MEDICINE TREATMENT

If the patient has diarrhoea, wait for it to settle.

- Albendazole, oral, daily for 3 days.
  - Children 1–2 years: 200 mg
  - Children ≥ 2 years and adults: 400 mg

REFERRAL

» Abdominal tenderness or pain.
» Abdominal masses.
» Vomiting.

2.11.2 HELMINTHIC INFESTATION, EXCLUDING TAPEWORM

B76.0-1/B76.8-9/B77.0/B77.8/B77.9/B79/B80/B81.4/B82.0

Note: Soil-transmitted helminth infections are notifiable conditions (i.e. *Ascaris Lumbricoides*, *Trichuris trichiura*, *Ancylostoma duodenale*, *Necator americanus*).

DESCRIPTION

Types of worm infestation and the characteristics are shown in the table below. Infestations are often asymptomatic:

Type of worm	Description	Signs and symptoms
Common Roundworm *Ascaris lumbricoides*	» Long pink/white worms with sharp ends. » Up to 25–30cm long. » Often seen in the stools and vomitus.	» Cough. » If there is vomiting consider intestinal obstruction.
Pinworm *Enterobius vermicularis*	» White and thread-like. » Up to 10 mm long. » Often seen in the stools. » Self-infection common.	» Anal itching; worse at night. » Sleeplessness.
Hookworm *Ancylostoma duodenale* *Necator americanus*	» Up to 8 mm long.	» No symptoms or pain. » Anaemia.
Whipworm *Trichuris trichiura*	» Up to 5 cm long. » Anterior half thinner than posterior half.	» No symptoms. » Abdominal pain. » Diarrhoea. » Possible anaemia and rectal prolapse. » Abdominal discomfort. » Weight loss.

Table 2.2: Types of helminthic infestations (excluding taenia) and their signs and symptoms

GENERAL MEASURES

» Many children with worms who have pica may have iron deficiency. Check for anaemia and failure to thrive (growth faltering).
» Patient counselling and education.
» Wash hands with soap and water, especially:
  - after passing stool(s)
  - before working with food or eating
» Keep fingernails short.
» Wash fruit and vegetables well before eating or cooking.
» Keep toilet seats clean.
» Teach children how to use toilets and wash hands.
» Do not pollute the soil with sewage or sludge.
» Dispose of faeces properly.
» De-worm all children between 1–5 years of age every 6 months as part of routine child health care.

MEDICINE TREATMENT

***Taenia* (tapeworm):**

See section 2.11.1: Helminthic infestation, tapeworm.

***Enterobius* (pinworm):**

- Mebendazole, oral,
  Children >1 year and adults:
  - 100 mg as a single dose and repeated after 2 weeks.

  OR

- Albendazole, oral
  Children 1-2 years of age:
  - 200mg as a single dose
  Children ≥ 2 years and adults:
  - 400 mg as a single dose.

All other helminths excluding *Enterobius* (pinworm) and Taenia (tapeworm):

- Mebendazole, oral,
  Children 1–2 years:
  - 100 mg 12 hourly for 3 days.
  Children ≥ 2 years and adults:
  - 500 mg as a single dose.

  OR
- Albendazole, oral,
  Children 1–2 years:
  - 200 mg as a single dose.
  Children ≥ 2 years and adults:
  - 400 mg as a single dose.

LoE:IIIb[15]

If patient has iron deficiency:
See Section 3.1.1: Anaemia, iron deficiency.

REFERRAL

» Signs of intestinal obstruction.
» Abdominal tenderness.
» Pain.
» Persistent vomiting.
» Complications related to migration of worm larvae.

2.12 IRRITABLE BOWEL SYNDROME (IBS)

K58.0/K58.9

DESCRIPTION

» IBS (also known as “spastic colon” or “irritable colon”) is defined as recurrent abdominal pain that has occurred at least one day per week in the last three months on average, and is associated with two or more of the following:
  - Related to defecation.
  - Associated with a change in stool frequency.
  - Associated with a change in stool form (appearance).

LoE:IVb[16]

» The diagnosis is suggested by a protracted and intermittent history of these symptoms which are frequently more pronounced when there is also stress.
» It is a functional disorder, most commonly seen in women between the ages of 15 and 45 years.

GENERAL MEASURES

For patients with an established diagnosis:

» Reassure patient while their symptoms are not due to life-threatening disease, they can have a significant impact on quality of life and should be managed appropriately.
» Patients with constipation may benefit from a high fibre/bran diet.
  - Warn about temporary increased flatus and abdominal distension.
  - High fibre/bran diets do not have a significant effect on global IBS (i.e. all symptoms).
» Dietary advice by dietician.

MEDICINE TREATMENT

» Not specifically indicated.
» Based on patients' predominant symptoms.
» Short-term symptomatic treatment for spasms, diarrhoea and/or constipation.

Abdominal cramps:

See Section 2.1: Abdominal pain for treatment with anti-spasmodics.

For constipation predominant IBS:

See Section 2.8: Constipation for treatment with laxatives.

For diarrhoea predominant IBS:

See Section 2.9: Diarrhoea for treatment with anti-diarrhoeals.

REFERRAL

» Blood or mucous in the stool.
» Weight loss.
» Age > 50 years of age.
» Features suggestive of IBD.

2.13 TYPHOID FEVER

A01.0

Note: This is a notifiable condition.

DESCRIPTION

» A septicaemic illness with fever caused by the micro-organism Salmonella typhi.
» The cause of the fever is difficult to diagnose except in an epidemic. It may present with:
  - acute abdomen (see Section 2.1: Abdominal pain).
  - prolonged or high fever in a previously healthy individual.
  - fever with a slower pulse rate than expected.
  - headache and convulsions.
  - constipation during the first week.
  - diarrhoea that can occur later in the illness and may be accompanied by frank bleeding.
» Diagnosis requires confirmation by stool culture or blood tests.

MEDICINE TREATMENT

» Treat dehydration if present and refer.

REFERRAL

Urgent

» All suspected or confirmed cases.

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SOUTH AFRICAN PRIMARY HEALTHCARE LEVEL ESSENTIAL MEDICINES LIST
PHC CHAPTER 2: GASTROINTESTINAL CONDITIONS
NEMLC RECOMMEDATIONS FOR MEDICINE AMENDMENTS (2020-4 REVIEW CYCLE)

Medicine amendment recommendations, with supporting evidence and rationale are listed below.
Kindly review the medicine amendments in the context of the respective standard treatment guideline (STG).

