

# Knead a Hand? Use of a Portable Massager to Reduce Patient Pain and Anxiety During Nail Surgery

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Pain and anxiety are common in patients undergoing nail surgery, and injection of local anesthetic is the most uncomfortable part of the procedure. Using a portable massager on the ipsilateral limb during nail injection can reduce pain and decrease patient anxiety. It is a simple and safe way to improve the patient experience during nail surgery.

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## Practice Gap

Pain and anxiety are common in fully conscious patients undergoing dermatologic surgery with local anesthesia. Particularly during nail surgery, pain from anesthetic injection—caused by both needle insertion and fluid infiltration—occurs because the nail unit is highly vascularized and innervated.<sup>1</sup> Current methods to improve patient comfort during infiltration include use of a buffered anesthetic solution, warming the anesthetic, slower technique, and direct cold application.<sup>2</sup>

Perioperative anxiety correlates with increased postoperative pain, analgesic use, and delayed recovery. Furthermore, increased perioperative anxiety reduces the pain threshold and elevates estimates of pain intensity.<sup>3</sup> Therefore, reducing procedure-related anxiety and pain may improve quality of care and ease patient discomfort.

Distraction is a common and practical nonpharmacotherapeutic technique for reducing pain and anxiety during medical procedures. The refocusing method of distraction aims to divert attention away from pain to more pleasant stimuli to reduce pain perception.<sup>3</sup> Several methods of distraction—using stress balls, engaging

in conversation, hand-holding, applying virtual reality, and playing videos—can decrease perioperative anxiety and pain.<sup>3-6</sup>

Procedural pain and distraction techniques have been evaluated in the pediatric population more than in adults.<sup>4</sup> Nail surgery-associated pain and distraction techniques for nail surgery have been inadequately studied.<sup>7</sup>

We offer a distraction technique utilizing a portable massager to ensure that patients are as comfortable as possible when the local anesthetic is injected prior to the first incision.

## The Technique

A portable shiatsu massager that uses heat and deep-tissue kneading is placed on the upper thigh for toenail cases or lower arm for fingernail cases during injection of anesthetic to divert the patient's attention from the surgical site (Figure). Kneading from the massage helps distract the patient from pain by introducing a competing, more pleasant, vibrating sensation that overrides pain signals; the relaxation component helps to diminish patient anxiety during injection.

## Practice Implications

Use of a portable massager may reduce pain through both distraction and vibration. In a randomized clinical trial of 115 patients undergoing hand or facial surgery, patients who viewed a distraction video during the procedure reported a lower pain score compared to the control group (mean [SD] visual analog scale of pain

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A portable massager is applied on the thigh to provide distraction in a patient who is receiving an anesthetic injection prior to dermatologic surgery on a toenail.

score, 3.4 [2.6] vs 4.5 [2.6] [ $P = .01$ ]).<sup>4</sup> In another randomized clinical trial of 25 patients undergoing lip augmentation, 92% of patients (23/25) in the vibration-assisted arm endorsed less pain during procedures compared to the arm without vibration (mean [SD] pain score, 3.82 [1.73] vs 5.6 [1.76] [ $P < .001$ ]).<sup>8</sup>

Utilization of a portable massager is a safe means of improving the patient experience; the distracting and

relaxing effects and intense pulsations simultaneously reduce anxiety and pain during nail surgery. Controlled clinical trials are needed to evaluate its efficacy in diminishing both anxiety and pain during nail procedures compared to other analgesic methods.

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