



# Does Stopping Antibiotics Early Cause Bacterial Resistance?

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# Using Antibiotics Drives Bacterial Resistance



## How Antibiotic Resistance Happens

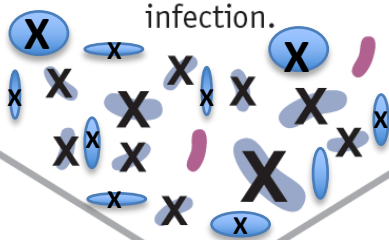
1.

Lots of germs.  
A few are drug resistant.



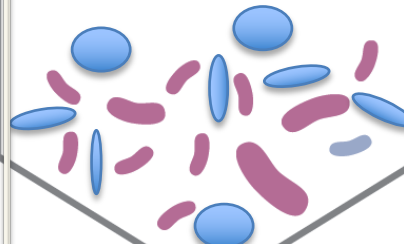
2.

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



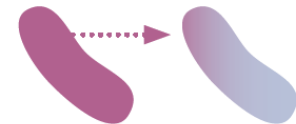
3.

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

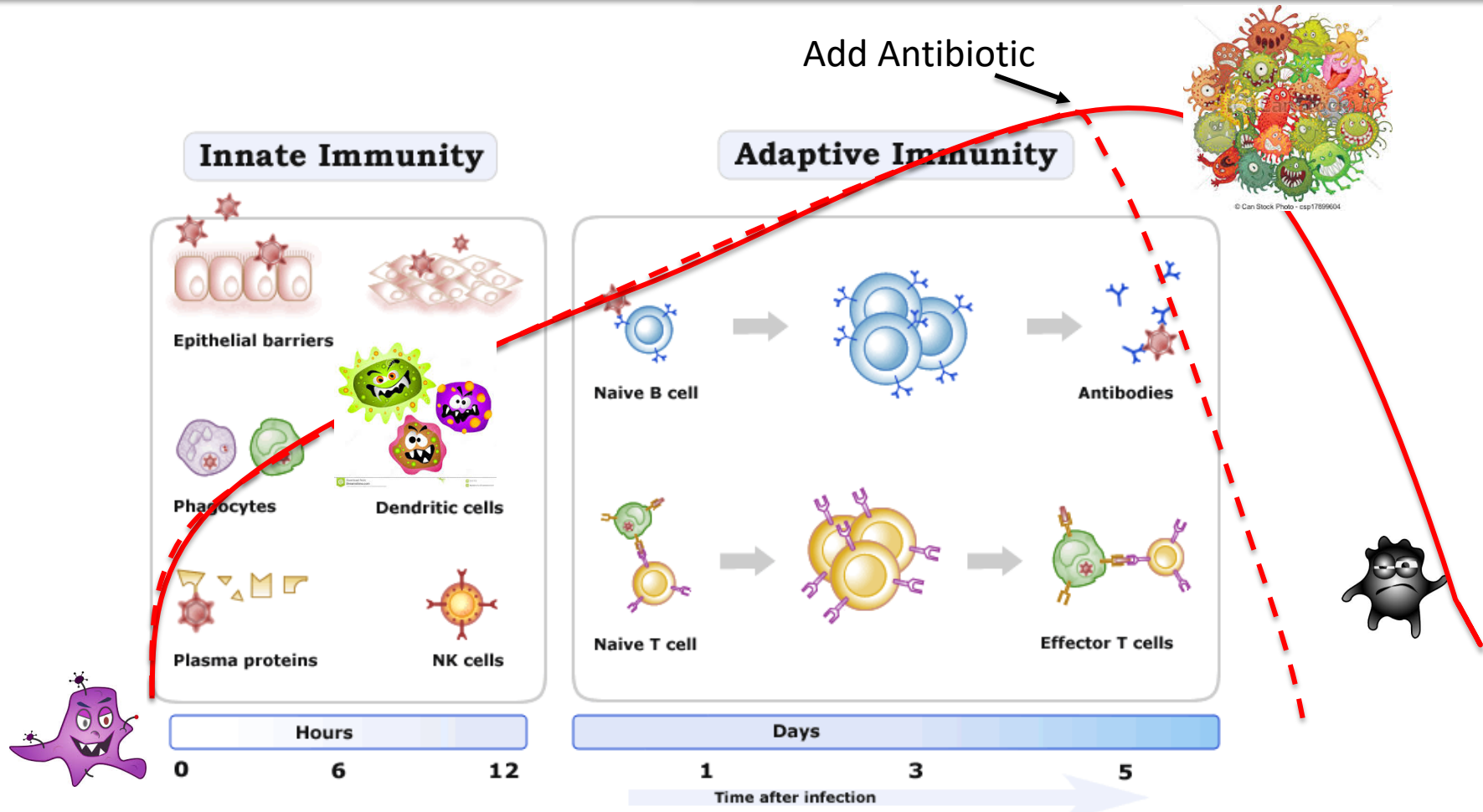


4.