A: MEDICINE AMENDMENTS

SECTION	MEDICINE/MANAGEMENT	ADDED/DELETED/AMENDED/NOT ADDED/RETAINED
2.1 Abdominal pain	Description	Editorial amendment
	Morphine – IM route of administration	Added
	Morphine – IV dosing guidance	Amended
2.2 Dyspepsia, heartburn and indigestion in adults	Description	Editorial amendment
	General Measures	Amended
	Medicine treatment - lansoprazole	Deleted
	Medicine treatment - pantoprazole	Added
	De-escalation/de-prescribing of PPIs	Not added
2.3 Gastro-oesophageal reflux/disease in infants	Referral	Added
2.4 Nausea and vomiting, non-specific	Referral	Editorial amendment
2.5 Anal Conditions		
2.5.1 Anal Fissures	Bismuth subgallate compound ointment	Retained
	Lidocaine 2%, cream	Retained
	Amethocaine 1% topical	Added
2.5.2 Haemorrhoids	Bismuth subgallate compound ointment	Retained
	Lidocaine 2%, cream	Retained
	Amethocaine 1% topical	Added
2.5.3 Perianal abscesses	General measures	Editorial amendment
2.6 Appendicitis	Description	Editorial amendment
2.7 Cholera	Ciprofloxacin dose	Amended
	IV fluid replacement – Ringer's lactate	Added
	IV fluid replacement – Sodium chloride 0.9%	Retained
	Zinc supplementation in children	Dose amended
2.8 Constipation	General measures – referral to rehab	Added
2.9 Diarrhoea		
2.9.1 Diarrhoea, acute in children	Ceftriaxone IV	Dose and route aligned with Paediatric STG
	Ceftriaxone IM	Retained
	Homemade salt and sugar solution	Retained
	IV fluid replacement – Ringer's lactate	Added
	IV fluid replacement – Sodium chloride 0.9%	Retained
2.9.2 Diarrhoea, persistent in children	Zinc supplementation	Dose amended
2.9.3 Diarrhoea, acute, without blood, in adults	Medicine treatment - loperamide	Dose amended
2.9.4 Diarrhoea, chronic in adults	Description	Amended
2.10 Dysentery		
2.10.1 Dysentery, bacillary	Ceftriaxone IV	Dose and route aligned with Paediatric STG
	Ceftriaxone IM	Retained
	IV fluid replacement – Ringer's lactate	Added
	IV fluid replacement – Sodium chloride 0.9%	Retained
2.11 Helminth Infestation		
2.11.1 Helminthic infestation, tapeworm	Albendazole	Editorial amendment to dosing guidance
2.11.2 Helminthic Infestation, excluding tapeworm	Description	Editorial amendment
	General measures	Aligned with Paediatric EML
	Mebendazole	Dosing guidance added for pinworm
	Mebendazole	Editorial amendment to dosing guidance
	Albendazole	Editorial amendment to dosing guidance
	Referral	Aligned with Paediatric STG

2.12 Irritable Bowel syndrome (IBS)	Description	Amended
	FODMAP diet	Not added
	Mebeverine	Not added
	Referral	Amended

2.1 ABDOMINAL PAIN

Description: *Editorial amendment*

The Committee supported the external motivation to refer to peri-umbilical percussion rather than rebound tenderness and the following amendment was made:

Examination should emphasise detection of:

- tachycardia
- fever
- jaundice or pallor
- abdominal masses, distension, tenderness
- signs of peritonitis (~~rebound tenderness~~ peri-umbilical percussion and guarding)
- features of possible associated diseases (e.g. HIV)

Morphine – IM route of administration: *Added*

Morphine – IV dosing guidance: *Amended*

Guidance on the dosing and routes of administration of morphine for the management of renal and biliary colic or surgical abdomen has been amended and aligned to guidance in Section 20.2 Acute Pain of the PHC EML. Amendments are as tabulated below:

AMENDED FROM:

Renal and biliary colic or acute surgical abdomen:

Morphine, IM/IV, 10 mg as a single dose and refer (Doctor prescribed).

- For IV morphine: dilute in 10 mL Sodium chloride, 0.9%.
- Administer slowly over 5 minutes.

AMENDED TO:

Renal and biliary colic or acute surgical abdomen:

- Morphine, IM, 5–10 mg, (Doctor prescribed)
  - May be repeated after 4–6 hours if needed until patient is referred.

OR

- Morphine, IV, (Doctor prescribed).
  - Dilute 10 mg up to 10 mL with sodium chloride, 0.9%.
  - Administer morphine, IV, 3–5 mg as a single dose, then further boluses of 1–2 mg/minute and monitor closely.
  - Total maximum as a single dose: 10 mg.
  - Repeat after 4 hours if needed or until the patient is referred.
  - Monitor response to pain and effects on respiration and BP

2.2 DYSPEPSIA, HEARTBURN AND INDIGESTION IN ADULTS

Description: *Editorial amendment*

The following editorial amendment was proposed and accepted by the Committee:

Dyspepsia, heartburn and indigestion are common conditions and may be caused by gastro-oesophageal reflux or gastroduodenal pathology.

General Measures: *amended*

External comment was received that it is not routine to check haemoglobin in patients diagnosed with mild dyspepsia, heartburn and indigestion. The Committee supported an editorial amendment to indicate that haemoglobin be checked if the patient is pale.

Furthermore, the general measures have been aligned to the American College of Gastroenterology guideline for the Diagnosis and Management of Gastroesophageal Reflux Disease[1] guidelines as follows:

[1] Katz PO et al. ACG Clinical Guideline for the Diagnosis and Management of Gastroesophageal Reflux Disease. Am J Gastroenterol 2022;117:27–56. https://doi.org/10.14309/ajg.0000000000001538; published online November 22, 2021

AMENDED FROM:

GENERAL MEASURES

- » Stop smoking.
- » Limit alcohol intake.
- » Eat small frequent meals.
- » Avoid late night meals.
- » Check haemoglobin.
- » Stop the use of potential ulcerogenic medicines e.g. NSAIDs.

AMENDED TO:

GENERAL MEASURES

- » Stop smoking.
- » Limit alcohol intake.
- » Eat small frequent meals.
- » Avoid late night meals.
- » Avoid fatty meals.
- » Avoid carbonated beverages.
- » Lose weight if overweight.
- » Sleep with upper body elevated.
- » Sleep on the left side.
- » ~~Check haemoglobin.~~
- » Stop the use of potential ulcerogenic medicines e.g. NSAIDs.
- » If pale, check haemoglobin and refer if anaemic

Medicine treatment- lansoprazole: *Deleted*
Medicine treatment- pantoprazole: *Added*
Lansoprazole has been replaced with pantoprazole as the PPI of choice in line with the latest tender (Contract circular HP09-2023SD). Pantoprazole 40mg and 20mg oral formulations are listed on the therapeutic interchange database as an alternative to lansoprazole 30mg and 15mg respectively.

Medicine treatment – de-escalation/de-prescribing of PPIs: *Not added*
External comment received to consider including guidance on the de-escalation and/or de-prescribing of PPIs. While the Committee acknowledges the benefits of this initiative, guidance on de-escalation and/or de-prescribing should be done on an individual patient basis, in consultation with the specialist that initiated treatment. This initiative is best managed by Provincial PTCs as a medicine utilization initiative.

