	leads to (1) imbalance in ratio of intestinal fluid absorption to secretion and (2) malabsorption of complex carbohydrates	days, but diarrhea persists 5 to 7 days	3 years old Immunocompromised children at greater risk for complications Peak occurrences in winter months Important cause of nosocomial infections Two preventive vaccines available
Norwalk-like organisms Also called *caliciviruses* Incubation: 12 to 48 hours Diagnosis: EIA	Fecal–oral; contaminated water Pathology similar to that of rotavirus; affects villus epithelial cells of small intestine, leading to (1) imbalance in ratio of intestinal fluid absorption to secretion and (2) malabsorption of complex carbohydrates	Abdominal cramps, nausea, vomiting, malaise, low-grade fever, watery diarrhea without blood; duration 2 to 3 days; tends to resemble so-called food poisoning symptoms with nausea predominating	Affects all ages Multiple strains often named for the location of outbreak (e.g., Norwalk, Sapporo, Snow Mountain, Montgomery)
Bacterial			
Escherichia coli Incubation: 3 to 4 days; variable depending on strain Diagnosis: Sorbitol MacConkey agar positive for blood, but fecal leukocytes absent or rare	*E. coli* strains produce diarrhea as a result of enterotoxin production, adherence, or invasion (enterotoxigenic-producing *E. coli,* enterohemorrhagic *E. coli,* enteroaggregative *E. coli*)	Watery diarrhea 1 to 2 days, then severe abdominal cramping and bloody diarrhea Can progress to hemolytic uremic syndrome	Foodborne pathogen Traveler's diarrhea Highest incidence in summer Cause of nursery epidemics Symptomatic treatment Antibiotics may worsen course Avoid antimotility agents and opioids
***Salmonella* groups (nontyphoidal)** Gram-negative rods, nonencapsulated nonsporulating Incubation: 6 to 72 hours Diagnosis: Gram stain, stool culture	Invasion of mucosa in the small and large intestine, edema of the lamina propria, focal acute inflammation with disruption of the mucosa and microabscesses	Nausea, vomiting, colicky abdominal pain, bloody diarrhea, fever; symptoms variable (mild to severe) May have headache and cerebral manifestations (e.g., drowsiness confusion, meningismus, seizures) Infants may be afebrile and nontoxic May result in life-threatening septicemia and meningitis	Incidence highest in summer months; foodborne outbreaks common Usually transmitted person to person but may transmit via undercooked meats or poultry; about half the cases caused by poultry and poultry products In children, related to pets (e.g., dogs, cats, hamsters, turtles) Communicable as long as organisms are excreted Antibiotics not recommended in