

# HEALTH IN THE GARDEN I: ROSEBITE

BY MARY MASTIN

As a resident surgeon at the University Of Colorado Medical Center in the 1970's, I contracted hepatitis B (an acute viral liver infection) as a result of blood exposure in the operating room. It was not from a scalpel or needle stick injury but oddly enough a quasi-horticultural cause. I had been making pinecone wreaths for Christmas presents in the era prior to the glue gun. Wiring the individual cones to the frame resulted in many small cuts and abrasions on my hands. These small clean breaks in the skin combined with microscopic holes in the surgical gloves proved to be a great recipe for infection. I made a full recovery. Fortunately, a vaccine for hepatitis B protects the current generation of surgeons from this virus.

I think of this episode in my life during the rose growing season. At pruning time, I get suited up in my armored uniform before attacking the bushes but as the summer progresses, I tend to suffer plenty of rose bites. I am a gardener who believes the sense of touch is just as important as sight and smell. I also sometimes wonder if my roses just want to jump out and bite me as I walk by because I planted them too close to their neighbor or they overheard me mentioning the dreaded shovel prune remark because of their marginal performance in the heat or their propensity to suffer from powdery mildew. So, just what are the risks of this rosarian's lifestyle? Generally safer than many other modern pastimes but there are a few infectious diseases that are occasionally seen from rose bites



Tetanus is an acute, often fatal disease caused by a poison produced by the bacteria, *Clostridium tetani*. It is characterized by generalized rigidity and convulsive spasms of skeletal muscles. The muscle stiffness usually starts in the jaw (lockjaw) and neck and then progresses to the rest of the body. The disease has been described in antiquity (5th century BC) but the cause was identified in the 1880's. This bacterium has a unique ability to form a spore for survival. The spore form is very resistant to heat, cold and the usual antiseptic chemicals. The spores are widely distributed in soil, in particular, manure treated soil.

The bacteria enter the body in the modern era thru minor wounds. The scenario in the gardener's infection can be quite subtle and innocent. After sustaining a few rose bites while cutting a bouquet for the dinner table, the diligent gardener notices just a few weeds to pull. Those prickles on the rose can act just as efficiently as a hypodermic needle delivering a few of those *Clostridium tetani* spores sitting on the gardener's skin from the weeding work directly into the body.

Tetanus is not contagious from person to person. It is the only vaccine-preventable disease that is infectious (caused by a microorganism) but not contagious.

In recent years, tetanus has been fatal in approximately 11% of reported cases. Cases most likely to be fatal are those occurring in patients who are greater than 60 years old. Those who survive can have persistent muscle spasms for months.

The good news is that an immunization against this disease has been available since 1924. In the US, tetanus toxoid was introduced into the routine childhood immunization in the late 1940's. At that time, there were 600 cases reported per year. In the reporting period 2000-2004, there was an average of 43 cases per year. Interestingly, world wide, there are greater than 240,000 cases per year mainly in newborns with umbilical cord infections in countries where vaccination is not common.

The most recent data released for infection in the United States show the cause to be related to garden or farming injuries characterized by punctures lacerations and abrasions in 30% of the cases. A few unusual causes reflect our recent cultural changes-self-performed body piercing and illicit drug use. Almost all reported cases of tetanus are in persons who has either never been vaccinated or who completed a primary series but have not had a booster in the preceding 10 years. It is a totally preventable disease.

My recommendations to avoid tetanus are really quite simple:

1. Every year when you clean and sharpen your secateurs in preparation for the major rose pruning, review your tetanus immunization. Routine boosters are recommended every 10 years. If you cannot determine when your last booster shot was, get one this spring. Most county health offices will administer this vaccine. There is some evidence that immunity in a small percentage of individuals mainly older and/or immunosuppressed individuals does not last for 10 years. Unfortunately, the cost for the test to determine your level of immunity is ten times the cost of the immunization. As I feel that I am in a high risk category (klutzy old rosarian with mean roses that bite frequently), I will get the shot every seven years.
2. Keep those rose bites clean. The simple measure of hand washing is quite effective in disease prevention in many arenas-hospitals, gardens, just about anywhere.
3. Wear your favorite protection for hands, body, and eyes.



*Remember: Life without thorns is life without roses.*



Further information is on the Center for Disease Control web site [www.cdc.gov](http://www.cdc.gov).

Mary Mastin is a retired general surgeon who came to Colorado in the early 1970s. She did her surgical residency at the University of Colorado Health Science Center in Denver- one of the first few women in the program. Mary practiced general surgery for 30 years in Grand Junction and Salt Lake City, and is now based in Grand Junction. She travels for a good part of the year, but returns home in the summer to grow roses in Grand Junction and to also to study the native Colorado flora. Mary is a consulting rosarian and member of the Denver Rose Society. Reprinted with permission, Mary Mastin 02/02/09.