

Painfree Podiatric Injections

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CompuMed™, the computer-controlled local anesthetic delivery system featuring the **Wand®** handpiece, is relatively new to podiatric medicine. CompuMed delivers an anesthetic solution at a constant rate of flow, even in tissues of high density such as the plantar fascia, below the patient's threshold of pain.

The Wand®, a lightweight handpiece held in a pencil-like grasp, allows unprecedented tactile control. This pencil-like grasp also allows rotation of the handpiece while inserting the needle, which has been shown to reduce the undesirable effect of needle deflection. All of these factors help to create a highly effective and oftentimes painless injection.

General Injection Technique

The location of the needle puncture is predetermined and can be marked. A local anesthetic spray (we use Cold Spray) is used at the injection site until the skin blanches. The Wand handpiece is held in a pencil grip manner and rotated continuously back and forth using the thumb and forefinger during needle insertion. (A traditional linear insertion of the needle may deflect away from the target site.) During the insertion, the foot pedal is depressed, which releases a few drops of anesthetic solution, allowing the tissue to immediately become numbed, forming an anesthetic pathway. A few additional drops of solution are administered after 10-20 seconds to allow the medication to take effect, and the needle is advanced further if comfortable for the patient. The injection of anesthetic solution is continued in a slow, even pace until desired needle depth is reached. Described below

are three podiatric applications for the CompuMed System.

Heel Spur Syndrome

This injection is used for painful plantar fasciitis with or without calcaneal spur. On the initial visit, the injection is the most important portion of the treatment as it helps to relieve discomfort in this area much better than any other form of therapy. Not padding, ultrasound, whirlpool, strapping, orthotics, casting or even off weight bearing can give the immediate and many times longer-lasting pain relief that injections can.

Injection Technique: The point of injection location is identi-

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fied on the medial side of the affected foot. The actual spur can be identified by taking a partial weight bearing lateral X-ray with no weight bearing on the heel. Two measurements are made on the X-rays. The first is from a point at the posterior surface of the back of the heel to a point formed at the tip of the spur. A line is drawn connecting these two points, usually about 5.5 cm. A second measurement is made from the plantar skin edge to the point at the tip of the spur. A line drawn between these two points usually measures 2.5 cm. The intersection

of these two lines is the spur location, and after these measurements are transferred to the medial side of the patient's foot, the injection should be performed about 1 cm. distal to the spur location point. The needle puncture is performed on the medial side of the foot and is continued to the lateral side. The Wand injection technique as previously described is performed. Once the area is fully anesthetized, an injection of short and long-acting steroids can be used. We use 0.5 cc Decadron and 0.25 cc Kenalog.

Neuroma/Metatarsalgia

The area of maximum pain is identified on the plantar surface of the foot, either at the interspace or at the metatarsal head. Even though there is plantar pain, the injection is performed from the dorsum to plantar since injections through the plantar surface are usually quite painful.

Locating the injection site is relatively simple. A spot is located about 1 cm proximal to the web-space. The injection for metatarsalgia is relatively similar to the neuroma except the needle is directed to the plantar surface of the metatarsal head area rather than the body of the neuroma

Injection Technique: Since this injection is in the nerve area, it must be performed gently and with extreme care. The area of maximum tenderness is found by digital plantar pressure, and it could be marked if desired. After the needle puncture on the dorsal surface of the foot above this marked spot, the direction of the needle continues gradually more toward the plantar surface. Anesthetic solution is instilled through the Wand handpiece via use of the foot pedal in a slow continuous manner. This numbs the tissue before the needle penetrates. Digital pressure is applied to the marked spot on the plantar surface

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