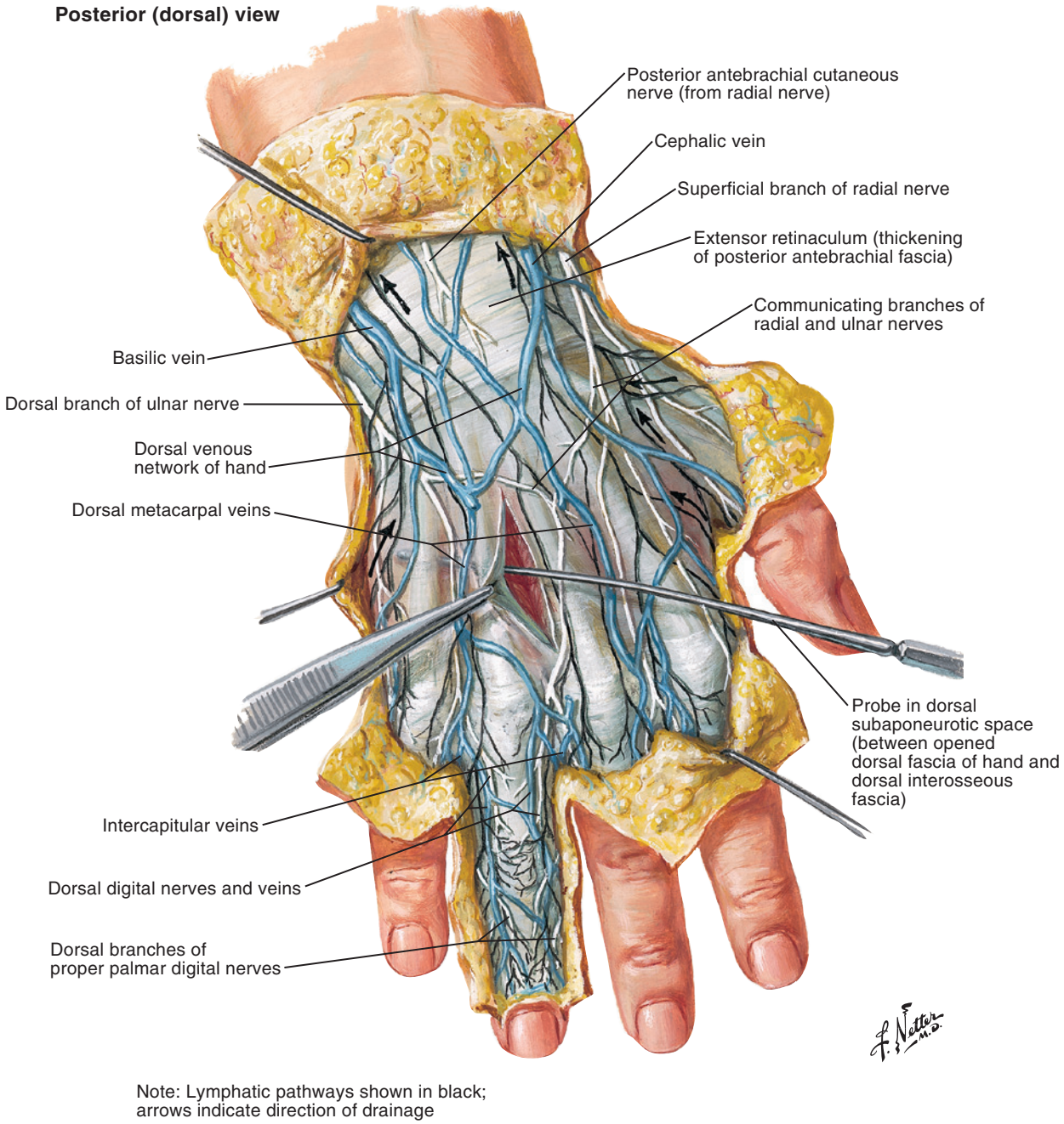

Figure 12.18 Superficial dissection of the dorsum of the hand. (Reprinted from Netter Anatomy Illustration Collection. ©Elsevier Inc. All Rights Reserved.)

reconstruction or replantation. It exits the snuffbox distally by passing under the extensor pollicis longus tendon, dorsal to the interval between the thumb and index metacarpal bases. It then passes between the two heads of the first dorsal interosseous to enter the palm and form the deep palmar arch (Fig. 12.16). Just before this, it gives a contribution to the dorsal metacarpal arch, and also gives rise to the first dorsal metacarpal artery as a distinct branch that supplies the dorsal skin of the first web space and index finger.

EXPOSURE OF THE RADIAL ARTERY IN THE DISTAL FOREARM AND ANATOMIC SNUFFBOX

The radial artery is easily exposed in the antecubital fossa as previously described, and in the distal half of the forearm, where it is very superficial. It can also be exposed in the proximal forearm if required, although is covered by the brachioradialis muscle. The course of the artery can be marked by drawing a line from the middle of the antecubital fossa to the radial styloid. In the distal forearm, a skin

incision is made directly overlying the palpable radial pulse, just radial to the flexor carpi radialis tendon (Fig. 12.13). The deep fascia is incised immediately exposing the artery and its venae comitantes, lying between the flexor carpi radialis and brachioradialis tendons (Fig. 12.19A). The radial artery is usually large enough to allow end-to-side anastomosis, so as to preserve distal perfusion. Distal dissection towards the radial styloid allows identification of the superficial palmar branch (Fig. 12.19F) that may be of sufficient caliber to use in an end-to-end anastomosis, depending on the degree of size mismatch with the flap vessels. If more proximal exposure is required, the artery can be followed under the brachioradialis tendon and muscle belly, taking care to avoid injury to the superficial branch of the radial nerve. This nerve is in close proximity to the radial artery deep to the brachioradialis until approximately 8 cm proximal to the wrist crease when it emerges dorsal to the tendon to become a superficial structure.

