FEBRUARY 20, 2013, 12:01 AM

No Consensus on a Common Cause of Foot Pain

By GRETCHEN REYNOLDS

There are more charismatic-sounding sports injuries than plantar fasciitis, like tennis elbow, runner's knee and turf toe. But there aren't many that are more common. The condition, characterized by stabbing pain in the heel or arch, sidelines up to 10 percent of all runners, as well as countless soccer, baseball, football and basketball players, golfers, walkers and others from both the recreational and professional ranks. The Lakers star Kobe Bryant, the quarterback Eli Manning, the Olympic marathon runner Ryan Hall and the presidential candidate Mitt Romney all have been stricken.

But while plantar fasciitis is democratic in its epidemiology, its underlying cause remains surprisingly enigmatic. In fact, the mysteries of plantar fasciitis underscore how little is understood, medically, about overuse sports injuries in general and why, as a result, they remain so insidiously difficult to treat.

Experts do agree that plantar fasciitis is, essentially, an irritation of the plantar fascia, a long, skinny rope of tissue that runs along the bottom of the foot, attaching the heel bone to the toes and forming your foot's arch. When that tissue becomes irritated, you develop pain deep within the heel. The pain is usually most pronounced first thing in the morning, since the fascia tightens while you sleep.

But scientific agreement about the condition and its causes ends about there.

For many years, "most of us who treat plantar fasciitis believed that it involved chronic inflammation" of the fascia, said Dr. Terrence M. Philbin, a board-certified orthopedic surgeon at the Orthopedic Foot and Ankle Center in Westerville, Ohio, who specializes in plantar fasciitis.

It was thought that by running or otherwise repetitively pounding their heels against the ground, people strained the plantar fascia, and the body responded with a complex cascade of inflammatory biochemical processes that resulted in extra blood and fluids flowing to the injury site, as well as enhanced pain sensitivity.

But instead of lasting only a few days and then fading, as acute inflammation usually does, the process can become chronic and create its own problems, causing tissue damage and continuing pain.

This progression is also what experts believed was happening when people developed chronic Achilles tendon pain, tennis elbow or other lingering, overuse injuries.

But when scientists actually biopsied fascia tissue from people with chronic plantar fasciitis,

"they did not find much if any inflammation," Dr. Philbin said. There were virtually none of the cellular markers that characterize that condition.

"Plantar fasciitis does not involve inflammatory cells," said Dr. Karim Khan, a professor of family practice medicine at the University of British Columbia and editor of The British Journal of Sports Medicine, who has written extensively about overuse sports injuries.

Instead, plantar fasciitis more likely is caused by degeneration or weakening of the tissue. This process probably begins with small tears that occur during activity and that, in normal circumstances, the body simply repairs, strengthening the tissue as it does. That is the point of exercise training.

But sometimes, for unknown reasons, this ongoing tissue damage overwhelms the body's capacity to respond. The small tears don't heal. They accumulate. The tissue begins subtly to degenerate, even to shred. It hurts.

By and large, most sports medicine experts now believe that this is how we develop other overuse injuries, like tennis elbow or Achilles tendinopathy, which used to be called tendinitis. The suffix "itis" means inflammation. But since the injury isn't thought to involve chronic inflammation, its name has changed.

This has not yet happened with plantar fasciitis, and may not, given what a mouthful fasciopathy would be.

The evolving medical opinions about plantar fasciitis matter, beyond nomenclature, though, because treatments depend on causes. At the moment, many physicians rely on injections of cortisone, a steroid that is both a pain reliever and anti-inflammatory, to treat plantar fasciitis. And cortisone shots do reduce the soreness. In a study published last year in BMJ, patients who received cortisone injections reported less heel pain after four months than those whose shots had contained a placebo saline solution.

But whether those benefits will last is unknown, especially if plantar fasciitis is, indeed, degenerative. In studies with people suffering from tennis elbow, another injury that is now considered degenerative, cortisone shots actually slowed tissue healing.

We need similar studies in people with plantar fasciitis, Dr. Khan said. "They have not been done."

Thankfully, most people who develop plantar fasciitis will recover within a few months without injections or other invasive treatments, Dr. Philbin said, if they simply back off their running mileage somewhat or otherwise rest the foot and stretch the affected tissues. Stretching the plantar fascia, as well as the Achilles tendon, which also attaches to the heel bone, and the hamstring muscles seems to result in less strain on the fascia during activity, meaning less ongoing trauma and, eventually, time for the body to catch up with repairs.

To ensure that you are stretching correctly, Dr. Philbin suggests consulting a physical

therapist, after, of course, visiting a sports medicine doctor for a diagnosis. Not all heel or arch pain is plantar fasciitis. And comfort yourself if you do have the condition with the knowledge that Kobe Bryant, Eli Manning and Ryan Hall have all returned to competition and Mr. Romney still runs.