

The second group received an injection of the anesthetic along with two to three milliliters of their own blood, called an autologous blood injection (ABI), and dry-needling. The third group received a local anesthetic, a steroid and ABI along with dry-needling.

"The injections were all performed with ultrasound and color Doppler, which allows us to watch in real-time where the needle is going," Dr. Bashir said. "During the dry-needling, we can see blood flow increase in the area."

Following their treatments, all patients in the study participated in a structured six-week physiotherapy program. The patients were then evaluated at various intervals over a one-year period to assess their levels of pain and functioning.

Patients treated solely with an injection of a steroid and dry-needling reported improved functionality for only three to 12 weeks after treatment. A year later, patients in this group reported being at pre-treatment levels of pain and functionality. Patients who received their own blood plus dry-needling reported significant improvements in functionality even one year after the treatment.

Patients who received both their own blood and a steroid along with dry-needling at the site of tendon damage experienced the most significant reduction in pain levels and the most sustained functional improvement one year following treatment.

"Ultrasound-guided ABI in the hamstring, in combination with a local steroid and dry-needling, appears to be a more clinically effective alternative to the current standard, steroid therapy," Dr. Bashir said. "A few of our soccer-playing patients had been told their condition was untreatable and they had basically given up all hope of playing again. They were amazed to be able to play again after our treatment and physical therapy."

He added that ABI therapy has also been an effective treatment for microtears in other tendons, including the elbow, the patellar tendon and those in the rotator cuff within the shoulder.

Dr. Bashir's coauthor is David A. Connell, M.D.

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