

DIGITAL NERVE BLOCK

Digital nerve block is commonly performed to provide anesthesia of an entire digit. Digital nerve block anesthetizes the four digital nerves that traverse the sides of the digit. This technique has the advantage of providing longer duration of anesthesia over local infiltration, and it does not distort anatomic landmarks for digital surgery.

Because multiple nerves are affected during the technique, this anesthesia would be more appropriately labeled as digital *field block* rather than the commonly used *nerve block*. Administration of 1 to 3 mL of 2% lidocaine provides adequate anesthesia without use of a large volume. The great toe or thumb can also receive some additional superficial innervation proximally, and a slightly larger volume of solution (administered as a dorsal skin wheal) may be needed for these digits. All digital blocks require some time for the anesthetic to affect the nerve sheath; many novice and impatient physicians continue to add volume when a few minutes of time would produce the desired effect.

Digital block technique historically was called *ring block* because of the circumferential infiltration of anesthetic. Increasing rates of vascular compromise can be observed with circumferential infiltration, especially if volumes greater than 7 to 8 mL are administered to the smaller digits. Use of 3- or 5-mL syringes can help avoid the temptation to deliver larger volumes. Impaired digital circulation can also occur if an individual suffers from vasospastic disease such as Raynaud's phenomenon or if the digit is markedly swollen before infiltration. Despite evidence for the safety of the practice, it is still advisable to avoid the addition of epinephrine to lidocaine for use on the digits.

Historically, physicians were instructed to insert the needle into the web space to perform digital block. The advantage of a web space injection is that the nerve can be injected at the site of bifurcation between adjoining digits. The blood vessels of the web space are larger than on the digit, and intravascular injection of anesthetic can easily occur with the web space technique. Physicians are encouraged to use the digital techniques described in this chapter.

INDICATIONS

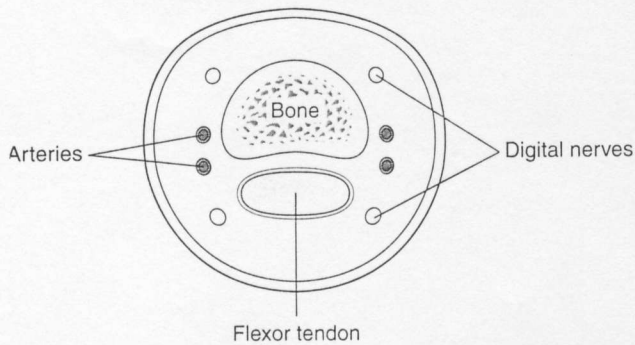
- Repair of digital lacerations
- Nail procedures (e.g., ingrown nail surgery, nailbed biopsy, nail removal)

- Incision and drainage of abscesses (e.g., felon surgery, paronychia surgery)
- Anesthesia for fracture or dislocation manipulation of digital orthopedic injuries
- Tumor or cyst removal or ablation (e.g., digital mucous cysts, giant cell tumors of sheaths, warts)

CONTRAINDICATIONS AND PRECAUTIONS

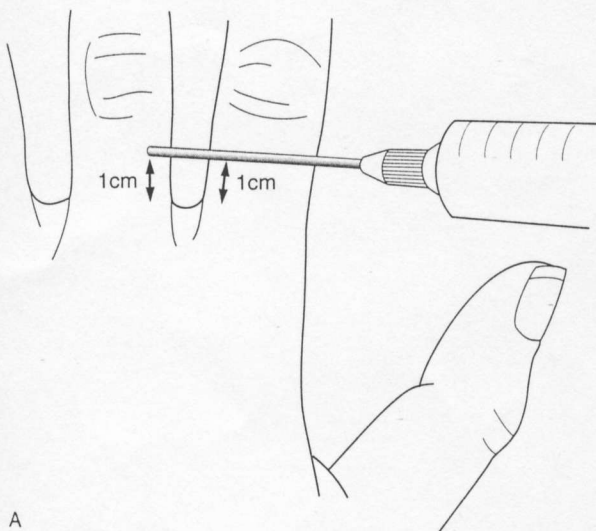
- Use of epinephrine added to lidocaine
- Use of volumes greater than 7 mL, especially in individuals with peripheral vascular disease, Raynaud's disease or phenomenon, digital vasculitis, impaired circulation (e.g., diabetes, scleroderma)

PROCEDURE

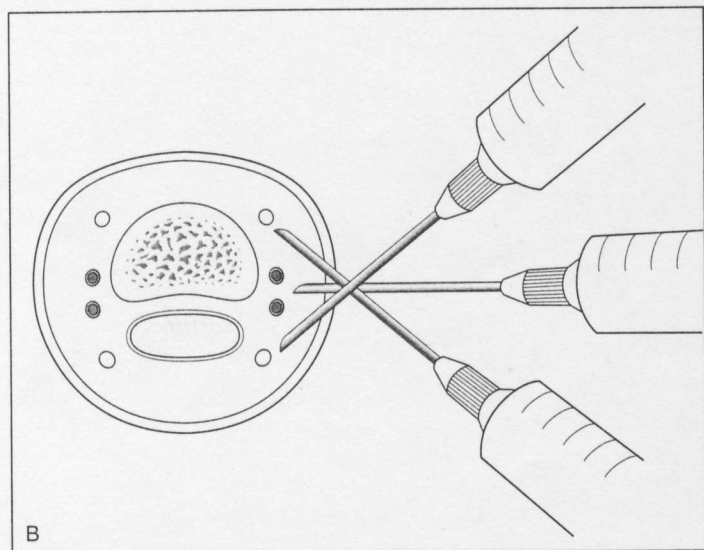


Cross section of the digit reveals the nerves traversing laterally on each side of the digit. One nerve appears to be plantar or palmar, and one is more dorsal.

