

A Thorough Reference On Bacterial Infections And Their Symptoms

Posted on October 8, 2022

Organism Genus Species		Gram Reaction	Morphology	Diseases Caused	Symptoms of Disease
Bacillus	B. cereus	Gram- Positive	rod-shaped bacilli with square ends Flagella driven motility	Foodborne illnesses such as the emetic (vomiting) syndrome and the diarrhoeal syndrome.	• severe nausea, vomiting, and diarrhoea due to indigestion of the infected food
Bacillus	B. Anthracis	Gram-Positive	• Rod-shaped bacterium • endospore-forming	• Anthrax: Pulmonary Anthrax, Gastrointestinal Anthrax - Usually caused to livestock and human beings	• Fever and chills run through the body • Discomfort in Chest • Shortness of breath • Confusion or dizziness • Cough • Nausea, vomiting, or stomach pains • Headache • Sweats (often drenching)
Bartonella henselae	B. henselae	Gram-Negative	• Rod-shaped bacteria • No flagella • Twitching motility	cat-scratch disease (bartonellosis)	• papule at the site where the microbe entered • aches, nausea, and abdominal pain, • malaise

Bordetella	B. pertussis	Gram-Negative	• rod-shaped, coccoid • Motile	Respiratory infections such as pertussis or whooping cough	• Rapid coughs followed by a high-pitched “whoop” sound. • Vomiting during or after coughing fits. • Exhaustion after coughing fits
Borrelia	B. burgdorferi	Gram-Negative	• Rod-shaped bacteria with helical flagella • spirochete bacterium	Lyme disease caused by black-legged ticks	• fever, headache, fatigue • It causes a skin rash called erythema migrans.
Campylobacter	C. jejuni	Gram-Negative	slender rods have one or more helical turns Motile common spirillum bacterium	Campylobacter or human gastroenteritis (Foodborne disease)	• inflammatory, sometimes bloody diarrhoea • mostly including stomach cramps, fever and pain

Chlamydia	C. trachomatis	Gram-Negative	• coccoid or rod-shaped and require growing cells to remain sustainable	• Pelvic inflammatory disease - Chlamydia • Infection near the testicles (epididymitis). • Prostate gland infection • Ectopic pregnancy • Infertility • Reactive arthritis	• Painful urination • Vaginal discharge in women • Discharge from the penis in men • Painful sexual intercourse in women • Bleeding between periods and after sex in women • Testicular pain in men
Clostridium	C. Botulinum	Gram-Positive	• Cells of most strains occur as straight or slightly curved rods • Motile with the help of peritrichous flagella	Botulism	• Paralysis • Poisoning • Difficulty swallowing • Muscle weakness • Double vision • Drooping eyelids • Blurry vision • Slurred speech • Difficulty breathing • Difficulty moving the eyes

Clostridium	C. difficile	Gram- Positive	• Rod-shaped • motile by peritrichous flagella and spore-forming in nature	• Clostridioides • Severe diarrhoea and colitis (inflammation of the colon)	• Watery diarrhoea (in worst cases 10 to 15 times a day) • Abdominal cramping and pain, which may be severe • Rapid heart rate • Dehydration • Fever • Nausea • Increased white blood cell count • Kidney failure • Loss of appetite • Swollen abdomen • Weight loss • Blood or pus in the stool
Clostridium	C. perfringens	Gram- Positive	• Rod-shaped • Spore forming	Food poisoning Diarrhea	diarrhoea and stomach cramps profuse vomiting (instant vomiting after intake of food) indigestion of food nausea

Clostridium	C. tetani	Gram-Positive	• Enlarged and tennis racket- or drumstick-shaped when forming spores • Usually rod-shaped • Motile with the help of flagella	Tetanus	• Jaw cramping. • Sudden involuntary muscle tightening (muscle spasms) - often in the stomach • Painful muscle stiffness all over the body • Trouble swallowing • Jerking or staring (seizures) • Headache • Fever and sweating • Changes in blood pressure and fast heart rate
Corynebacterium	C. diphtheria	Gram-Positive	• non-motile, non-encapsulated, non-sporulating • rod-shaped	Diphtheria	• Difficulty breathing • Heart failure • Paralysis and even death
Gardnerella	G. vaginalis	Gram-Variable	• Non-motile • Slow growing bacillus • Non-spore-forming	Bacterial Vaginosis (BV)	• Thin, grey, white or green vaginal discharge. • Foul-smelling "fishy" vaginal odour. • Vaginal itching. • Burning during urination.

