



Videoconferencing as a tool to improve access to regional anesthesia in remote community hospitals

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To the Editor,

Videoconferencing (VC) facilitates telemedicine in anesthesia in areas such as obstetrics and trauma.^{1,2} Clinical coaching between family practice anesthesiologists (FPAs) and specialist anesthesiologists is well-established in British Columbia (BC), Canada, and was traditionally facilitated through on-site visits.³ Using VC, we present a novel strategy to provide remote mentorship to rural physicians in BC during the performance of regional anesthesia. This strategy has allowed FPAs with previous training in regional anesthesia to easily access expert opinion from tertiary care centre specialists.

Family practice anesthesiologists in Revelstoke, BC, contacted our regional anesthesiology group at St Paul's Hospital (SPH) in Vancouver, Canada to get support in performing ultrasound-guided adductor canal blocks for knee surgery. Despite some experience with the technique, FPAs felt that expert feedback during block performance can refine their approach.

Both the remote and tertiary care sites had access to VC equipment, with the remote site using a telehealth cart comprising a VC device with a high-definition camera, speakers, and microphone, and with the ability to use teleconferencing software from a touch screen. With this equipment, the remote site could provide a real-time audio and visual feed of the patient and room where the nerve block was performed and could share the ultrasound images through high-definition multimedia interface input from the VC platform (Figure).

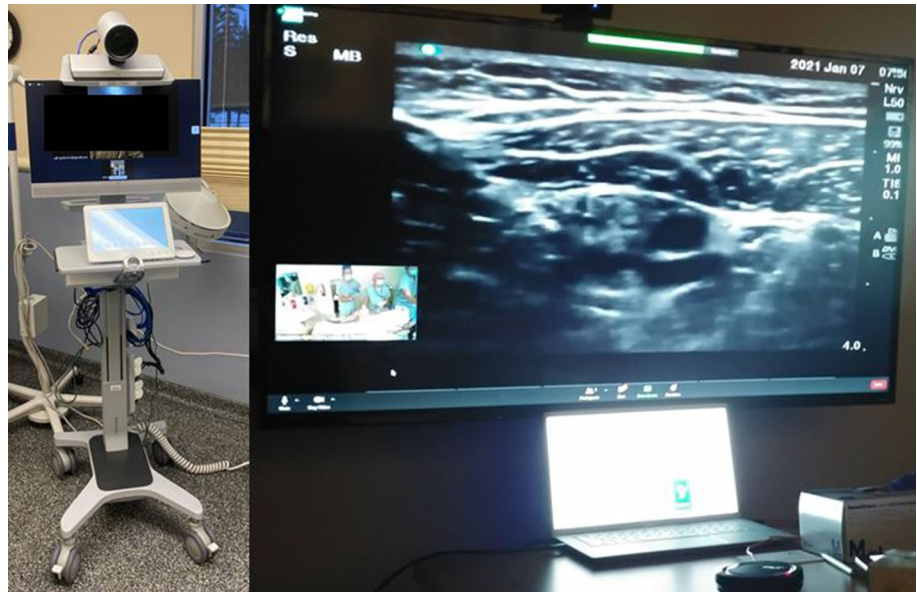
Prior to the clinical sessions, a webinar was given by regional anesthesiologists to review the block. The session was attended by five FPAs and allowed for questions and discussion. Following the didactic session, three preoperative adductor canal blocks with real-time remote specialist presence were organized. Patient consent was obtained for all blocks, particularly informing that there would be a regional anesthesiologist virtually present. A fourth session could not be completed because a phone call caused technical difficulties. The fourth block was completed successfully without remote coaching. With this approach, advice was provided from SPH in real-time regarding probe placement, needling technique, and identification of appropriate local anesthetic spread. Sensory changes at the medial malleolus were assessed following block placement and all were deemed successful.

There have been no recognized complications in these sessions to date. The FPAs had previous training in regional anesthesia and were the most responsible physicians, able to manage any complications. Therefore, remote coaching is most appropriate for physicians with prior experience with regional anesthesia who are willing to refine or expand their technique. The role of the specialist anesthesiologist is to give advice to the FPA,

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FIGURE Telehealth cart used for videoconferencing in Revelstoke and what was broadcast to St. Paul's Hospital during one of the adductor canal blocks.



which commonly occurs in daily practice and does not represent an assumption of medico-legal liability. When teaching regional anesthesia to novices, we find that it can often be challenging to communicate how the ultrasound probe or block needle should be manipulated to achieve the desired result. In these sessions, communication has not been an issue. Nevertheless, remote coaching may be challenging with physicians with less experience in regional anesthesia.

Feedback following these sessions was positive and we have since established an accredited continuing professional development program through The University of British Columbia with funding through the Doctors of BC and the BC Ministry of Health. Through this program, we have expanded access to more sites across BC. Based on the needs of the community, virtual coaching to other techniques such as brachial plexus or truncal blocks can be done.

To our knowledge, VC during the performance of regional anesthesia has not previously been described. While clinical coaching has been identified as a key measure to improve access to anesthetic care in rural and remote communities,³ this project suggests that such

mentorship can also be achieved virtually when travel between sites is difficult.

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