When Heel Pain Is Not Plantar Fasciitis

Consider the wide variety of differential diagnoses.

**BY PAUL SCHERER, DPM**

Clinicians can consider the differential diagnoses before making a pair of orthotics for plantar fasciitis or after the orthotic fails to relieve the symptoms. Before is always better and more efficient, but everyone must accept the premise that there are zebras when treating this condition.

For several years, I attended at a special problems clinic that allowed podiatrists to send their patients for consultation when their orthotics did not work for pathologies that usually responded to custom orthotics. The majority of these patients were treated for heel pain and plantar fasciitis but did not improve. Some of these patients had clearly received inappropriate or poorly casted and manufactured orthotic devices but surprisingly, many of the patients had good orthotics but did not in fact have plantar fasciitis.

Few podiatrists do a proper differential diagnosis when encountering heel pain because it is such a common disorder. It is an accepted concept in medicine, “If you hear hoof beats, think horses, not zebras.” But that doesn’t mean there are no zebras in our world and maybe you should know what they look like and where they come from.

In the world of heel pain, here is the zebra list that every student in the special problems clinic was required to learn. You can either review it before making the diagnosis and orthotic, or after the orthotic fails. None of these diagnoses is compatible with mechanical control.

**Alternative Etiologies to Heel Pain**
- Spondyloarthritis (SpA)
- Rheumatoid arthritis (RA)
- Rheumatoid arthritis (JRA)
- Systemic lupus erythematosus (SLE)
  - Neuropathy
  - Vascular impairment
  - Trauma
  - Gout
  - Tumors
  - Calcaneal cyst

**Spondyloarthritis**

This is a group of so-called seronegative arthropathies, all of which present with heel pain in various forms and ages. The following is a brief discussion of each and what the literature tells us about this disorder and heel pain.

**Ankylosing Spondylitis**

This is a strongly genetic disorder that the literature suggests occurs when the HLA-B27 gene is turned on by klebsiella or another GI infection. The pathology is joint fusion and bone production, particularly in the lower back, along with enthesis of the medial tubercle of the calcaneus (Figure 1). A 1995 paper presented three cases of young males with heel pain who were treated with injections and orthoses for approximately one year before the HLA-B27 test was performed and the patients properly diagnosed and treated.¹

**Reactive Arthritis**

This disorder was called Reiter’s syndrome until Dr. Reiter was recognized as an individual who performed human experimentation on prisoners at the Buchenwald concentration camp.

*Continued on page 90*
Heel Pain (from page 89)

The disorder is an autoimmune reaction, possibly also related to the HLA-B27 gene’s reaction to chlamydia, gonorrhea, and more commonly HIV infection. Symptoms appear as conjunctivitis, urethritis and arthritis. A 1983 review in Rheumatology International listed asymmetrical heel pain as the second most common (44%) presenting symptom. A later 1993 paper of 143 patients demonstrated that 36% presented with unilateral heel pain. This disorder is why non-mechanical heel pain is listed as a presenting symptom of HIV infection.

Enteropathic Spondylitis

This disorder is recognized as an arthropathy that is often concurrent with inflammatory bowel disease, ulcerative colitis, and Crohn’s disease. The pathology is not fully understood, but GI infection may exhaust the largest immune system in the body, leading to bowel symptoms and possibly arthritic symptoms. A 2011 paper revealed that even before the GI infection is evident, patients present with knee pain (65%) upon their first step in the morning (62%).

Psoriatic Arthritis

This is another seronegative autoimmune reaction that researchers suspect happens when there is a peptide defect of the 6th chromosome. Only 25% of the patients that have the skin lesions develop arthritic symptoms, but of this group fully 54% report heel pain (Figure 2).

Anterior Uveitis

This is a rare arthropathy that is associated with an eruption of chicken pox or herpes simplex. The literature shows that often the patient will seek medical care for heel pain, causing an antalgic gait, before seeking eye care for their uveitis. Heel pain, in children, is rarely mechanical; when associated with what appears to be conjunctivitis, it must be investigated for this disorder. Treating the heel pain is of no value to the patient.

