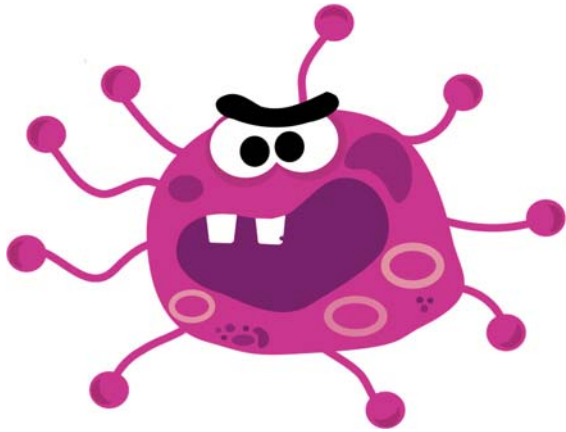


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## Bacterial Bad Guys: Exploring Examples of Pathogenic Bacteria

Bacteria are microscopic organisms that can be found almost everywhere, from soil and water to the human body. While many bacteria are harmless or even beneficial, some can cause illness when they enter the body and multiply. Let's take a closer look at some examples of bacterial pathogens and the diseases they cause:

- **Escherichia coli (E. coli):** E. coli is a type of bacteria commonly found in the intestines of humans and animals. While most strains of E. coli are harmless, some can cause foodborne illness. Symptoms of E. coli infection may include stomach cramps, diarrhea (often bloody), and vomiting. In severe cases, E. coli infection can lead to kidney failure.
- **Streptococcus pyogenes (Group A Streptococcus):** Streptococcus pyogenes is a bacterium responsible for a range of infections, from strep throat to more serious conditions like scarlet fever, rheumatic fever, and invasive group A streptococcal disease. Symptoms of streptococcal infections may include sore throat, fever, swollen lymph nodes, and a red rash.
- **Salmonella:** Salmonella bacteria are a common cause of foodborne illness, typically transmitted through contaminated food or water. Symptoms of Salmonella infection may include diarrhea, fever, abdominal cramps, nausea, and vomiting. Most people recover from Salmonella infection without treatment, but severe cases may require medical attention.
- **Clostridium difficile (C. difficile):** C. difficile is a bacterium that can cause colitis, an inflammation of the colon, leading to symptoms like diarrhea, abdominal pain, and fever. C. difficile infection often occurs after the use of antibiotics, which can disrupt the normal balance of bacteria in the gut and allow C. difficile to multiply unchecked.
- **Mycobacterium tuberculosis (TB):** Mycobacterium tuberculosis is the bacterium responsible for tuberculosis (TB), a contagious bacterial infection that primarily affects the lungs but can spread to other parts of the body. Symptoms of TB may include coughing, chest pain, weight loss, fatigue, fever, and night sweats.

These are just a few examples of bacterial pathogens and the diseases they cause. While antibiotics are often used to treat bacterial infections, the rise of antibiotic resistance has become a growing concern. Preventing the spread of bacterial infections through good hygiene, vaccination, and proper food handling practices is essential in combating antibiotic resistance and protecting public health.