Ultrasound Drawing Feature:
Relevance for Education and Training

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Introduction

Although well-known globally and frequently recited, the official origin of the quote "a picture is worth a thousand words" is controversial.[1] While the exact verbiage varies by country, culture and/or language, the underlying concept that an image can both quickly and effectively convey information in ways that is vastly superior to either text or spoken language has long been established.[2] This might be because visual information is processed roughly 60,000 times faster than text or because 65% of individuals prefer visual learning.[2]

When visual aids are included in educational activities, there is an improvement in learning by up to 400%, as well as an overall increase in long-term retention.[2] Perhaps unsurprisingly, the application of visual learning tools increased by more than 9,000% between 2009 and 2015.[2]

Implications/Importance

In no area of medical education is the inclusion of imagery more important than in the field of regional anesthesia, where learners must master image recognition for a multitude of different ultrasound-guided block approaches. Being able to both quickly and accurately identify various anatomic structures, including bones, adipose tissue, blood vessels, muscles, fascial planes, solid organs, pleura, and perhaps most importantly, nerves and/or plexi, is critical for efficiency, success, and patient safety.

The drawing feature on Konica Minolta Healthcare`s SONIMAGE® HS2 and SONIMAGE® MX1 Platinum Portable Ultrasound Systems allow users to add text, draw lines or arrows, incorporate figures, and more by simply touching the ultrasound screen. This unique and unparalleled educational tool enables teachers, learners, and even patients to communicate using the ultrasound image(s) as an infographic.

Because it allows for the "real-time" annotation of ultrasound images, this feature represents an invaluable tool for clinician educators, as it allows them to highlight various important anatomical structures, plan appropriate needle trajectories, and identify specific injection locations.

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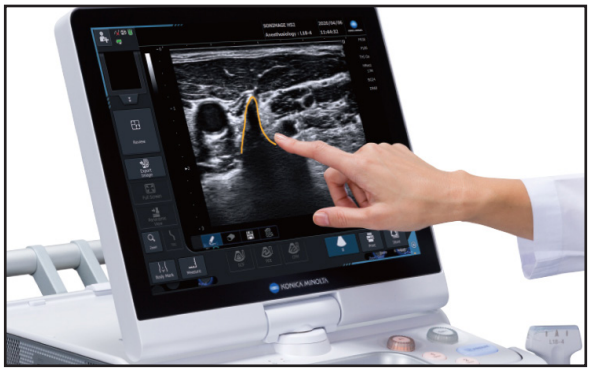
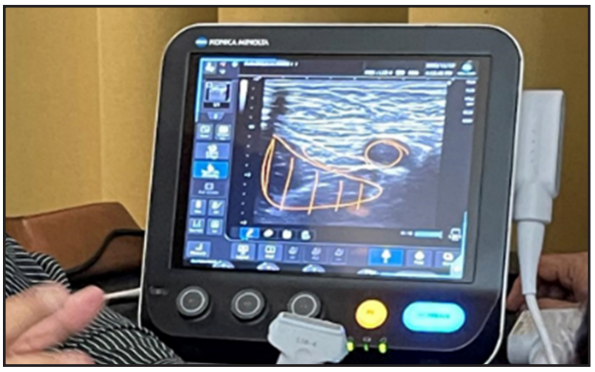
SONIMAGE HS2



SONIMAGE MX1 Platinum



Drawing feature available on the Konica Minolta Ultrasound Systems.

While simply pointing or gesturing at the ultrasound screen or using a laser pointer are commonly employed techniques, such approaches only result in the temporary identification of anatomic structures during block procedures. In contrast, the drawing feature on Konica Minolta`s HS2 System and MX1 Platinum System allow for the permanent annotation of images. Because these annotated images can subsequently be saved and/or exported, they are readily available for further review by learners and can easily be incorporated into lectures, abstracts, or publications by clinician educators and reviewed by the entire care team.

In summary, the unique drawing feature on Konica Minolta's systems provide an unparalleled educational tool for teachers, learners, and practitioners involved in point-of-care procedures, which helps to differentiate these systems from competitors in the marketplace.

Personal Impact

I have personally witnessed the educational benefits that the HS2 System and MX1 Platinum System can have when they are incorporated into the training curriculum for residents, fellows, and/or medical students. The real-time use of the drawing feature during block procedures allows me to label the anatomic structures of interest, highlight the planned needle trajectory, and demonstrate where local anesthetic should be injected. Combing both verbal and visual information has helped improve the learning curve for my trainees.

When compared to the competition, learners trained on the SONIMAGE® HS2 and SONIMAGE® MX1 from Konica Minolta are able to quickly grasp procedural details, retain information, and master specific ultrasound-guided blocks. While I have ultrasound systems from several other ultrasound manufacturers at my disposal, I invariably choose the Konica Minolta systems when a block procedure involves educating any trainee.

References

1. https://www.phrases.org.uk/meanings/a-picture-is-worth-a-thousand-words.html
2. Yarbrough, J.R. (2019). Infographics: In Support of Online Visual Learning. The Academy of Educational Leadership Journal, 23.

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