

Arthroscopic Techniques

Use of remnant local anesthetic for improving patient experience during image-guided procedures

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ABSTRACT

Several techniques have been used to improve patient experience during image-guided musculoskeletal intervention. In this technical report, we report the utilization of remnant local anesthetic to bathe the needle before performing the injection which has shown to improve patient experience by decreasing the pain.

Keywords: Local anesthetic, Patient experience, Bathe, Needle

INTRODUCTION

Image-guided procedures have been increasingly being used successfully in the management of orthopedic pathologies. These can be performed under ultrasound, fluoroscopy, or computed tomography guidance.^[1,2] A combination of local anesthetic (LA) and steroids are commonly injected either into the joint or tendon sheath.^[3] Several techniques have been used to improve patient experience during imaging-guided percutaneous injection. These include infiltration of the skin with LA, ethyl chloride spray, or even analgesic patches of 4% tetracaine (Ametop).^[4]

TECHNIQUE

The amount of LA injected into a joint or tendon is dependent on the anatomical location and size of the joint. For instance, larger joints such as the shoulder, knee, and hip have injections of around 6–8 mL and small joints such as metacarpophalangeal joints and metatarsophalangeal joints are injected with 1–2 mL of LA. The normal volume of LA in an ampoule is 10 mL. During an image-guided procedure of one joint, the remaining LA is discarded. We hypothesize that this remaining LA can be used to improve the patient experience by bathing the needle used to perform the definitive injection. This is normally performed just before injection [Figure 1]. The presence of LA over the needle acts as an LA along the tract and, hence,

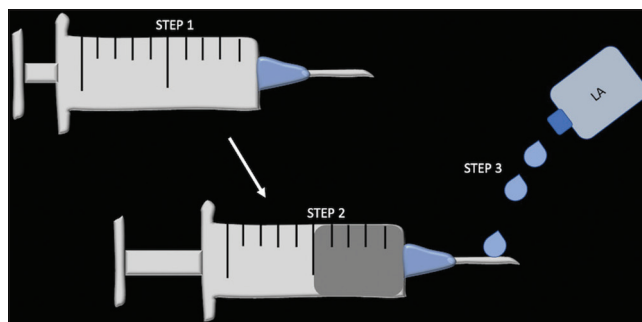


Figure 1: Schematic showing steps- Step 1: Syringe with appropriate needle; Step 2: Collect the appropriate local anesthetic (LA) and steroid in syringe; Step 3: Bathe the needle with remainder of the LA.

decreases the relative pain of the procedure. The alternative of this would be to infiltrate the entire path with LA first and then swap the syringe, leaving the needle in situ next to the target site, which involves an additional syringe and the hassle of swapping the syringe during the procedure. Using our technique allows the normally discarded LA to be used in an effective way without any additional cost. Suggested steps are as follows.

1. Informed consent
2. Setting the injection tray ready
3. Prepare the injectate with appropriate LA and steroid in a syringe with a needle attached

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Video available on: www.jassm.org

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Video 1: Showing the bathing of the needle with local anesthetic.



Video 2: Ultrasound guided injection of 3rd web space Morton's neuroma with the bathed needle.

4. Sterilize the region to be injected
5. Bathe the needle with the remaining LA using no-touch technique [Video 1]
6. Use of ethyl chloride spray by an assistant on the region to be injected.^[4]

7. Perform the definitive injection [Video 2].

The other advantage of this technique is that it contributes to decreasing the wastage of LA and improving the green credential of the procedure.

CONCLUSION

Bathing the needle with remnant local anesthetic is a simple and effective method to improve patient experience during image guided percutaneous injections.

Ethical approval

The Institutional Review Board approval is not required.

Declaration of patient consent

Patient's consent not required as patient identity is not disclosed or compromised.

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Conflicts of interest

There are no conflicts of interest.

Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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