2.3 GASTRO-OESOPHAGEAL REFLUX/DISEASE IN INFANTS

Referral: *added*
Following consultation with the Nutrition Directorate, NDoH the following criteria for referral were added to the STG:

-Infants with suspected cow's milk allergy
-Infants who are overweight or obese

While the referral advice as proposed for speech and occupational therapy was thought to be useful by the Committee, it was felt that referral criteria for speech and occupational therapy should be guided by representatives of these respective allied health professional groups directly, as there is a risk of health inequity if services are not readily accessible at PHC level of care. The Committee did not support the addition of the referral criteria for speech and occupational therapy as suggested by an external commentator.

2.4 NAUSEA AND VOMITING, NON-SPECIFIC

Referral: *Editorial amendment*
External motivation received to include melaena as a criteria for referral. The Committee supported the amendment to the following statement: *'Vomiting with digested or fresh blood present or melaena.'*

Furthermore, the Committee supported the external motivation to refer to 'peri-umbilical percussion' rather than 'rebound tenderness' and the following amendment was made: *'Associated abdominal tenderness with guarding ~~and rebound tenderness~~ during peri-umbilical percussion'*

2.5 ANAL CONDITIONS

2.5.1 ANAL FISSURES

Bismuth subgallate compound ointment, topical: *Retained*
Lidocaine 2%, cream, topical: *Retained*
Amethocaine 1% topical: *Added*

Bismuth subgallate compound ointment has been retained on the EML. As there were no bids for bismuth subgallate compound ointment products in response to Contract Circular HP0-2023SSP, the product will be sourced on quotation. As there were no bids in response to Contract Circular HP0-2023SSP for lidocaine 2% cream, and given the reported supply constraints with lidocaine 2% cream, amethocaine 1% topical has been added to the EML as an alternative local anaesthetic for the management of anal fissures. Topical amethocaine 1% is SAHPRA approved for this indication and is cheaper than lignocaine 2%. In view of the lack of evidence to support comparative efficacy and safety, topical amethocaine 1% and lignocaine 2% should not be added to the therapeutic interchange database. See the summary included below for further details:

Topical anaesthetics for the management of pain associated with haemorrhoids and anal fissures

Date: 26 October 2023

Background:

Lignocaine 2% topical cream is listed on the EML for the management of pain associated with haemorrhoids and anal fissures (refer to PHC Chp 2 Section 2.5.1 Anal fissures and 2.5.2 Haemorrhoids). There were no bids to the tender for topical lignocaine products in response to Contract Circular HP0-2023SSP. Additionally, there have been reports of supply concerns with topical lidocaine 2% and the NDoH procurement team have been unable to source an alternative supplier of lignocaine 2% topical cream and a search on the SAHPRA OTC Directory[2] did not yield any suitable topical lignocaine alternatives. Adco-amethocaine® containing amethocaine hydrochloride 1% is however currently listed on the SAHPRA OTC Directory. It is registered as a S1 medicine as a local anaesthetic for symptomatic relief of painful conditions of the rectum and anus particularly haemorrhoids and fissures, stings, minor burns and numerous other skin infections[3]. A brief motivation for the use of topical amethocaine as an alternative local anaesthetic for the management of pain associated with haemorrhoids and anal fissures is included below.

Supporting Evidence:

Local anaesthetics are classified as either amides (e.g. lignocaine/lidocaine) or esters (e.g. amethocaine/tetracaine). Lignocaine has a relative potency of four whereas amethocaine has a relative potency of ten. Amides are described as being more toxic than esters due to their slower hepatic CYP450 metabolism. Systemic absorption of small amounts of local anaesthetic is expected to be minimal although there have been some reports. Furthermore, drug concentration, formulation and interindividual characteristics have been reported to affect the absorption of topical OTC lignocaine products available in the U.S. [4]

An online Pubmed, Cochrane Database and free text google search (4 October 2023), did not identify any relevant systematic reviews or randomised controlled trials comparing the use of different topical local anaesthetics for the management of haemorrhoids and/or anal fissures. No evidence was identified on the comparative efficacy of topical anaesthetics for ano-rectal use.

Results of the search for clinical guidelines are tabulated below. The guidelines do not recommend any specific local anaesthetic or comment on their relative efficacy.

[2] OTC Directory - SAHPRA last accessed 4 October 2023
[3] Package Insert – AdcoAmethocaine® last updated 18 April 1991. Accessed: 8f3ba4531b880fbef77109983cb40b29.pdf (sahpra.org.za)
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Guideline	Recommendation	
	Haemorrhoids	**Fissures**
NICE	*CKS guidelines not accessible outside of UK*	
American Gastroenterological Association	American Gastroenterological Association Medical Position Statement: Diagnosis and Treatment of Hemorrhoids (2004) Medical therapy is most appropriate for first-degree hemorrhoids. The cornerstone of medical therapy is adequate intake of fiber and water. Topical corticosteroids and analgesics are useful for managing perianal skin irritation due to poor hygiene, mucus discharge, or fecal seepage. Prolonged use of potent corticosteroid preparations may be harmful and should be avoided.	American Gastroenterological Association Medical Position Statement: Diagnosis and Care of Patients With Anal Fissure (2003) About half of all fissures heal with conservative care, which consists of fiber supplementation, adequate fluid intake, sitz baths, and topical analgesics. Acute fissures are more likely to heal than chronic ones. In most cases, an initial trial of conservative care alone is appropriate, particularly for acute fissures.
American Society of Colon and Rectal Surgeons	Clinical Practice Guidelines for the Management of Hemorrhoids (2018) Medical therapy for hemorrhoids represents a heterogeneous group of treatment options that can be offered with expectations of minimal harm and a decent potential for relief. Grade of Recommendation: Weak recommendation based on moderate-quality evidence, 2B. Although topical application of ointments containing anesthetics, steroids, emollients, and/or antiseptics are used commonly, their prolonged use can cause allergic reactions or sensitization, and there is no strong scientific evidence regarding their long-term use.	Clinical Practice Guidelines for the Management of Anal Fissures (2022) Nonoperative treatment of acute anal fissures is safe and should typically be first-line treatment. Grade of recommendation: strong recommendation based on moderate quality evidence, 1B Nearly half of all patients who have an acute anal fissure will resolve their symptoms with non-operative measures such as sitz baths and the use of psyllium fiber or other bulking agents, with or without the addition of topical anesthetics or topical steroids. These interventions are well tolerated with minimal to no side effects. In a prospective randomized trial of 103 patients, treatment with sitz baths and fiber supplementation was associated with a greater likelihood of pain relief compared to topical anesthetics or topical hydrocortisone (91% vs 60% vs 68%, respectively; $p < 0.05$).

Cost

Comparative costs of locally registered OTC products as tabulated below:

Product [supplier]	SEP *
Adco-amethocaine 1% cream 25g [Adcock Ingram Ltd]	R30.76
Remicaine (lignocaine 2%) gel 20g [Adcock Ingram Ltd]	R140.30
*SEP Database 14 Aug 2023 Note Schedule 1 OTC products are not subject to SEP legislation.	

