

## What is the Cause of Diarrhoea in HIV/AIDS Patients?

Chronic diarrhoea is a **common and debilitating complication in patients with advanced HIV/AIDS**, particularly in regions with poor access to clean water. It is a significant cause of **morbidity and wasting syndrome** in this population.

? **Key Point:** Chronic diarrhoea is often multifactorial and may stem from infectious, inflammatory, neoplastic, or idiopathic causes. Immune suppression increases susceptibility to opportunistic gastrointestinal (GI) infections.

### Pathophysiology and Clinical Impact

- In patients with **CD4 counts <200 cells/mm<sup>3</sup>**, the GI tract becomes a target for opportunistic infections.
- Chronic diarrhoea contributes to **malabsorption, nutrient loss, dehydration, and cachexia (wasting syndrome)**.
- It can be classified by site of involvement:
  - **Large bowel (colonic) diarrhoea**
  - **Small bowel (enteric) diarrhoea**

### Differential Diagnosis Based on Site of Involvement

#### Large Bowel (Colonic) Diarrhoea

##### 1. Bacterial Enteric Pathogens

- **More frequent and severe** in HIV-positive individuals than the general population.
- Key pathogens:
  - **Shigella spp.**
  - **Salmonella spp.**
  - **Campylobacter jejuni**

? Stool cultures are essential for pathogen identification.

##### 2. Clostridioides difficile (C. difficile) Colitis

- Consider if **patient has received antibiotics** recently.
- Presents with **watery diarrhoea, abdominal pain, and fever**.
- Diagnosis:
  - Stool toxin assay or PCR for C. difficile.
  - Colonoscopy may reveal pseudomembranous colitis.

##### 3. Cytomegalovirus (CMV) Colitis

- Seen in **CD4 <100 cells/mm<sup>3</sup>**.
- Symptoms: **Chronic diarrhoea, fever, weight loss**.
- Colonoscopy: Ulcers (often on left colon).
- Biopsy: "Owl's eye" **inclusion bodies** (classic histological finding).

? CMV diagnosis requires biopsy confirmation due to nonspecific imaging.

## ? Small Bowel (Enteric) Diarrhoea

### 1. HIV Enteropathy

- Diagnosis of exclusion.
- Characterized by:
  - **Watery diarrhoea**
  - **Absence of fever**
  - **Profound weight loss**

? Pathophysiology involves direct HIV infection of enterocytes and gut-associated lymphoid tissue (GALT).

### 2. Parasitic Infections (Protozoa)

Pathogen	Features	Diagnostic Method
<b>Cryptosporidium</b>	Chronic watery diarrhoea, especially in CD4 <100	Modified acid-fast stain or PCR
<b>Microsporidia</b>	Chronic diarrhoea, malabsorption, wasting	Electron microscopy or PCR
<b>Isospora belli</b>	Watery diarrhoea, may cause eosinophilia	Acid-fast stain; oocysts in stool

? All are **obligate intracellular protozoa** that infect enterocytes, impairing absorption.

## Clinical Approach

### ? History and Symptoms

- Onset: Acute vs. chronic
- Character of stool: Watery, bloody, fatty
- Associated symptoms: Fever, weight loss, abdominal pain
- Recent antibiotic use
- Travel history and water source
- CD4 count and ART history

### ? Physical Examination

- Hydration status
- Signs of malnutrition
- Abdominal tenderness or distention
- Oral candidiasis (often concurrent with GI infections)

## ? Diagnostic Workup

- **Stool analysis:** O&P, culture, C. difficile toxin, AFB stain
- **CD4 count and viral load**
- **Sigmoidoscopy or colonoscopy with biopsy** for persistent or bloody diarrhoea
- **Serology or PCR** for pathogens like CMV or microsporidia

## Treatment Principles

- **Rehydration and electrolyte correction**
- **Nutritional support** with calorie-dense diets and micronutrient supplementation
- **Targeted antimicrobial therapy** based on pathogen
- **Initiate or optimize ART** to restore immune function
- **Antidiarrheal agents** (e.g., loperamide) may be used cautiously if no invasive infection is suspected

## Prevention

- Safe drinking water
- Proper food handling and sanitation
- Avoiding raw foods in immunocompromised individuals
- **Prophylactic therapy** (e.g., TMP-SMX) in patients with low CD4 counts

## Summary Table

Category	Example	CD4 Threshold	Diagnostic Feature
Bacteria	Shigella, Salmonella	Any	Stool culture
C. difficile	Antibiotic-related	Any	Toxin assay / Colonoscopy
CMV colitis	Opportunistic virus	<100 cells/mm <sup>3</sup>	Colon ulcers, Owl's eye inclusion
HIV enteropathy	Idiopathic	<100–200 cells/mm <sup>3</sup>	Exclusion diagnosis
Protozoa (Cryptosporidia)	Parasitic, small bowel	<200 cells/mm <sup>3</sup>	AFB stain / PCR