Module 4
Diarrhoea
Introduction

Diarrhoea is the result of disturbances to the digestive system, specifically the lower gastrointestinal tract, leading to an increase in the amount of wateriness, and regularity of bowel movements.

The Digestive System

The digestive system consists of the gastrointestinal tract as well as other organs, such as the liver, gall bladder and pancreas.

The gastrointestinal tract breaks food down into nutrients which are used by the body for energy, growth and restoration of cells. It is also responsible for eliminating undigested food and waste products.

The intestines and colon absorb 99% of fluid that pass through the gastrointestinal tract. When not enough fluid is absorbed, and thus removed from the stool, diarrhoea or loose stool is the result.

Fast fact
Each year diarrhoea kills around 760 000 children under the age of five.

Fast fact
Frequency of bowel movements is not what defines diarrhoea. Some people have bowel movements 3–5 times per day. Individuals who have a diet high in vegetable fibre may produce more than half a kilogram of stool per day. In such cases the stool is well formed and not runny.

Causes

Causes of Acute Diarrhoea
- Gastroenteritis, which can be from a viral, bacterial or parasitic infection
- Food poisoning
- Side-effects of certain drugs including antibiotics
- Food allergy or intolerance
- Stress – nervousness can make bowels move faster
- Menstruation – hormones can cause diarrhoea just before or during menstruation
- Jogging – Runner’s diarrhoea happens just after a run and is likely to be caused by stimulated bowel activity

Causes of Chronic Diarrhoea
- Dietary factors, such as lactose intolerance and overeating of certain fruits or juices like cherry, pear, apple, or prune, as well as over-consumption of caffeine
- Irritable bowel syndrome (IBS)
- Inflammatory bowel disease, caused by Crohn’s disease or ulcerative colitis, among others
- Malabsorption disorders, such as coeliac disease or chronic pancreatitis
- Certain tumours
- Hyperthyroidism

Causes

Stool that passes through the digestive tract too fast or holds matter that stops the large intestine from easily absorbing fluids usually contains too much water.

Diarrhoea can be acute, where symptoms are resolved in less than 7 days, or chronic, where symptoms last for over 4 weeks.

During diarrhoea, less water is absorbed by the body and stool becomes loose. Source: www.webmd.com
Traveller’s Diarrhoea

Certain strains of E.coli can cause diarrhoea either by producing toxins or by invading and inflaming the lining of the small intestine and the colon. Traveller’s diarrhoea is often caused by an ETEC (Enterotoxigenic Escherichia coli) strain of E.coli that produces toxins. The toxins can cause the sudden onset of diarrhoea, abdominal cramps, nausea and vomiting. These symptoms usually last about three days. Tourists can easily get ETEC in countries with warm climates and poor sanitation when they eat contaminated foods.

Did you know?
Spicy foods, foods high in sugar and foods containing artificial sweeteners, such as sorbitol, can cause diarrhoea. Sorbitol is found in many types of chewing gum, which is why gum should only be chewed in moderation.

Traveller’s diarrhoea usually lasts longer than three days. When travelling, a major amount of diarrhoeal disease can be prevented through adequate sanitation and proper hygiene, as well as consuming safe drinking water.

You can advise customers who are getting ready to travel to avoid:

- Tap water to drink or brush their teeth
- Ice made from tap water
- Raw fruits and vegetables, unless they peel them themselves
- Raw leafy vegetables, such as lettuce, spinach, cabbage, because they are hard to clean and contaminated water can stick to them
- Raw or rare meats
- Eating shellfish
- Buying food from street vendors

Instead, they should:

- Break the seals on bottled drinks themselves
- Use water that has been boiled for at least 5 minutes when mixing baby formula
- Eat freshly made, hot and well-cooked foods
- Wash their hands often
- Make sure children do not put any items or dirty hands in their mouths
- Keep infants from crawling on dirty floors
- Check to see that cutlery, utensils and dishes are clean

Symptoms

Key symptoms of diarrhoea

The increased frequency of bowel movements is usually accompanied by:

- Gas
- Cramping
- An urgency to pass stool
- Nausea and vomiting, when an infection or toxin is present

When diarrhoea is severe or continues over a long period of time, serious dehydration could be a risk. This can happen when fluid and electrolytes (sodium chloride, potassium and bicarbonate) that are lost through liquid stools, vomit, sweat, urine and breathing are not replaced. If large amounts of water and electrolytes are lost, the patient will feel weak, and his/her blood pressure can drop enough to cause fainting, abnormalities in heart rhythm, and other serious medical complications.
Diagnosis

A tip for pharmacy staff

When facing a patient with diarrhoea, put them at ease, and be discreet. Ask how long they have been experiencing discomfort and how severe symptoms have been to establish whether they’re suffering from acute or chronic diarrhoea.