Haemophilus	H. influenzae	Gram-Negative	• bacilli or coccobacilli with random arrangements • rod-shaped	• Pneumonia • Bloodstream infection. • Meningitis. • Epiglottitis • Cellulitis • Infectious arthritis	• swelling in the throat • inflammation of the joint • Fever and chills. • Excessive tiredness. • Pain in the belly. • Nausea with or without vomiting. • Diarrhea. • Anxiety. • Shortness of breath or difficulty breathing. • Altered mental status (confusion) • Fever
Helicobacter pylori	H. pylori	Gram-Negative	• Spiral-shaped or helix-shaped • Curved or straight rods • Motile with the help of its flagella	• Peptic ulcer • Chronic gastritis • Risk factors for gastric carcinoma and Gastric B-cell lymphoma	• Burning pain in your stomach after eating anything • Unplanned weight loss. • Bloating • Nausea and vomiting (bloody vomit) • Indigestion (dyspepsia) • Burping • Loss of appetite • Dark stools

Klebsiella	K. pneumoniae	Gram-Negative	• Non- Motile • rod-shaped bacterium	• Urinary tract infection (UTI), • Pneumonia • Intra-abdominal infection, • Bloodstream infection (BSI), • Meningitis • Pyogenic liver abscess	• Fever • Chills • Coughing • Yellow or bloody mucus • Shortness of breath • Chest pain • Burning while urination
Legionella	L. pneumophila	Gram-Negative	• Thin pleomorphic • Flagellated • Non-spore forming	Legionnaires' disease	• Cough • shortness of breath • high fever • muscle pains, and headaches • Nausea, vomiting, and diarrhoea may also occur.
Listeria	L. monocytogenes	Gram- Positive	• Non-spore-forming • Motile • Rod-shaped bacterium.	• Listeriosis • Sepsis • Meningitis • Encephalitis • Intrauterine infections • Spontaneous abortions in pregnant women	• Headache. • Stiff neck. • Confusion or changes in alertness. • Loss of balance. • Convulsions

Mycobacterium	M. leprae	Gram-Positive	• Rod-shaped bacterium • Parallel sides and rounded ends	• Hansen's disease (Leprosy)	• Discoloured patches of skin, usually flat, that may be numb and look faded (lighter than the skin around) • Growths (nodules) on the skin. • Thick, stiff or dry skin • Painless ulcers on the soles of feet • Painless swelling or lumps on the face or earlobes. • Loss of eyebrows or eyelashes
Mycobacterium	M. tuberculosis	Gram- Positive	• Non-motile • Large rod-shaped bacterium	Tuberculosis	• Phlegm producing cough • Weight loss. • Night sweats. • High temperature. • Tiredness and fatigue. • Loss of appetite. • Swelling around the neck

Mycoplasma	M. pneumoniae	Gram-Negative	Elongated Shape or • spindle-shaped pleomorphic bacterium	• Mycoplasma pneumoniae • Primary atypical pneumonia, • Tracheobronchitis and upper respiratory tract disease	• sore throat and hoarseness, • fever • produce non-bloody sputum • in the worst case, it causes ulceration and
<i>Neisseria</i>	<i>N. gonorrhoeae</i>	Gram-Negative	• coccus, which is present in pairs (diplococci) kidney/coffee bean shape	Gonorrhea	• discharge from the vagina (watery, creamy, or slightly green) • Pain or burning sensation while urinating. • Heavier periods or spotting • Sore throat • pain during sexual intercourse • sharp pain in the lower abdomen • Fever

