KURU

# 2024 Foot Pain

# **Trends Report**

Survey Reveals the Latest on Foot Pain in America

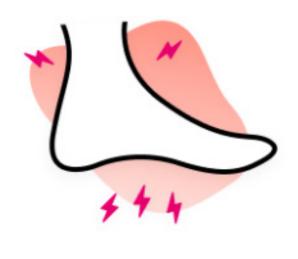
# Table of Contents

- 03 Introduction
- 04 Methodology
- 05 Trends at a Glance
- 10 Common Areas of Foot Pain
- 19 Prevalence of Foot Pain
- 35 Importance of Self-Assessment
- 36 Mental Health and Foot Pain
- 40 Foot Pain & Mobility
- 48 Foot Pain Diagnosis and Treatment

- 58 Advancing Foot Health
- 66 Booming Foot Care Market
- 68 Cost of Foot Pain
- 72 Technological Innovation in Foot Health
- 77 Conclusion
- 77 Acknowledgements
- 78 Sources
- 80 For the Media
- 80 View Previous Years' Reports

# Introduction

Our feet are the foundation of every step we take—and it can get painful, fast. In fact, we found that in the United States, an estimated 80% of the population experiences foot pain. With these kinds of numbers, we believe it's crucial to routinely highlight data and insights on foot pain trends in America.



At KURU Footwear, we also believe health starts from the ground up. We know that creating the best shoes for foot pain relief begins with a deep understanding of foot anatomy, common foot problems, and Americans' foot health habits. That's why we're committed to annually reporting the latest trends, data, and insights on foot health in the US. This knowledge allows us to continue to engineer footwear that promotes optimal foot health, so our customers can live the life they love.

In this report, we'll share our most recent survey findings along with other relevant data and studies to shed light the current state of foot pain in America.

# Methodology

The data and insights in this 2024 Foot Pain Trends Report have been gathered from a variety of sources, including public, private, and government entities, market research companies, and medical studies. We include references both for data that is publicly accessible and that which is proprietary information.



To learn more about our products, please visit our website at www.kurufootwear.com.

The 2024 survey data presented in this report is based on a total sample size of 2,500 (of 3,085) American adult public respondents, aged 18 years and older, who reported experiencing foot pain within the last 12 months (November 2022–October 2023). The survey has been conducted with a margin of error of +/-2%and a confidence level of 99%. These results provide a statistically significant representation of the population surveyed.

Our 2023 report included 2,613 public respondents and 3,417 KURU customer respondents (all with some form of painful feet) for a total sample size of 6,030 American adults.

Important note: the information contained in this report is for informational purposes only and should not be interpreted as an offer to purchase footwear products or professional medical care services. Any such offers or solicitations will only be made through official offering documents.



We do not make any warranties, express or implied, regarding the information presented. Except for medical expert contributions, the information should not be considered professional advice.

We release the Foot Pain Trends report annually and may occasionally highlight new insights as they become available. These updates, revisions, or clarifications can be found on our website at https:// www.kurufootwear.com/a/reports/foot-pain-2024.

# Trends at a Glance

# 01 Prevalence of Foot Pain

The 2014 report by the American Podiatric Medical Association (APMA) marked a pivotal moment in grasping how widespread foot pain was among Americans. It uncovered that an overwhelming **77%** had dealt with foot pain at some stage, yet a significant number hadn't sought professional help.

By 2024, the situation has worsened. Let's dig into a summary of the reasons why. See the "Prevalence of Foot Pain" section below for our full report.

- We discovered that 81% of Americans report foot pain in 2024, a marked increase over the past decade.
- This rise in foot pain can be attributed to various factors, including lifestyle changes, workplace factors, a growing aging population, and wearing ill-fitting footwear.
- Prolonged periods of standing or walking on hard surfaces and increased sedentary behavior due to technology use contribute significantly to foot pain.
- Prolonged sitting weakens foot muscles and excess weight adds strain.
- Nearly 1 in 5 adults (21%) have endured foot discomfort for a duration spanning 1 to 5 years and 33% of those experiencing pain report related health problems in their back, knees, and hips.

Survey data from 2023 and 2024 also highlight how specific careers correlate with this foot pain.

- The Health Care and Social Assistance sector consistently reports the highest levels of foot pain, indicative of its physically demanding roles.
- Construction also remained a top sector that experiences foot pain.
- Retail and the role of Homemaker saw increases in foot pain reports in 2024, reflecting the physical demands of these positions.
- Conversely, the Finance and Insurance sector saw a decline in reports, suggesting possible improvements in workplace ergonomics or changes in work nature.
- The shifting rankings of sectors like Hotel and Food Services, Education, and Manufacturing point to variations in occupational foot pain prevalence, likely due to evolving work practices or enhanced reporting and awareness.

### 02 Mental Health and Foot Pain

The interconnection between mental health and foot pain is gaining recognition within healthcare. Holistic and alternative treatment methods are becoming more mainstream, reflecting a shift towards integrative health practices that consider emotional and psychological factors alongside physical symptoms.

Here's a summary of mental health and foot pain in 2024. See the "Mental Health and Foot Pain" section for our complete report.

- Survey data from 2023 and 2024 show a significant shift in how individuals perceive foot pain's impact on their lives.
- In 2023, while over 95% of respondents noted some level of influence of foot pain on their daily activities, only about 7.7% considered their foot pain as debilitating.
- By contrast, the 2024 survey reveals a dramatic increase in this regard, with nearly half of the respondents (47%) now describing their foot pain as debilitating.
- This substantial change suggests either a surge in the severity of foot pain experienced by individuals or a shift in how respondents perceive and report the impact of foot pain on their daily lives.
- 3 out of 5 survey respondents (61%) experience anxiety or stress directly due to their foot pain. This finding reinforces the critical connection between mental health and foot pain, emphasizing the necessity for comprehensive approaches addressing both aspects in the management of foot-related discomfort.

### 03 Foot Pain Diagnosis and Treatment

The approach to diagnosing and treating foot pain has undergone significant changes, influenced by advancements in technology and shifts in treatment preferences.

The integration of AI and machine learning has revolutionized the accuracy of diagnoses, enabling personalized treatment plans and earlier interventions. Concurrently, the development of therapeutic footwear, incorporating specially engineered materials and designs, represents a shift toward a more technologically sophisticated, data-driven approach in foot healthcare, emphasizing patient-centric care. Let's take a peek at a summary of foot pain diagnosis and treatment in 2024. See the "Foot Pain Diagnosis and Treatment" section for our complete report.

The treatment landscape for foot pain has evolved, with survey data from 2023 and 2024 highlighting changing preferences.

- In 2024, the predominant treatments were over-the-counter medication (77%), ice (74%), stretching exercises (73%), and massage (71%). This marks a departure from 2023, where stretching exercises led (79%), followed by ice, over-the-counter medication, and orthotics/ inserts.
- Notably, the use of orthotics/inserts saw a significant decline in 2024 to 46%. The increase in more intensive treatments like prescribed medications, physical therapy, and injections suggests a shift toward more diverse and potentially aggressive approaches, possibly reflecting changes in pain severity, treatment awareness, or accessibility.

The perceived effectiveness of treatments shifted as well.

- Physical therapy received the highest effectiveness score in 2024 (2.333), a change from 2023 where surgery led.
- We saw a decrease in effectiveness scores for advanced treatments like surgery and platelet-rich plasma injections, which may reflect variations in individual experiences or a more diverse respondent base.
- Over-the-counter medications, despite their common usage, were rated lower on the effectiveness scale, indicating a nuanced view of treatment efficacy.

There was a significant increase in respondents reporting recent foot pain.

- 64% of people reported pain within 0–2 months in 2024, compared to 37% in 2023.
- Long-term pain reporting (10+ years) decreased, indicating a possible reduction in chronic cases.
- The reported causes of foot pain also shifted in 2024, with nearly half attributing their pain to an injury, contrasting with 2023 where the majority did not.

The percentage of adults with foot pain receiving a formal diagnosis decreased as well.

• 59% received a formal diagnosis in 2023 compared to 37% in 2024.

The methods of diagnosis also diversified in 2024, reflecting a broader approach to diagnosing foot conditions.

 We observed a decrease in self-diagnosis among those without a formal diagnosis, from 41% in 2023 to 26% in 2024. Digital platforms remained popular for self-diagnosis, though there was a slight shift towards more reliance on personal networks.

These findings illuminate a dynamic landscape in the experience, treatment, and diagnosis of foot pain, underscored by technological advancements, changing treatment efficacy perceptions, and evolving healthcare-seeking behaviors.

### 04 Booming Foot Care Market

The foot care market is experiencing a boom, driven by increasing public awareness and investment in foot health. Recent market analyses predict the sector's value, which was \$3.3 billion in 2022, to nearly double to \$6.9 billion by 2032.

This growth is further propelled by the influence of e-commerce, which has revolutionized the way consumers access and purchase foot care products, offering convenience, a wider selection, and the benefits of customer reviews and personalized recommendations.

Additionally, there's a noticeable shift towards natural and organic foot care products, as consumers increasingly opt for environmentally friendly and skinfriendly alternatives.

Moreover, the popularity of over-the-counter (OTC) foot care products is soaring, as they offer easy, accessible, and cost-effective solutions for common foot ailments, reflecting a trend towards self-managed foot health care.

# 05 Technological Innovation in Foot Health

Technological innovation in foot health is advancing rapidly, driven by a range of cutting-edge developments. Wearable technology, such as smart insoles and socks, is revolutionizing the way foot health is monitored, offering detailed insights into walking patterns and early detection of potential issues.

- Virtual reality (VR) is emerging as a valuable tool in foot pain management, providing immersive experiences for pain distraction and tailored rehabilitation exercises.
- Advanced imaging technologies, including 3D printing, are transforming the production of custom orthotics, offering personalized support and pain relief.
- Artificial Intelligence (AI) is enhancing the accuracy

of diagnosing foot conditions through detailed analysis of medical images and predictive analytics.

