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INTRODUCTION
Because there was sparse knowledge about where the pain comes from in chronic painful Achilles and patellar tendinopathy, we started research projects in the mid 1990 ties to learn more about innervation patterns and possible pain mechanisms related to these conditions. Ultrasound and Doppler-guided (US+DP) biopsies from the tendon inside and outside, examined with immune-histochemical techniques, showed that there were few nerves inside the tendons but multiple nerves in close relation to blood vessels outside the deep (ventral-Achilles and dorsal-patellar tendon) side of the tendons [1-3]. US+DP-guided injections of small volumes of local anesthesia targeting the blood vessels outside the deep side of the tendon region in the tendon temporarily completely cured the tendon pain during tendon loading activity [1]. These findings were used for anesthetic purposes when treating chronic painful Achilles and patellar tendinopathy, and also helped to better understand pain mechanisms related to these conditions. Further immune-histochemical analyses of the tendon tissue shed new light to neuronal mechanisms [4-14]. Furthermore, these research findings resulted in the invention of new treatment methods performed in local anesthesia, targeting treatment in the regions with high blood flow and nerves outside the deep side of the tendon. Methods that in pilot studies, randomized studies, and follow-up studies have shown good clinical results [15-20].

PRACTICAL TECHNIQUES
US+Doppler examination is always used for evaluation of the tendinopathy and the related blood flow. When the regions with high blood flow on the deep side of tendon have been identified, and with the knowledge from the basic research that the nerves are located close to the blood vessels, the local anesthetic is injected targeting this region. We use 0.5% Xylocain/Adrenaline (Astra Södertälje, Sweden) for the Achilles tendon, and most often only small volumes (3-5 ml) are needed for a local anesthetic effect good enough to allow for pain-free surgical treatment outside, and if needed also inside, the Achilles (16-18). We have used this local anesthesia in more than 1000 Achilles tendon operations, and we have never needed to add sedation or change to spinal, epidural or general anesthesia due to pain during the operation. Also, we have never experienced any patient related complications from using local anesthesia as described above for treatment of the Achilles and patellar tendon.

CONCLUSIONS
Our experiences from using local anesthesia, xylocaine+Adrenaline, when using the US+DP-guided surgical techniques for treatment of Achilles and patellar tendinopathy, are very positive. The operations are done without any pain and discomfort for the patients, the operation field view is excellent (Adrenaline very well minimise bleeding disturbances of the views), and there has been no complications for the patients in relation to the local anesthetic. Local anesthesia used as described here very well replace the need for spinal, epidural or general anesthesia for treatment of Achilles and patellar tendinopathy.

REFERENCES