Recommendation

- Topical amethocaine 1% be considered as an alternative to topical lignocaine 2% for the management of pain associated with haemorrhoids and anal fissures. Topical amethocaine 1% is SAHPRA approved for this indication and is cheaper than lignocaine 2%.
- In view of the lack of evidence to support comparative efficacy and safety, topical amethocaine 1% and lignocaine 2% should not be added to the therapeutic interchange database.
- A review of alternative treatments such as sitz baths and fibre laxatives should be considered during the next review cycle.

Topical bismuth has weak astringent properties and has a protective action on mucous membranes. Lignocaine cream is a local anaesthetic for pain management. The Committee recommended that the EML be amended as tabulated below:

- Bismuth subgallate compound, ointment, topical, applied 2–4 times daily.

~~OR~~ **AND**

- Lidocaine 2%, cream, topical, applied before and after each bowel action.

2.5.2 HAEMORRHOIDS

Bismuth subgallate compound ointment, topical: *Retained*
Lidocaine 2%, cream, topical: *Retained*
Amethocaine 1% topical: *Added*

Bismuth subgallate compound ointment has been retained on the EML. As there were no bids for bismuth subgallate compound ointment products in response to Contract Circular HP0-2023SSP, the product will be sourced on quotation

As there were no bids for lidocaine 2% topical in response to Contract Circular HP0-2023SSP, and due to the reported supply constraints with lidocaine 2% cream, amethocaine 1% topical has been added to the EML as an alternative local anaesthetic for the management of haemorrhoids. Topical amethocaine 1% is SAHPRA approved for this indication and is cheaper than lignocaine 2%. In view of the lack of evidence to support comparative efficacy and safety, topical amethocaine 1% and lignocaine 2% should not be added to the therapeutic interchange database. Refer to the summary included in Section 2.5.1 Anal fissures above, for further details.

Topical bismuth has weak astringent properties and has a protective action on mucous membranes. Lignocaine cream is a local anaesthetic for pain management. The Committee recommended that the EML be amended as tabulated below:

- Bismuth subgallate compound, ointment, topical, applied 2–4 times daily.

~~**OR**~~ **AND**

- Lidocaine 2%, cream, topical, applied before and after each bowel action.

2.5.3 PERIANAL ABSCESSES

General measures: *Editorial amendment*
The following statement and cross reference has been added to the list of general measures: *"Treat associated pain (See Section 20.2: Acute Pain)."*

2.6 APPENDICITIS

Description: *Editorial amendment*
The Committee supported the external motivation to refer to 'peri-umbilical percussion' rather than 'rebound tenderness' and the following amendment was made: *"~~Rebound tenderness, guarding and rigidity~~ Abdominal tenderness with guarding and rigidity during peri-umbilical percussion."*

2.7 CHOLERA

IV fluid replacement – ringers lactate: *Added*
IV fluid replacement – sodium chloride: *Retained*
Ciprofloxacin dose: *Amended*
Zinc supplementation in children – *Dose amended*

Following consultation with the NICD, the NDoH program guideline team and Paediatric EML experts, consensus was reached on clinical guidance for the management of cholera, specifically with respect to the use of fluid replacement, antibiotic recommendations in adults and children as well as zinc replacement in children. Agreement was reached to standardize national treatment guidance for the management of cholera as detailed below.

IV fluid replacement: A number of international guidelines[5,6,7] recommend ringers lactate as the preferred IV fluid for replacement therapy in patients infected with cholera, due to the inclusion of the electrolytes potassium and bicarbonate. In the absence of good quality evidence demonstrating the superiority of Ringer's lactate over sodium chloride 0.9%, it was agreed that both ringers lactate and sodium chloride be recommended as options for IV fluid replacement in patients infected with cholera, with Ringer's lactate listed as the preferred option particularly when

[5] Harris JB et al. Cholera (NIH). Lancet. 2012 June 30; 379(9835): 2466–2476. doi:10.1016/S0140-6736(12)60436-X
[6] Nelson EJ et al. Cholera outbreak training and shigellosis program (COTSPROGRAM). V2 may 2018
[7] Global Task Force on Cholera Control. October 2019

routine monitoring of potassium and other electrolytes is not possible e.g. at the primary healthcare level of care. Retaining sodium chloride 0.9% on the EML will avert delays with initiating IV fluid should Ringer's lactate not be readily available.

Dose of ciprofloxacin: Guidance on the dosing and duration of ciprofloxacin treatment for cholera has been amended in line with the GTFCC (Global Task Force on Cholera Control) guideline[8] for adults and children. However, for children, the dose of Ciprofloxacin 20 mg/kg as a single dose is capped at a maximum of 750mg in accordance with guidance included in the study by Saha et al (2005)[9] (*study cited in the GTFCC guidelines*) as well as recommendations included in the British National Formulary for Children (BNFc)[10] and the package inserts for ciprofloxacin[11,12] (e.g. *'maximum 750 mg per dose; not to be exceeded even in patients weighing > 51 kg*'). Guidance on the dosing of ciprofloxacin in children to be updated in PHC Chp 23 – Paediatric dosing tables.

Zinc supplementation: The dose of oral zinc supplementation has been amended to Zinc (elemental), oral 10 mg/day for 14 days across all age groups as lower doses of zinc have been associated with less vomiting in children presenting with acute diarrhoea.[13] This dose guidance has been aligned with the Paediatric EML STG on the management of cholera.

AMENDED FROM:

MEDICINE TREATMENT

Treat dehydration

Children

Treat dehydration. See Section 2.9.1: Diarrhoea, acute in children.

Adults

Oral treatment:

- Oral rehydration solution.

OR

- Homemade sugar and salt solution. See Section 2.9: Diarrhoea.
  - The volume of fluid required for oral rehydration depends on the severity of the dehydration.
  - Oral rehydration is preferred. In stuporose patients administer IV fluids or ORS by nasogastric tube.

IV treatment:

- Sodium chloride, 0.9%, IV.

AND

Antibiotic treatment

Children

- Ciprofloxacin, oral, 15 mg/kg/dose 12 hourly for 3 days. See dosing tables, pg 23.4. (Ciprofloxacin is specifically used for this indication in children).

Adults

- Ciprofloxacin, oral, 500 mg 12 hourly for 3 days.
  - Adjust antibiotic choice, according to the sensitivity of the isolate responsible for the local epidemic.

AND

Nutritional supplementation

In all children who are able to take oral medication

- Zinc (elemental), oral for 14 days.
  - If < 10 kg give 10 mg/day.
  - If > 10 kg give 20 mg/day.

[8] Global Task Force on Cholera Control. October 2019

[9] Saha D, Khan WA, Karim MM, Chowdhury HR, Salam MA, Bennish ML. Single-dose ciprofloxacin versus 12- dose erythromycin for childhood cholera: a randomised controlled trial. Lancet (London, England) 2005; 366:1085–1093.

[10] British National Formulary for Children (BNFc). 2022-23 Edition.