- Telemedicine is making foot care more accessible and convenient, especially for those with mobility challenges or living in remote areas.
- Minimally invasive procedures aided by robotic technology are improving precision in foot surgeries and rehabilitation.
- Regenerative medicine, particularly stem cell therapy, is offering new avenues for treating foot injuries and chronic conditions, focusing on enhancing the body's natural healing processes.

These innovations collectively signify a significant leap forward in foot health care, promising improved patient outcomes and more efficient healthcare delivery.

# 06 Importance of Self-Assessment

The importance of self-assessment in managing foot pain is becoming increasingly prominent, underscored by the advent and utilization of specialized apps and telehealth services. These technological advancements facilitate proactive health monitoring, enabling individuals to identify symptoms early on and manage their foot health more effectively.

Here's a summary of self assessment in 2024. See the "Importance of Self-Assessment" section for our complete report.

- Our survey data from 2023 to 2024 reveals a notable shift in self-assessment behavior, with a decrease in individuals seeking self-diagnosis through informal means: 26% self-assessing in 2024, down from 41% in 2023.
- This trend reflects a growing preference for

professional medical consultation and signifies an evolution in the way individuals approach their health information-seeking behavior.

- Specialized apps for foot pain assessment play a crucial role in this shift, offering tools for selfmonitoring that can alert users to potential issues before they become severe.
- Similarly, telehealth services have become an integral part of foot pain management, providing accessible initial consultations and follow-up appointments.

These developments represent a significant move towards patient empowerment, demonstrating the critical role of technology in enabling individuals to take an active role in their health care.

# 07 Foot Pain & Mobility

Recent research has highlighted the growing importance of addressing the relationship between foot pain and mobility in pain management. There is an increasing focus on developing solutions that not only alleviate pain but also promote mobility and support an active lifestyle. This emphasis has led to a surge in customized orthotic solutions tailored to individuals' specific mobility needs, ensuring greater effectiveness and comfort.

Here's a summary of foot pain and mobility in 2024. See the "Foot Pain and Mobility" section for our complete report.

Survey data from 2023 and 2024 reveals significant shifts in how foot pain affects daily activities:

 Walking: While walking remained the most affected activity in both years, there was a decrease from 78% in 2023 to 66% in 2024. This suggests potential improvements in managing foot pain during walking or pain severity during this activity.

- Exercising: Foot pain's impact on exercising significantly decreased from 54% in 2023 to 38% in 2024, indicating potentially better pain management strategies during exercise or a shift in the types of exercises performed by individuals with foot pain.
- Household Chores: Household chores remained among the top three activities affected by foot pain, with a slight increase from 25% in 2023 to 27% in 2024. This could reflect the continuous and often unavoidable nature of these tasks, making them more susceptible to the impacts of foot pain.

These changes emphasize the evolving dynamics of how foot pain influences daily mobility and activities, reinforcing the importance of addressing foot pain to maintain an active and fulfilling lifestyle.

# 08 Advancing Foot Health

The advancement of foot health is increasingly characterized by a heightened focus on public education, aimed at enhancing awareness about preventive practices and the early detection of footrelated issues.

This educational push is complemented by ongoing research dedicated to uncovering new methods for pain relief and deepening the understanding of various foot health conditions. Such efforts are instrumental in developing more effective treatments.

This evolving trend underscores a proactive stance in the realm of foot health, where prevention is given as much importance as treatment, signaling a comprehensive approach to maintaining and improving foot health in the broader population.

# 09 Cost of Foot Pain

The financial implications of foot pain extend significantly beyond the direct costs of medical treatment, encapsulating a broad spectrum of economic burdens on both individuals and society. These costs encompass direct medical expenses, such as doctor's appointments, diagnostic procedures, and medications, as well as indirect costs like lost workdays and diminished productivity.

Let's take a peek at a summary of the cost of foot pain in 2024. See the "Cost of Foot Pain" section for our complete report.

- On a societal level, the aggregate expense related to foot pain treatment represents a significant strain on healthcare systems, contributing to the rising overall healthcare costs.
- The data reveals that 75% of adults experiencing foot pain incur monthly treatment expenses, with a significant portion spending over \$250.
- The broader economic impact is magnified by indirect costs, including lost wages and reduced productivity, which not only affect individuals but also businesses and the economy at large. Chronic pain management and long-term disability associated with foot pain can perpetuate financial strain through continuous medical costs and potential loss of income.

Survey data from 2023 and 2024 illustrates a shift in the spending behaviors of individuals managing foot pain.

In 2023, a larger fraction of adults (83%) reported monthly expenditures on treatments related to foot pain, covering podiatrist visits, treatments, medications, and orthotics.  Among these, 51% spent under \$100, 20% allocated \$100 to \$250, and 11% spent over \$250 monthly.

Conversely, the 2024 survey data suggests a modest reduction in the percentage of adults incurring monthly expenses for foot pain, with 75% acknowledging such costs. The spending pattern also adjusted.

• 44% allocated less than \$100 per month on foot pain.

- 13% spent between \$100 and \$250 per month on foot pain
- An increased percentage of 17% dedicated over \$250 monthly to foot pain management.

The shift in treatment expenditures underscores the need for effective management and prevention strategies to mitigate the financial impact of foot pain on individuals and society.

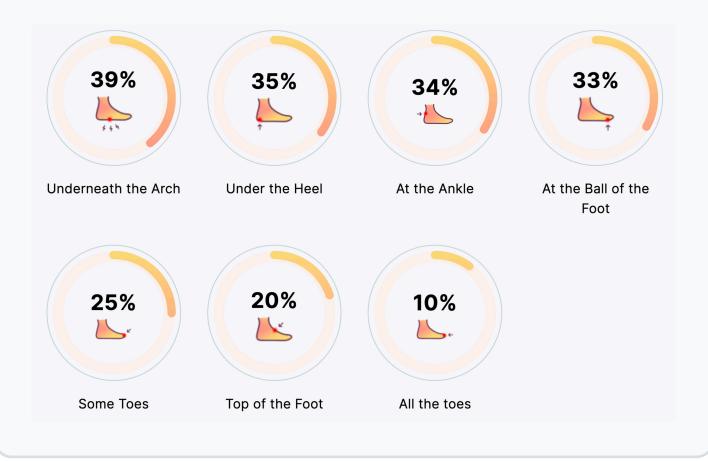
# **Common Areas of Foot Pain**

Our research into various types of foot pain revealed that **pain in arch of foot is the most prevalent (39%)**, followed by pain under the heel (35%), pain in ankle (34%), pain in ball of foot (33%), pain in some toes (25%), pain on top of foot (20%), and pain in the toes (10%).



### Plantar fasciitis is the most frequent cause of pain in heel of foot in the US.

This foot pain condition develops when the band of connective tissue under our feet—our plantar fascia—becomes irritated and inflamed. Pain typically starts at the heel and can radiate through the arch of the foot. Below, we'll take a look at some additional common foot problems that Americans experience. The most common areas of the foot where adults experience pain include the following, ordered from most to least common. Pain may be experienced in more than one area of the foot.

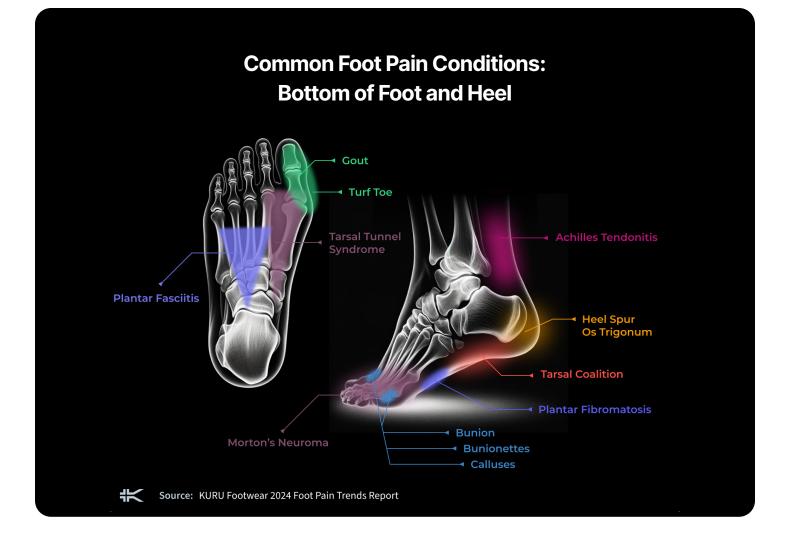


### **Bottom of Foot and Heel Pain**

Our study shows that 33% of Americans experience ball-of-foot pain, 35% have pain under the heel, and and 39% have foot arch pain.



Common causes of bottom-of-foot pain include conditions such as plantar fasciitis, Morton's neuroma, and metatarsalgia. These issues often arise from overuse, a rapid escalation in training activities, frequent walking on hard surfaces, or the use of unsuitable footwear. See below for more detailed information about each of these foot pain conditions.



#### Heel Spurs & Os Trigonum

Heel Spurs and Os Trigonum refer to bone overgrowths, or calcium deposits on the heel bone, also known as the calcaneus.

These overgrowths stem as an inflammatory response, typically caused by excessive rubbing on the heel. This consistent irritation and inflammation prompts the body to form additional bone as a protective measure. Heel bone spurs are most common among athletes and those wearing too-tight shoes over a long period of time.

# In our survey, 6% of participants indicated they suffer from heel spurs.

Os Trigonum is a small, extra bone found in the ankle joint of some adults. When present, it is usually situated behind the talus, one of the ankle bones. This extra bone can lead to pain and discomfort that feels like a deep, achy sensation at the back of the ankle. It is most commonly found in athletes who use their ankles in repetitive motions, such ballet dancers, soccer players, and gymnasts.

Os Trigonum Syndrome refers to pain stemming from an Os Trigonum. Managing this condition involves incorporating periods of rest, applying ice, engaging in physical therapy, and using anti-inflammatory medications. In cases where physical therapy is not successful, it may be necessary to surgically remove the Os Trigonum to be able to engage in desired activities without ankle pain.

