Enhanced Ultrasound Guided Needle Localization

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Tissue localization is paramount to the successful execution of an ultrasound-guided procedure. Before a needle is introduced, the absence of confirming localization of the intended target for an injection may impede procedural efficacy. Technological advancements have improved visualization of human tissue using real-time ultrasound imaging, which has fostered a relative explosion of cutting-edge imaging features to assist the practitioner.

Translating advanced tissue imaging to the clinical practice of musculoskeletal (MSK) injections under real-time ultrasound imaging requires a two-fold approach to safe, effective procedural throughput: tissue target localization and simultaneous needle localization. Satisfactory tissue target localization without needle localization will likely deteriorate procedural accuracy and consequently procedural efficacy. Thus, a focus on needle visualization aids that complement the already widely adopted neurostimulation technique have yielded additional features aimed at improving localization and successful clinical outcomes.

One such ultrasound feature is Konica Minolta's Simple Needle Visualization (SNV®). Available on the newest generation of Konica Minolta`s ultrasound systems, including the SONIMAGE® HS2 and SONIMAGE® MX1 Platinum, SNV adds another dimension of quality to the practice of regional analgesia and nerve block procedures as well as MSK tissue injections, to name a few of the applications that this technology can facilitate.

SNV is markedly different from other available needle guidance technologies. SNV does not require specialized needle types or materials and will function with any needle manufacturer's product. And, there is no minimum diameter to elicit the SNV imaging feature. Additionally, SNV software improves out-of-plane and in-plane needle approaches as it will highlight a needle regardless of the orientation of the ultrasound beam to needle shaft. This is of particular importance especially for trainees who are learning the out-of-plane approach and when misinterpretation of the needle tip location carries significant risk of needle misadventure; without SNV technology, it is difficult to discern the needle tip from the shaft in a cross-section imaging plane.

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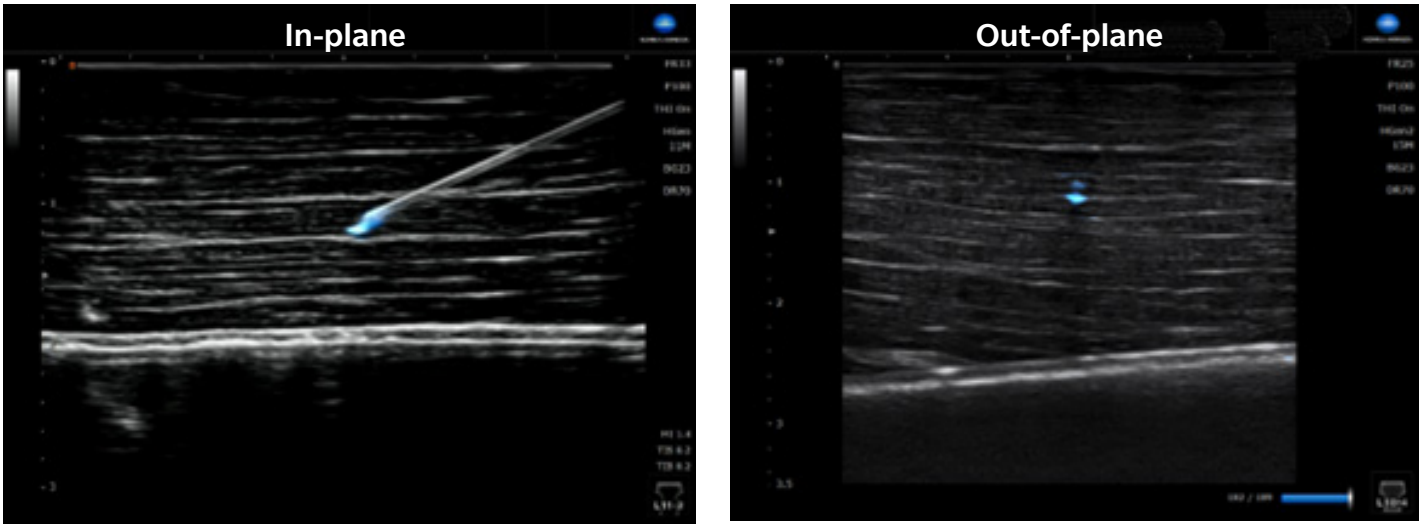
The merits of SNV in real-world applications render this technology useful in a variety of settings. Trainees will also benefit from enhanced needle tip visualization in non-human tissue, such as anatomic trainers, orienting the novice to techniques that improve needle-hand-eye coordination. In fact, these phantom ultrasound trainers have become widely available. SNV provides the end user with positive feedback, increasing their confidence when transitioning to patient care. In clinical practice, the value of this technology grows exponentially. Facilitation of needle tip localization provides potential risk reduction, enhances success rates, and ultimately reduces procedure time, all while increasing patient satisfaction.

Coupled with other features on the SONIMAGE HS2 and SONIMAGE MX1 Platinum, such as trapezoidal image processing with linear probes, SNV facilitates patient throughput and can likely contribute to patient satisfaction owing from reduced needle redirection and procedure time.



SNV is available for both in-plane and out-of-plane approaches in ultrasound-guided procedures.

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