

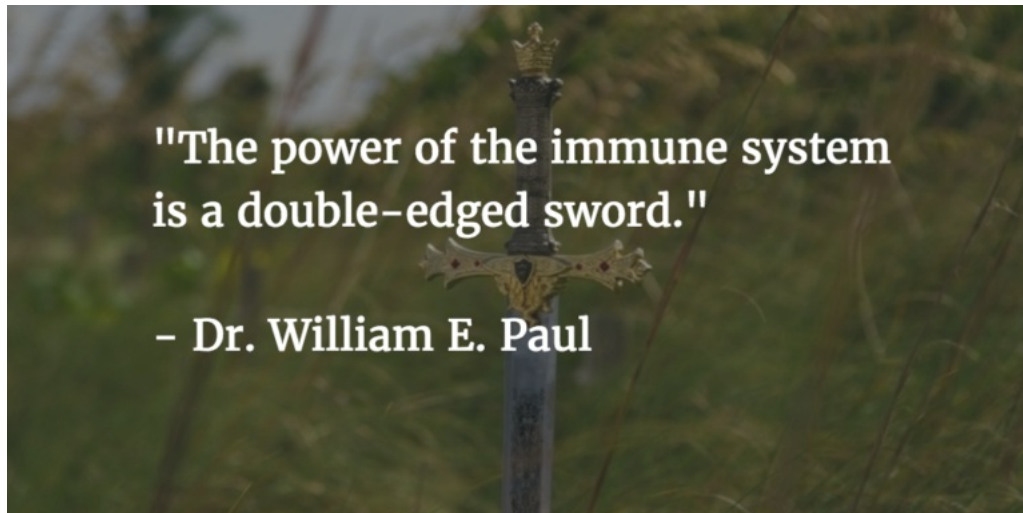
Immunity Summary

 fourminutebooks.com/immunity-summary

1-Sentence-Summary: *Immunity is an introductory guide to how your immune system works, why it's a double-edged sword, and which laws govern its existence.*

Read in: 4 minutes

Favorite quote from the author:



After my own immune system broke down a month ago, I thought it's more than appropriate to learn more about it.

Released in October 2015, this book is brand new and also its author's legacy. Dr. William E. Paul died days before, aged 79, from leukemia. Much of his life was spent researching HIV and how it turns our own immune systems against us.

He draws lessons from historic events, such as the elimination of smallpox, and introduces you to the three immune responses, as well as the three universal laws governing your immune system.

Seeing a silver lining on the horizon, Paul also explains how our immune system can potentially prevent and fight off cancer. If you don't really know what your immune system actually does, here are 3 good lessons to take away from *Immunity*:

1. Your immune system is a weapon – and it can be turned against you.
2. Your body is capable of three different immune responses.
3. There's a chance that your immune system can even fight off cancer.

Did you get your flu shot already? If not, here goes!

Lesson 1: Your immune system is a weapon that can work for and against you.

Smallpox killed hundreds of millions of people over several thousand years. In the 18th century, it was discovered that milkmaids, who often acquired cowpox, a less dangerous variant of the disease, tended to be immune to smallpox later on. Since the two diseases were closely related, it was hypothesized that being exposed to cowpox could help build immunity and protect people from smallpox.

That's how the concept of vaccination was born. What happens **when you get vaccinated is that you're simply being injected with a small dose of the virus** (or a related one), thus triggering an immune response, getting your body to produce cells killing the virus.

Your immune system is smart. It remembers. So the next time you're exposed to the same virus, it'll be fought off instantly. That's the power of your immune system, and thanks to boosting it with vaccines, smallpox is a thing of the past – it's one of two infectious diseases that's been eradicated, worldwide.

However, a malfunctioning immune system can turn against you, causing so-called autoimmune diseases, where your body fights against itself. Some of these are life-threatening, since they cause the body to destroy some of the most crucial cells, such as diabetes type 1, lupus or multiple sclerosis.

Lesson 2: Your body exhibits three different immune responses.

But how does your body react when a few pathogens – cells that cause diseases – sneak in?

There are three potential responses, and they depend on the stage and severity of the illness.

First, your body has **physical barriers** to keep out pathogens, such as a slimy layer of mucus on your airways, which catch them before they're swallowed and destroyed by your stomach acid (or blown out with a good sneeze).

Second, there's your **innate immunity**, which also catches pathogens early on, usually a few hours after they enter the body. In this case some cells of your body detect the intruders, call immune system cells to help, and fight them off.

Third, there's **adaptive immunity**, in which highly specialized cells are produced, specifically to deal with the pathogens of that particular disease (think SWAT team). The cool part of triggering this response is that a few of these cells stick around after the disease has been beaten, thus strengthening your immune system, and working like a vaccine.

Lesson 3: There's a chance that your immune system might even be able to fight off cancer.

Cancer is one of the worst diseases of modern times, and even though it has somewhat autoimmune effects, the immune system just might be able to fight it off!

Researchers found when looking at people before hepatitis-B vaccination, cancer was common and after it was standard practice, showed **an 80%+ reduction in liver cancer**. Why?

Cancer thrives in low levels of inflammation. So when you have a chronic disease or constant infections, for example due to hepatitis, that boosts the growth of cancer cells. Cancer loves inflammation so much that it even causes an immune system response on its own, by bringing its own pathogens, sort of waving a red flag at your body saying “Hey, come and get me”, so it can then grow in your body’s inflamed state.

However, this might also be cancer’s downfall. If you have a strong immune system, because you’re on top of your vaccines and have built the right antibodies throughout your life, **your virus fighting cells can even destroy cancer cells**.

Studies showed that when tumors were implanted in previously cancerous, but healed mice, their bodies now rejected and destroyed the cancer cells in 10 out of 12 cases.

Research like that brings new hope that we might one day see the eradication of cancer as well – just like with smallpox in 1980.

Immunity Review

Whoa. *Immunity* was a buttload of information to take in. Biology is definitely not my field of expertise, so I guess it’s easier for me to learn more here, but the blinks really knocked it out of the park this time.

I highly recommend you check them out, learn more about the three laws of your immune system and start to understand how this miraculous thing called your body works!

[Read full summary on Blinkist](#)

[Get the book on Amazon](#)

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What else can you learn from the blinks?

- What the three laws of your immune system are
- How the theory of clonal selection was developed and what role your lymphocytes play in it
- Why you’ll never think of the word “T-Rex” the same once you learn about autoimmune responses
- What dendritic cells do in their job as managers

- Why not every pathogen is created equal

Who would I recommend the Immunity summary to?

The 9 year old with a knack for biology, the 31 year old resident doctor, because hey, catching up on the basics can never hurt, and anyone who's fought off an infectious disease more than once or has a family member who's fought cancer.