(1) Cross section of a digit showing the nerves traversing laterally on each side of the digit.



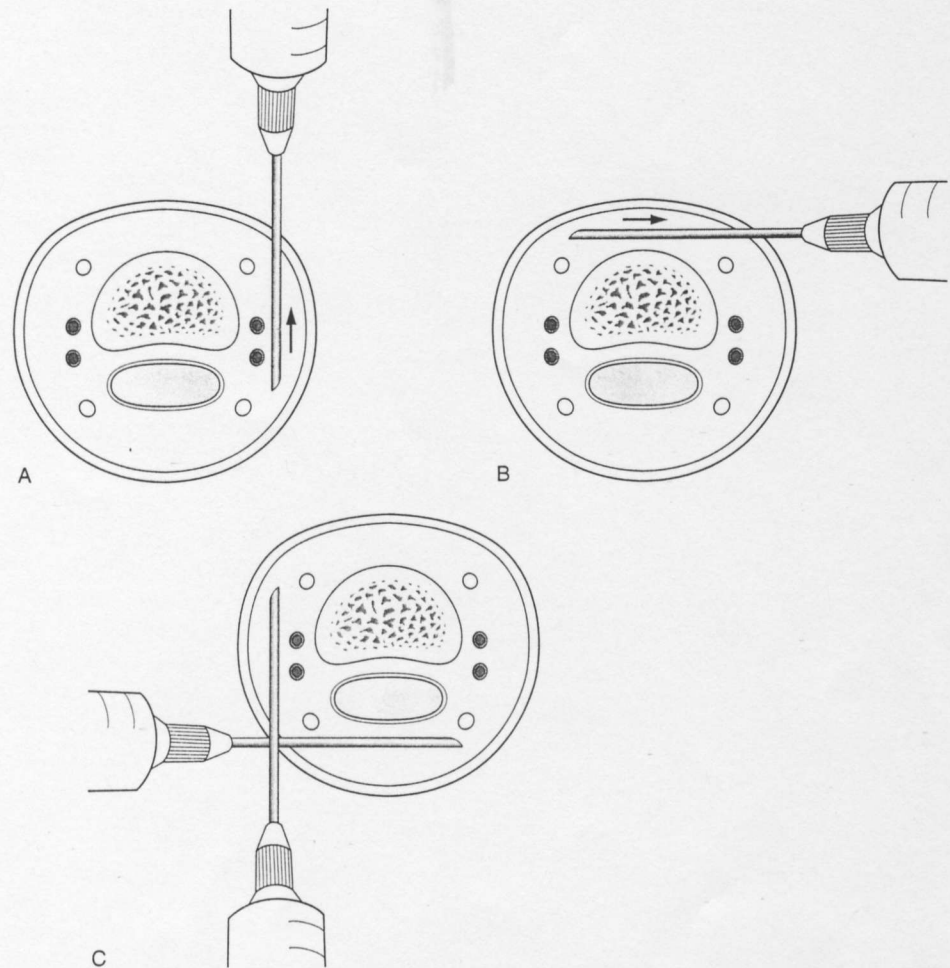
A



B

One method of digital block inserts the needle laterally into the base (proximal portion) of the digit, 1 cm distal to the web space (Figure 2A). Insert the needle to the bone, and infuse anesthetic. Angle the needle volarly and dorsally (Figure 2B). Repeat this technique on the opposite side.

(2) One technique of digital block. Insert the needle laterally into the base of the digit, 1 cm distal to the web space, and inject the anesthetic. Angle the needle volarly and dorsally, and repeat the technique on the opposite side.



(3) **Alternative technique.** Insert the needle near the junction of the dorsal and lateral surfaces of the digit, injecting anesthetic as the needle tip is withdrawn along the lateral surface back to the insertion site. Then redirect the needle tip along the dorsum of digit, and administer anesthetic as the needle is withdrawn. Repeat this technique for the volar and lateral surfaces of the digit.

An alternate technique inserts the needle near the junction of the dorsal and lateral surfaces of the digit. Slide the needle along the lateral surface, injecting as the needle tip is withdrawn back to the insertion site (Figure 3A). Without pulling the needle tip out of the skin, redirect the needle tip along the dorsum of the digit and again administer the anesthetic as the needle is withdrawn (Figure 3B). Insert the needle near the junction of the volar and lateral surfaces of the digit. Administer the anesthetic along the opposite sides of the digit (Figure 3C).

CODING INFORMATION

No Current Procedural Terminology (CPT®) code exists for digital nerve block. The service is included in the reporting for the procedure for which it is performed (e.g., laceration repair, biopsy service).

INSTRUMENT AND MATERIALS ORDERING

Syringes (3 or 5 mL), 2% lidocaine without epinephrine, and 25- or 27-gauge, 1¼-inch needles can be obtained from local surgical supply houses or pharmacies. A suggested anesthesia tray that can be used for this procedure is listed in Appendix G. Skin preparation recommendations appear in Appendix H.

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