KEY PROCEDURES

LANDMARK TECHNIQUE FOR A WRIST BLOCK

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Published outcomes of this procedure can be found at: *Bone Joint J.* 2015 Sep;97-B(9):1250-6, *Anaesthesia Tutorial of the Week.* 275; 2012 Nov 19, and *Anaesthesia.* 2015 Feb;70(2): 183-9.

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Abstract

Effective anesthesia of the hand and wrist has many uses inside and outside the operating room. In the emergency department or fracture clinic, a wrist block may be used for closed reductions of dislocations and fractures or for effective inspection and treatment of wounds. In the operating room, surgery may be carried out under a wrist block alone or a wrist block may be used as an adjunct to general anesthesia as the block is an opiate-sparing option to facilitate outpatient surgery and to provide many hours of postoperative analgesia, particularly if administered prior to the commencement of surgery.

The landmark technique for distal peripheral nerve blocks at the wrist is a well-recognized method and is described for the median nerve, ulnar nerve, superficial branch of the radial nerve, and dorsal branch of the ulnar nerve at the wrist. To make this technique more effective for carpal surgery, blocks of the posterior interosseous and anterior interosseous nerves are added.

- Step 1: The patient is counseled about the procedure and the expected outcomes.
- Step 2: Drug allergies are checked.
- Step 3: The maximum safe dose of the chosen local anesthetic agent is calculated using the weight of the patient.
- Step 4: The drug ampules are checked for the name and concentration of the drug as well as the expiration date.
- Step 5: The drug is drawn up into a 10-mL syringe, and a needle is fitted for injection.
- Step 6: For each of the 6 nerves to be blocked, the anatomical landmarks are identified along with surrounding structures at risk.
- Step 7: The skin is prepared with an antiseptic agent.
- Step 8: The nerve block injections are administered using the techniques in the accompanying video, while checking that there are no signs of intraneural or intravascular injection.

The landmark technique for wrist block is an effective method in the situations described above. However, there are occasional failures to provide

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sufficient analgesia as with all peripheral nerve block techniques. There is a possibility of intraneural injection, which must be avoided. There is also a risk of direct nerve fascicular injury with the needle, which therefore requires a thoughtful technique. There is little if any motor block, which makes the technique particularly suitable when intraoperative active motion is required or when physiotherapy is started directly postoperatively. The technique is very rapid to administer, and it does not require any equipment other than a syringe and needle, making it very inexpensive and suitable for austere environments.

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