**How Antibiotic Resistance Arises – Descriptive Transcript**

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| **Time** | **Audio** | **Visual** |
| **0:00-0:03** | What is antibiotic resistance? | Bacteria move through the body |
| **0:04-0:15** | Bacteria naturally evolved to develop ways of not being killed by antibiotics. When this happens, these bacteria are known as antibiotic-resistance bacteria | Arrows point to each individual bacterium |
| **0:17-0:28** | Antibiotic resistance can be caused by genetic mutations in the bacterial DNA that lead to a change in the cell wall structure, metabolism, DNA replication, or protein production | One bacterium is zoomed into to show a strand of DNA, an arrow points to an AT pair being replaced by a GC pair within the strand |
| **0:28-0:33** | The antibiotic can then no longer affect its target structure or process | Zooms back out to show the whole bacterium |
| **0:45-0:51** | When bacteria are exposed to antibiotics, the resistant strains have a selective advantage | Bacteria have blue spots surrounding them to represent antibiotics. The antibiotics target some of the bacteria and remove them |
| **0:51-0:55** | And they survive and multiply, mainly in the gut | The remaining bacteria each duplicate to double the amount in the body |
| **0:55-1:04** | The overuse and misuse of antibiotics speeds up this process and contributes to the high level of antibiotic resistance seen today |