

the difference between bacteria, viruses, fungi and parasites essay sample

[Science](#), [Genetics](#)



The difference between bacteria, viruses, fungi and parasites are: Bacteria are single celled organisms that can rapidly multiple themselves every 10 minutes up to 10 times each bacterial cell, but they do not live or reproduce in a human cell. When threatened they will make a copy of their DNA to enable them to come back to life in the right conditions. They are able to survive in most extreme living conditions including with and without oxygen, there are various types of bacteria such as Cocci/Coccus (a round bacteria called staphylococcus aureus, found on the skin, in the nose or mouth, cannot be treated by antibiotics), bacilli/bacillus (a rod shaped bacteria called E coli usually spread by touch or badly prepared/ raw foods, can be treated with antibiotics), and (a spiral shaped called spirochaetes, treponema pallidum which causes syphilis, can be treated with antibiotics if caught early but not always effective). Bacteria need food, warmth, moisture and time.

The body has its own bacteria which help build immune systems this demonstrates we need these good bacteria to live and it can be made into vaccinations which will better able the body to fight the virus off if it were to return. Viruses are microorganisms that are non living organisms that can be found everywhere in the air and on inanimate objects, the viruses are not harmful until they gain access to a living cell, evolving them into genetic parasites they need to do this in order to live and breed. A fungus is a living organism that lives on things such as dead skin and vegetables. Fungus can be used to make medicine like penicillin which fights bacteria. But fungi can also cause fungal infections.

Parasites are living microorganisms that live and breed in living cells tacking over excising cells and fighting good bacteria, antibiotics cannot kill the parasites (viruses) but good bacteria in the body can kill the parasite (virus) helping the body to create antibodies Common illnesses and infections caused by Bacteria, Viruses, Fungi and Parasites. Infections and illnesses are caused by Bacteria such as Clostridium Difficile (HCAs), Methicillin Resistant Staphylococcus Aureus (MRSA), and Streptococcus Pneumonia. Infections and illnesses are caused by Viruses such as the Common Cold, Viral Pneumonia, Mumps, Rubella, Gastroenteritis, Viral Meningitis, Chicken Pox, Measles, Influenza, Hepatitis (A)(B)(C)(D)(E), HIV and AIDS. Infections and illnesses are caused by Fungi, such as Ringworm, Thrush, Athletes Foot, and Candida Albians. Infections and illnesses are caused by Parasites such as Protozoa (Malaria, Amoebic dysentery), Rickettsia (Typhus, Lymes disease), Prions (BSE, CJD), and Scabies.

What is meant by infection and colonisation?

Infection is when is when Bacteria, Viruses, Fungi and Parasites enter the body through broken skin or breathing, eating and touching. Infection may develop in one place (localized) or travel in the blood stream (systemic). Although it is commonly caused by viruses or parasites. Infection is when nourishment is being drained for another organism that isn't its own causing people to get ill and not functioning to their full potential. Colonisation is where Bacteria is living on the skin but not causing infection due to being immune but this can also mean that you are a carrier and could spread the Bacteria to someone who is more susceptible.

What is meant by systemic infection and localised infection? Systemic infection is when the infection is spread around the body via the bloodstream this could cause you to have a fever, shaking chills, overall weakness and joint aches/pain Localized infection is when one area is targeted this could cause skin that is hotter than usual, pain, pus-like discharge, redness and swelling. Poor practice that could lead to the spread of infection?

There are many ways poor practice could lead to infection such as poor hygiene (not washing your hands or inadequate hand washing , wearing dirty clothes , not washing properly, greasy hair , not wearing protective clothing , PPE), not preparing food appropriately (cross contamination)or checking temperature of food, not following correct procedures in regards of high risk and infectious individuals, environmental hygiene (not changing sheets, washing floors and suffice etc), using equipment that has not been sterilised properly, risk assessment not being carried out , failing to follow organisational protocol. Conditions needed for growth of microorganisms

Microorganisms need food (Nourishment, oxygen), warmth, moisture, lack of nourishment stunts the bacterial growth in which it needs to survive, moisture is what carries the food in and out of the cell maintaining a food cycle, the temperature have a huge impact on the growth, it ranges between 5°C and 63°C but the ideal temperature is 37°C to grow and reproduce, bacteria can breed in 10minutes up to 10 times each. There are different types of bacteria and depending on weather they are aerobes which need oxygen to survive, anaerobes who cannot survive in oxygen and facultative anaerobes which can survive in either condition.

Ways an infective agent might enter the body

Ways of an infective agent may enter the body is through broken skin, bloodstream from either badly cleansed utensils or insects and animals, bad hygiene, inhaling or consumption, through medical devices such as iv's, peg's, and catheters, though exchange of bodily fluids, mucous from eyes mouth and nose. Common source of infection?

The common source of infection are coughing and sneezing letting the bacteria spread rather than catching it with a fresh tissue and throwing it away straight away, in the air and dust of every environment, water, food, and by creatures and animals. How infective agents can be transmitted to a person?

Infective agents can be transmitted to a person by contact rout; (direct-contact transmission) touch on hands and skin contact cross contamination, all bodily fluids, , (indirect contract transmission) consumed food and drink which are contaminated, soiled materials, anything that you can physically touch,(droplet transmission) not covering you mouth covering your nose or mouth when cough or sneezing, not limiting body contact,(vehicle rout)food, water, drugs, blood, (airborne route) inhale the air and dust (vector-borne route) flea tick lice mosquito. Key factors that will make it more likely that infection will occur Due to the fact that in a care setting there is various vulnerable people such as the elderly with weak immune systems, people with broken skin like bed sores, devices like IVs, every operation has its risk, chemotherapy lowering their immune systems, bronchitis, asthmatics, lung

disease, eczema, young children, infants and babies and young people born with HIV all of which are vulnerable and more susceptible to infection.