Mark D. Dollard DPM
Loudoun Foot and Ankle Center
46440 Benedict Dr, Suite 111
Sterling VA 20164
(703) 444-9555

Ingrown Toenails

An ingrown toenail occurs when the sides or borders of any toenail, usually the big toe, curve into the flesh; when flesh is forced up around a nail; or a combination of both (Figure 4.1). This condition is usually accompanied by sharp pain. For some people the nail is bothered only in snug shoes or when knocked or stepped on; for others it is so painful they cannot let even bedsheets rest on the affected toes. If neglected, an ingrown toenail can cause the toe itself to become infected. Signs of infection generally include extreme pain and redness, and frequently pus is seen seeping out around the edge of the nail. If infection occurs, immediate professional attention is needed.

Figure 4.1 Ingrown toenail.

There are several causes of ingrown toenails, among them heredity, foot deformities, trauma, and types of shoes worn. Not only does heredity determine such things as eye color, but it also helps determine the kinds of foot problems persons develop. In the case of toes, some people are simply born with wide nails surrounded by excessive flesh. For such people, shoe wear is a real problem unless they have their wide nails permanently corrected. Foot deformities, such as bunions, can cause the big toe to rotate on its side; this pushes the toe tissue up around the nail, forcing the nail edge into the flesh.

A missed fly ball landing on a toenail, playing kick ball, a stubbed toe, and similar events all can cause trauma to a toenail. Weeks or months after all pain is forgotten from the incident, an ingrown nail may develop. This is due to the earlier trauma that deformed the nail and its matrix (the area beneath the skin behind the cuticle from which the nail grows).

The most easily remedied cause of ingrown toenails is the types of shoes worn. Wearing narrow shoes or shoes that are too small and compress the toe tissue and toenails can cause ingrown nails to develop. To see the amount of compression imposed on the toes, make a foot tracing while standing up. Then place your shoe over the tracing and graphically see how the toes' outline hangs over the edges of the shoe. This is especially evident with fashionable high heels and biking cleats, both traditionally narrow shoes.

When an ingrown nail is neglected and continually insulted by tight shoe wear, an infected toe may develop. The formation of the infection comes from continual pressure of the nail border on the surrounding tissue. This pressure causes a decrease in blood supply to the area under the nail border and encourages tissue breakdown, which is followed by the entry of bacteria.

The worst treatment for ingrown toenails is home surgery, especially when the nail is clipped back as far as possible. This form of treatment tends to create a ledge or spicule along the nail border, which snags the tissue as it grows. Each time the nail border is clipped, the ingrown nail is actually made worse. Another popular home treatment, which is a myth, says that by cutting a "v" in the center of the tip of the nail, pressure will be relieved. This simply does not work, because the nail grows from the matrix out. Self-treatment can be tried, but never by persons who suffer from diabetes or peripheral vascular disease, or who have decreased nerve sensation in the feet. For people with these diseases, self-treatment is dangerous and can

lead to ulceration and gangrene very quickly.

Proper self-treatment procedure for mildly ingrown or infected toenails consists of the following steps:

1. Cleanse the toe and nail clippers with 70 percent isopropyl alcohol.
2. Clip off a small portion of the offending nail at the edge of the toe.
3. Soak the foot in epsom salts (2 tablespoons to 1 quart of warm water) for 7 to 10 minutes, twice a day for 3 to 5 days.
4. Apply an antibiotic ointment, such as Bacitracin® or Neosporin®, and wear a Band-Aid®.
5. Wear wide shoes.
6. If pain is not relieved, or if infection develops, seek podiatric care.

Professional treatment is usually geared toward permanent correction via a minor surgical procedure. During this procedure the toe is first numbed with a local anesthetic, usually lidocaine. Lidocaine injection takes place at the base of the toe—not around the nail itself, due to the configuration of the nerves going to the toe. The toe is then usually scrubbed with Betadine®, a type of skin disinfectant, to decrease the risk of infection after the surgery. A small portion of the entire ingrown nail border is then removed back to the matrix. Next, the area is inspected for any signs of infection, which, if present, are then removed. If the toe was infected, the procedure sometimes stops at this point.

For permanent correction, the nail-producing cells of the matrix must be destroyed. This is done by applying phenol, a strong acid, to the nail matrix. The area is then flushed with alcohol. Some podiatrists use lasers instead of phenol to kill matrix cells. Both methods are completely painless once the toe is numbed, and neither requires stitches. The postoperative site needs to be kept clean via soaks and/or applications of antibiotic ointments or solutions for several weeks.

Pain following a permanent nail correction procedure should be minimal, as long as the foot is elevated after the surgery for several hours. Normally, only aspirin or Tylenol® needs to be taken for the discomfort, if any pain is even felt at all. Usually little or no work has to be missed. Activities such as running and biking can usually be resumed 2 to 5 days after surgery. Wearing pointed shoes or biking cleats, or playing sports (especially soccer, in which the toe easily can be hit) can be uncomfortable for a couple of weeks.

Although prevention is not always possible for some causes of ingrown nails, one can never go wrong cutting toenails straight across, wearing shoes that fit and feel comfortable, and buying the right size of shoes (shoes should be bought at the end of the day, because feet swell during the day and usually measure larger later in the day than in the morning). Always seek professional podiatric care, rather than perform your own surgery.