[11] Package Insert (US). Ciprofloxacin. Dr Reddy's Laboratories limited. Last accessed online 27 June 2023 https://dailymed.nlm.nih.gov/dailymed/fda/fdaDrugXsl.cfm?setid=8f6e4a86-5fc1-45b1-adab-25a81f93cb05&type=display

[12] Package Insert (UK.). Ciprofloxacin. Dr Reddy's Laboratories (UK) Ltd. Last accessed online 27 June 2023 Ciprofloxacin 500 mg film-coated tablets - Summary of Product Characteristics (SmPC) - (emc) (medicines.org.uk)

[13] Dhingra U, et al. Lower-Dose Zinc for Childhood Diarrhea - A Randomized, Multicenter Trial. N Engl J Med. 2020 Sep 24;383(13):1231-1241. doi: 10.1056/NEJMoa1915905. PMID: 32966722; PMCID: PMC7466932.

AMENDED TO:

MEDICINE TREATMENT

To treat dehydration:

Children

Treat dehydration. See Section 2.9.1: Diarrhoea, acute in children.

Adults

Oral treatment:

- Oral rehydration solution.

OR

- Homemade sugar and salt solution. See Section 2.9: Diarrhoea.

Note:

» The volume of fluid required for oral rehydration depends on the severity of the dehydration.

» Oral rehydration is preferred. Administer IV fluids or ORS by nasogastric tube in patients with reduced levels of consciousness.

IV treatment:

- Ringers lactate, IV (preferred).

OR

- Sodium chloride, 0.9%, IV.

Antibiotic treatment:

Children

- Ciprofloxacin, oral, 20 mg/kg as a single dose (See dosing tables, pg. 23.4).
  - Maximum dose: 750 mg.

Adults

- Ciprofloxacin, oral, 1 g as a single dose.
  - Adjust antibiotic choice, according to the sensitivity of the isolate responsible for the local epidemic.

Nutritional supplementation:

In all children who are able to take oral medication:

- Zinc (elemental), oral 10 mg/day for 14 days.

Caution

Dextrose 5% should not be used for fluid replacement in patients with cholera as it does not contain electrolytes, which are required to ensure adequate fluid resuscitation.

2.8 CONSTIPATION

General measures – referral to rehabilitation services: *Added*

Guidance has been added to refer people at risk of neurogenic bowel dysfunction to rehabilitation services in response to comments received from RuRehab. The following statement has been added as part of general measures:

» Refer people at risk of neurogenic bowel dysfunction to rehabilitation services for multidisciplinary bowel care (e.g. frail older people, postpartum women following obstetric injury, and people with neurological or spinal disease/injury, severe cognitive impairment, urinary incontinence, pelvic organ prolapse and/or rectal prolapse and who have had colonic resection or anal surgery.

2.9 DIARRHOEA

2.9.1 DIARRHOEA, ACUTE IN CHILDREN

Ceftriaxone, IV: *dose and route of administration aligned to Paediatric chapter 2: Alimentary Tract STG.*

Ceftriaxone IM*: retained*

The recommendation for the use of ceftriaxone in the management of acute diarrhea in children was aligned to the Paediatric alimentary tract chapter as ceftriaxone, IV 100mg/kg. The IM route of administration was retained to ensure that initiation of treatment is not delayed at PHC level of care should IV access not be readily available. Additional guidance on the administration of IM and IV ceftriaxone has been included and referenced to the British National Formulary for Children[14] and administration guidance from the package insert[15] , as tabulated below:

[14] BNF for children (BNFc). 2020-21 Ed.

[15] Ceftriaxone (IV admin): Package Insert. Rocephin Injection. . Roche Products (Pty) Ltd. Text last revised 31 October 2022.

Ceftriaxone, IM/IV, 100 mg/kg/dose immediately as a single dose. See dosing table, pg. 23.3.
- For IM administration: do not inject more than 1 g at one injection site.
- For IV administration: Doses greater than 2 g must be given in two divided doses (i.e. 12 hourly), preferably by intravenous infusion over 30 minutes.

Homemade sugar and salt solution (SS): *guidance retained*

External comment received that guidance for homemade ORS be amended to include 6 teaspoons of sugar rather than 8 teaspoons as currently included in both the PHC and Paediatric STGs. The WHO website[16] currently does not include any recommendations for homemade ORS. The Integrated Management of Childhood Illness (IMCI) guideline 2019[17] still recommends 8 teaspoons of sugar. The Rehydration Project,[18] which is US-centric makes reference to 6 teaspoons of sugar. The guidance recommending 8 teaspoons of sugar has been retained to align with the IMCI guideline. See also Section 2.9.3 Diarrhoea, acute, without blood in adults and Section 2.10.1 Dysentery, bacillary

Current STG guidance retained as follows:

Homemade sugar and salt solution (SSS)
½ level medicine measure of table salt
plus
8 level medicine measures of sugar
dissolved in 1 litre of boiled (if possible) then cooled water
(1 level medicine measure = approximately 1 level 5 mL teaspoon)

IV fluid replacement – Sodium chloride 0.9%: *Retained*

IV fluid replacement – Ringers lactate: *Added*

External comment received to include Ringers lactate for IV fluid replacement for children presenting with severe dehydration resulting from acute diarrhea. As ringers lactate is now cheaper than sodium chloride (HP11 contract prices 2023), and has been added to the Paediatric Hospital EML, the Committee supported the addition of ringers lactate as an alternative to sodium chloride for non-cholera related acute diarrhea in the EML. It was agreed that the STG should include ringers lactate or sodium chloride to ensure that IV fluid replacement is not delayed due to lack of availability of either fluid.

2.9.2 DIARRHOEA, PERSISTENT IN CHILDREN

Zinc supplementation in children – *Dose amended*

The dose of oral zinc supplementation has been amended to Zinc (elemental), oral 10 mg/day for 14 days across all age groups as lower doses of zinc have been associated with less vomiting in children presenting with acute diarrhoea.[19]

2.9.3 DIARRHOEA, ACUTE, WITHOUT BLOOD, IN ADULTS

Medicine treatment –loperamide: *Dose amended*

The maximum daily dose of loperamide in adults has been amended in accordance with weight based dose banding included in the package insert[20]. Amendments are as tabulated below:

AMENDED FROM:
- Loperamide, oral, 4 mg immediately and 2 mg as required after each loose stool, up to 6 hourly.
  - Maximum daily dose: 12 mg.

AMENDED TO:
- Loperamide, oral, 4 mg immediately and 2 mg as required after each loose stool.
  - Maximum daily dose for adults: refer to dose table below.

[16] Oral rehydration salts (who.int) last accessed 13 July 2023
[17] 2019 IMCI CHART BOOKLET.pdf (health.gov.za)
[18] Oral Rehydration Solutions ORS Made at Home - Rehydration Project (rehydrate.org)
[19] Dhingra U, et al. Lower-Dose Zinc for Childhood Diarrhea - A Randomized, Multicenter Trial. N Engl J Med. 2020 Sep 24;383(13):1231-1241. doi: 10.1056/NEJMoa1915905. PMID: 32966722; PMCID: PMC7466932.
[20] Loperamide (max dose). Package Insert. Imodium. Johnson & Johnson (Pty) Ltd.. Renewal of authorisation 04 March 2005.