#### **Tarsal Tunnel Syndrome & Tarsal Coalition**

Tarsal tunnel syndrome happens when the posterior tibial nerve is compressed. This compression can lead to pain, tingling, and numbness in the foot and ankle. It's akin to carpal tunnel syndrome but occurs in the ankle. Treatment options include rest, ice, and sometimes the use of orthotic devices, corticosteroid injections, or surgery.

When two or more tarsal bones in the foot fuse together, it results in a condition known as tarsal coalition. Tarsal coalition is often present from birth but might not cause noticeable symptoms until later in childhood or adolescence. Treatment options for tarsal coalition may include rest, physical therapy, orthotic devices, or surgery.

#### **Achilles Tendonitis**

Achilles tendonitis refers to the inflammation and pain of the Achilles tendon, the body's largest tendon. This tendon connects the heel bone to the calf muscle and plays a crucial role in nearly all activities that involve standing and movement.

#### In our survey, 6% of participants reported

experiencing tendonitis. This condition is particularly prevalent among athletes who engage in jumping, runners, and individuals who increase their physical activity level too rapidly. In the inflammatory phase it can be treated by rest and ice. Later, it can be treated by physical therapy and a gradual loading of the tendon to develop strength to withstand desired activities.

#### Metatarsalgia & Morton's Neuroma

Swelling of the metatarsal bones, known as metatarsalgia, can result from prolonged engagement in high-impact activities or wearing shoes without proper arch support.

Morton's neuroma, on the other hand, involves inflammation of the nerves in the foot's ball region, leading to thickening of surrounding tissues, often occurring between the third and fourth toes. According to our survey, 33% of participants reported experiencing Metatarsalgia or pain in the ball of the foot, while 2% indicated suffering from Morton's neuroma.



#### **Plantar Fasciitis & Plantar Fibromatosis**

Plantar fasciitis is the leading cause of heel pain in the United States. This persistent foot pain condition arises when the plantar fascia-a band of connective tissue that runs beneath our feet-gets inflamed and irritated. This condition usually causes foot pain when walking and is typically at its worst during the first few steps in the morning. The pain usually begins as a sharp, nagging pain underneath the heel and can radiate throughout the length of the arch.

Another condition, plantar fibromatosis, also known as Ledderhose disease, is a less common disorder of the fibrous tissue in the soles of the feet. It leads to the development of nodules along the plantar fascia and can be treated with shoe inserts, massage, ice therapy, and stretches. In some cases, surgery may be required to remove these nodules to reduce pain in feet.

In our survey, 12% of participants reported suffering from plantar fasciitis. Furthermore, our consulting medical professionals identified plantar fasciitis as one of the top three most frequent foot pain complaints among their patients.



#### **Gout & Turf Toe**

Gout, a form of inflammatory arthritis, usually targets a single joint-frequently the big toe. In our survey, 23% of participants indicated they suffer from some type of arthritis. This condition is caused by the accumulation of uric acid crystals in the joints,

leading to painful flare-ups. Managing gout typically involves lifestyle changes, dietary modifications, and medications to prevent recurrent bouts of the condition.

Turf toe, another toe-related ailment, involves a sprain or hyperextension of the ligament beneath the big toe. It is prevalent among athletes who regularly engage in activities like sprinting or jumping. Treatment for turf toe typically includes rest, ice, compression, and elevation, along with anti-inflammatory medications to alleviate symptoms and promote healing.

#### **Bunions & Bunionettes**

Bunions, also known as hallux valgus, occur when the bones in the toes shift out of their correct alignment. This condition can be hereditary and may be exacerbated by consistently wearing footwear that is too narrow. A bunion on the pinky toe joint is often called a tailor's bunion.

In our survey, 11% of participants indicated that they suffer from bunions.

### Front of Foot & Ankle Pain

Our study revealed that 54% of adults experience pain either on the top of their foot or in the ankle area.



Frequent conditions affecting the front of the foot and ankle include extensor tendonitis, stress fractures, posterior tibial tendonitis, ankle sprains, which can cause pain on top of foot when walking.

Continue reading and consult our foot pain chart for further details on these prevalent conditions in the front of the foot and ankle.





#### Sinus Tarsi Syndrome

Sinus tarsi syndrome is defined by instability in the joint connecting the foot and heel, accompanied by persistent pain at the front or side of the ankle. Individuals with this condition often experience challenges walking on uneven terrain and a sense of unsteadiness.



#### **Claw Toe**

Claw toe is a condition where the toes bend into a claw-like shape, typically caused by muscle imbalances, arthritis, and nerve damage. This condition can result in discomfort and difficulty fitting into shoes.



#### Ankle Sprain

An ankle sprain occurs when the ligaments that support the ankle excessively stretch or tear, typically due to a sudden twist or turn. Sometimes an audible "pop" can be heard accompanied by lateral foot pain and often swelling or bruising.

#### **Stress Fractures**

Stress fractures are tiny cracks in a bone, often caused by repetitive stress or overuse of a particular area. Commonly seen in weight-bearing bones like the shin or foot, these fractures can result in localized pain and may require rest and gradual return to activity for proper healing.

#### **Extensor Tendonitis**

Extensor tendonitis is characterized by inflammation of the tendons on the top of the foot, leading to top of foot pain and swelling. This condition often arises from overuse or improper footwear, affecting the tendons responsible for lifting the toes.



#### **Tibialis Anterior Tendonitis**

Tibialis anterior tendonitis involves inflammation of the tibialis anterior tendon, which runs along the front of the lower leg and helps lift the foot. This condition can lead to side of foot pain, swelling, and difficulty walking, and often stems from overuse or strain on the tendon.

#### **Posterior Tibial Tendonitis**

Posterior tibial tendonitis is characterized by inflammation of the posterior tibial tendon, which supports the arch of the foot. This condition can lead to pain, swelling, and a loss of arch support, often arising from overuse, injury, or underlying foot issues.



#### Mallet Toe & Hammer Toe

Mallet toe and hammer toe both cause an unusual curvature in the toe joints. Typically seen in the second toe, mallet toe involves excessive bending at the joint closest to the toenail, whereas hammertoe is characterized by excessive bending at the middle joint of the toe. In our survey, 6% of participants indicated they have hammer toe.

Medical professionals contributing to the study identified plantar fasciitis, metatarsalgia and bunions as the three most common diagnoses/types of foot pain or conditions seen in patients.

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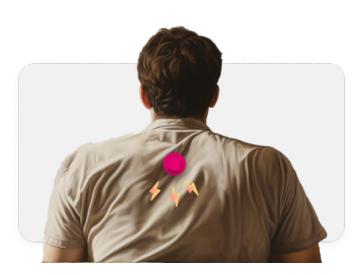
The three most common foot conditions I encounter are plantar fasciitis, which is an inflammation of the tissue running along the bottom of the foot; Achilles tendinitis, affecting the tendon connecting the calf muscles to the heel; and metatarsalgia, a condition causing pain and inflammation in the ball of the foot. These conditions often stem from a combination of overuse, improper footwear, and biomechanical imbalances.

Paul Kim, MD Golden State Orthopedics and Spine

# Influence of Foot Pain on Overall Body Health

Foot pain seldom remains isolated to just the feet, given the interconnected nature of our bodies. Pain in one area frequently originates from or affects another distinct part of the body.

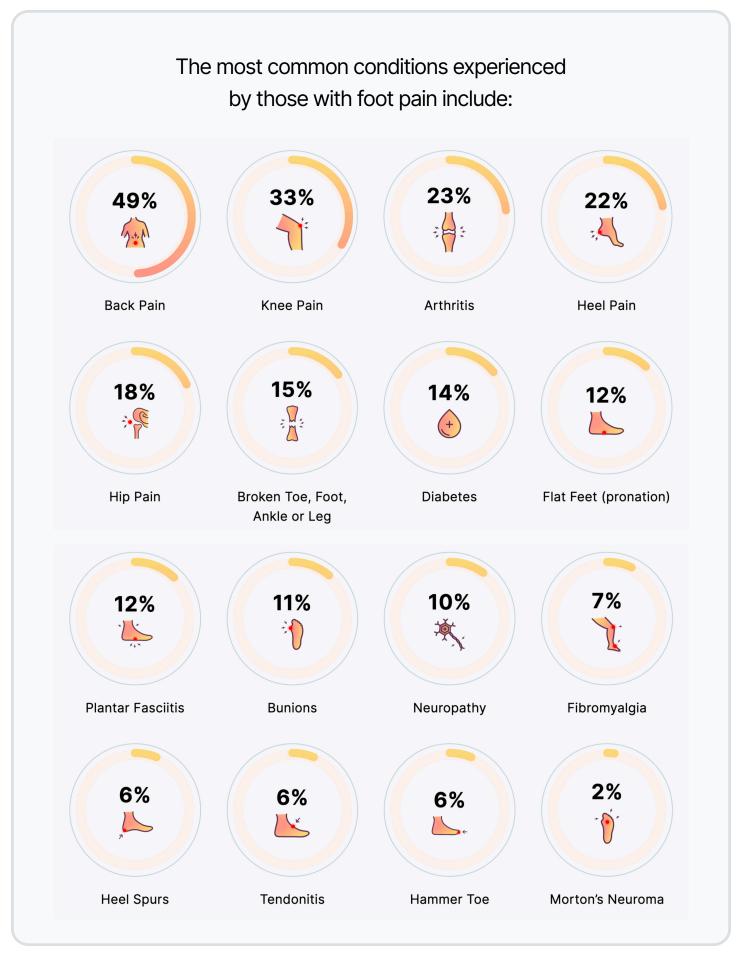
Our survey revealed that individuals suffering from foot pain often also experience back, knee, and hip pain. Medical professionals contributing to the study also identified these three body parts as the most frequently affected areas in conjunction with foot pain.



