Chronic Diarrhoea

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1. Definition and Description

In Denmark, **chronic diarrhoea** is defined as a condition where a person has loose or watery stools (typically types 5-7 on the Bristol Stool Scale) more than three times daily, and where the condition has lasted for **more than 4 weeks**.

A distinction is often made between:

- **Functional diarrhoea:** Where no physical disease can be identified (e.g., irritable bowel).
- **Organic diarrhoea:** Where there is a detectable disease in the intestine or the body (e.g., inflammation or malabsorption).

2. Symptoms

In addition to the frequent and loose stools themselves, accompanying symptoms may vary depending on the cause:

- **General symptoms:** Bloating, abdominal pain, increased flatulence, nausea.
- **Red flag symptoms (Require urgent investigation):**
  - Unintentional weight loss.
  - Blood in the stool (visible or black/tarry).
  - Nocturnal diarrhoea (waking up due to the urge to defecate - this is rare in functional disorders).
  - Fever.
  - Sudden change in bowel habits in individuals over 50 years of age.

3. Causes (Etiology)

There are many causes, but in Danish general practice, the most common categories are:

- **Irritable Bowel Syndrome (IBS):** By far the most common cause. A disorder of bowel function without visible disease.
- **Inflammatory Bowel Disease (IBD):** Crohn's Disease and Ulcerative Colitis.
- **Malabsorption (Failure to absorb nutrients):**
  - Coeliac disease (Gluten allergy).
  - Lactose intolerance.
  - Bile acid malabsorption (an often overlooked cause).
- **Medication side effects:** Metformin (diabetes), antibiotics, proton pump inhibitors (PPIs), NSAIDs, chemotherapy.
- **Infections:** Less common in chronic diarrhoea in Denmark, but *Clostridioides difficile* (after antibiotics) and parasites such as *Giardia lamblia* (after travel) do occur.
- **Microscopic colitis:** An inflammatory condition primarily affecting older women, where the bowel looks normal during endoscopic examination, but biopsies show inflammation.

- **Endocrine diseases:** Overactive thyroid (Hyperthyroidism) or diabetes (diabetic enteropathy).
- **Cancer:** Colon or rectal cancer (Particularly relevant if age > 50 years).

4. Pathophysiology

The mechanism behind diarrhoea is typically divided into four types. Often, a combination is involved:

1. **Osmotic diarrhoea:** Poorly absorbed substances remain in the bowel and draw water in via osmosis (e.g., in lactose intolerance or use of laxatives). Typically ceases during fasting.
2. **Secretory diarrhoea:** The intestinal wall actively secretes fluid and electrolytes or fails to absorb them (e.g., due to toxins, bile acid malabsorption, or certain tumours). Does not cease during fasting.
3. **Inflammatory/Exudative diarrhoea:** Damage to the intestinal mucosa leads to the leakage of mucus, blood, and proteins, as well as reduced absorption (e.g., in Crohn's or Ulcerative Colitis).
4. **Motility-related diarrhoea:** The intestine moves too quickly, so water does not have time to be absorbed (e.g., in IBS or hyperthyroidism).

5. Investigation in Denmark

The investigation typically begins with the general practitioner and may continue with a specialist in gastrointestinal diseases (gastroenterologist).

Step 1: Medical History (Anamnesis)

- Onset, duration, frequency, consistency, nocturnal stools.
- Travel, medication list, alcohol consumption.
- Heredity (especially IBD, coeliac disease, and bowel cancer).

Step 2: Physical Examination

- Palpation of the abdomen (masses, tenderness).
- Digital rectal examination (checking for tumours in the rectum).

Step 3: Laboratory Tests (Standard Package)

- **Blood tests:** Haemoglobin (anaemia), CRP (infection marker), TSH (thyroid function), HbA1c (diabetes), electrolytes, and screening for coeliac disease (Transglutaminase antibody).
- **Stool samples:**
  - **F-Calprotectin:** A very important marker in Denmark. If low, it strongly suggests against inflammatory bowel disease (IBD). If high, the patient is often referred for endoscopy.
  - Possible culture for pathogenic intestinal bacteria and parasites (especially with a travel history).
  - F-Hb (test for occult blood) is primarily used when cancer is suspected.

Step 4: Specialised Examinations

If basic tests suggest organic disease, or if symptoms persist inexplicably (especially in those >45-50 years old), a referral is made for:

- **Colonoscopy:** Endoscopic examination of the large intestine with biopsies (even if the mucosa looks normal, to rule out microscopic colitis).
- **Gastroscopy:** Endoscopic examination of the stomach/duodenum (biopsy for coeliac disease).
- **SeHCAT scan:** Examination for bile acid malabsorption.

