Bacillary Dysentery (Shigellosis)

An acute bacterial disease involving the large and distal small intestine, caused by the bacteria of the genus *shigella*. 
Infectious agent

- Shigella is comprised of four species or serotypes.
  - Group A = Shigella dysentrae (most common cause)
  - Group B = Shigella flexneri
  - Group C = Shigella boydii
  - Group D = Shigella sonnei
Epidemiology

- **Occurrence**: It occurs worldwide, and is endemic in both tropical and temperate climates. Outbreaks commonly occur under conditions of crowding and where personal hygiene is poor, such as in jails, institutions for children, day care centers, mental hospitals and refugee camps.
- It is estimated that the disease causes 600,000 deaths per year in the world.
- Two-thirds of the cases, and most of the deaths, are in children under 10 years of age.

- **Reservoir**: Humans
• **Mode of transmission**: Mainly by direct or indirect fecal-oral transmission from a patient or carrier.

• Transmission through water and milk may occur as a result of direct fecal contamination.

• Flies can transfer organisms from latrines to a non-refrigerated food item in which organisms can survive and multiply.

• **Incubation period**: 12 hours-4 days (usually 1-3 days)
• **Period of communicability**- During acute infection and until the infectious agent is no longer present in feces, usually within four weeks after illness.

• **Susceptibility and resistance**- Susceptibility is general.

• The disease is more severe in young children, the elderly and the malnourished.

• Breast-feeding is protective for infants and young children.
Clinical Manifestation

- Fever, rapid pulse, vomiting and abdominal cramp are prominent.
- Diarrhea usually appears after 48 hours with dysentery supervening two days later.
- Generalized abdominal tenderness.
- Tenesmus is present and feces are bloody, mucoid and of small quantity.
- Dehydration is common and dangerous - it may cause muscular cramp, oliguria and shock.
Diagnosis

Based on clinical grounds..
Stool microscopy (presence of pus cells)
Stool culture confirms the diagnosis

• Treatment
• 1. Fluid and electrolyte replacement
• 2. Co-trimoxazole in severe cases or Nalidixic acid in the case of resistance.
Prevention and control

1. Detection of carriers and treatment of the sick will interrupt an epidemic.
2. Hand washing after toilet and before handling or eating Food.
3. Proper excreta disposal especially from patients, convalescent and carriers.
4. Adequate and safe water supply.
5. Control of flies.
6. Cleanliness in food handling and preparation.
Amoebiasis (Amoebic Dysentery)

- **Definition:**
  - An infection due to a protozoan parasite that causes intestinal or extra-intestinal disease.

- **Infectious agent:**
  - *Entamoeba histolytica*

- **Epidemiology:**
  - **Occurrence:** worldwide but most common in the tropics and sub-tropics.
  - **Prevalent in areas with poor sanitation, in mental institutions and homosexuals.**
  - **Invasive amoebiasis is mostly a disease of young people (adults).**
  - **Rare below 5 years of age, especially below 2 years.**
Mode of transmission:
Fecal-oral transmission by ingestion of food or water contaminated by feces containing the cyst.
Acute amoebic dysentery poses limited danger.

Incubation period:
Variable from few days to several months or years; commonly 2-4 weeks.

Period of communicability:
During the period of passing cysts of E. histolytica, which may continue for years.
• **Susceptibility and resistance:**
  • General Susceptibility to re infection has been demonstrated but is apparently rare.
• **TRANSMISSION**
  • 1. Cysts ingested in food, water or from hands contaminated with feces.
  • 2. cysts ex cyst, forming trophozoites
  • 3. Multiply in intestine
  • 4. Trophozoites encysted.
  • 5. Infective cysts passed in feces.
  • 6. Feces containing infective cysts contaminate the environment.
• **Clinical Manifestation:**
  
  - Starts with a prodromal episode of diarrhea, abdominal cramps, nausea, vomiting and tenesmus.
  
  - With dysentery, feces are generally watery, containing mucus and blood.

• **Diagnosis:**
  
  - Demonstration of entamoeba histolytica cyst or trophozoite in stool.

• **Treatment:**
  
  - 1. Metronidazole or Tinidazole
Prevention and control

• 1. Adequate treatment of cases
• 2. Provision of safe drinking water
• 3. Proper disposal of human excreta (feces) and hand washing following defecation.
• 4. Cleaning and cooking of local foods (e.g. raw vegetables) to avoid eating food contaminated with feces.
**Giardiasis**

- **Definition:**
  - A protozoan infection principally of the upper small intestine associated with symptoms of chronic diarrhea, steatorrhea, abdominal cramps, bloating, frequent loose and pale greasy stools, fatigue and weight loss.

- **Infectious agent:**
  - Giardia lamblia

- **Epidemiology:**
  - **Occurrence**- Worldwide distribution. Children are more affected than adults. The disease is highly prevalent in areas of poor sanitation.

- **Reservoir**: Humans
• **Mode of transmission:**
  - Person to person transmission occurs by hand to mouth transfer of cysts from feces of an infected individual especially in institutions and day care centers.

• **Period of communicability:**
  - Entire period of infection, often months.

• **Susceptibility and resistance:**
  - Asymptomatic carrier rate is high. Infection is frequently self-limited. Persons with AIDS may have more serious and prolonged infection.
• Clinical Manifestation:
  • Ranges from asymptomatic infection to severe failure to thrive and mal-absorption.
  • Young children usually have diarrhea but abdominal distension and bloating are frequent.
  • Adults have abdominal cramps, diarrhea, anorexia, nausea, malaise, bloating.
• TRANSMISSION

• 1. Cysts ingested in food, water or from hands contaminated with feces.
• 2. Cysts excyst, forming trophozoites
• 3. Multiply in intestine
• 4. Trophozoites encyst.
• 5. Infective cysts passed in feces. Trophozoites passed in feces disintegrate.
• 6. Feces containing infective cysts contaminate the environment.
• **Diagnosis:**
  • Demonstration of *Giardia lamblia* cyst or trophozoite in feces.

• **Treatment:**
  • 1. Metronidazole or Tinidazole

• **Prevention and control:**
  • 1. Good personal hygiene, and hand washing before food and following toilet use
  • 2. Sanitary disposal of feces
  • 3. Protection of public water supply from contamination of Feces
  • 4. Case treatment
  • 5. Safe water supply