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While there are multiple reasons behind foot pain...overuse or strain, injury, and improper footwear are usual causes that lead to discomfort. Wearing high heels, pointy or narrow shoes, and footwear that lacks adequate arch support puts you at risk of developing pain. Many patients participate in sports, such as soccer, which causes them to overuse injuries of the foot. In addition, repetitive stress, accidents, and other factors can injure the foot, resulting in foot pain.

Dr. Mufaddal Gombera, MD Fondren Orthopedic Group



# **Prevalence of Foot Pain**



The 2014 report by the American Podiatric Medical Association (APMA) marked a pivotal moment in grasping how widespread foot pain was among Americans. It uncovered that an overwhelming 77% had dealt with foot pain at some stage, yet a significant number hadn't sought professional help. This finding was instrumental in highlighting the critical nature of foot health, emphasizing the need for appropriate footwear, lifestyle adjustments, and medical care when needed.

By 2024, the situation has worsened. Today, 81% of Americans report foot pain, a significant increase over the past decade. This rise can be attributed to various factors, including lifestyle changes, workplace factors, and a growing aging population, who are more prone to conditions like arthritis, diabetes, and circulatory issues that lead to foot problems. Some typical risk factors for foot pain encompass obesity, arthritis, flat feet, engaging in high-impact physical activities, and wearing ill-fitting footwear.

A study published in the National Library of Medicine, which tracked various international cohorts, highlighted how common foot pain is, ranging from 13% to 36% across populations. Furthermore, this study observed that foot pain tends to be more prevalent among women and individuals dealing with obesity, with its occurrence generally increasing as individuals age.

Additionally, workplace factors and lifestyle changes including prolonged periods of standing or walking on hard surfaces and increased sedentary behavior due to technology use—contribute significantly to foot pain. Prolonged sitting weakens foot muscles and excess weight adds strain.

There has also been an increase in awareness and reporting of foot health issues, likely contributing to the higher reported prevalence. In fact, **nearly 1 in 5 adults (21%) have endured foot discomfort for a duration spanning 1 to 5 years and 33% of those experiencing pain report related health problems in their back, knees, and hips.** 

Survey data from 2023 and 2024 highlight how specific careers correlate with this foot pain. The Health Care and Social Assistance sector consistently reports the highest levels of foot pain, indicative of its physically demanding roles. Construction also remained a top sector, whereas Retail and the role of Homemaker saw increases in foot pain reports in 2024, reflecting the physical demands of these positions. Conversely, the Finance and Insurance sector saw a decline in reports, suggesting possible improvements in workplace ergonomics or changes in work nature. The shifting rankings of sectors like Hotel and Food Services, Education, and Manufacturing point to variations in occupational foot pain prevalence, likely due to evolving work practices or enhanced reporting and awareness.

In addition to physical factors, emotional well-being plays a significant role, as people experiencing

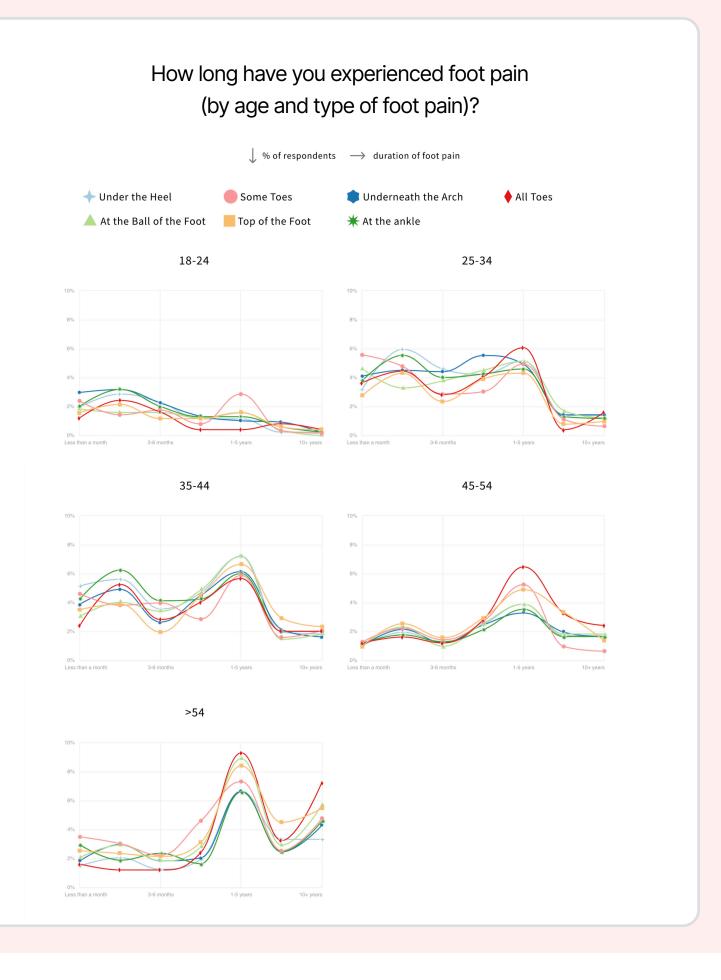
persistent pain, including foot pain, often exhibit signs of emotional distress such as depression and anxiety.

This decade-long increase in foot pain underscores the need for ongoing public health initiatives focused on foot care education, ergonomic footwear development, and accessible podiatric care. It also highlights the importance of individual awareness and proactive steps in maintaining foot health, emphasizing the need for a comprehensive approach to tackle this growing issue.

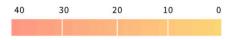
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This high percentage [of Americans with foot pain] can be attributed to a variety of factors. Firstly, modern lifestyles often involve prolonged periods of either standing or sitting. The weekend warriors and adventure seekers, especially post pandemic, can lead to inadequate foot support and circulation issues. Additionally, the increasing prevalence of obesity in the population contributes significantly, as excess weight can put additional stress on the feet. Lastly, there's a general lack of awareness regarding proper foot care and the importance of wearing appropriate footwear, which can exacerbate or lead to foot problems.

Paul Kim, MD Golden State Orthopedics and Spine



# How long have you experienced foot pain (by condition)?



 $\downarrow$  Health Condition  $\longrightarrow$  Time Period

#### total responses, %

	Less than a month	1-3 months	3-6 months	6 months- 1 year	1-5 years	5-10 years	10+ years
Arthritic Foot Pain	12	14	15	17	24	8	10
Back Pain	16	18	12	16	21	9	9
Broken Toe, Foot, Ankle or Leg	16	20	15	14	19	6	10
Bunions	13	13	11	15	22	11	15
Diabetes	9	15	14	20	24	8	10
Fibromyalgia	8	8	9	21	25	13	16
Flat Feet (pronation)	15	16	10	15	22	10	12
Hammer Toe	14	13	14	16	21	7	15
Heel Spurs	9	13	8	18	31	9	11
Hip Pain	9	14	11	16	24	10	15
Knee Pain	13	17	10	15	25	10	10
Morton's Neuroma	12	15	17	13	29	6	8
Neuropathy	6	5	11	17	32	13	16
Plantar Fasciitis	13	12	8	18	26	12	11
Tendonitis	16	14	9	15	23	8	15

# **Biological Factors**

Foot pain may stem from various biological factors, including injury, overuse, aging, disease, and structural anomalies.

Injuries like sprains, fractures, and nerve damage can result in pain and necessitate prolonged treatment, possibly involving surgical procedures.

Overuse conditions, such as plantar fasciitis and Achilles tendonitis, tend to become chronic due to repetitive foot stress. Treating these conditions can be challenging, often requiring specific stretches and exercises prescribed by a physical therapist.



# Age

As people age, they undergo various biological and structural changes that may contribute to the onset of foot pain. Conditions such as plantar fasciitis and neuropathy can arise due to factors such as reduced muscle mass, altered gait patterns, and diminished circulation.

Moreover, the degeneration of bones, joints, and soft tissues may lead to foot pain through conditions such as osteoarthritis and tendonitis. The increased likelihood of developing multiple health issues simultaneously, such as diabetes and peripheral artery disease, further elevates the risk of foot pain. According to our study, 8% of respondents reported experiencing foot pain persistently for over a decade.

Aging can lead to conditions like osteoarthritis, which results from the gradual deterioration of joint cartilage. This damage can accrue slowly over time or accelerate due to an injury.

Additionally, foot pain may serve as a symptom of underlying health issues, including gout, diabetes, or nerve conditions like peripheral neuropathy. Structural irregularities like flat feet, high arches, or uneven leg length can also contribute to foot pain.

### Genetics

Genetic factors play a significant role in both the development of foot pain and the most effective treatment approaches.

Certain inherited traits can make individuals more prone to foot pain conditions such as plantar fasciitis, tendonitis, and osteoarthritis. For example, the way our feet are structured, such as having flat feet or high arches, can be inherited and contribute to the development of plantar fasciitis, according to the Framingham Foot Study. The same study suggests that genetic factors also play a role in bunions.



Additionally, specific genetic mutations are linked to a higher chance of peripheral neuropathy, a condition that brings about sensations of pain, tingling, and numbness in the feet.

In our study, 63% of respondents who had foot pain did not have a family history of foot problems or conditions.

# **Foot Biomechanics**

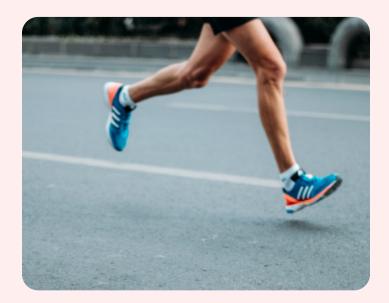
Foot biomechanics, which refer to the way the foot moves during activities like walking and physical exertion, have a significant impact on the onset of foot pain.

Irregular foot biomechanics, such as overpronation or supination, can subject the feet to excessive strain, potentially resulting in conditions such as plantar fasciitis, tendonitis, and stress fractures.

Furthermore, inadequate alignment of the feet and foot structures, such as high arches or flat feet, can disrupt foot biomechanics and heighten the risk of foot pain.

