

Causative Agent	Epidemiology	Transmission	Clinical Features	Pathogenesis	Dx	Tx	Prevention
<p>Norovirus (Norwalk Virus)</p> <p>Leading cause of disease outbreak from contaminated food.</p> <p>Incubation period: 24 hrs followed by sudden onset of illness</p>	<p>Affects all ages</p> <p>Higher incidence in developing countries (less access to hydration therapy)</p> <p>Fatality:</p> <p>In young adults: Rarely fatal</p> <p>Causes death in elderly patients (with debilitating health problems) & children in developing countries</p> <p>Leading cause of disease outbreak from contaminated food.</p> <p>70% of the cases: from infected food workers</p>	<p>(Low inoculum needed to become infectious)</p> <p>18 viral particles → to infect 1 person</p> <p>Transmitted via:</p> <ol style="list-style-type: none"> Feco oral route Vomitus Aerosolization Contaminated fomites Person-to-person contact 	<p>Illness lasts 12-60 hours (short duration)</p> <p>Symptoms:</p> <ol style="list-style-type: none"> Vomiting more prevalent among <u>children</u> Diarrhea: more prevalent among <u>adults</u> Loose, watery stool (unlike bacterial Gastroenteritis which could involve bloody diarrhea) Abdominal cramps General symptoms: <ul style="list-style-type: none"> - Fever - Myalgia - Headache - Chills 	<ol style="list-style-type: none"> Virus attaches to cellular receptors (carbohydrates) on gastroduodenal (upper GI) epithelial cells Virus is internalized Cytopathic effect: <ol style="list-style-type: none"> Broadening, shortening and blunting of villi Shortened microvilli → Decreased absorption Crypt hyperplasia → Increased secretion → Diarrhea Vacuolization of lining epithelium Lamina propria is infiltrated by 	<p>By exclusion:</p> <p>Culture for suspected bacteria → No bacteria detected → Non-bacterial Gastroenteritis → Test for virus in a stool sample</p> <hr/> <ol style="list-style-type: none"> PCR: look for norovirus RNA EIA (Enzyme Immune Assays) <p>[EIA limitation] genetic variations → antigenic diversity</p> <ol style="list-style-type: none"> Electron microscopy (research) 	<p>Self-limited</p> <ol style="list-style-type: none"> Oral rehydration (most imp) In case of severe dehydration: <u>IV fluids</u> <p>(There is no specific antiviral therapy)</p>	<ol style="list-style-type: none"> Clean vegetables Cook food thoroughly Avoid touching food with bare hands (food workers) Hand washing before handling food Clean surfaces

				<p>immune cells (inflammatory state)</p> <p>COLON AND THE STOMACH ARE SPARED (no histopathological changes)</p> <p>Note: these are similar to the series of events occurring in celiac disease patients.)</p>			
<p>Rotavirus Leading cause of diarrheal death amongst children in developing countries</p> <p>Incubation period: 1-3 days (longer than norovirus)</p>	<p>Affects children <5 years of age</p> <p>Same incidence in both developing AND developed countries</p> <ul style="list-style-type: none"> - Tropical areas: Occur year-round - Temperate areas: Seasonal variations (occur in the fall & winter) 		<p>Lasts: up to a week</p> <p>Neonatal infections: During the first three months: <i>Mild, asymptomatic</i> (maternal transplacental Ab's or Ab's in breast milk)</p> <p>- After the first 3 months: Maternal Ab's start to disappear → <i>Symptomatic</i></p>	<p>Similar to Norovirus:</p> <ol style="list-style-type: none"> 1. Enters the lumen of the gut 2. Infects the epithelial cells of the proximal SI (the jejunum) 3. Destroys villi (shortening, etc) and microvilli 4. Death and shedding of enterocytes 5. Crypt hyperplasia 	<ol style="list-style-type: none"> 6. PCR(mainly) 7. EIA 	<ol style="list-style-type: none"> 1. Oral rehydration 2. IV fluids (case of severe dehydration) <p><u>Antimotility and Antibiotic drugs are avoided</u></p>	<p>There are two discovered vaccines</p>