Weight band	Maximum daily dose (equivalent maximum number of 2 mg tablets per day)
34-39 kg	10 mg (5 tablets)
40-46 kg	12 mg (6 tablets)
47-53 kg	14 mg (7 tablets)
≥ 54 kg	16 mg (8 tablets)

2.9.4 DIARRHOEA, CHRONIC IN ADULTS

Description: *amended*

The description of chronic diarrhoea has been amended from diarrhoea lasting > 2 weeks to diarrhoea lasting > 4 weeks based on the American Gastroenterology Association (AGA) Clinical Practice Guidelines on the Laboratory Evaluation of Functional Diarrhoea and Diarrhoea-Predominant Irritable Bowel Syndrome in Adults (IBS-D) 2019.[21]

2.10.1 DYSENTRY, BACILLARY

Ceftriaxone, IV: *dose and route of administration aligned to Paediatric chapter 2: Alimentary Tract STG.*

Ceftriaxone IM*:* *retained*

The recommendation for the use of ceftriaxone in the management of acute diarrhea in children was aligned to the Paediatric alimentary tract chapter as ceftriaxone, IV 100mg/kg. The IM route of administration was retained to ensure that initiation of treatment is not delayed at PHC level of care should IV access not be readily available. Guidance has been aligned to Section 2.9.1 as detailed above.

IV fluid replacement – Sodium chloride: *Retained*

IV fluid replacement – Ringers lactate: *Added*

External comment received to include Ringers lactate for IV fluid replacement in the management of dysentry. As ringers lactate is now cheaper than sodium chloride (HP11 contract prices 2023), and has been added to the Paediatric EML, the Committee supported the addition of ringers lactate as an alternative to sodium chloride for non-cholera related acute diarrhea in the EML. It was agreed that the STG should include ringers lactate or sodium chloride to ensure that IV fluid replacement is not delayed due to lack of availability of either fluid.

2.11 HELMINTH INFESTATION

2.11.1 HELMINTH INFESTATION, TAPEWORM

Medicine treatment - albendazole: *Editorial amendment*

The dosing guidance for albendazole has been clarified as tabulated below:

MEDICINE TREATMENT

If the patient has diarrhoea, wait for it to settle.

Albendazole, oral, daily for 3 days.

Children 1–2 years: 200 mg ~~as a single dose~~

Children ≥ 2 years and adults: 400 mg ~~as a single dose~~

2.11.2 HELMINTHIC INFESTATION, EXCLUDING TAPEWORM

[21] Smalley W, Falck-Ytter C, Carrasco-Labra A, Wani S, Lytvyn L, Falck-Ytter Y. AGA Clinical Practice Guidelines on the Laboratory Evaluation of Functional Diarrhea and Diarrhea-Predominant Irritable Bowel Syndrome in Adults (IBS-D). Gastroenterology. 2019 Sep;157(3):851-854. doi: 10.1053/j.gastro.2019.07.004. Epub 2019 Jul 11. PMID: 31302098.

Description: Editorial amendment

Ancylostoma duodenale has been added as an example of a hookworm under the description of helminthic infestations.

General measures: *Aligned with Paediatric STG*

The following statement was added to the list of general measures in alignment with guidance included in the Paediatric EML: *'Deworming for all children between 12–60 months is performed 6 monthly as part of routine child health care.'*

Mebendazole: *Dose for pinworm added*

Mebendazole: *Editorial amendment*

Albendazole : *Editorial amendment*

Editorial amendments were made to the dosing guidance for mebendazole and albendazole for improved clarity. Dosing guidance has been added for the management of pinworm with mebendazole in accordance with guidance in the SAMF 14th Edition. Amendments to the STG as tabulated below:

AMENDED FROM:

MEDICINE TREATMENT

- Mebendazole, oral, 12 hourly for three days.
  - Children 1–2 years: 100 mg 12 hourly for 3 days.
  - Children ≥ 2 years and adults: 500 mg as a single dose.

OR

- Albendazole, oral, single dose.
  - Children 1–2 years: 200 mg as a single dose.
  - Children ≥ 2 years and adults: 400 mg as a single dose.

Many children with worms who have pica may have iron deficiency (See Section 3.1.1: Anaemia, iron deficiency).

AMENDED TO:

MEDICINE TREATMENT

***Taenia* (tapeworm):**

See section 2.11.1: Helminthic infestation, tapeworm.

***Enterobius* (pinworm):**

Mebendazole, oral,

Children >1 year and adults:

- 100 mg as a single dose and repeated after 2 weeks.

OR

Albendazole, oral

Children 1-2 years of age:

- 200mg as a single dose

Children ≥ 2 years and adults:

- 400 mg as a single dose.

All other helminths excluding *Enterobius* (pinworm) and Taenia (tapeworm):

Mebendazole, oral,

Children 1–2 years:

- 100 mg 12 hourly for 3 days.

Children ≥ 2 years and adults:

- 500 mg as a single dose.

OR

Albendazole, oral,

Children 1–2 years:

- 200 mg as a single dose.

Children ≥ 2 years and adults:

- 400 mg as a single dose.

If patient has iron deficiency:

See Section 3.1.1: Anaemia, iron deficiency.

Referral: *Aligned with Paediatric STG*

The following statement was added to the list of referral criteria in alignment with the Paediatric EML: *'Complications related to migration of worm larvae'*

2.12 IRRITABLE BOWEL SYNDROME (IBS)

Description: *Amended*

The description of IBS has been amended to align with the Rome IV criteria for IBS[22], as tabulated below:

DESCRIPTION

IBS is defined as recurrent abdominal pain, on average, at least one day per week in the last three months, associated with two or more of the following criteria:

- Related to defecation
- Associated with a change in stool frequency
- Associated with a change in stool form (appearance)

~~Irritable bowel syndrome consists of a triad of:~~

- ~~abdominal pain and discomfort,~~
- ~~variations in bowel habits from constipation to diarrhoea, and~~
- ~~the passage of small stools at the time abdominal pain is at its worst.~~

General measures: *FODMAP diet not included*

The request to include reference to the FODMAP diet was not supported by the ERC as the STG does include referral to a dietician for dietary advice. Specific dietary advice is generally not included in the EML.

Medicine treatment - mebeverine: Not added

The external request for mebeverine to be included on the EML was not supported as hyoscine butylbromide is included on the EML for the management of abdominal spasms. A cross reference has been added to section 2.1 Abdominal pain as tabulated below:

MEDICINE TREATMENT

- Not specifically indicated.
- Based on patients' predominant symptoms.
- Short-term symptomatic treatment for spasms, diarrhoea and/or constipation.
- Anti-spasmodic as required for abdominal cramps. See Section 2.1 Abdominal pain
- Laxatives only for constipation-specific IBS. See Section 2.8: Constipation.
- Anti-diarrhoeals only for diarrhoea-specific IBS. See Section 2.9: Diarrhoea.

