Dear Alice,

If you step on a nail and have not had a tetanus shot in the last five years, how soon should a person be vaccinated? 24 hours? 48 hours?

Answer

Dear Reader,

Although rusty metal has become synonymous with tetanus, stepping on a nail is not necessarily enough to send you running (well, more likely hobbling) to your health care provider for a tetanus shot. While tetanus is a serious bacterial disease, there are many factors to consider and symptoms to look for when determining whether or not you need a vaccination. That being said, health professionals recommend that adults receive tetanus boosters at least every ten years, as preventing tetanus is much easier than curing it once you're infected. If you step on a nail and haven't had a tetanus booster in the last five years (or if you can't remember when your last booster was), limping over to your health care provider to get it checked out would be a great idea. Making it there within forty-eight hours will up your chances of a successful treatment if you do have an infection.

The rusty nail scenario isn't the only way this disease can be spread. Any deep puncture can become infected with tetanus, as can burns, torn flesh, animal bites and scratches, or other wounds contaminated with human and animal feces or saliva. The bacteria *Clostridium tetani* can be found almost everywhere in the natural environment ? spores lurk in soil, dust, and in animal intestines and feces. If this bacteria finds its way into the body through a puncture, a scratch, or any other kind of wound, the bacteria can produce a toxin that can spread systemically and interfere with the central nervous system, producing muscle stiffness, rigidity, or spasms.

If you suspect you have been exposed to tetanus, there are certain common symptoms you can watch for. The most frequent symptom is a stiff jaw, followed by a stiff neck, and then muscular stiffness and spasms throughout the body. Other symptoms include difficulty swallowing, restlessness and irritability, fever, headache, and sore throat. Symptoms can be localized, with muscle contractions in the part of the body where the infection began, or it can be generalized, affecting the whole body. Tetanus symptoms can appear anywhere from a few days to several weeks after tetanus bacteria enters the body.

Health care providers diagnose tetanus based on a physical exam, looking for tell-tale signs...
like muscle spasms, stiffness, and pain. Laboratory tests are generally inconclusive. If someone is suffering from tetanus, treatment can consist of medications like a tetanus antitoxin, which can neutralize any toxin that hasn't yet combined with nerve tissue, or antibiotics, used to fight tetanus bacteria in the body. Tetanus has a mortality rate of 25 percent in the United States and 50 percent worldwide. This is why prevention via vaccination is important? it's easy, relatively cheap, and close to 100 percent effective. Almost all cases of tetanus occur in people who've never been immunized or who haven't had a tetanus booster shot within the preceding ten years.

A tetanus vaccination causes the body to respond to an inactivated form of the tetanus toxin by developing antibodies. The vaccine is usually given to children as part of the diphtheria and tetanus (DTaP) shot. The DTaP vaccine consists of a series of five shots, typically given in the arm or thigh to children between two months and six years old. It is then recommended that adolescents get a booster shot between the ages of eleven and 18, and that adults receive a tetanus booster every ten years. It's especially important to make sure your booster is up to date when traveling internationally, as tetanus may be more common and less treatable overseas.

So, patient reader, if the wound is deep or your vaccination status is questionable, visit your health care provider. For smaller wounds and for those who are certain they have a current vaccination, it's probably safe to clean the wound, treat it with antibiotic ointment, keep it covered and clean, and be on the lookout for any symptoms that could point to signs of a tetanus infection. It's better to be safe than sorry, the saying goes, and in this case that means: stay current with your tetanus vaccine. You'll be more likely avoid an infection if you happen to skin your knee on a rusty subway grate and you'll avoid the mad dash to your health care provider's door.

Alice!
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