

## **NONVIRAL PATHOGEN CHART**

Disease Name(s): ***E. coli*** (wikipedia.org).

Scientific name of pathogen:	<i>Escherichia coli</i> (CDC.gov)
Domain classification:	Bacteria (wikipedia.org).
Prokaryotic or eukaryotic?	Prokaryotic (wikipedia.org).
Gram stain, morphology:	gram-negative, rod (bacilli). (wikipedia.org).
Spores?	No
Motility? Yes. If motile, by what means?	Peritrichous flagellae (wikipedia.org).
Oxygen requirements:	facultatively anaerobic (wikipedia.org).

**Distinguishing features:** *E. coli* is a gram-negative, non-spore-forming rod, ~1-2 µm wide, 3-30 µm long. (microbiologybytes.com).

**Pathogenic Properties:** release of toxins, invasion of tissue. In cystitis, bacteria attach by fimbriae to epithelium, cause inflammation and sloughing of cells. Can spread to kidneys by ureters, potential kidney failure. (Anderson).

### **THE DISEASE:**

Geographic occurrence:	worldwide
High risk individuals:	Very young children and the elderly are more likely to develop severe illness and hemolytic uremic syndrome (HUS) than others. (cdc.gov).
Reservoir:	<i>E. coli</i> bacteria normally live in the intestines of people and animals. (cdc.gov).

**Part(s) of host body infected:** *E. coli* is best known for its ability to infect the intestinal system. In the case of Neonatal Meningitis, *E. coli* strains invade either the nasopharynx or the GI tract. The *E. coli* are absorbed into the bloodstream, and then the blood carries the bacteria to the meninges. In a Urinary Tract Infection, *E. coli* colonize in the feces and/or the perineal region, and then somehow ascend to the urethra and finally to the bladder causing inflammation. (uwlax.edu).

Method(s) if transmission:	indirect contact (quizlet.com).
Portals of entry:	mouth (quizlet.com).
Incubation period:	The incubation period is usually 3-4 days after exposure, but may be as short as 1 day or as long as 10 days. (cdc.gov).
Period of illness:	Most people get better within 5–7 days. (cdc.gov).
Contagious Period:	Those who are infected with the <i>E. coli</i> bacteria should be considered to be highly contagious. (steadyhelth.com).

**Signs/Symptoms:** Severe stomach cramps, diarrhea (often bloody), and vomiting. If there is fever, it usually is not very high (less than 101°F/less than 38.5°C). Some kinds of *E. coli* can cause diarrhea, while others cause urinary tract infections, respiratory illness and pneumonia, and other illnesses. (cdc.gov).

**Serious complications:** Hemolytic uremic syndrome (HUS). (cdc.gov).

**Diagnostic methods:** STEC (shiga toxin-producing *E. coli*) infections are usually diagnosed through laboratory testing of stool specimens (feces). (cdc.gov).

**Preventive measures:** Wash hands thoroughly after using the bathroom or changing diapers and before preparing or eating food as well as after contact with animals or their environments (at farms, petting zoos, fairs, etc.). Cook meats thoroughly. Avoid raw milk, unpasteurized dairy products, and unpasteurized juices (like fresh apple cider). Avoid swallowing water when swimming or playing in lakes, ponds, streams, swimming pools, and backyard “kiddie” pools. Prevent cross contamination in food preparation areas by thoroughly washing hands, counters, cutting boards, and utensils after they touch raw meat. (cdc.gov).