Hey, hey, hey. It’s your girl Angela again! My friend Adam was just texting me. We were talkin’ about that West Nile Virus that was going around a while back. Remember how all those mosquitoes were doin’ their thing and some were spreading the virus around? Well, Adam was asking me how the body keeps from dying every time a germ gets in. I told him it’s because the body can do a really important function called defense from illness and infection. Y’all wanna talk about it? Sweet.

It’s all about defense. We’ve known, since, like, 7th grade that our bodies have different body systems that do specific jobs. But it’s easy to forget that they all interact and work together to keep the body healthy and in balance. So let’s talk about some human body systems that defend us from illness and infection.

To me, the number 1 system for fighting disease is the immune system. There’s also a system call the endocrine, and there’s also the integumentary system. Well the question is, “How do these guys work together to keep our bodies healthy?” I was telling Adam about the functions and jobs of these systems and the structures they’re made of. So how ‘bout we kick out a sweet flow chart?

Starting here in the middle, let’s start off with the immune system. Let’s talk about its function and structures. Its number one function is to respond to germs and injuries and to prevent infection. Here’s a picture of the immune system. Its structures are all those clusters around the blood vessels called lymph nodes. Right here. The lymph nodes make a filter - all the body’s white blood cells. Those are the protection cells of the body. Look at how many different types there are!

Let’s keep going with body system number two, over here at the endocrine system. The job of the endocrine system is make chemical messages called hormones. We know about that, right? Hormones are made in glands in one part of the body then go to their target cells in another part. So those are the structures: glands and the hormones they make. Here’s a picture of all the different glands. A famous example is an “adrenaline rush.” Adrenaline is the hormone made down there in the kidneys in the adrenal gland. Then, it goes to target cells all over the body: the heart, the lungs, the diaphragm, and the blood vessels. Every part of the body that feels that rush. Cool, right?
The last system Adam and I were talking about was the integumentary system. Hardly anyone’s heard of that one. So let’s talk about what it does and what it’s made of. The integumentary system is really just the skin and hair and connective tissue throughout your body. Those are the structures. The main job of our skin is like the barrier around our body. It’s the first line of defense. Imagine if you were just walking around with all your muscles and blood vessels and guts exposed! No bueno. But don’t forget; it helps us regulate our temperature and chemicals. The skin keeps our bodies in balance.

Let’s fill in all these on our flow chart.

So now how do these systems interact to defend us from injury or illness? Let’s talk about the first two. Remember, the endocrine system makes hormones. So there are these glands that make chemical messages to keep our immune systems and white blood cells up. That’s why if all stressed out, your body’s immune system is weaker, and you’re more likely to get sick. Also, think about this: the best way to fight infection is to never get injured in the first place. If a dog is running at you and is about to, I don’t know, chew up your feet, you better run! Or maybe just push your friend down. I’m just kidding. Don’t really do that; don’t push your friend down. Your endocrine will naturally pump out adrenaline; and just maybe you’ll make it into your house before that dog does!

But even if a germ does get into your body, remember you got all those white blood cells to recognize and kill the invaders. So I think of fighting off infection when I think of these two systems. The integumentary system also works with the immune system.

How do these guys work? First off, our skin is the first barrier of defense. And when that mosquito bites your skin or Adam’s skin, the immune system shoots over white blood cells to the area to prevent further harm. And as our skin keeps our bodies cool, our immune system stays healthy and ready to prevent disease.

I think these two systems are all about preventing infection. So I put prevention and fighting off infection, and what do I get? A healthy body! Check this out – three systems working together in a couple of different ways to make an important function happen in our body!

Okay, I’ll see you guys around. ‘Til next time, it’s Angela saying, “The best defense is a good offense.”