Routine assessment of foot biomechanics and appropriate interventions, such as supportive footwear or orthotics, is essential for maintaining optimal foot health.

### **Physical Trauma and Overuse**



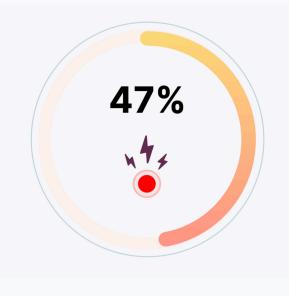
Athletes, active individuals, and even those embarking on a new fitness regimen face a higher risk of experiencing foot and ankle injuries, whether from trauma or overuse.

Conditions such as shin splints, Achilles tendonitis, and plantar fasciitis can emerge suddenly or gradually, particularly if an individual frequently trains on rigid surfaces, has repetitive motions in their sport, or escalates their exercise intensity too rapidly.

# In fact, 47% of respondents in our study reported that their foot pain began due to an injury.



47% of respondents reported that their foot pain began due to an injury.



# Exploring the Connection Between Medical Conditions and Foot Pain

Medical conditions such as diabetes, rheumatoid arthritis, and peripheral neuropathy can play a substantial role in the development of foot pain. Recognizing the connection between medical conditions and foot pain is crucial for early detection and effective treatment.

Medical conditions can affect nerves, blood circulation, and the structural integrity of the foot, making it more susceptible to injury and pain. To address foot pain, treatment approaches may include medications, lifestyle adjustments, physical therapy, and the use of orthotics to alleviate discomfort and enhance foot functionality.

Treatment approaches may include medications, lifestyle adjustments, physical therapy, and the use of orthotics to alleviate discomfort and enhance foot functionality. Regular monitoring and proactive management of underlying medical conditions play a key role in preventing and managing foot pain associated with systemic health issues.



### **Social Influences**



Research has demonstrated that a range of social factors, including economic status, race/ethnicity, educational attainment, and employment status, can play a role in the development of foot pain.

Individuals living in poverty are more prone to experiencing foot pain, often due to limited healthcare access and challenging work conditions. This lack of access to healthcare and preventive measures may result in delayed diagnosis and treatment of underlying medical conditions contributing to foot pain, such as diabetes or peripheral artery disease.

Specific racial or ethnic groups, along with individuals with less educational opportunities, face an elevated risk of foot pain.

These social factors can contribute to heightened stress and physical demands while simultaneously reducing access to resources for managing foot pain, thereby exacerbating the condition.

### **Socioeconomic Factors**

Individuals with lower socioeconomic status (SES) often encounter difficulties, including restricted access to preventive healthcare, suitable footwear, and healthy lifestyle choices, increasing their vulnerability to foot pain, as suggested by research.

Additionally, those with lower SES may be more likely to

participate in occupations involving prolonged periods of standing, walking, or manual labor, contributing to the development of foot pain. Effective and timely intervention and treatment are essential in reducing the risk of persistent foot pain and potential disability.

# Occupation

Certain occupations necessitate extended periods of standing, walking, or the use of heavy or uncomfortable footwear. These job demands can impose heightened stress on the feet, potentially resulting in conditions like plantar fasciitis, metatarsalgia, and heel pain.

Likewise, professions involving repetitive movements, such as construction or assembly-line work, can also play a role in the emergence of foot pain and overuse injuries.

To mitigate the risk of lasting foot pain and work-related disability, timely intervention and effective treatment is key.



# Lifestyle

Various aspects of one's lifestyle can significantly influence the likelihood of experiencing foot pain:



Engaging in high-impact sports or repetitive physical activities, such as running or jumping, can heighten the risk of foot pain and injury, particularly if individuals rapidly increase their workout intensity or wear inappropriate footwear.

### 2

Weight gain or obesity places added strain on the feet, potentially leading to changes in foot posture. Overweight individuals face an elevated risk of developing conditions such as plantar fasciitis and metatarsalgia.

### 3

The consistent use of unsupportive footwear can introduce or exacerbate foot pain conditions, including plantar fasciitis, heel spurs, bunions, and more.





A healthy lifestyle with regular physical activity, a nutritious diet, and the use of supportive, cushionined footwear can help prevent the onset of foot pain.

# 66

The high percentage of American adults experiencing foot pain could be attributed to various factors such as obesity, aging, improper footwear, and high levels of physical activity or, conversely, sedentary lifestyles.

Dr. Suzanne C. Fuchs LuxePodiatry

34% of respondents described themselves as being overweight, suggesting an increased likelihood of experiencing foot pain.



### Footwear

An individual's choice of footwear plays a pivotal role in their foot health:

# 1

Engaging in high-impact sports or repetitive physical activities, such as running or jumping, can heighten the risk of foot pain and injury, particularly if individuals rapidly increase their workout intensity or wear inappropriate footwear.

2

Weight gain or obesity places added strain on the feet, potentially leading to changes in foot posture. Overweight individuals face an elevated risk of developing conditions such as plantar fasciitis and metatarsalgia.



The consistent use of unsupportive footwear can introduce or exacerbate foot pain conditions, including

plantar fasciitis, heel spurs, bunions, and more.



A healthy lifestyle with regular physical activity, a nutritious diet, and the use of supportive, cushionined footwear can help prevent the onset of foot pain.



# "

People should look for a cushioned midsole and a cushioned/supportive insole for shock absorption, as well as adequate traction on the outsole, a sturdy arch region, and forefoot support (metatarsal pad).

Dr. Bruce Pinker, DPM, AACFAS, FAPWCA, DABPM, FACPM, Progressive Foot Care

# Prevalence of Foot Pain in the General Population



Foot pain is a widespread problem that affects a significant portion of the population.

One study reported that 17–24% of individuals experience foot pain at any given time, and our own study reveals that 81% of Americans have experienced foot pain at one point in their lives.

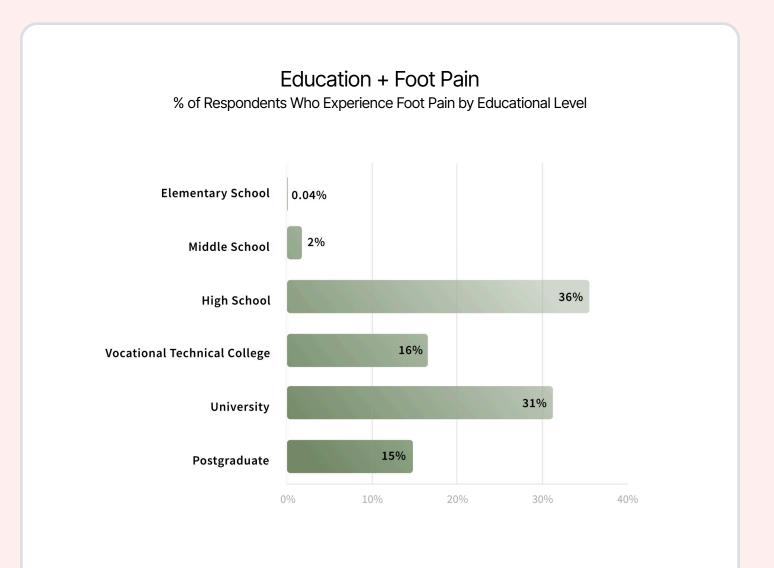
The prevalence of foot pain cases is exacerbated by the growing reliance on technology and the adoption of sedentary lifestyles. Prolonged periods of sitting and reduced physical activity can impact foot health, leading to discomfort and pain. Additionally, specific medical conditions, notably arthritis, can further amplify the risk of experiencing foot pain, creating a complex interplay between lifestyle factors and underlying health issues.

Foot pain has emerged as a significant concern among Americans, and its prevalence is increasingly becoming a noteworthy public health issue. Addressing the multifaceted contributors to foot pain, including lifestyle choices and medical conditions, is crucial for developing effective preventive measures and interventions to alleviate this growing health challenge.

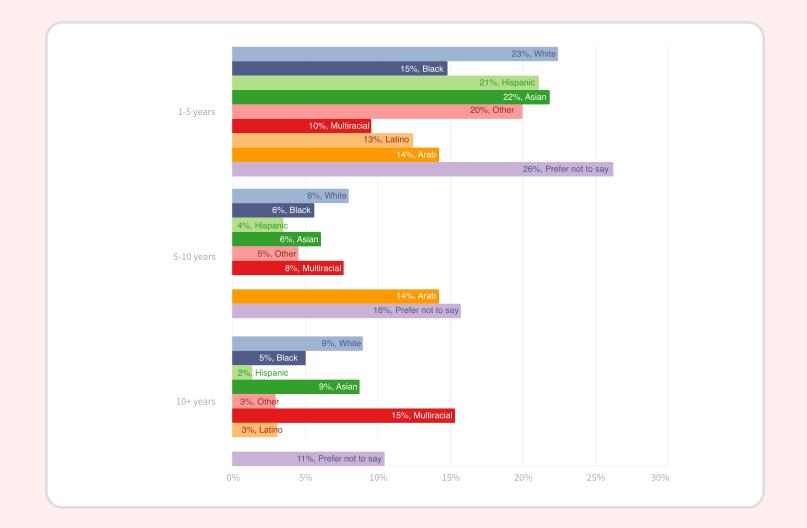
# "

Quite alarming, I never knew the prevalence of foot pain was such a significant portion of the American adult population, it is indeed concerning.

