

G. Griffith  
Prof. Matyakubova  
Writing for the Sciences  
06 March 2023

**1. Define "antibiotics" by listing all major definitions highlighted by the scientists in the documentary.**

- staple of modern medicine
- fight bacterial infections
- not a good thing to run off a pure capitalistic market
- the only class of drugs that the more you use, the more rapidly you lose

**2. What are some of the antibiotic-resistant bugs and bacteria?**

Some of the antibiotic-resistant bugs and bacteria include MRSA (a staph bacteria), Stenotrophomonas, and Gram-negatives.

**3. What "superbugs" did Addie Rerecich fight against once admitted in the ICU?**

Addie fought Stenotrophomonas and Gram-negatives in the ICU.

**4. Briefly summarize the struggles of a nineteen-year-old American David Ricci.**

David Ricci traveled to India with a mission group to work in orphanages, and when he was taking a shortcut through a train station, the speed of the train hooked his sleeve and dragged him under the train. He was then taken to a local hospital, where a doctor took a huge saw-knife and cut his leg off. Ricci then contracted NDM-1, a resistance gene that can turn bacteria into superbugs. Ricci then brought this gene from his infection to the United States.

**5. What are the consequences of overusing antibiotics? What happens to a bacteria when it is "more exposed to an antibiotic"?**

The more you expose a bacteria to an antibiotic, the greater the likelihood that resistance to that antibiotic is going to develop. The more antibiotics you put into people or the environment, the more opportunities you create for these bacteria to become resistant.

**6. Who was Alexander Fleming and what was his warning?**

Alexander Fleming was the man who discovered penicillin. In 1945, he warned that resistance was already being seen, and the more we wasted penicillin, the more people were going to die of penicillin-resistant infections.

**7. What percentage of the antibiotic use in the U.S. is not necessary?**

Public health officials estimate that one-third of all antibiotics used in the U.S. are either unnecessary or inappropriate.