

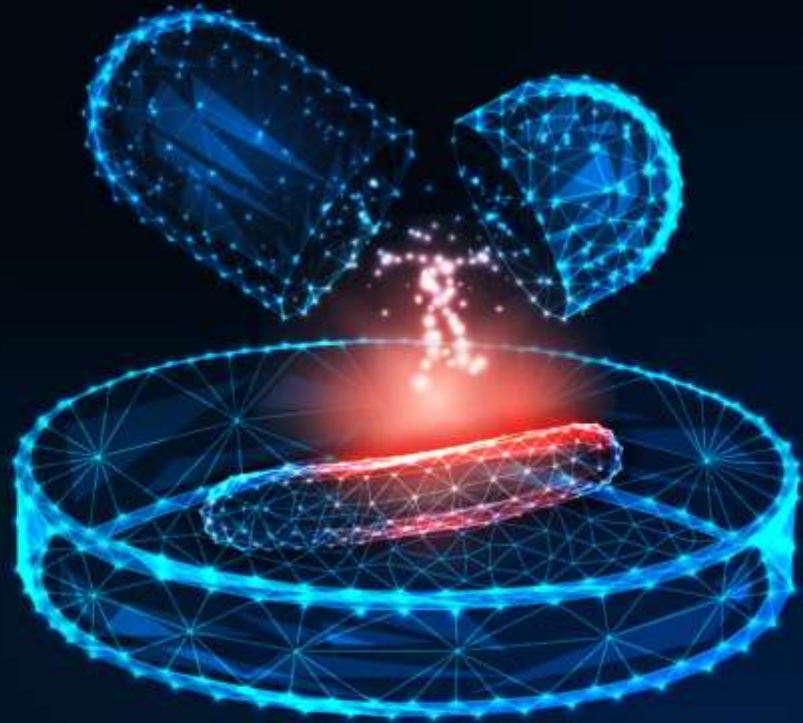


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ANTIBIOTIC RESISTANCE IN BACTERIA

Contents:

- What is antibiotic resistance?
- How does antibiotic resistance form?
- What causes antibiotic resistance?
- How can we prevent resistance?
- Examples of resistance in antibiotics.

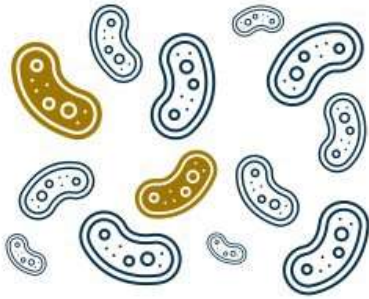




WHAT IS IT?

Antibiotic resistance is when mutated germs like bacteria and fungi develop the ability to defeat the drugs designed to kill them. That means the germs aren't killed and continue to grow. Infections caused by antibiotic-resistant germs are difficult, and sometimes impossible, to treat.

HOW ANTIBIOTIC RESISTANCE HAPPENS



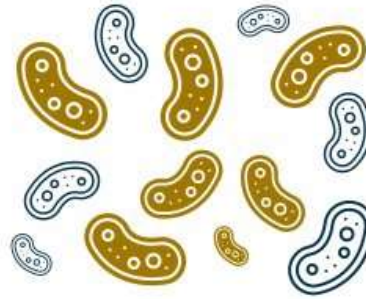
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- **Lots of germs.** A few are drug resistant.



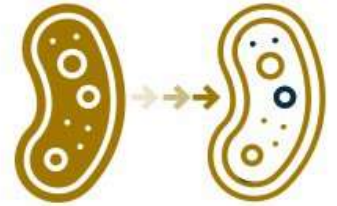
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- **Antibiotics kill bacteria causing the illness,** as well as good bacteria protecting the body from infection.



3

- The drug-resistant bacteria are now allowed to **grow and take over.**



4

- **Some bacteria give their drug-resistance to other bacteria,** causing more problems.



Causes of antibiotic resistance

The main causes of antibiotic resistance have been linked to:

- Over-prescription of antibiotics.
- Patients not finishing the entire antibiotic course.
- Overuse of antibiotics in livestock and fish farming.
- Poor infection control in health care settings.
- Poor hygiene and sanitation.



Antibiotics used on humans



Antibiotics used on companion animals and livestock



Travel



Import of livestock and food



Antibiotics pollute the environment

HOW DOES RESISTANCE SPREAD?



Health system performance



Clean food and water



Hand and kitchen hygiene



Communication on health issues



Vaccination



Responsible use of antibiotics

HOW CAN RESISTANCE BE PREVENTED?

10 MOST DANGEROUS ANTIBIOTIC-RESISTANT BACTERIA



**NEISSERIA
GONORRHOEAE**



**ACINETOBACTER
BAUMANNII**



**STAPHYLOCOCCUS
AUREUS (MRSA)**



**BURKHOLDERIA
CEPACIA**



**PSEUDOMONAS
AERUGINOSA**



**CLOSTRIDIUM
DIFFICILE**



**ESCHERICHIA
COLI (E.COLI)**



**MYCOBACTERIUM
TUBERCULOSIS**



**KLEBSIELLA
PNEUMONIAE**



**STREPTOCOCCUS
PYOGENES**



Example:

An example of antibiotic resistance is MRSA-
Methicillin-resistant *Staphylococcus aureus*.

It was first discovered in 1961. And is tougher to treat than other bacterias of the kind because it's not affected by penicillin related antibiotics.

THANK YOU

