Why Bacteria Are Fighting Back Against Antibiotics

KS4 BIOLOGY Ages 11-15 ⏰ 3 min read

What Are Antibiotics?

Antibiotics are medicines that kill **bacteria** — tiny living things that can make us ill. When you get a bacterial infection like strep throat, doctors give you antibiotics to destroy the bacteria and help you feel better. For decades, antibiotics were like a superpower against disease.

How Do Bacteria Become Resistant?

Here's the tricky part: bacteria are incredibly good at surviving. When antibiotics kill most of the bacteria in your body, a few might survive because they have tiny differences in their genes that help them resist the medicine. These survivors then reproduce and create new bacteria that are also resistant.

Think of it like a video game where enemies keep adapting to your weapons. Each time you defeat most of them, the ones that escape are tougher. Their children are born tough too, and your old weapon stops working.

Why Is Overuse Making It Worse?

The biggest problem is that we use antibiotics too much. People take them for viral infections (like colds) when they don't work at all. Farmers also give antibiotics to healthy animals to make them grow faster. Every time antibiotics are used, we're giving bacteria more chances to develop resistance.

When resistant bacteria spread from person to person, we end up with infections that our medicines can't fight. **Methicillin-resistant Staphylococcus aureus** (**MRSA**) is a famous example — a bacterium that survives antibiotics that normally work well.

What Can We Do?

Doctors now try to use antibiotics only when truly needed. Scientists are also researching new medicines and different ways to fight bacteria. Taking antibiotics

exactly as prescribed — and finishing the whole course even if you feel better — helps prevent resistance from developing.

This is a race between human medicine and bacteria evolution. If we're smart about how we use antibiotics, we can keep them working for future generations.