Referral: *Amended*

The following statement was proposed for addition to the list of referral criteria which was supported by the Committee: '*Features suggestive of IBD'*.

B. EDITORIAL AMENDMENTS

The associated EML chapter has been subject to clinical editorial review following NEMLC ratification of the chapter. These amendments have been incorporated below.

2.1 ABDOMINAL PAIN

AMENDED FROM:

MEDICINE TREATMENT

Urinary tract infection:

See Chapter 8: Kidney and urological disorders

AMENDED TO:

MEDICINE TREATMENT

Urinary tract infection:

See Section 8.4 Urinary tract infection

[22] Lacy B et al. Bowel disorders. Gastroenterology 2016;150:1393–1407

AMENDED FROM:

Symptomatic treatment if no specific cause or indication for referral is found:

Pain relief (adults):

Analgesia as appropriate. See Section 20.1: Pain control.

AMENDED TO::

Symptomatic treatment if no specific cause or indication for referral is found:

Pain relief (adults):

Analgesia as appropriate. See Section 20.2 Acute Pain

2.3 GASTRO-OESOPHAGEAL REFLUX/DISEASE IN INFANTS

AMENDED FROM:

DESCRIPTION

Gastro-oesophageal reflux (GOR) is the passive regurgitation of gastric content into the oesophagus. It may be a normal physiological phenomenon in infants, children and adults. Gastro-oesophageal reflux disease (GORD) is when GOR results in abnormal or pathological complications.

Symptoms

Frequent positing/regurgitation of small amounts of milk/food.

GENERAL MEASURES

In the absence of referral criteria (features of GORD), no medicine treatment is required. Counselling and non-medicinal measures are suggested:

- Explain that GOR is common and resolves in the majority of children by the age of 12–18 months.
- Upright positioning after feeds.

AMENDED TO:

DESCRIPTION

Gastro-oesophageal reflux (GOR) is the passive regurgitation of gastric content into the oesophagus. It may be a normal physiological phenomenon in infants, children and adults. It is noted by frequent positing/regurgitation of small amounts of milk/food. Gastro-oesophageal reflux disease (GORD) is when GOR results in abnormal or pathological complications.

GENERAL MEASURES

Medicine treatment is not required in the absence of indications that necessitate referral (e.g. features of GORD).

Counsel parent/guardian on the following:

- Explain that GOR is common and resolves in most children by the age of 12–18 months.
- Position infant upright after feeds.

2.4 NAUSEA AND VOMITING, NON-SPECIFIC

AMENDED FROM

GENERAL MEASURES

- Maintain adequate hydration with clear fluids. See Section 2.9: Diarrhoea.
- In children, do not stop feeds for more than 1 hour. Restart feeds in smaller and more frequent amounts.
- Exclude pregnancy in women of child bearing age.

AMENDED TO:

GENERAL MEASURES

- Maintain adequate hydration with clear fluids (see Section 2.9: Diarrhoea).
- Neonates and infants should not stop feeds for more than 1 hour. Restart feeds in smaller and more frequent amounts.
- Exclude pregnancy in women of childbearing age

AMENDED FROM

REFERRAL

Urgent

- » Severe dehydration.
- » Shock.
- » Diabetes.
- » Clinical features of sepsis.
- » Associated abdominal tenderness with guarding during peri-umbilical percussion
- » Signs of intestinal obstruction i.e. no stool or flatus passed.
- » Infants with projectile vomiting or vomiting everything.
- » Vomiting with digested or fresh blood present or melaena.
- » Severe pain.
- » Wasting.
- » Jaundice.

AMENDED TO:

REFERRAL

Refer urgently if any of these are noted:

- » Severe dehydration.
- » Shock.
- » Diabetes.
- » Clinical features of sepsis.
- » Associated abdominal tenderness with guarding during peri-umbilical percussion
- » Signs of intestinal obstruction i.e. no stool or flatus passed.
- » Infants with that have projectile vomiting or are vomiting everything.
- » Vomiting with presence of fresh or digested blood/ melaena.
- » Severe pain.
- » Wasting.
- » Jaundice.

2.6 APPENDICITIS

AMENDED FROM:

GENERAL MEASURES

Keep nil per mouth.

AMENDED TO:

GENERAL MEASURES

Keep nil per mouth and stabilise as appropriate.

2.8 CONSTIPATION

AMENDED FROM:

MEDICINE TREATMENT

<u>Children >12 months of age</u>

- Lactulose, oral, 0.5 mL/kg/dose once daily. See dosing tables, pg. 23.6.
  - If poor response, increase frequency to 12 hourly.

<u>Adults and children >15 years of age</u>

- Sennosides A and B, oral, 13.5 mg, 1 tablet at night.
  - In resistant cases increase to 4 tablets

AMENDED TO:

MEDICINE TREATMENT

<u>Children >12 months of age:</u>

- Lactulose, oral, 0.5 mL/kg/dose once daily. See dosing tables, pg. 23.6.
  - If poor response, increase frequency to 12 hourly.

<u>Children > 15 years of age and adults:</u>

- Sennosides A and B, oral, 13.5 mg, 1 tablet at night.
  - Total daily dose may be increased up to 4 tablets if initial response is inadequate.

2.9.1 DIARRHOEA, ACUTE IN CHILDREN

AMENDED FROM:

REFERRAL

Severe dehydration. Failure to maintain hydration on oral fluids/feeds (failed Plan B).
Children with general danger signs, e.g.:

- convulsions
- altered level of consciousness
- intractable vomiting
- inability to feed or drink

AMENDED TO:

REFERRAL

Severe dehydration: Failure to maintain hydration with oral fluids/feeds, i.e. continued dehydration despite managing with "Plan B: Some dehydration".
Children with general danger signs, e.g.:

- convulsions
- altered level of consciousness
- intractable vomiting
- inability to feed or drink

2.9.2 DIARRHOEA, PERSISENT IN CHILDREN

AMENDED FROM:

DESCRIPTION

Diarrhoea for 7–14 days.

GENERAL MEASURES

Assess for possible HIV infection, and manage appropriately.
Prevent dehydration using homemade sugar and salt solution.

AMENDED TO:

DESCRIPTION

Defined as diarrhoea for 7–14 days.

GENERAL MEASURES

Assess for possible HIV infection and manage appropriately (See Section 11.1: Antiretroviral therapy, Adults).
Prevent dehydration using homemade sugar and salt solution

2.10 DYSENTRY

AMENDED FROM:

Dysentery, or diarrhoeal stool with blood or mucus, is usually due to bacteria and should be treated as bacillary dysentery. If there is no clinical response within three days manage as amoebic dysentery or refer for formal assessment. Exclude surgical conditions, e.g. intussusception in children.
Commonly encountered infectious conditions include *Shigella, Salmonella*, *E. Coli*, *Entamoeba histolytica* and *Campylobacter*.

