**Palmar Digital Neurectomy**

The lateral and medial palmar digital nerves are continuations of the lateral and medial palmar nerves. The palmar digital nerve is identified just palmar to the digital artery approximately 0.5 cm below the skin surface and deep to the ligament of the ergot.

**Indication**

Palmar, or posterior, digital neurectomy is used to relieve chronic heel pain. The most common indication is navicular disease that is not responsive to corrective shoeing and medical therapy, but it is also used in horses with fracture of the navicular bone, selected lateral-wing fractures of the distal phalanx, and calcification of the collateral cartilages of the distal phalanx.

**Surgical Preparation**

Neurectomy may be performed under local analgesia with the animal standing or under general anesthesia. If the surgery is performed with the animal standing, it is preferable to inject the local analgesic agent over the palmar nerves at the level of the abaxial surface of the sesamoid bones. The nerves can be palpated in this area, and the infiltration of this area avoids additional trauma and irritation at the surgery site. If neurectomy is performed in a field situation immediately following the use of a diagnostic block of the palmar digital nerve, however, this same block may be used for the surgical procedure. The area of the surgical incision is clipped, shaved, and prepared for surgery in a routine manner. Plastic adhesive drapes are useful to exclude the hoof as a source of contamination.

**Procedure**

In the simple guillotine technique, an incision 2 cm long is made over the dorsal border of the flexor tendons. If epineural capping is to be performed, the incision is generally 3–4 cm long and is continued through the subcutaneous tissue. It is important that the tissues be subjected to minimal trauma. An incision over the dorsal border of the flexor tendons generally brings the operator close to the palmar digital nerve. In the Guillotine technique the nerve is identified and is dissected free of the subcutaneous tissue. The nerve is severed at the distal extremity of the incision. Then a hemostat is placed on the nerve, which is stretched while being cut with a scalpel or CO2 laser at the proximal limit of the incision. This sharp incision is made in such a fashion that the proximal portion of the nerve springs up into the tissue planes and out of sight. The skin is closed with interrupted sutures of nonabsorbable material. The pull-through technique is an extension of the Guillotine technique. The first part of the procedure is performed as previously described. The main difference is that, instead of transecting the nerve at the proximal site of the incision as in the guillotine technique, traction is placed on the distal nerve, and a second incision of 1 cm is made over the nerve at the base of the proximal sesamoid bone. The digital nerve is then pulled through the proximal incision and a guillotine technique is used to transect the nerve.

**Post Op**

Antibiotics are not used routinely. A sterile dressing is placed on the incision, and a pressure bandage is maintained on the leg for at least 21 days. To minimize postoperative inflammation, 2 g of phenylbutazone are administered daily following surgery for 5–7 days. Sutures are removed 10 days after the operation, and the horse is rested for 60 days.

**Complications**

Neuromas are the most common. Complications of neurectomy also include painful neuroma formation, rupture of the deep digital flexor tendon, reinnervation and persistence of sensation.

**Prognosis**

Good. Many horses return to full athletic performance.