

Escherichia coli Virotypes



PLAY PICMONIC

EIEC

Enteroinvasive E. coli (EIEC)

Invading E-coal-eye

EIEC, or enteroinvasive E. coli, is invasive to the intestinal mucosa, leading to dysentery. The symptomatic manifestations are similar to Shigella, with watery to bloody stool and possible mucus.

Necrosis with Inflammation

Necrosis-crow In-flames

Enteroinvasive E. coli (EIEC) involves invasion of the intestinal mucosa, resulting in necrosis and inflammation.

Bloody Diarrhea

Red Toilet

As enteroinvasive E. coli (EIEC) invades the intestinal mucosa, it can lead to watery/bloody diarrhea and the possibility of mucus (i.e., dysentery). Other symptoms can include abdominal cramping, vomiting, fever, and fatigue.

Clinical Presentation Similar to Shigella

She-Jello in mirror

Enteroinvasive E. coli (EIEC) has a clinical presentation similar to Shigella.

ETEC

Enterotoxigenic E. coli (ETEC)

Toxic-genie and E-coal-eye

ETEC, or enterotoxigenic E. coli, produces two types of enterotoxins, leading to secretory diarrhea. ETEC is the most common cause of traveler's diarrhea.

Heat Labile and Heat Stable Enterotoxin

Heat-lamp with Stable-ground melting Toxin

Traveler with Watery Diarrhea

Traveling-backpacker with Watery Toilet

Enterotoxigenic E. coli (ETEC) leads to secretory diarrhea and is non-invasive. Therefore, watery diarrhea is a common presentation. Additionally, fever, nausea, abdominal cramping, and appetite changes may occur.

EPEC



Enteropathogenic E. coli (EPEC)

Pathogen and E-coal-eye

EPEC, or enteropathogenic E. coli, is a non-toxin-producing form of diarrhea and is most common in the pediatric population.

Blocks Absorption

Blocks and Absorbing-sponge

Child with Watery Diarrhea

Child on Watery Toilet

EHEC

Enterohemorrhagic E. coli (EHEC)

Hemorrhage-hammer and E-coal-eye

EHEC, or enterohemorrhagic E. coli, is toxin-producing, which can lead to bloody dysentery. EHEC is often associated with hamburgers, hemorrhage, and HUS.

Produces Shiga-like Toxin

She-Jello in Mirror

Enterohemorrhagic E. coli (EHEC) produces Shiga-like toxins (e.g., O157:H7) through gene integration, leading to inflammation and necrosis of the intestinal mucosa. This toxic effect then leads to watery/bloody diarrhea with mucus (i.e., dysentery).

Ingestion of Undercooked Meat

Ingestion of Raw/Undercooked Meat

Enterohemorrhagic E. coli (EHEC) is transmitted via the fecal-oral route. This transmission is often associated with contaminated foods, such as undercooked beef, milk, and raw vegetables.

Bloody Diarrhea

Red Toilet

Enterohemorrhagic E. Coli (EHEC) is toxin-producing and therefore leads to bloody diarrhea, abdominal cramping, and possible fever, though this is less common.

Hemolytic Uremic Syndrome (HUS)

Hemolysing U-rainbow Anemone

Enterohemorrhagic E. coli (EHEC) produces a Shiga-like toxin (e.g., O157:H7). With particular strains, this can lead to the complication of HUS, which is especially relevant to young children.