

CAT Plantar fascia stretching decrease symptoms of plantar fasciitis

Clinical Bottom Line(s):

1. A program of non-weight bearing stretching exercises specific to the plantar fascia is superior to the standard program of weight-bearing Achilles tendon-stretching exercises for the treatment of symptoms of proximal plantar fasciitis.

Citations(s): Digiovanni BF, Nawoczenski DA, Lintal MC, Moore EA, Murray JC, Wilding GE and Baumhauer JF. Tissue-specific plantar fascia-stretching exercise enhances outcomes in patients with chronic heel pain: a prospective, randomized trial. *Journal of Bone and Joint Surgery* 2003; 85-A(7): 1270 – 1277.

Three/four part clinical question: In patients with chronic plantar fasciitis, does structure-specific plantar fascia-stretching program for eight weeks have a better functional outcome than do patients managed with a standard Achilles tendon-stretching protocol?

The study: Prospective, randomized trial

The study patients: One hundred and one patients (33 men and 68 women) with chronic plantar fasciitis for duration of at least ten months. The patients were randomized into two treatment groups: a plantar fascia tissue-stretching program (Group A) or an Achilles tendon-stretching program (Group B). Only eight-two returned for a follow-up evaluation after eight weeks.

Control Group(s): Patients in treatment Group B received instructions in an Achilles tendon-stretching program. They were taught to perform this exercise while standing and leaning into the wall with the affected leg placed behind the contralateral leg. Patients were asked to place the shoe insert under the affected foot to minimize excessive midfoot pronation while stretching.

Experimental Group: Patients in treatment Group A received instructions on the plantar fascia stretching exercise. This is performed by the patient crossing the affected leg over the contralateral leg, and then the patient pulled back on the base of the toes toward the shin until he or she felt a stretch. The patient confirmed that the stretch was correct by palpating the tension in the plantar fascia.

The evidence:

	Univariate Analysis (%)		Covariate Analysis (%)	
	Mean Change	95% Confidence Interval	Mean Change	95% Confidence Interval
Item 1 (pain at its worst)†				
Group A	-26.0	(-33.0 to -19.0)	-24.6	(-31.8 to -17.5)
Group B	-14.7	(-21.2 to -8.2)	-12.4	(-20.6 to -4.2)
Item 2 (first steps in the morning)‡				
Group A	-31.1	(-39.3 to -22.7)	-30.2	(-38.5 to -21.9)
Group B	-13.2	(-22.2 to -4.1)	-11.3	(-20.8 to -1.7)
Combined scores for items 1-7§				
Group A	-19.0	(-24.8 to -13.3)	-17.3	(-23.2 to -11.3)
Group B	-13.0	(-19.8 to -6.2)	-11.1	(-18.0 to -4.1)

*Group A was managed with a plantar fascia-stretching program, and Group B was managed with an Achilles tendon-stretching program. Note that negative values reflect a reduction in pain score. †P = 0.022 for univariate differences; after adjusting for covariates, p = 0.017. ‡P = 0.006 for univariate differences; after adjusting for covariates, p = 0.002. §P = 0.171 for univariate differences; after adjusting for covariates, p = 0.15 (not significant).

Items 1-7 were subjective questions about perceived improvement, changes in heel pain, improvement at work and/or recreational activities, and satisfaction with treatment.

Comments:

1. This study had an overall high attrition rate at 18.8%. Of the 101 patients initially randomized into the study, only 82 returned for follow-up evaluation.
2. Between groups, the attrition rate was 28% for Group B and 9.8% for Group A.
3. This study provides an alternative option to the current standard of care in the nonoperative treatment of chronic heel pain.

Appraiser by:
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