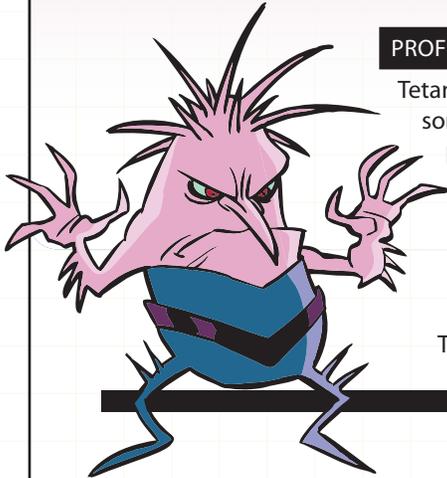


**CASE FILE:** The Spazzoids • **REAL NAME:** Tetanus • **KNOWN ALIASES:** Lockjaw, Clostridium Tetani (*the toxin that causes tetanus disease*); • **MICROBE TYPE:** Bacterium



#### PROFILE

Tetanus is a real lowlife, skulking around the dirtiest places, waiting for the chance to infect someone. It hangs out in places like dirt or soil, and in the bowels (intestines) of animals and people. But, it gets to start an infection only when it finds a break in someone's skin. Picture it. These bacteria are swarming in the dirt and all around on a rusty nail. A bare foot steps down. Ouch! And, with that, tetanus has found its way in. The days of lying in wait are over, and the days of actively infecting someone begin.

About 30 people get tetanus in the United States each year. We don't know how many assaults tetanus actually launches, because immunized people are protected against it. Tetanus kills about 1 to 2 in 10 people it infects.

#### POWERS AND ABILITIES

This infector is a heartless attacker and killer. It causes severe muscle spasms, starting around the neck, chest, and back. Doesn't sound too bad? These spasms can be so intense that they make it hard to breathe, and can even break bones! Tetanus can suffocate and kill. It also causes such intense stiffness that sometimes infected people cannot open their mouths.

#### PREFERRED METHOD OF ATTACK

Tetanus attacks through any break in the skin, like a cut, scrape, or burn. To tetanus, broken or raw skin looks like a huge door open wide.

Unlike many other infectors, tetanus does not have the ability to jump from one person to another. However, the disease can rear up whenever skin is broken—think about a dirty, open cut, or an animal bite, or even infection after surgery.

#### KNOWN WEAKNESSES

Our protector is a tetanus "toxoid." To make this hero, scientists take the substance that tetanus bacteria produce which makes people sick, called tetanus "toxin." This toxin goes by the name of Tetanospasmin (pronounced TET-no-SPAZ-min). They "inactivate" it with chemicals so it can't hurt anyone. This dead toxin is called a toxoid. The toxoid teaches your immune system how to

fight tetanus, but won't make you sick. The vaccine that protects us against tetanus is virtually 100% effective—as long as the vaccinated person has had the proper vaccine dosage within the past 10 years.

A common way for kids to get their earliest tetanus vaccine is in a triple-protector vaccine called "DTaP" because it protects against three diseases—diphtheria, tetanus, and pertussis (whooping cough).

If tetanus does infect someone, doctors help the immune system's battle with medicine to fight the toxin. They also clean the wound and use medicines to control the body's muscle spasms.

#### PREFERRED VICTIMS

In the United States, tetanus lies in wait, keeping an eye out for unvaccinated people or people whose vaccine protection has worn off with time.

#### PRECAUTIONS FOR THE PUBLIC

Get tetanus vaccine to teach your body to ward off this predator. Because the vaccine's protection doesn't last forever, be sure to get tetanus "booster" shots. Boosters are needed about every 10 years.

But, don't stop there. Be a clean freak. Clean all skin injuries completely with soapy water. Take extra special care cleaning cuts from anything that's been outside, such as dirty glass or rusty

metal. Keep skin injuries covered to heal. Even if a scrape or burn doesn't look dirty to you, remember that to tetanus it looks like a big door-way into your body.

#### AREA OF OPERATIONS

This evildoer lurks in its favorite filth worldwide.

#### CRIMINAL RECORD

Doctors started giving kids tetanus vaccines as a part of basic health care in the 1940s. Back then, tetanus successfully infected about 500 to 600 people every year in the United States. Even though tetanus still lies in wait in dirty places, its infecting career is somewhat less successful these days. Only about 30 people get infected in the United States each year now.

The toxoid in the tetanus vaccine that protects us had one of its biggest known successes against the enemy tetanus back in World War II. U.S. soldiers were at great risk of getting wounds that could not be cleaned well in battle conditions. But, their tetanus immunization protected them. Only 12 soldiers were infected—and, it turned out that half of them had actually not been vaccinated at all. Other country's soldiers who were not vaccinated were much more likely to get infected with tetanus.