Antibiotics are not always necessary...

Antibiotics save lives.

To help stop resistant bacteria from developing and spreading, it is important to use them carefully and only when needed.

There are diagnostic tests that can help doctors decide whether an antibiotic will cure your infection and which one will work best.

By taking antibiotics responsibly, we can all help to keep antibiotics working for tomorrow, and for future generations.

- Only take antibiotics when prescribed by your doctor
- Respect the prescribed dosage, frequency and duration of treatment
- Do not change or substitute the prescribed antibiotic
- Dispose of any leftover antibiotics appropriately

KEEP ANTIBIOTICS WORKING FOR THE FUTURE
Talk to your doctor to find out more

Sources:
Klevens RM. JAMA 2007;298:1763-1771
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Now try the Antibiotic Quiz

1. Who discovered the first antibiotic in 1928?
   - Alexander Fleming / Louis Pasteur / Albert Einstein
   - Alexander Fleming

2. What was the first antibiotic called?
   - Methicillin / Penicillin / Amoxicillin
   - Penicillin

3. Antibiotics fight infections caused by:
   - Viruses / Bacteria / Both
   - Bacteria

4. Can antibiotics be used to cure:
   - a) a cold? b) the flu?
   - Yes / No

5. Can bacteria become resistant to antibiotics?
   - Yes / No
   - Yes

6. How can I help prevent the spread of resistant bacteria?
   - Don't take antibiotics for viral infections
   - Only take antibiotics when prescribed by a doctor
   - Follow the prescription (dose, frequency, duration)
   - Dispose of any leftover antibiotics appropriately
   - All 4 answers are correct
What is antibiotic resistance?

Antibiotic resistance means that an antibiotic is no longer effective against the bacteria it is intended to treat. The infection is not cured and may be fatal if no other antibiotic can be used.

In fact, each time you take an antibiotic, the bacteria try to "resist" - adapting their behavior and developing "resistance genes" to protect themselves from being killed by the antibiotic.

So if you take antibiotics when you don’t need them, you could be helping to make bacteria more resistant.

Eventually, commonly used antibiotics may no longer be effective against these resistant bacteria.

We are all familiar with antibiotics.

These life-saving drugs help us to recover from infections caused by bacteria.

But ever since Alexander Fleming discovered the first antibiotic (penicillin) in 1928, bacteria have been fighting back, trying to make antibiotics ineffective.

In recent years, the development and spread of bacterial resistance to antibiotics has also been largely driven by inappropriate use of antibiotics.

Today, antibiotic resistance has reached alarming levels, and has become a major threat to healthcare worldwide.

What causes resistance to antibiotics?

The most important cause of antibiotic resistance is the repeated and inappropriate use of antibiotics.

Inappropriate use means you are not taking the antibiotics correctly or for the right reasons.

For example:

- If you take the treatment at a lower dose or for a shorter period of time than prescribed, the antibiotic will not be able to fight the bacteria correctly. This means the bacteria will survive and may become resistant.
- Taking antibiotics for a cold, most sore throats or the flu will have no effect, because these illnesses are caused by viruses, not bacteria.

Fact: Antibiotics only cure bacterial infections
Antibiotics don’t work on viral infections, like a cold, most sore throats or the flu.

Did you know …
there are 10 times more bacterial cells in your body than human cells?

Did you know …
only 10% of bacteria are "bad" or "pathogenic" (disease-causing)?

The other 90% are "good" bacteria and are necessary for human life. They help our body function (e.g. facilitate digestion) and protect us against the "bad" bacteria.

How serious is the problem?

Antibiotic resistance is now causing great concern worldwide.

New bacterial strains are emerging that are resistant to several antibiotics (multi-drug resistant bacteria or "superbugs"). Eventually, these bacteria may be able to overcome almost any antibiotic available.

"Superbug"
A strain of bacteria that has become resistant to several antibiotics that would normally treat the bacteria.

Methicillin-resistant Staphylococcus aureus (MRSA) is one common superbug you may have heard about. Some MRSA are now resistant to all but one or two antibiotics.

In the USA, MRSA kills up to 19,000 people every year. And in Europe, at least 25,000 people die each year from an antibiotic-resistant bacterial infection.

The situation is serious, because few new antibiotics are being developed that can treat infections caused by these multi-drug resistant bacteria.