REFERRAL

- » No response to treatment.
- » Abdominal distension.
- » Intussusception

AMENDED TO:

DESCRIPTION

Dysentery, or diarrhoeal stool with blood or mucus, is usually due to bacteria. Commonly encountered infectious conditions include *Shigella, Salmonella*, *E. Coli*, *Entamoeba histolytica* and *Campylobacter*.

GENERAL MEASURES

» Treat initial presentations as bacillary dysentery (See Section 2.10.1: Dysentery, bacillary).
» If there is no clinical response within three days, manage as amoebic dysentery (See Adult Hospital Level STGs and EML, Section 1.3.5: Amoebic dysentery) or refer for formal assessment.
» Exclude surgical conditions, e.g. intussusception in children.

REFERRAL

» No response to treatment.
» Abdominal distension.
» Intussusception.

2.10.1 DYSENTRY, BACILLARY

AMENDED FROM:

Antibiotic therapy

Indicated for:

» Children > 1 year of age and adults with blood in the stools.
» HIV-infected patients.
» Children < 12 months of age.

Children

- Ciprofloxacin, oral, 15 mg/kg/dose 12 hourly for 3 days. See dosing tables, pg. 23.4.

Children < 12 months of age

- Ceftriaxone, IM/IV, 100 mg/kg/dose immediately as a single dose and refer. See dosing table, pg. 23.3.
  - For IM administration, do not inject more than 1 g at one injection site.
  - Doses greater than 2 g must be given in divided doses or by intravenous administration.

CAUTION: USE OF CEFTRIAXONE IN NEONATES AND CHILDREN

If SUSPECTING SERIOUS BACTERIAL INFECTION in neonate, give ceftriaxone, even if jaundiced.
Avoid giving calcium-containing IV fluids (e.g. Ringer Lactate) together with ceftriaxone:
- If ≤ 28 days old, avoid calcium-containing IV fluids for 48 hours after ceftriaxone administered.
- If > 28 days old, ceftriaxone and calcium-containing IV fluids may be given sequentially provided the giving set is flushed thoroughly with Sodium chloride, 0.9% before and after.
- Preferably administer IV fluids without calcium contents.

Always include the dose and route of administration of ceftriaxone in the referral letter.

Adults

- Ciprofloxacin, oral, 500 mg 12 hourly for 3 days.

Note:

» Check for complications such as intestinal perforation or peritonitis.
» Ensure adequate urine output to exclude haemolytic uraemic syndrome.

AMENDED TO:

Antibiotic therapy

Indicated in:

» Children < 12 months of age.
» Children ≥ 1 year of age and adults with blood in the stools.
» All people living with HIV.

Children < 12 months of age

Give single dose of ceftriaxone and refer.

- Ceftriaxone, IM/IV, 100 mg/kg/dose immediately as a single dose. See dosing table, pg. 23.3.
  - For IM administration: do not inject more than 1 g at one injection site.
  - For IV administration: Doses greater than 2 g must be given in two divided doses (i.e. 12 hourly), preferably by intravenous infusion over 30 minutes.

CAUTION: USE OF CEFTRIAXONE IN NEONATES AND CHILDREN

If neonate is suspected to have a serious bacterial infection, give ceftriaxone, even if jaundiced.
Avoid giving calcium-containing IV fluids (e.g. Ringers Lactate) together with ceftriaxone:
- If ≤ 28 days old, avoid calcium-containing IV fluids for 48 hours after ceftriaxone administered.
- If > 28 days old, ceftriaxone and calcium-containing IV fluids may be given sequentially provided the giving set is flushed thoroughly with Sodium chloride, 0.9% before and after.
- Preferably administer IV fluids without calcium contents.

Always include the dose and route of administration of ceftriaxone in the referral letter.

Children ≥ 12 months of age

- Ciprofloxacin, oral, 15 mg/kg/dose 12 hourly for 3 days. See dosing tables, pg. 23.4.

Adults

- Ciprofloxacin, oral, 500 mg 12 hourly for 3 days.

Note:
- » Check for complications such as intestinal perforation or peritonitis.
- » Ensure adequate urine output to exclude haemolytic uraemic syndrome

2.12 IRRITABLE BOWEL SYNDROME (IBS)

AMENDED FROM:

DESCRIPTION

- » IBS is defined as recurrent abdominal pain, on average, at least one day per week in the last three months, associated with two or more of the following criteria:
  - Related to defecation
  - Associated with a change in stool frequency
  - Associated with a change in stool form (appearance)
- » The diagnosis is suggested by a protracted and intermittent history of these symptoms which are frequently more pronounced when there is also stress.
- » It is a functional disorder, most often seen in women 15–45 years old.

GENERAL MEASURES

- » For patients with an established diagnosis:
- » Reassure patient that there is no serious organic disorder.
- » High fibre/bran diets may be tried for patients with constipation.
  - Warn about temporary increased flatus and abdominal distension.
  - High fibre/bran diets are not effective for Global IBS (i.e. all symptoms).
- » Dietary advice by dietician.

MEDICINE TREATMENT

- » Not specifically indicated.
- » Based on patients' predominant symptoms.
- » Short-term symptomatic treatment for spasms, diarrhoea and/or constipation.
- » Anti-spasmodic as required for abdominal cramps. See Section 2.1 Abdominal pain
- Laxatives only for constipation-specific IBS. See Section 2.8: Constipation.
- Anti-diarrhoeals only for diarrhoea-specific IBS. See Section 2.9: Diarrhoea.

AMENDED TO:

DESCRIPTION

- » IBS (also known as "spastic colon" or "irritable colon") is defined as recurrent abdominal pain that has occurred at least one day per week in the last three months on average, and is associated with two or more of the following:
  - Related to defecation.
  - Associated with a change in stool frequency.
  - Associated with a change in stool form (appearance).
- » The diagnosis is suggested by a protracted and intermittent history of these symptoms which are frequently more pronounced when there is also stress.
- » It is a functional disorder, most commonly seen in women between the ages of 15 and 45 years.

GENERAL MEASURES

- » For patients with an established diagnosis:
- » Reassure patient while their symptoms are not due to life-threatening disease, they can have a significant impact on quality of life and should be managed appropriately.
- » Patients with constipation may benefit from a high fibre/bran diet.
  - Warn about temporary increased flatus and abdominal distension.
  - High fibre/bran diets do not have a significant effect on global IBS (i.e. all symptoms).
- » Dietary advice by dietician.

MEDICINE TREATMENT

- » Not specifically indicated.
- » Based on patients' predominant symptoms.
- » Short-term symptomatic treatment for spasms, diarrhoea and/or constipation.

Abdominal cramps:
See Section 2.1: Abdominal pain for treatment with anti-spasmodics.
For constipation predominant IBS:
See Section 2.8: Constipation for treatment with laxatives.
For diarrhoea predominant IBS:
See Section 2.9: Diarrhoea for treatment with anti-diarrhoeals.