Rheumatoid Arthropathies (SeroPositive)

The American College of Rheumatology in 2011 documented that presently 7,416,000 individuals in the United States are treated for one of the five major presentations of these diseases. This leaves 500 patients for each podiatrist in the United States. Many present before diagnosis with symptoms of heel pain, or heel pain becomes a significant part of their presentation after diagnosis. The following describe the diseases and the incidence of heel pain.

Rheumatoid Arthritis (RA)

This “autoimmune” arthritis produces synovitis, pannus formation and nodules (Figure 3) as a pathology, causing joint destruction and severe foot disability and deformity. A 1979 survey demonstrated that although the pathology occurs within the foot joints, 21% of the population experience daily heel pain.

Childhood Rheumatoid Arthritis (JRA)

The etiology of this disease in children continues to be a genetic mystery. The term “autoimmune” is also applied to this predominantly Caucasian female disease which begins between the ages of 7–12. The same joint pathology as RA exists and more often than not it involves muscle spasm, which affects the lower extremity, producing a wide variety of symptoms and deformity. The most common is digital dorsal subluxation in the toes and spindle fingers in the hand.

A 2010 Canadian cohort study of 319 patients with JRA demonstrated two important findings. First, 95% of the patients had a presenting symptom of a limp and 95% of the patients had heel pain. Second, if a patient presented with a symptom of a limp, there was a short duration to confirming a diagnosis, while if they had heel pain, it took twice as long to make the diagnosis of RA. Someone had been dropping the ball. Children between 7 and 12 do not get plantar fasciitis. This is a huge clue to appropriate diagnosis and treatment.

Systemic lupus erythematosus affects nine times more women than men and presents as a non-erosive arthritis, a photo sensitivity cheek rash, and a 35% chance of heel pain.

Fractures similar to those that occur in the vertebrae of patients with this disease. Many of these women are immediately post-pubescent and should not first be suspected of having plantar fasciitis, which is extremely rare in this age and gender population.

Neuropathy

This etiologic category contains

Continued on page 91
in 2002 identified heel pain as a consistent hallmark of TTS. This is one etiological factor that might be helped with orthotics, although it is masquerading as plantar fasciitis.

**Neurilemmoma**

This enlargement of Schwann cells in the myelin sheath of the tibial nerve has been suspected of causing heel pain. It is suspected of that irritation from repetitive motion and certain sporting activity causing the pseudo-tumor; the pressure on the axon causes the heel pain.11

**Gout**

Rarely do practitioners think of gout when considering heel pain, but this systemic disease is one of the most common camouflaged diagnoses. The use of hydrochlorothiazide, alcohol abuse, and renal failure often produce atypical gout pain in the heel with the hallmark that the pain is the same intensity weight-bearing or not.

**Tumors**

Only 3% of osseous tumors occur in the foot, and benign lesions outnumber malignant lesions by 5:1. W B Kilgore’s text “Calcaneal Tumors and Tumor-Like Conditions” is the classic and still relevant guide to calcaneal tumors. Every podiatrist should possess a copy.15

**Vascular Impairment**

Vascular impairment to the calcaneus is rare and usually obvious. The literature has reported vascular infarcts to the calcaneus and occlusive claudication of the distal portion of the popliteal artery, producing acute heel pain.16

**References**

1 Riddle, D, Schappert, S. Volume of ambulatory care visits and patterns of
Heel Pain (from page 91)


---

Dr. Scherer is a Clinical Professor at the College of Podiatric Medicine at Western University of Health Sciences. He is Board Certified both by ABPS and ABPM and has held several other academic positions including: immediate past Professor and Chairperson of the Department of Applied Biomechanics at Samuel Merritt University; and Professor, Department Chairperson, Vice President and Academic Dean of the California College of Podiatric Medicine. He is founder of ProLab Orthotics.