Other important questions to ask:

• When did it start?
• Has the patient travelled recently?
• What food or water did they consume?
• Has the patient used antibiotics, or any other medication, within the last three months?
• Has the patient experienced abdominal pain or vomiting?
• How often do bowel movements occur and for how long does each movement last?
• Have there been changes in stool colour and consistency?
• Has the patient lost weight?
• Do they have an appetite?
• Does the patient constantly feel an urgent need to defecate?

With a few relevant questions you can easily spot the symptoms of dehydration in a patient. They include decreased urination, lethargy, extreme thirst and a dry mouth.

Treatment

Urgent assistance

Patients with the following symptoms must consult a physician urgently as these signs suggest a serious cause:

- Blood or pus in the stool
- Fever
- Diarrhoea at night
- Signs of dehydration
- Weight loss

Need to know

Doctors will avoid prescribing anti-diarrhoeal drugs if there is a possibility that the patient has gastroenteritis which is linked to Clostridium difficile, Salmonella or Shigella, since these bacteria can worsen the patient’s condition.

Over the counter (OTC) treatment

When diarrhoea is a symptom of an underlying disorder, which is more often than not the case, the cause should be treated. However, depending on severity, treatment of symptoms can be necessary too.

Over-the-counter (OTC) treatments of diarrhoea often focus on adding fluids and electrolytes to treat dehydration.

<table>
<thead>
<tr>
<th>OTC REMEDY</th>
<th>EFFECT</th>
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<tbody>
<tr>
<td>Oral rehydration solutions</td>
<td>Replace water, sugars and salts that are lost during a diarrhoeal episode</td>
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<tr>
<td>Antidiarrhoeals, such as loperamide</td>
<td>Relax intestinal muscles and slow intestinal transit to help with excessive fluid loss</td>
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<tr>
<td>Adsorbents, such as kaolin-pectin</td>
<td>Toxins, chemicals and infectious organisms attach to adsorbents; may also help firm stool</td>
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<tr>
<td>Bulking agents, such as psyllium</td>
<td>May help relieve chronic diarrhoea by adding more fibre to your diet</td>
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Imodium® Melt Tablets
Imodium® MELT tablets contain loperamide hydrochloride which slows down the increased motility of the bowel wall.

Imodium® MELT tablets, which are ideal for the symptomatic relief of acute and chronic non-specific diarrhoea, are fast-dissolving and should be placed on the tongue, instead of being swallowed with water. It melts instantly for effective relief and starts to work within 1 hour.

Imodium® MELT tablets are ideal for people who are:
- Unable to swallow tablets
- Travelling
- Unable to access water

Suitable for adults and children 6+
For treating acute non-specific diarrhoea:
Adults: take 2 immediately, followed by 1 after each loose stool
Children over 6 years: take 1 immediately, followed by 1 after each loose stool

Imodium® 2 mg Tablets
Imodium® 2 mg tablets contain loperamide hydrochloride which slows down the increased motility of the bowel wall.

What are the benefits of Imodium® 2 mg tablets?
- The passing of faeces is slowed down
- The reabsorption time is therefore increased
- The stool is normalised and becomes firmer and less frequent

For treating acute non-specific diarrhoea:
Adults: 2 tablets (4 mg) for adults, as an initial dose, followed by 1 tablet (2 mg) after each subsequent loose stool
Children of 6 years and older: 1 tablet (2 mg), as an initial dose, followed by 1 tablet (2 mg) after each subsequent loose stool
**Imodium® Syrup**

Imodium® syrup is indicated for the control and symptomatic relief of acute and chronic non-specific diarrhoea in children from 2 years of age.

**What are the benefits of Imodium® syrup?**

- It slows peristalsis (contraction and relaxation of the muscular walls of the digestive track)
- It slows intestinal transit time
- It normalises stool consistency
- It's an alternative for adults who can't swallow pills

**Adults:** 15 - 20 ml immediately, followed by 7.5 - 10 ml after each loose stool

**Children over 2 years:** 5 ml per 12.5 kg body mass immediately, followed by 2.5 ml per 12.5 kg after each loose stool

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**Quick Question**

Explain the difference between Acute and Chronic Diarrhoea?

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**References**


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**Quick Question**

Explain the difference between Acute and Chronic Diarrhoea?