Paul Kim, MD Golden State Orthopedics and Spine

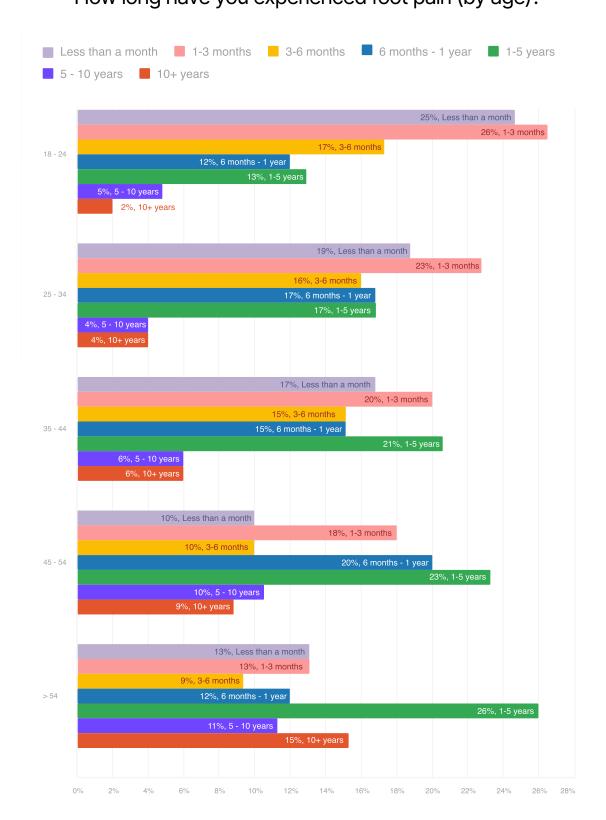




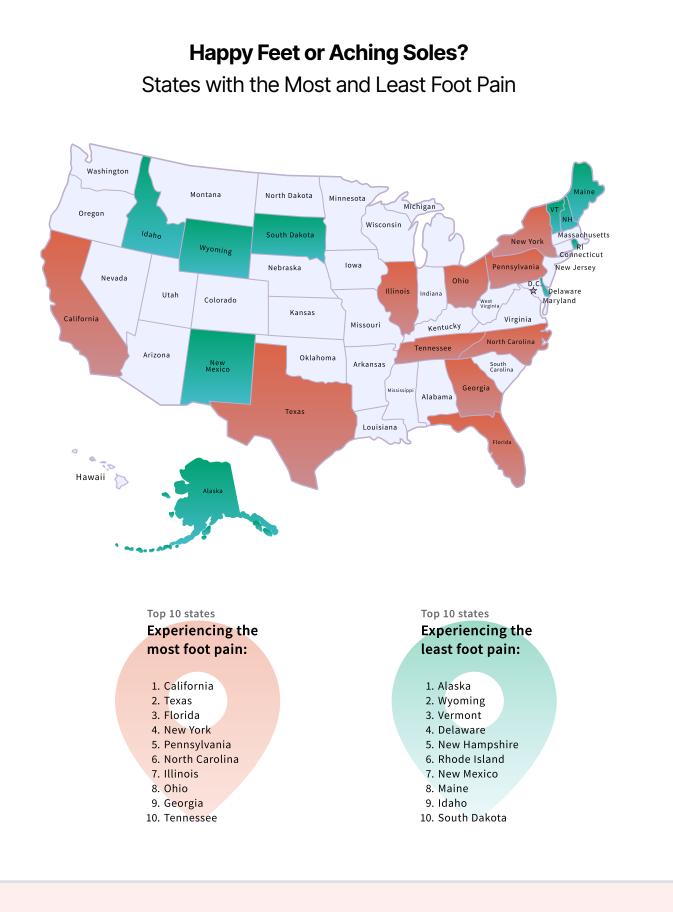


# Top 10 careers most common among those with foot pain

Health Care and Social Assistance	Finance and Insurance
Construction	Hotel and Food Services
Retail	Information Services and Data
Homemaker	Software
Education	Manufacturing - Other



### How long have you experienced foot pain (by age)?



# Importance of Self-Assessment



Self-assessment involves regularly examining your feet for any potential problems, such as blisters, calluses, or changes in color or shape. By identifying these issues early on, you can take steps to address them before they become more serious.

Taking intentional steps to consistently self assess your feet can also involve properly caring for your feet, such as wearing appropriate footwear and keeping them clean and dry.

Despite the benefit of self assessment, AMPA's study showed that patients who saw a podiatrist had positive experiences. A total of 88% somewhat or strongly agreed that a podiatrist was able to give a clear diagnosis and one third said their podiatrist identified, diagnosed, and/or treated other health issues during their appointment.

The importance of self-assessment in managing foot pain is becoming increasingly prominent, underscored by the advent and utilization of specialized apps and telehealth services.

These technological advancements facilitate proactive health monitoring, enabling individuals to identify symptoms early on and manage their foot health more effectively.

The survey data from 2023 to 2024 reveals a notable shift in behavior, with a decrease in individuals seeking self-diagnosis through informal means (26% in 2024 down from 41% in 2023). This trend reflects a growing preference for professional medical consultation and signifies an evolution in the way individuals approach their health information-seeking behavior.

Specialized apps for foot pain assessment play a crucial role in this shift, offering tools for self-monitoring that can alert users to potential issues before they become severe. Similarly, telehealth services have become an integral part of foot pain management, providing accessible initial consultations and follow-up appointments. This is particularly beneficial for those facing mobility challenges, making it easier to receive care without the need to travel.

These developments represent a significant move towards patient empowerment, demonstrating the critical role of technology in enabling individuals to take an active role in their health care. The increasing reliance on remote healthcare solutions not only allows for more personalized and convenient care but also highlights the broader trend towards integrating technology into health management practices. Together, these advancements underscore a paradigm shift in managing foot pain, emphasizing the importance of early detection, accessibility to care, and the empowerment of patients through technology. In summary, taking control of your foot health through self-assessment is an effective way to help maintain overall foot health. The overarching care of a podiatrist can help ensure a positive outcome and help catch foot pain conditions in the early stages for effective treatment.

# 66

Many people do not pay much attention to the health of their feet, but it is crucial to visit a specialist when you experience symptoms of foot-related problems.

Dr. Mufaddal Gombera, MD Fondren Orthopedic Group

# Mental Health and Foot Pain



#### The Influence of Foot Pain on Mental and Emotional Well-Being

Experiencing foot pain can increase the risk of developing mental health conditions such as depression, anxiety, and stress, according to experts. People with ongoing foot pain often feel frustrated and helpless in managing their daily routines, leading to lower self-esteem and increased feelings of anxiety and depression.

The physical limitations caused by foot pain can also restrict activities and decrease opportunities for social interaction, contributing to feelings of isolation and loneliness.

The interconnection between mental health and foot pain is gaining recognition within healthcare. Holistic and alternative treatment methods are becoming more mainstream, reflecting a shift towards integrative health practices that consider emotional and psychological factors alongside physical symptoms.

Modern treatment plans for foot pain increasingly embrace a holistic approach, incorporating elements like stress reduction techniques, mindfulness practices, and cognitive-behavioral strategies. This holistic perspective highlights the intricate interplay between mental well-being and physical health in the management of foot pain.

Survey data from 2023 to 2024 shows a significant shift in how individuals perceive foot pain's impact on their lives. In 2023, while over 95% of respondents noted some level of influence of foot pain on their daily activities, only about 7.7% considered their foot pain as debilitating.

In contrast, the 2024 survey reveals a dramatic increase in this regard, with nearly half of the respondents (47%) now describing their foot pain as debilitating. This substantial change suggests either a surge in the severity of foot pain experienced by individuals or a shift in how respondents perceive and report the impact of foot pain on their daily lives.

Furthermore, the data underscores that **3 out of 5 survey respondents (61%) experience anxiety or stress directly due to their foot pain.** This finding reinforces the critical connection between mental health and foot pain, emphasizing the necessity for comprehensive approaches addressing both aspects in the management of foot-related discomfort.

Understanding the interplay of emotional health and physical health is essential in holistically addressing symptoms for individuals dealing with foot pain.

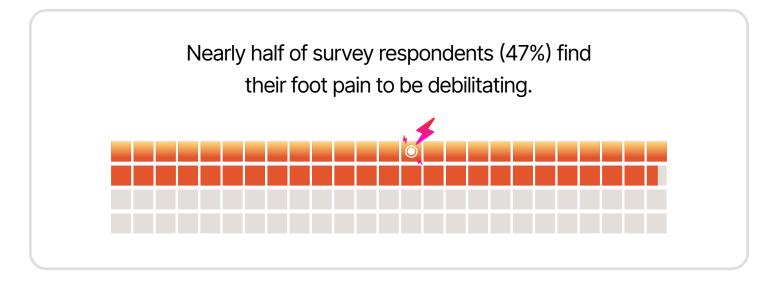
#### **Psychological Factors**

Foot pain holds the power to significantly influence an individual's overall quality of life, extending to their mental health and overall well-being.

Psychological factors such as anxiety, depression, and stress can be intensified by the presence of foot pain.

On the flip side, lasting foot pain over time can lead to psychological distress, impacting one's mental health negatively.





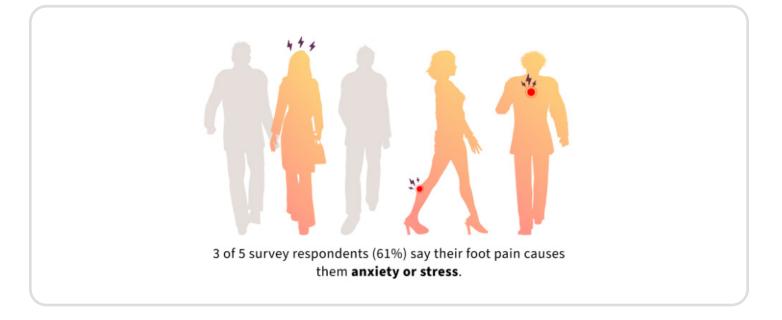
#### Stress

Stress is a natural and sometimes beneficial bodily response, helping us focus or act appropriately in various situations. However, when stress becomes excessive, acute, or chronic, it can lead to adverse health consequences.

An escalated stress response, often referred to as the 'fight or flight' response, redirects blood away from the extremities toward the body's major muscles. This can result in cold feet, impaired foot circulation, and heightened muscle tension, all contributing to increased foot pain. Chronic stress may even prompt excessive muscle tightness in certain areas, affecting posture and walking patterns, which can result in foot pain over time. Furthermore, stress can compromise the immune system, rendering individuals more susceptible to foot injuries and infections.