The radial artery can be exposed distal to the wrist crease, in the anatomic snuffbox, where it can be used as a recipient vessel in free flaps, toe transfers and thumb replantation. Important landmarks for the snuffbox are the 1st compartment tendons on the radial side (abductor pollicis longus (APL) and extensor pollicis brevis (EPB)), the 3rd compartment tendon (extensor pollicis longus (EPL)) on the ulnar side, the tip of the radial styloid proximally, and the scaphoid and trapezium form the floor. The skin is incised longitudinally over the snuffbox, preserving large dorsal veins. Sensory branches of the superficial radial nerve should be protected and retracted away from the surgical field as trauma will

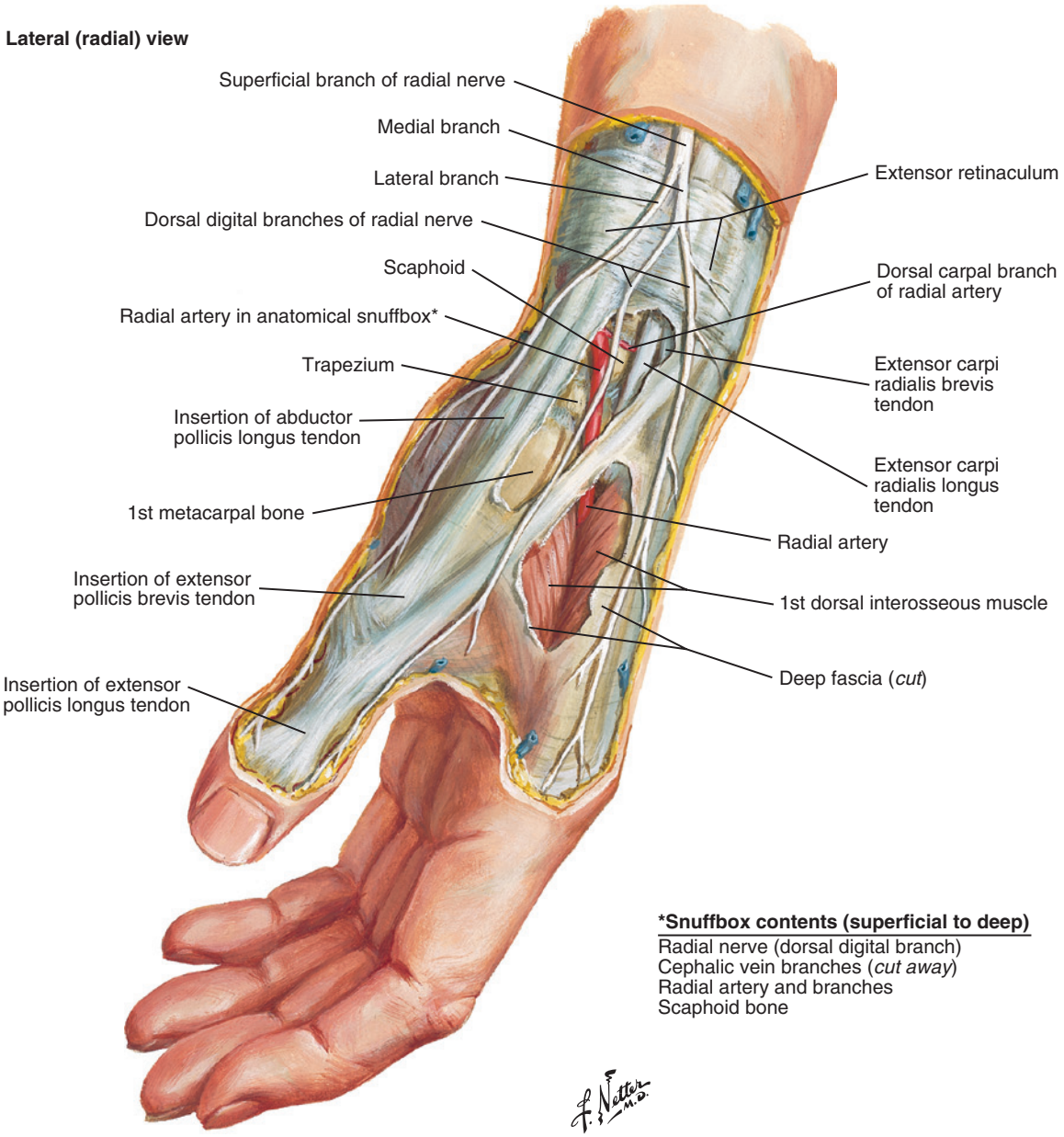

Figure 12.19 The radial side of the hand and anatomic snuffbox. (Reprinted from Netter Anatomy Illustration Collection. ©Elsevier Inc. All Rights Reserved.)