Neisseria	N. meningitidis	Gram-negative	• Coffee-bean shaped diplococci	• Meningitis • Meningococcemia	• Fever and chills. • Fatigue (feeling tired) • Vomiting. • Cold hands and feet. • Severe aches or pain in the muscles, joints, chest, or abdomen (belly) • Rapid breathing. • Diarrhea.
Providencia	P. Stuartii	Gram-Negative	• Straight rod • Flagellate bacterium	Urinary tract infections	• Fever, dry mucous membranes, suprapubic tenderness, and flank pain in pyelonephritis

Pseudomonas	P. aeruginosa	Gram-Negative	• Rod-shaped bacterium	• Malignant external otitis • Endophthalmitis • Endocarditis • Meningitis • Pneumonia • Septicemia	• Ears: pain and discharge. • Skin: rash, which can include pimples filled with pus. • Eyes: pain, redness, swelling. • Bones or joints: joint pain and swelling; neck or back pain that lasts weeks. • Wounds: green pus or discharge that may have a fruity smell. • Digestive tract: headache, diarrhoea.
Rickettsia	R. rickettsia	Gram-Negative	• Rod-shaped or variably spherical, non-filterable bacteria • Non-motile	• Typhoid • Lymphangitis-associated rickettsiosis • Epidemic typhus • Sylvatic typhus • Murine typhus	• Sudden fever, chills, and headache • Malaise and myalgia • Nausea, vomiting
Salmonella Serotype Enteritidis	S. Enteritidis	Gram-Negative	• Rod-shaped • non-motile bacteria • non-spore formation	Gastroenteritis	• Diarrhea, fever • Abdominal cramps
Salmonella enterica serotype Typhi	S. Typhi	Gram-Negative	• Enteric rod • Motile	Typhoid fever	• Sustained fever • Weakness, • stomach pains • Headache, loss of appetite

Staphylococcus	S. aureus	Gram- Positive	• Round-shaped bacterium	• Impetigo • Boils • Cellulitis • Folliculitis • Carbuncles • Scalded skin syndrome • Abscesses • Pneumonia • Septic arthritis • Toxic shock syndrome	• blisters, abscesses, and redness and swelling • fever, rash, dangerously low blood pressure
Streptococcus	S. mutans	Gram- Positive	• Round bacterium • Appear in chains	• Dental Carries • Bacteremia • Infective endocarditis	• Fever, chills, sweats • Anorexia • weight loss, • Malaise
Streptococcus	S. Pneumoniae	Gram-Positive	• lancet-shaped • Non-Motile • 100 known serotypes	• Pneumonia • Meningitis	• Fever, Cough, shortness of breath, chest pain, stiff neck, • Confusion - increased sensitivity to light, joint pain, chills, ear pain • Irritating behaviour • In severe cases, hearing loss, • Brain damage and death
Streptococcus	S.pyogenes	Gram- Positive	• Round-shaped (Cocci) • Extracellular • non-motile • non-sporing	• Pharyngitis • tonsillitis • Scarlet fever • Cellulitis, erysipelas • Rheumatic fever, • Post-streptococcal glomerulonephritis • Necrotizing fasciitis • Myonecrosis • Lymphangitis.	• Cough. • Rhinorrhea. • Hoarseness. • Oral ulcers. • Conjunctivitis • Body ache • Blur vision • High fever • Unable to gulp food

Treponema	T. pallidum	Gram-Negative	• spirochete bacterium • helically coiled	• Syphilis • Bejel • Yaws	• Fever • Swollen lymph glands, sore throat, patchy hair loss, headaches, weight loss, muscle aches, and fatigue
Vibrio	V. Cholerae	Gram-Negative	• Highly Motile • Comma shaped	Cholera	• Profuse watery diarrhoea, • Vomiting • Thirsty feeling • Leg Cramps • Restlessness or irritability
Yersinia	Y. pestis	Gram-Negative	• Non-Motile • Coccobacillus bacterium • Without spores	• Plague • Bubonic Plague • Pneumonic Plague	• Fever, chills, head and body aches, weakness, vomiting and nausea.

("Table") ("What Are the Five Pathogens?") (Ryan et al.)

(*Diseases and Conditions - Mayo Clinic*)

Works Cited

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