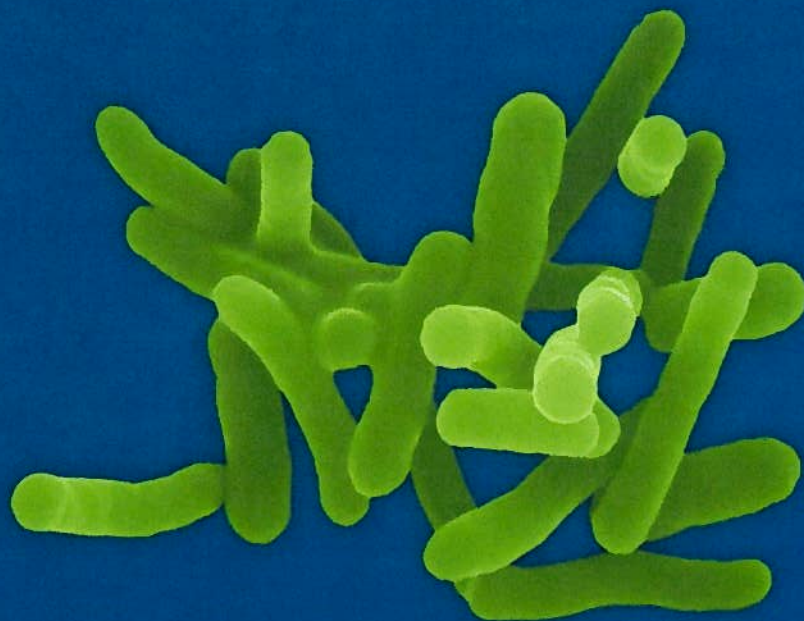


Shigella



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Shigella

- causes the illness shigellosis, also known as bacillary dysentery
- about 14,000 cases of shigellosis are reported in the United States each year
- mild cases are often not reported, therefore the total number of annual cases is estimated to be approximately 300,000
- in the developing world, shigellosis is far more common and is present in most communities most of the time
- estimated 600,000 deaths worldwide each year
- 2/3 of cases and most of the deaths are in children under 10 years old



The Organism

- gram-negative
- non-motile rod-shaped bacteria
- non-sporeforming
- some strains produce enterotoxin and Shiga toxin
- the genus *Shigella* comprises 4 species or serogroups:
 - *S. flexneri*
 - *S. boydii*
 - *S. dysenteriae* (can cause epidemic shigellosis)
 - *S. sonnei* (associated with industrialized countries)



Reservoir/Sources

- only significant reservoir is humans
- prolonged outbreaks have occurred in primate colonies
- rarely infects animals
- infection is most common in children 6 months to 5 years old



Mode of Transmission

- direct or indirect fecal to oral transmission from symptomatic patient or a short-term asymptomatic carrier
- happens when basic hygiene and hand washing habits are inadequate
- infections may be acquired from eating contaminated food
- water may become contaminated if sewage runs into it or if an infected individual swims or plays in it
- outbreaks of shigellosis have also occurred among men who have sex with men
- infectious dose is low: 10 – 100 organisms

Signs and Symptoms

- an acute bacterial disease involving the distal small intestine and colon characterized by:
 - abdominal pain and cramps
 - diarrhea
 - often with blood, pus, or mucus (dysentery)
 - fever
 - vomiting
 - tenesmus
 - straining to urinate or defecate without the ability to do so

Incubation Period

- usually 1 – 3 days
- range from 12 – 96 hours



Diagnosis and Treatment

- diagnosis provided by isolation of *Shigella* bacteria from feces or rectal swabs
- infection usually associated with large numbers of fecal leukocytes detected in stool mucus
- antibiotic treatment is recommended for infirm or older patients, malnourished children, patients infected with HIV, food handlers, health care workers, and children in day care centers



Prevention

- there is no vaccine to prevent shigellosis
- frequent and careful hand washing with soap and warm water
- proper hand washing before, during, and after food preparation, as well as after using the bathroom
- exclude individuals with illness or diarrhea from food handling, and educate known carriers on the importance of hand washing
- disinfection of drinking water