Regular monitoring and effective stress management techniques are essential for preventing the onset or progression of foot pain.

In our study, 3 of 5 survey respondents (61%) say their foot pain causes them anxiety or stress.



#### **Depression and Anxiety**



Depression and anxiety are mental health disorders that can exert a substantial impact on foot pain. Individuals grappling with these mental health conditions often have an elevated likelihood of experiencing persistent pain, which includes foot discomfort.

These mental health conditions can also impede an individual's ability to effectively deal with their pain, potentially leading to unhealthy coping behaviors, such substance abuse, avoidance, or a sedentary lifestyle, which can lead to foot pain.

Furthermore, depression and anxiety can disrupt sleep patterns, resulting in reduced pain tolerance and heightened sensitivity to foot discomfort. Consistent monitoring and the management of depression and anxiety levels are crucial for averting the onset or progression of foot pain.

#### **Chronic Pain**



Chronic pain, defined as discomfort enduring for more than three months, is a significant factor contributing to foot pain. The persistence of foot pain can stem from a diverse range of causes, including injuries, diseases, or underlying health conditions.

People struggling with chronic pain may compensate in their walking patterns, which can place excessive stress on the feet, leading to the development or aggravation of foot pain. The enduring nature of chronic pain can also result in decreased physical activity, weakening the supporting muscles in the feet and making them more prone to discomfort.

In addition to the physical effects, chronic pain's persistent nature takes a toll on mental health, potentially intensifying foot pain. Individuals enduring chronic pain commonly face elevated levels of stress, anxiety, and depression. These psychological factors contribute to the perception of pain, including that in the feet.

#### **Coping Behaviors**

Individuals who adopt unhealthy coping behaviors, such as avoidance or substance abuse, when confronted with stress or emotional distress, may face an elevated likelihood of developing foot pain.

In fact, a 2022 study published in the Journal of Foot and Ankle Research discovered evidence that negative psychological constructs are greater in participants with foot/ankle pain compared to those without foot/ ankle pain.

These unhealthy coping mechanisms can disrupt the ability to manage pain effectively and hinder individuals from seeking prompt medical care, potentially resulting in persistent and intensified foot pain.

#### **Previous Emotional Trauma or Negative Experiences**

Survivors of prior emotional trauma or intense negative incidents, including instances of physical or emotional abuse, may have an elevated susceptibility to foot pain.

This connection between previous traumatic events and an increased predisposition to foot discomfort is attributed to the manner in which psychological stress manifests within the body. Psychological stress can result in heightened muscle tension and alterations in the nervous system, ultimately resulting in foot pain and unease. Indeed, a peer-reviewed study conducted in 2016 revealed that individuals who reported more severe foot pain were also more likely to experience depressive symptoms.

Moreover, individuals who have encountered traumatic episodes may also be prone to adopting behaviors that contribute to the development of foot pain, such as avoiding physical activity or wearing ill-fitting footwear.

# Foot Pain & Mobility

Foot pain and the resulting consequences can profoundly affect an individual's quality of life.

Even simple daily tasks—such as doing the dishes or walking the dog—can become difficult, potentially limiting the ability to enjoy desired hobbies or interests.

The constant discomfort may also take a toll on one's mood and well-being. As these patterns progress, it can lead to diminished mobility and a decline in overall health.

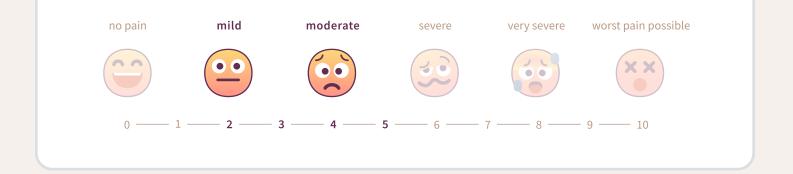
Recent research has highlighted the growing importance of addressing the relationship between foot pain and mobility in pain management. There is an increasing focus on developing solutions that not only alleviate pain but also promote mobility and support an active lifestyle. This emphasis has led to a surge in customized orthotic solutions tailored to individuals' specific mobility needs, ensuring greater effectiveness and comfort. These advancements are driven by a deeper understanding of mobility's critical role in overall quality of life and well-being, with innovations aiming to improve daily functioning and life satisfaction.



According to the APMA's research, 51% of adults experience limitations in their activities due to foot pain, and this percentage increases to 83% for individuals with persistent foot pain. Furthermore, the study revealed that those suffering from foot pain express a desire for greater engagement in various activities, such as walking, exercising, and participating in a wider range of pursuits.

In summary, the evidence indicates that foot pain can diminish an individual's capacity to carry out everyday tasks and engage in physical and social activities, ultimately resulting in a decrease in their overall quality of life.

# On average, people with foot pain report that their pain fluctuates between "mild" and "moderate".



#### Effects of Foot Pain on Daily Activities and Independence

The influence of foot pain on daily activities and independence is noteworthy.

Research has demonstrated that foot pain can diminish physical function, mobility, and overall quality of life. It can curtail an individual's capacity to engage in routine tasks like walking, standing, and exercising, consequently resulting in an increased dependence on others for basic everyday tasks.

Survey data from 2023 and 2024 reveals significant shifts in how foot pain affects daily activities:

Walking: While walking remained the most affected activity in both years, there was a decrease from 78% in 2023 to 66% in 2024. This suggests potential improvements in managing foot pain during walking or reduced pain severity during this activity.

Exercising: Foot pain's impact on exercising significantly decreased from 54% in 2023 to 38% in 2024, indicating potentially better pain management strategies during exercise or a shift in the types of exercises performed by individuals with foot pain.

Household Chores: Household chores remained among the top three activities affected by foot pain, with a slight increase from 25% in 2023 to 27% in 2024. This could reflect the continuous and often unavoidable nature of these tasks, making them more susceptible to the impacts of foot pain.

These changes emphasize the evolving dynamics of how foot pain influences daily mobility and activities, reinforcing the importance of addressing foot pain to maintain an active and fulfilling lifestyle. Adults with foot pain report experiencing pain at all hours of the day and night. The most commonly reported time to experience pain is in the evening between 5 pm - 9 pm (41%). Followed by:



# Early Intervention for Foot Pain and Mobility Issues

Research indicates that timely intervention is key to preventing the advancement of chronic foot problems and improving outcomes for individuals with foot pain.

Taking action early on, addressing conditions such as plantar fasciitis or diabetes in their initial stages, can relieve discomfort and reduce the risk of long-term complications.

This proactive approach not only helps preserve the mobility and independence of those dealing with foot

pain but also allows them to maintain their daily routines and physical activities. Moreover, early intervention acts as a preventive measure against the development of additional conditions, such as back pain, which may arise from compensatory walking patterns triggered by foot pain.



# "

Don't wait! Getting diagnoses and treatment early will not only help with current symptoms and injury but will also help to prevent worsening or any further injury.

Jason Hymowitz, DPM Holy Name Orthopedics and Pfisterer Orthopaedics

## "

[I advise] anyone with foot pain to seek medical help, as it could be a sign of an underlying issue. An experienced specialist will thoroughly assess your foot and determine the cause of pain. Even if your cause of pain is not serious, they can suggest improvements and tips to prevent problems. From wearing the right kind of shoes to resting your foot to stretches, there are a number of ways to reduce your discomfort. However, medical attention should be your priority!

Dr. Mufaddal Gombera, MD Fondren Orthopedic Group

#### Significance of Assistive Devices in Foot Pain Management and Enhanced Mobility

Current observations underscore the vital contribution of assistive devices in the management of foot pain and the enhancement of mobility. Research consistently demonstrates that the incorporation of orthotics, braces, and similar supportive aids can effectively alleviate discomfort and enhance functionality for individuals facing various foot-related issues.

For instance, orthotics offer valuable arch support and

cushioning and can even help with alignment.

Braces help maintain foot stability, reducing pain associated with conditions such as plantar fasciitis. Additionally, the utilization of walking aids such as canes and crutches serves as a means for individuals with foot pain to sustain their mobility and independence.

These trends underscore the crucial importance that assistive devices play in addressing foot pain and enhancing mobility. These methods can be helpful elements within a holistic strategy for foot care.

#### Influence of Foot Pain on Sleep Quality and Energy Levels

Research indicates that foot pain exerts a notable influence on both sleep and energy levels.

Evidence suggests that those dealing with foot pain often experience disturbances in their sleep patterns, leading to a reduction in sleep quality. Consequently, this can contribute to increased daytime fatigue and a decrease in overall physical performance. Additionally, foot pain can negatively impact mood and overall quality of life.



Furthermore, research indicates that individuals with foot pain face an increased probability of experiencing disturbances in their sleep, including difficulties in falling sleep, consistently waking up during the night, and a shortened overall sleep.

These trends emphasize the crucial role of effectively managing foot pain to improve both the quality of sleep and energy levels, consequently fostering overall wellbeing.

#### How Foot Pain Can Impact Physical Activity and Overall Health

A reduction in physical activity attributed to foot pain can have various adverse effects on overall health, including:

1

**Diminished cardiovascular health:** Consistent exercise is pivotal for sustaining cardiovascular health, making a decrease in physical activity due to foot pain detrimental to this aspect of one's overall health.

2

**Weight gain:** Physical activity plays a crucial role in weight management, thus a reduction in activity due to foot pain can contribute to weight gain and obesity.

3

**Loss of muscle strength and tone:** Exercise is essential for upholding muscle strength and tone, so decreased physical activity can lead to muscle weakness and loss of tone.