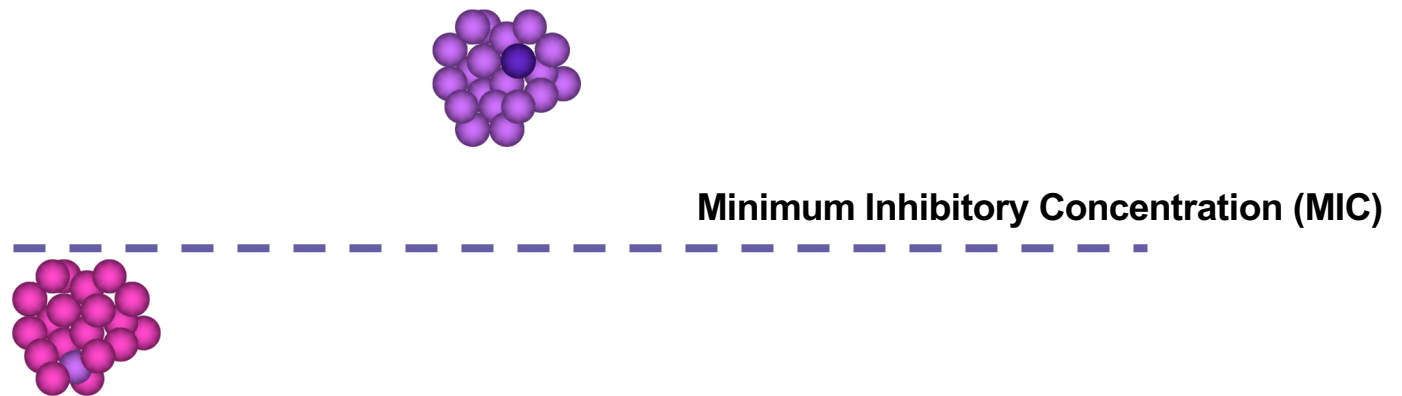
Some bacteria give  
their drug-resistance to  
other bacteria, causing  
more problems.



# Fighting Bacterial Infection

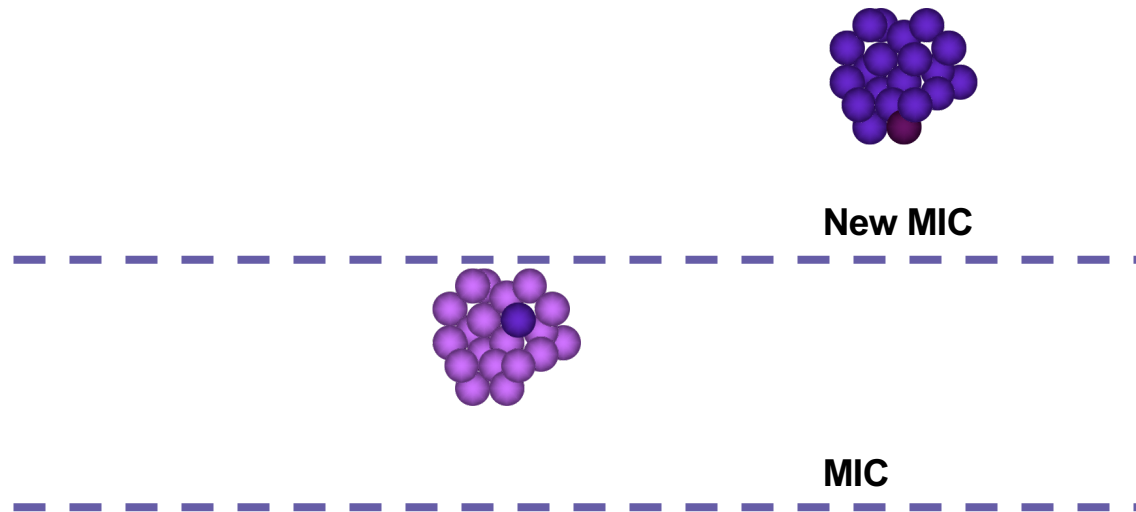


# Development of antibiotic resistance



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# Development of antibiotic resistance



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# Other Factors to Consider for Antibiotic Resistance

## Infection

- Site
- Source control
- The higher the burden of infection/infectious organisms, the greater the risk of resistance

## Host

- Medical History
- Concomitant immunosuppression
- Age
- Current state



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# Does stopping antibiotics early lead to antibiotic resistance?

*There has been a lot of research... to determine the shortest possible length of course.... **New research shows shorter courses have the same effect as longer courses on cure and symptoms.***

This supports your MD's argument (in **2015**)

*If you stop treatment early, there is a risk the antibiotics won't have killed all the bacteria that made you sick and that it will mutate and become resistant. This will not happen to everyone – the problem is that we don't know who can safely stop treatment early.*

<http://www.who.int/features/qa/stopping-antibiotic-treatment/en/>

[Updated 2015]

# Does stopping a course of antibiotics early lead to antibiotic resistance?

Online Q&A  
July 2017

## Q: Does stopping a course of antibiotics early lead to antibiotic resistance?

A: There has been a lot of research into how long antibiotic courses should be, to determine the shortest possible length of course needed to completely kill all bacteria.

If you are being treated for an infection, the kind of antibiotics your doctor prescribes and the length of the course should be based on the best evidence.

Feeling better, or an improvement in symptoms, does not always mean that the infection has completely gone. Your doctor has had years of training and has access to the latest evidence – so always follow their advice.

Evidence is emerging that shorter courses of antibiotics may be just as effective as longer courses for some infections. Shorter treatments make more sense – they are more likely to be completed properly, have fewer side effects and also likely to be cheaper. They also reduce the exposure of bacteria to antibiotics, thereby reducing the speed by which the pathogen develops resistance.

WHO publishes guidelines about treatments for different infections and recommends treatment durations and doses of antibiotics based on the best clinical evidence for each case. We continuously review the latest research so that we can provide updated recommendations to health professionals.

This supports  
your argument  
(2017 update)