

Shockwave Therapy

Extracorporeal shockwave therapy (ESWT) stimulates healing through focused, single-pressure pulses of acoustic waves. Although the mechanism is unknown, it is believed ESWT promotes neovascularization and disintegration of mineralization and provides analgesia. ESWT effects in small animals have not been well-studied.

This study sought to determine if ESWT could improve shoulder lameness in dogs. All dogs ($n = 15$) had previously been managed conservatively, including use of analgesics and exercise restriction. Diagnoses included: supraspinatus tendinopathy (ST; $n = 5$), bicipital tendinopathy (BT; $n = 6$), medial shoulder instability (MSI; $n = 5$), and synovial osteochondroma ($n = 1$). Two dogs had multiple diagnoses (1 with ST and BT, 1 with MSI and ST). Dogs with evidence of elbow osteoarthritis were excluded.

Dogs were sedated and treated with ESWT every 3 to 4 weeks for a total of 3 treatments. Nine dogs completed a final examination 3 to 4 weeks after treatment completion; of these, shoulder lameness resolved for 3 and was improved in 6. Long-term follow up was conducted by phone interview for 11 dogs. For 7, owners considered the dogs' lameness to have improved or resolved. For 3, owners reported no improvement; these dogs had diagnoses of ST ($n = 1$) and MSI ($n = 2$). The remaining dog had bilateral BT and was considered worse after treatment; it had become pregnant and was diagnosed with Lyme disease during the follow-up period. The authors recommended considering ESWT for dogs with lameness from instability, calcification, or inflammation that does not respond to conservative management.

Commentary

Lameness attributable to the soft-tissue structures of the shoulder are often chronic overuse conditions in which the biceps, supraspinatus, and/or subscapularis tendons have suffered repeated trauma and failed to heal. ESWT is a non-invasive modality shown to stimulate healing in experimental models of tendon injury. It has been used successfully to treat tendinopathies in humans, horses, and dogs. Historically, surgery has been recommended for dogs with shoulder tendinopathies that have failed conservative management, with good-to-excellent outcomes reported. However, because of the noninvasive nature of the modality and positive outcomes expected in the majority of cases, ESWT may be considered a reasonable treatment option—before surgical invention—for dogs with lameness attributed to soft-tissue injury of the shoulder.

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Source

Becker W, Kowaleski MP, McCarthy RJ, Blake CA. Extracorporeal shockwave therapy for shoulder lameness in dogs. *JAAHA*. 2015;51(1):15-19.

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