

Is Plantar Fasciitis a Hereditary Condition?

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At first glance, the question of whether or not common sources of heel pain, including plantar fasciitis and heel spurs, are genetic looks like a firm “no.” There is no such thing as a “plantar fasciitis gene,” or a DNA marker for heel spurs. However, on closer inspection the question of whether or not plantar fasciitis or heel spurs are hereditary is a little more complex (and interesting!) We dug into the research on heel pain and genetics, as well as consulting some of the leading foot care experts to give you the full scoop!

Is Plantar Fasciitis Genetic?

Again, nobody has a “plantar fasciitis gene” hidden in their genetic makeup. However, there is a strong correlation between plantar fasciitis and other genetic factors.

[Dr. Bela Pandit](#) says, “Heel spurs and plantar fasciitis can certainly have a hereditary link. Both obesity (which places excessive stress on the plantar fascia) and foot type (particularly flat feet with tibial tendon weakness) are two significant factors that contribute to plantar fasciitis and have a strong genetic link.”

The Genetic Link Between Plantar Fasciitis and Flat Feet

Flat feet, which leads to pronation (and causes an excessive inward roll as the foot hits the ground), is a [homozygous recessive genetic trait](#) shared by about 10%-20% of the general population. If you have one parent with flat feet, your chances of having flat feet too are about 50%. If both of your parents have flat feet, all of their children will have flat feet.

The Genetic Link Between Plantar Fasciitis and Body Weight

Body weight is another [significant risk factor for plantar fasciitis](#), since greater weight places greater strain on the plantar fascia ligament. And while most people tend to think of body weight as a result of caloric intake and expenditure, new research shows that genetics play a strong role in how the body stores and releases fat. [Newer studies show](#) that about 50 genes play a crucial role (about 40-70%) in whether or not a person will be overweight.

The Genetic Link Between Plantar Fasciitis and Plantar Fascial Disorder

Plantar fascial disorder, which develops as a combination of plantar fasciitis and plantar fibromatosis (a rare condition that results in excessive connective tissue), has a genetic link as well. Some studies have shown that [genetics play a role in how likely a person is to have plantar fibromatosis and plantar fascial disorder](#).

How Significant Are Genetic Risk Factors for Developing Plantar Fasciitis?

It's important to remember that genetics are complicated — and just a slice of the pie in determining whether or not a person actually develops plantar fasciitis or heel spurs.

While understanding your genetic risk factors can help you be more proactive in seeking treatment for heel pain or recognize warning signs you might have otherwise missed, genetic risk factors aren't a surefire diagnosis.

[Dr. Robert Kornfeld](#) says, "There's no simple answer to questions about genetics and heel pain. Diet, lifestyle, and environment (or epigenetics) will always interact with genetic factors like foot biomechanics. Meaning, two people with the exact same foot structure can have very different experiences with heel pain."

In other words, even someone with "imperfect" feet can avoid heel pain. Dr. Kornfeld says, "Someone might inherit a structural predisposition for plantar fasciitis, but poor diet or lifestyle choices that put the tissues under stress will ultimately be the determining factors on whether or not the condition develops." He adds, "This is exactly why preventative care is such an important part of modern medicine. We can catch structural or functional deficiencies that stem from genetics, while also intervening on behalf of different lifestyle factors to help prevent these painful and often chronic conditions."

Are Heel Spurs Hereditary?

In most cases, heel spurs aren't a result of genetics but rather a symptom of plantar fasciitis. A deteriorating, thinning heel pad combined with inflammation and pressure on the plantar fascia ligament can lead to these painful bone growths that dig into foot tissue.

However, there are also many cases in which heel spurs can develop separately from plantar fasciitis and ultimately cause heel pain. And there is some evidence that genetics play a role in such cases. Arthritic disorders like [ankylosis spondylitis](#) and [reactive arthritis](#) as well as [diffuse idiopathic skeletal hyperostosis](#) have a strong genetic connection — and a strong correlation with the growth of heel spurs.

The takeaway? Make sure to give your doctor a full accounting of your family medical history — even if you're not sure the condition relates to foot pain!

Lifestyle Choices, Heredity, and Heel Pain

It's also important to consider that lifestyle choices (like our line of work, hobbies, or activity level), while not genetic, are often tied to our family of origin. Understanding these factors, and making changes as needed, can help avoid plantar fasciitis or heel spurs.

[Dr. Steven Rosenberg](#) says, "We are certainly a byproduct of our parents. If they struggle with plantar fasciitis because of their body type or foot type (e.g., flat feet), we're more likely to struggle as well. We're also likely to follow in our parents' footsteps when it comes to lifestyle choices (e.g., sports or running) that might make a person more vulnerable to plantar fasciitis."

Field of Work

Jobs that involve a lot of time standing, especially on a hard surface like cement (like retail, construction, or nursing), can increase your risk of developing plantar fasciitis or heel spurs. Standing is actually a greater risk factor than jobs that require a lot of walking, since standing in steadily taxes the arch of the foot and supporting muscles, instead of the alternating rhythm of impact and rest while taking steps.

Activity Level and Hobbies

While staying active is a good thing (maintaining a healthy weight can help avoid excessive pressure on the arch of the foot), high-impact sports and exercise routines can increase your risk of plantar fasciitis.

So, if you inherited your parents' love for running marathons, playing basketball, soccer, or even golf (lots of standing!) you'll want to keep an eye out for the warning signs of plantar fasciitis.

Footwear Preferences

Was it the norm in your house to wear slippers often, or spend the summer in flip-flops? If unsupportive shoes were a hallmark of your childhood, it's common to continue those habits into adulthood. Wear shoes that support your arch and help distribute impact properly, and avoid problem shoes like slippers, flip-flops, and high heels. For added cushioning and support to the plantar fascia ligament, wear [Heel Seats](#) daily.

Staying Ahead of Genetics and Lifestyle Factors

Remember, genetics and lifestyle factors aren't a sentence of heel pain and plantar fasciitis. But by watching out for common risk factors, you can stay ahead of chronic pain.

Dr. Rosenberg says that, "If your parents had plantar fasciitis or heel spurs, and you know you're likely to be more susceptible, don't be afraid to take preventative care by supporting your feet with orthotics."