

Management of Calcaneoplantar Fascioperiostitis -- Clinical Antecedent to Calcaneal Spur

R. Vincent Davis, DC, PT, DNBPM

As reviewed by Rene Cailliet, M.D., in his writings, the pain elicited in the history of a calcaneal "spur" involves an irritative phenomenon present at the point of junction of the plantar fascia and the calcaneal periosteum. This pain is due to the inflammatory changes which occur at that site relative to the swelling involved in the inflammatory process. The inflammatory process involved in calcaneoplantar fascioperiostitis is the clinical antecedent to calcaneal spur formation. Commonly, with spur formation, the pain of the inflammatory process abates.

Pulsed phonophoresis employing an oil coupling agent, or applied under water, is recommended to dissipate the inflammatory edema at the fascioperiosteal junction. Since phonophoresis involves the transfer of dissolved agents of relatively large molecular size into tissues under the influence of an acoustical wave, agent(s) must be selected for transfer.

In this instance we are dealing with an inflammatory process. Accordingly, it is clinically appropriate to select an anti-inflammatory agent as a phonophoretic agent. 0.5 percent corticosteroid ointment would be an excellent selection. It should be applied concomitantly with the oil coupling agent. 2.5 percent lidocaine ointment might also be used if the pain persists somewhat intractably.

With the unit set for pulsed wavelength, the intensity is set for 0.75 W/cm² and the time selector is set for five minutes. With the great toe extended upward slightly to express the plantar fascia, the course of the fascia is followed back to its insertion into the calcaneal periosteum by means of palpation. At this point, pain is commonly exquisite. The great toe is released from flexion after location of the inflammatory site. This is the location for the placement of the corticosteroid/coupling agent and the site for the positioning of the transducer head. Since the pulsed wavelength is not thermal in character, the transducer is held in the stationery position over the inflammatory site with a minimal amount of motion.

Management may include elevation of the heel about 3/4 to 1 inch, or of sufficient height to relieve the tension in the plantar fascia. Women may be instructed to wear slightly higher heels temporarily in order to achieve this elevation. It is possible that a spur may continue to form, but with the absence of the inflammatory process, no pain is commonly elicited.

R. Vincent Davis, D.C., B.S.P.T., Ph.D., D.N.B.P.M.E. Independence, Missouri

References

1. Rene Cailliet, M.D. Soft Tissue Pain Disability. F.A. Davis.
2. Davis, R.V. Therapeutic Modalities for the Clinical Health Sciences.
3. Drusen, Kottke, Ellwood. Handbook of Physical Medicine & Rehabilitation. Philadelphia: W.B. Saunders Co., 1971.
4. Griffin, J.E., Karselis, T.C. Physical Agents for Physical Therapists, 2nd Ed. Springfield, Ill.:

Charles C. Thomas, 1982.

5. Schriber, W.A. A Manual of Electrotherapy, 4th Ed. Philadelphia: Lea & Febiger Publishers, 1975.

AUGUST 1990