PHC Chapter 2: Gastro-intestinal conditions

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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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