

Wide Awake Open Reduction of Irreducible Metacarpal Phalangeal Joint Dislocations

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Many Canadian surgeons now surgically treat most hand trauma during the day in minor procedure rooms using local anesthetic, instead of in the middle of the night in the main operating room. Surgeons and nurses are more likely to be able to perform better surgery when they are rested during daytime hours than while tired at night. Most patients undergoing wide awake hand surgery for traumatic hand injuries do not require hospital admission as they do not need to wait in line to obtain or recover from sedation. Little to no preoperative workup is required for pure local anesthesia. This is much less expensive and more convenient for patients who have traveled long distances for care.¹ We can operate on patients with multiple medical problems safely because we do not use sedation.

LOCAL ANESTHETIC INJECTION

With the patient supine, we inject 30 ml of 1% lidocaine with 1:100,000 epinephrine buffered with 3 ml of 8.4% sodium bicarbonate with a 27 gauge needle. We inject the local subcutaneously from proximal to distal both volarly and dorsally from the midmetacarpal distally (see video, Supplemental Digital Content 1, which shows how to perform minimal pain local anesthesia injections for traumatic hand injuries involving the metacarpophalangeal joint. This video is available in the Related Videos section of the Full-Text article on PRSGlobalOpen.com. <http://links.lww.com/PRSGO/A470>). We use minimally painful local anesthesia injection technique to avoid the need for sedation.² After injection, we wait a minimum of 30 minutes for the local anesthetic to fully numb the area and achieve the maximal epinephrine effect.³ No tourniquet is required when epinephrine is given adequate time to work. Eliminating the tourniquet and painful local anesthetic injections removes the need for sedation.⁴

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This study conformed to the Declaration of Helsinki and hospital review board guidelines.

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OPEN REDUCTION OF IRREDUCIBLE TRAUMATIC METACARPOPHALANGEAL JOINT DORSAL DISLOCATIONS

This video clearly shows the anatomy of the dislocation and its reduction (see video, Supplemental Digital Content 2, which shows open reduction of a irreducible traumatic metacarpophalangeal joint dorsal dislocations using wide awake local anesthetic no tourniquet hand surgery. This video is available in the Related Videos section of the Full-Text article on PRSGlobalOpen.com. <http://links.lww.com/PRSGO/A471>).⁵ The flexor tendons and the lumbrical form the ulnar side of the noose around the metacarpal neck. The first dorsal interosseous muscle and the radial lateral band of the extensor hood form the radial side of the noose. The radial digital nerve is tented over the metacarpal head, which is trapped volarly in the noose. This video also shows the Wide Awake Local Anesthesia No Tourniquet release of the A1 pulley, which allows the surgeon to relocate the flexor tendons and the lumbrical radially so they can shoe horn the metacarpal head back into its dorsal position in the joint with a Freer elevator. We confirm the reduction by asking the patient to extend and fully flex the finger before we close the skin, thereby showing congruity of the joint surfaces with active movement. This also helps us decide the degree of early protective movement safely allowed after surgery. We elevate and immobilize the hand for 3 days until the patient is off all pain killers. Then, we allow pain-guided full flexion and up to minus 30 degrees of MP extension blocked with a splint.

Postoperative course (see video, Supplemental Digital Content 3, which shows the patient's perspective in follow-up, after undergoing wide awake surgical correction of his traumatic hand injury. This video is available in the Related Videos section of the Full-Text article on PRSGlobalOpen.com. <http://links.lww.com/PRSGO/A472>).

Unsedated patients remember getting a full range of flexion and extension of their fingers during the surgery.

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Video Graphic 1. See Supplemental Digital Content 1, which shows how to perform minimal pain local anesthesia injections for traumatic hand injuries involving the metacarpophalangeal joint. This video is available in the Related Videos section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A470>.



Video Graphic 2. See Supplemental Digital Content 2, which shows open reduction of a irreducible traumatic metacarpophalangeal joint dorsal dislocations using wide awake local anesthetic no tourniquet hand surgery. This video is available in the Related Videos section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A471>.

They know what they can achieve if they stick with therapy after surgery. Intraoperative advice from the surgeon helps ensure postoperative patient compliance.



Video Graphic 3. See Supplemental Digital Content 3, which shows the patient's perspective in follow-up, after undergoing wide awake surgical correction of his traumatic hand injury. This video is available in the Related Videos section of the Full-Text article on PRSGlobalOpen.com or available at <http://links.lww.com/PRSGO/A472>.

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PATIENT CONSENT

The patient provided written consent for the use of his image.

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