

## Evaluating the Foot and Ankle: Key Tests

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As many prospective students do, I toured different schools to choose where to pursue my chiropractic education. I recall one presentation by an instructor that was distinctly not what I expected – he talked not so much about the spine, but all the other ways chiropractic can help the body. He talked about active rehab, different therapy modalities, and supportive braces. The part of his presentation I most recall is this old country doc talking about how he would tape a half dollar over the heel to reduce a heel spur and provide relief.

It is probably safe to assume that taping coins to the heel is not one of the better therapeutic options available today, but heel and arch pain are still very significant patient problems. The current trends in shoe fashion only add to the problem – high heels and a narrow toe box only force the foot into an abnormal position, causing gait problems.

A number of articles have compared modern high-fashion footwear to the ancient Oriental practice of foot binding – and it has been shown that much of the same deformities will result. We all know altered gait can only lead to other functional problems in the legs, hips and back. Evaluating the foot and ankle is reasonable and appropriate as part of a basic patient assessment, especially with any lower back or leg complaint.

Everyone knows the [Straight Leg Raise Test](#) – but there is more to it than the lower back. If there is limited ankle dorsiflexion, this test can also differentiate between soleus and gastrocnemius involvement. If you are able to achieve ankle dorsiflexion when the knee is flexed, the gastroc muscle is the cause of limitation, as flexion of the knee slackens the gastroc. If the soleus is responsible, the limitation will be the same whether the knee is flexed or not. This differentiation is termed the [Ankle Dorsiflexion Test](#). While extending the knee during the SLR, it is also very easy to palpate the calf muscle (Homan's Sign) to check for deep-vein thrombosis.

While the patient is sitting, also evaluate the arch – is the longitudinal arch visible when sitting? If the arch is present when sitting and then flattens with standing, this is termed a *supple flat foot*, which should respond well to orthotic support. Another test involves viewing the Achilles tendons from behind while the patient is standing straight – if the tendons bow in, it is an indication of functional collapse of the longitudinal arches.

However, if the arch is flat while not weight-bearing and remains flat with weight-bearing, this is then termed a *rigid flat foot*. Orthotics may be indicated, but will likely be much more uncomfortable for the patient. This differentiation will be important when choosing what style of orthotic you recommend and provide.

Ankle sprains are a common injury, and if reminded patients will often point out the area of swelling that never went away after the ankle sprain. This soft mass – typically over the anterior talofibular ligament – is termed *plastic deformation* and is essentially gelatinized leftover fluids from the injury.

If there is a history of older or recent [ankle sprain](#), the Anterior Draw Sign should be considered. Normally, there should be no forward movement of the talus on the tibia, but if you can feel the talus slide out from under the ankle mortise, then instability is present and should be addressed. If the anterior talofibular and calcaneofibular ligaments are both torn, there will be gross ankle instability. This should be referred for further orthopedic evaluation and treatment.

Certainly there is a lot more that could be discussed regarding the ankles and feet, but hopefully this a good refresher on evaluation. I believe chiropractors are physicians, and as such we are able to address and treat the whole person, not just the spine. The feet are the foundation and can have a dramatic effect on the alignment of the legs, hips, and spine.

In closing, I refer back to the comments of Old Dad Chiro and the monument on the Palmer campus that bears his words: "I have never felt it beneath my dignity to do anything to relieve human suffering." If you look up that quote in his text, it goes on to state "[T]he relief given bunions and corns by adjusting is proof positive that subluxated joints do cause disease."

Take a moment to include foot and ankle evaluation in your patient assessment. It is quick and easy, and it can give you a great deal of insight into the functional cause of your patient's spinal pain. And as always, make sure you clearly document your findings and the rationale for your care plan. Your patients can only benefit, and they will thank you for your quality care.

### *Resources*

- Palmer DD. *The Chiropractor's Adjuster*. Portland Printing House; Portland, OR, 1910.
- Hoppenfeld S. *Physical Examination of the Spine and Extremities*. San Mateo, CA: Appleton & Lange; San Mateo, CA, 1976.
- Evans RC. *Illustrated Essentials in Orthopedic Physical Assessment*. Mosby; St. Louis, MO, 1994.

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