6. Treatment

Treatment is always directed at the underlying cause.

- **For Coeliac Disease:** Lifelong gluten-free diet.
- **For Lactose Intolerance:** Lactose-free/low-lactose diet.
- **For IBD (Crohn's/Colitis):** Anti-inflammatory medication (corticosteroids, biological drugs).
- **For Infections:** Possibly antibiotics (if relevant, many resolve on their own).
- **For Bile Acid Malabsorption:** Medication that binds bile acids (e.g., Cholestyramine).

- **For Medication Side Effects:** Discontinuation or change of preparation.

For Functional Diarrhoea / Irritable Bowel Syndrome (IBS-D):

Once serious disease has been ruled out, treatment is symptomatic:

1. **Dietary changes:** The "Low FODMAP" diet is evidence-based and widely used in Denmark (often in consultation with a dietitian).
2. **Fibre:** Psyllium husks (Husk/Sylliflor) with or without calcium can bulk up the stool by binding fluid.
3. **Anti-diarrhoeal medication:** Loperamide (Imodium) can be used as needed, but with caution to avoid causing constipation.

Reference List: Chronic Diarrhoea

1. Definition, Classification, and Diagnosis

1. **Definition of Chronic Diarrhoea and Red Flag Symptoms:**
   - **Source:** Schiller, L. R. (2017). Chronic diarrhea. *Current Opinion in Gastroenterology*, 33(1), 19-24.
   - **Link:** https://pubmed.ncbi.nlm.nih.gov/27893444/
   - **Supports:** The definition of duration (more than 4 weeks) and the list of **red flag symptoms** (weight loss, nocturnal diarrhoea, blood in the stool) requiring rapid investigation for organic disease.
2. **Definition and Criteria for Irritable Bowel Syndrome (IBS-D):**
   - **Source:** Lacy, B. E., Mearin, M. A., & Chang, L. (2016). Bowel Disorders. *Gastroenterology*, 150(6), 1393-1407.e5.
   - **Link:** https://pubmed.ncbi.nlm.nih.gov/27144627/
   - **Supports:** The classification of IBS as the most frequent functional cause of diarrhoea (IBS-D) and its distinction from organic diarrhoea.
3. **Role and Significance of Faecal Calprotectin (F-Calprotectin):**
   - **Source:** Mosli, M. H., Feagan, B. G., & Dulai, P. S. (2015). Fecal calprotectin in the diagnosis and management of inflammatory bowel disease. *Expert Review of Gastroenterology & Hepatology*, 9(4), 485-493.

- **Link:** https://pubmed.ncbi.nlm.nih.gov/25557761/
- **Supports:** The use of F-Calprotectin as an important marker in investigations, particularly to differentiate between inflammatory bowel disease (IBD) and functional disorders.

2. Pathophysiology, Causes, and Treatment

4. **The Four Pathophysiological Mechanisms (Osmotic, Secretory, Inflammatory, Motility-related):**
   - **Source:** Fine, K. D., & Schiller, L. R. (1999). AGA technical review on the evaluation and management of chronic diarrhea. *Gastroenterology*, 116(6), 1464-1486.
   - **Link:** https://pubmed.ncbi.nlm.nih.gov/10356396/
   - **Supports:** The description of the four main mechanisms behind chronic diarrhoea and the underlying causes (e.g., osmotic in lactose intolerance; inflammatory in IBD).
5. **Bile Acid Malabsorption (BAM) and Diagnosis (SeHCAT scan):**
   - **Source:** Vijayvargiya, P., & Camilleri, M. (2019). Bile acid malabsorption: Diagnostic and treatment approaches. *Mayo Clinic Proceedings*, 94(7), 1324-1331.
   - **Link:** https://pubmed.ncbi.nlm.nih.gov/31272583/
   - **Supports:** The inclusion of Bile Acid Malabsorption (BAM) as an important cause, as well as the use of **SeHCAT scan** (or similar tests) for diagnosis and treatment with bile acid sequestrants.
6. **The Low FODMAP Diet in the Treatment of IBS-D:**
   - **Source:** Altobelli, E., Latella, G., & D'Ovidio, E. (2017). Low-FODMAP Diet Improves Symptoms of Irritable Bowel Syndrome. *Nutrients*, 9(12), 1269.
   - **Link:** https://pubmed.ncbi.nlm.nih.gov/29165381/
   - **Supports:** The application of the **Low FODMAP diet** as an evidence-based dietary intervention for functional diarrhoea/IBS-D after ruling out organic disease.

See also

Bile acid malabsorption (BAM) · Inflammatory bowel disease (IBD) · Low-FODMAP diet