

4.23P Implementing ultrasound-guided nerve blocks in muscle biopsies in North Norway

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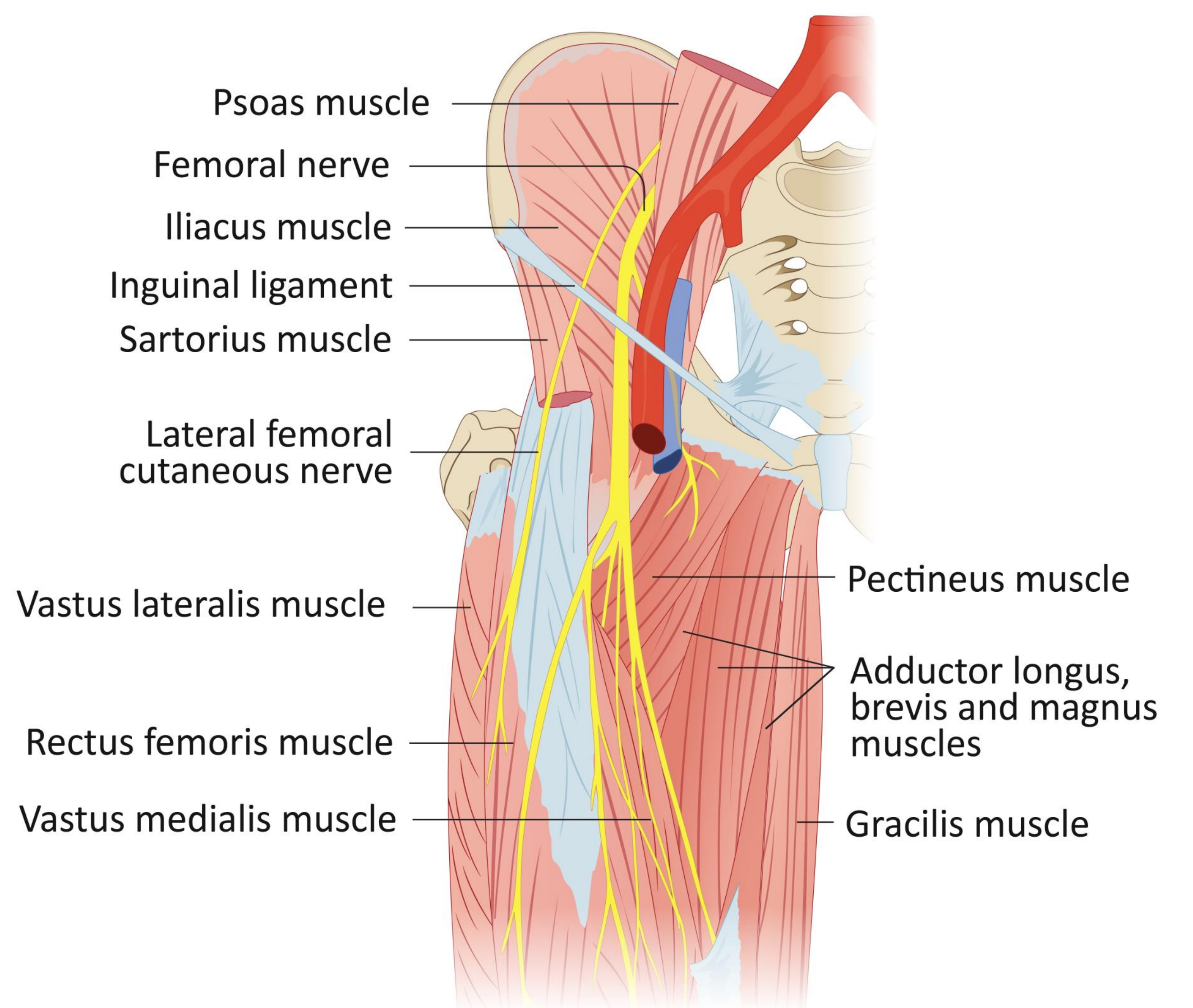
Background

Open muscle biopsy remains an important diagnostic tool in inflammatory myopathies and in inherited muscle disorders when genetic investigations are inconclusive.

Traditionally, the biopsy procedure for adults is performed under local anesthesia. To avoid contamination of the sample and structural damage to the tissue, local anesthetic is not infiltrated into the muscle tissue itself, leaving it unanesthetized. As a result, the procedure can be painful for the patient, and pain-induced muscle contraction may complicate the procedure.

At the 2025 WMS Congress in Vienna, Austria, dr. Tawara and colleagues from NHO Kumamoto Saishun Medical Center, Japan, presented a poster called "Safety and Efficacy of ultrasound-guided nerve block in muscle biopsy", where the authors presented elegantly how the biopsy procedure may be performed safely using regional nerve blocks, which anaesthetize the muscle without causing changes in the tissue itself.

The poster inspired us to implement this patient-friendly anesthetic procedure for our muscle biopsy patients at the University Hospital of North Norway, which is also home of the Norwegian Centre for Rare Diseases, Unit for Neuromuscular Disorders.

