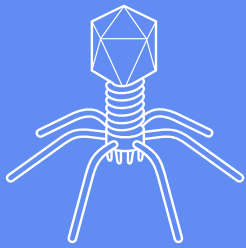


WHAT MUST BE DONE TO COMBAT ANTIBIOTIC RESISTANCE?

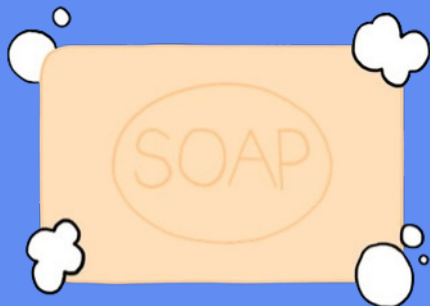
Seek new treatments

It is important that new antibiotic treatments and alternative therapies are researched and developed so that we have other methods to treat bacterial infections. Phage therapy is one such therapy which could help combat antibiotic resistance. Phages are viruses which only infect and kill bacteria. They could be given to patients to help kill bacteria responsible for causing their infection.



Stop the spread of disease

We must follow strict hygiene practices and ensure sanitation facilities are of high quality to help prevent the transmission of bacteria and antibiotic-resistant bacteria between people.



Improve our antibiotic use

As individuals we must make sure to access antibiotics safely through a healthcare professional and follow the instructions and guidance provided on the prescription. We must also ensure that we prescribe and consume antibiotics to treat bacterial infections, not fungal, parasitic or viral illnesses.



Raise awareness about antibiotic resistance

It is key that everyone is aware about antibiotic resistance and the measures they can take to help combat the antibiotic resistance crisis. This can be done through citizen science initiatives, education in schools and workplaces and public communication strategies such as television advertisements.

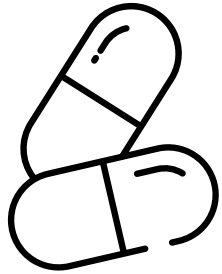


ALL YOU NEED TO KNOW ABOUT ANTIBIOTIC RESISTANCE



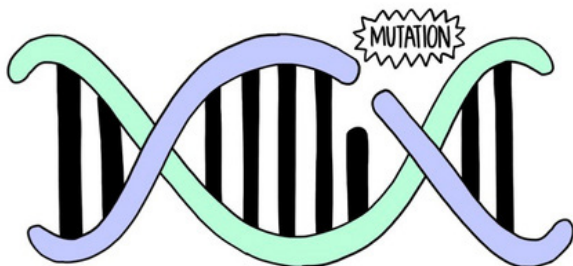
WHAT IS ANTIBIOTIC RESISTANCE?

Antibiotic resistance is when bacteria can survive antibiotic treatment. Antibiotic resistance makes bacterial infections much harder to treat, putting the lives of people around the world at risk.



HOW DO BACTERIA DEVELOP RESISTANCE TOWARDS ANTIBIOTICS?

There are multiple mechanisms which bacteria can use to acquire resistance towards antibiotics. Bacteria's genetic material can mutate and facilitate antibiotic resistance. Bacterial cells can decrease the permeability of their cell membrane to prevent the antibiotic entering and killing the cell. They can also produce small proteins known as enzymes which can modify the antibiotic and render it useless.



WHAT FACTORS ARE RESPONSIBLE FOR DRIVING ANTIBIOTIC RESISTANCE?

Whilst it is a natural process, multiple human actions are responsible for accelerating the rate of antibiotic resistance.

Antibiotic overuse and misuse

Since their discovery in the late 1920s antibiotics have been overused in society. Such overuse has increased the rate at which bacteria have developed resistance towards antibiotics. Antibiotics can also be prescribed inappropriately to patients to treat the wrong types of illnesses, such as viral and fungal infections. This misuse can promote bacteria to gain resistance.

Poor hygiene and sanitation

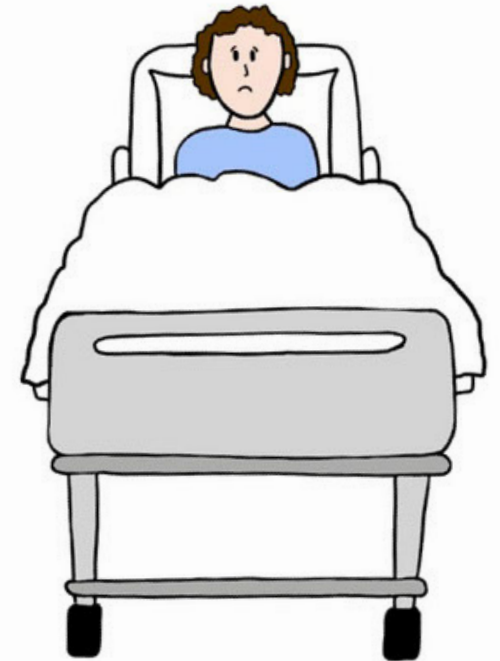
Poor hygiene practices and sanitation facilities can promote the spread of bacterial infections amongst people, which causes an increase in antibiotic consumption. Additionally, poor hygiene and sanitation can increase the transmission of antibiotic-resistant bacteria throughout the population, which makes patients' infections much harder to treat.

Antibiotic use in agriculture

Antibiotics are not only used to treat bacterial infections in humans but are also given to cattle to prevent disease and promote growth. Such antibiotic use in agriculture can promote antibiotic-resistant bacteria to evolve. The antibiotic-resistant bacteria can then be passed to humans via the food chain or through contact with animal waste.

HOW DOES ANTIBIOTIC RESISTANCE POSE A THREAT TO PUBLIC HEALTH?

Now that antibiotics are becoming less effective at killing bacteria, infections are becoming much harder to treat. This can cause patients to experience prolonged illness, or in extreme cases death.



Frequent surgical procedures such as caesarean sections and hip replacements will be much more dangerous to complete, because we will not possess antibiotics that can treat bacterial infections which may arise from such medical procedures. Additionally, antibiotic resistance will place even greater pressure on healthcare systems. It will cause patients to have longer hospital stays, increase the demand for doctors' appointments and cause a rise in medical costs.