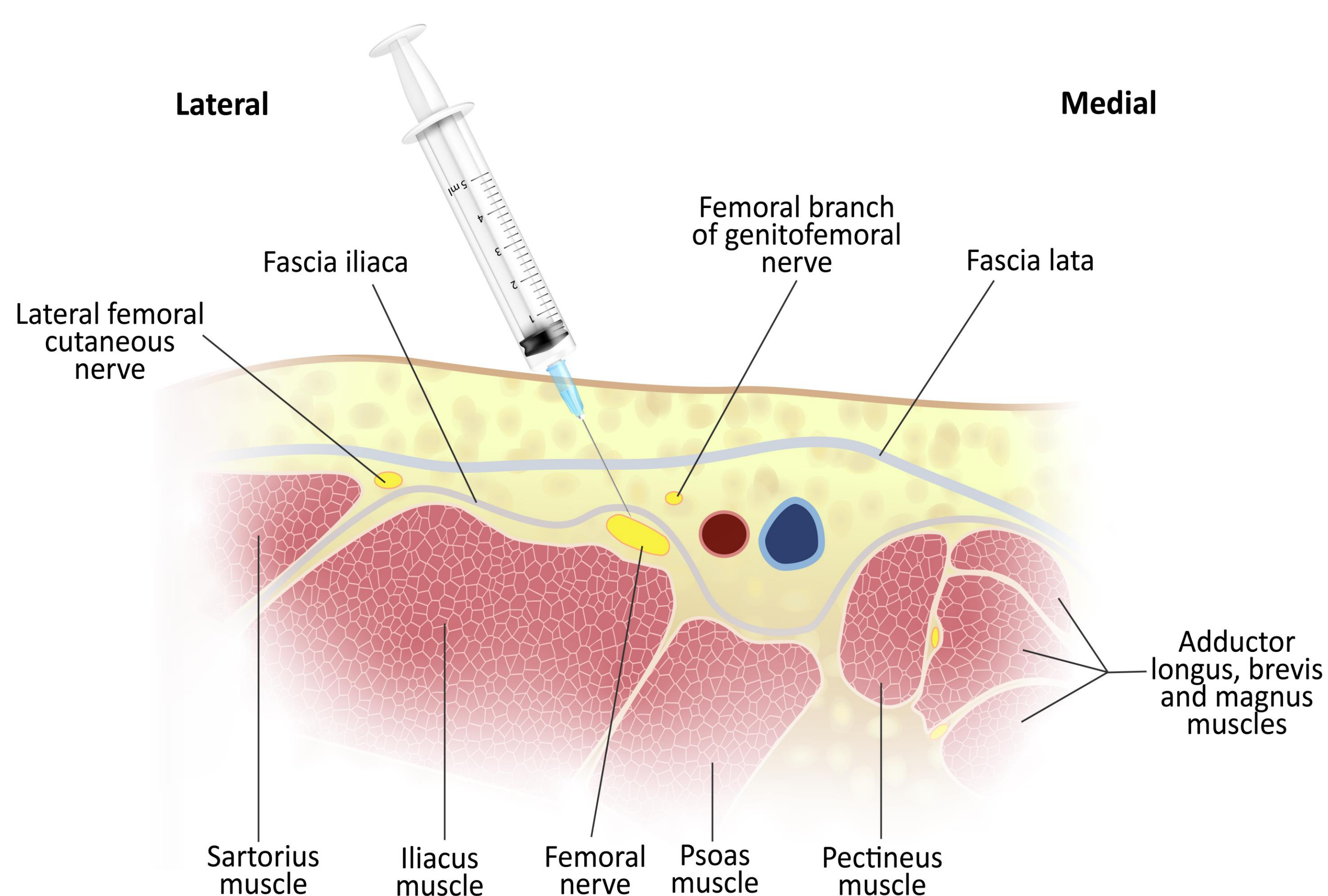


Implementation

The implementation has been a success. So far, four patients have received nerve blocks before their muscle biopsies. Three of the patients had biopsies from the vastus lateralis muscle with femoral and lateral cutaneous nerve blocks. One was anesthetized with ropivacaine; the other two patients received lidocaine (10 mg/ml). The fourth patient had a biopsy taken from the gastrocnemius muscle and received a ropivacaine (5 mg/ml) nerve block of the ischiatic and saphenous nerves at the popliteal level.

The patients experienced the biopsy procedure as painless, the biopsies were of good quality, and there were no procedural complications. The nerve block procedures did not delay the discharge of the patients after the muscle biopsy. The pathologists who analyzed the biopsies noted no significant changes in the samples compared to previous samples from unanesthetized patients.

The procedure has now become standard of clinical care at the University Hospital of North Norway. The project was presented at the national congress of the Norwegian Neurology Association in March 2026, and we will continue to advocate implementation of the procedure in other regional hospitals in Norway.



A Japanese poster presentation at the 2025 WMS Congress in Vienna, Austria inspired immediate implementation of regional nerve blocks in muscle biopsies at the University Hospital of North Norway. This highlights how international scientific conferences help disseminate ideas which may benefit patients worldwide