4

#### Heightened vulnerability to chronic illnesses:

Regular physical activity aids in reducing the risk of chronic diseases like diabetes, heart disease, and

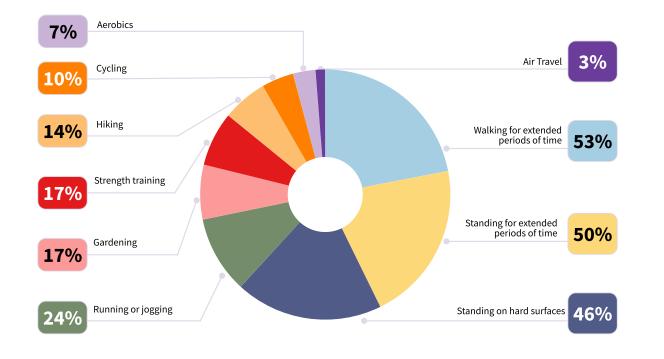
specific types of cancer. A decline in physical activity due to foot pain may elevate the risk of developing these conditions.

#### 5

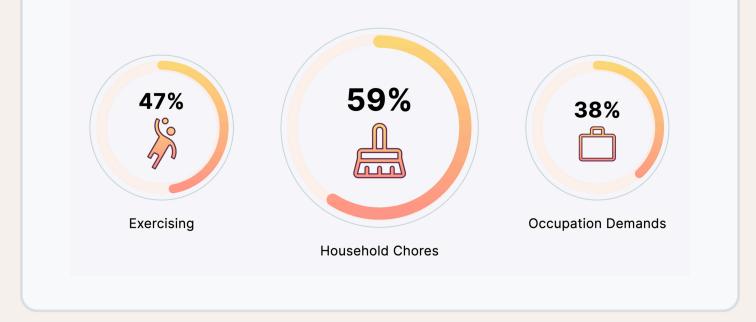
**Impaired mental health:** Physical activity is a key factor in maintaining positive mental health. That means a reduction in physical activity due to foot pain may lead to increased symptoms of mental health conditions such as depression and anxiety.



The activities performed most frequently (at least 1x per week) by respondents include:



59% of respondents reported household chores keep them on their feet for extended periods during the day. Exercising and occupation demands rounded out the top 3 most affected activities.



#### Understanding the Long-Term Consequences of Neglected Foot Pain on Mobility and Quality of Life

A heightened awareness has emerged regarding

the significance of timely and efficient intervention in safeguarding one's quality of life.

Studies have demonstrated that unaddressed foot pain can result in diminished mobility, increased fall risk, and a decline in overall quality of life.



# "

My most important piece of advice would be not to ignore foot pain. Pain is a signal from your body that something is wrong. Its often we tell patients to use pain as a guide for their activities. Early intervention can prevent more severe complications. Maintain a healthy weight (ie, ideally BMI <30), choose appropriate footwear, and engage in regular foot exercises. If pain persists, seeking professional medical advice is crucial to address the underlying cause and prevent further damage.

Paul Kim, MD Golden State Orthopedics and Spine



Consequently, healthcare providers are placing greater emphasis on the necessity of early treatment, regular physical activity, and proactive foot pain management. This approach is aimed at averting these adverse consequences and enhancing patient outcomes.

# Foot Pain Diagnosis and Treatment



A discernible shift is underway toward adopting a comprehensive approach to diagnose and manage foot pain in the United States. These methodologies include a combination of patient history assessment, physical examinations, and advanced imaging technologies. They also involve the collaboration of podiatrists and other specialists throughout the diagnostic and treatment processes.

Our 2024 research shows that 37% of adults experiencing foot pain have received an official diagnosis of a foot-related condition.

The percentage of adults with foot pain receiving a formal diagnosis decreased from 59% in 2023 to 37% in 2024, indicating potential changes in healthcare-seeking behavior, the severity of cases, or access to medical care. The methods of diagnosis also diversified in 2024, reflecting a broader approach to diagnosing foot conditions.

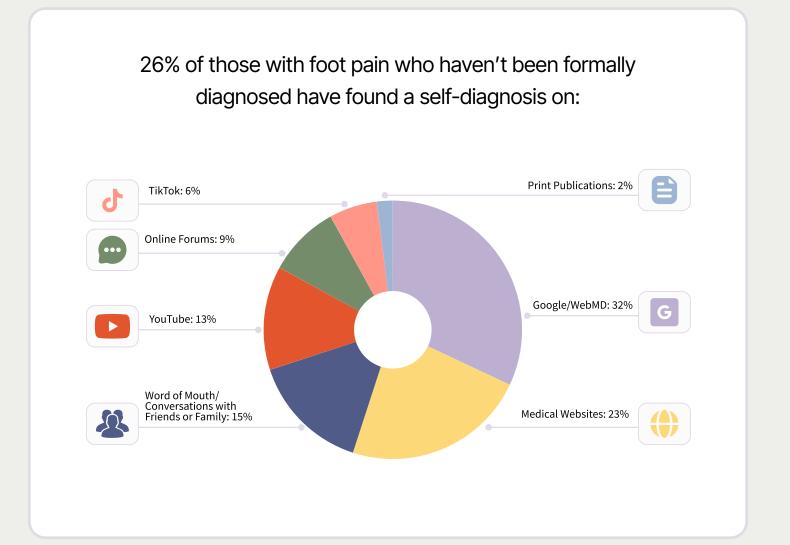
There was also a decrease in self-diagnosis among those without a formal diagnosis, from 41% in 2023 to 26% in 2024. Digital platforms remained popular for self-diagnosis, though there was a slight shift towards more reliance on personal networks. The approach to diagnosing and treating foot pain has undergone significant changes, influenced by advancements in technology and shifts in treatment preferences. The integration of Al and machine learning has revolutionized the accuracy of diagnoses, enabling personalized treatment plans and earlier interventions. Concurrently, the development of therapeutic footwear, incorporating specially engineered materials and designs, represents a shift towards a more technologically sophisticated, data-driven approach in foot healthcare, emphasizing patient-centric care.

The treatment landscape for foot pain has also evolved, with survey data from 2023 and 2024 highlighting changing preferences.

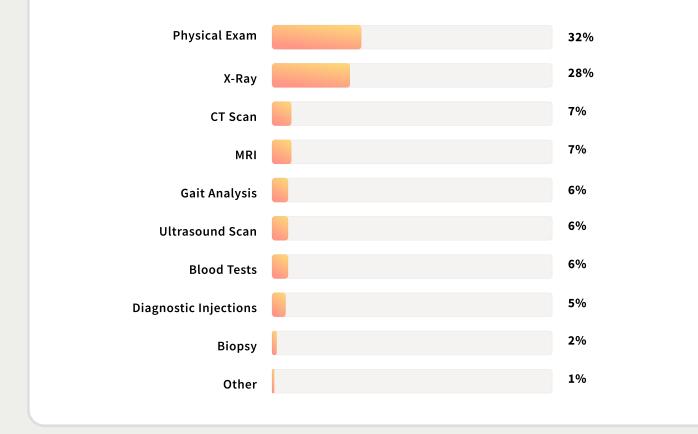
In 2024, the predominant treatments were overthe-counter medication (77%), ice (74%), stretching exercises (73%), and massage (71%). This marks a departure from 2023, where stretching exercises led (79%), followed by ice, over-the-counter medication, and orthotics/inserts. Notably, the use of orthotics/inserts saw a significant decline in 2024 to 46%. The increase in more intensive treatments like prescribed medications, physical therapy, and injections suggests a shift towards more diverse and potentially aggressive approaches, possibly reflecting changes in pain severity, treatment awareness, or accessibility.

The perceived effectiveness of treatments shifted as well, with physical therapy receiving the highest effectiveness score in 2024 (2.333), a change from 2023 where surgery led. The decrease in effectiveness scores for advanced treatments like surgery and platelet-rich plasma injections may reflect variations in individual experiences or a more diverse respondent base. Over-the-counter medications, despite their common usage, were rated lower on the effectiveness scale, indicating a nuanced view of treatment efficacy. These findings illuminate a dynamic landscape in the experience, treatment, and diagnosis of foot pain, underscored by technological advancements, changing treatment efficacy perceptions, and evolving healthcare-seeking behaviors. The decrease in longstanding cases, alongside shifts in reported causes and diagnostic practices, highlights the importance of adapting public health strategies and healthcare resources to these changing trends.

The utilization of complementary and alternative therapies, such as massage and acupuncture, is also on the rise in the United States as part of the strategy to manage foot pain.



37% of adults with foot pain have been formally diagnosed with a foot condition by the following methods. In some cases, an adult may have reported more than one.



# Role of Medical Experts in Diagnosis and Treatment

In a 2014 report, APMA highlights a general lack of familiarity among Americans with podiatric services. It reveals that most Americans typically consult their primary care physician first for foot health issues.

According to the report, people usually visit a podiatrist only when foot problems start to interfere with their daily activities. Common issues leading to such visits include plantar fasciitis, which is the most prevalent, followed by pain in the ball of the foot, bunions, and arthritis.



However, recent trends show an increase in podiatrist consultations.

Future Market Insights' latest study on the Podiatry Services Market indicates that this sector was valued at US \$4.6 Billion in 2022. It is projected to grow at a compound annual growth rate (CAGR) of 2.6% from 2023 to 2033, reaching US \$6.1 Billion by 2033. The General Podiatry segment is expected to be the most profitable, with a projected CAGR of over 2.9% during this period.

Patients are increasingly recognizing the value of the expertise and specialized training offered by these healthcare providers in managing their foot discomfort and averting potential complications. According to our research, 37% of adults with foot pain have received a formal diagnosis of a foot-related condition through clinical assessment.

However, it is worth noting that not all adults are well-informed about the distinctions among medical

providers for treating foot pain. A survey conducted by Clinical Medical and Research, involving 186 respondents, revealed that 80% of patients believed that orthopedic surgeons and podiatrists undergo identical professional training. Surprisingly, the majority expressed a preference for orthopedic surgeons (65%) over podiatrists (9.6%) when it came to ankle injuries.

Podiatrists possess specialized knowledge in the anatomy and physiology of the foot and lower leg, enabling them to diagnose and address a wide spectrum of conditions, including foot injuries, arthritis, and dermatological issues. Given the rising prevalence of foot pain, an increasing number of individuals are turning to podiatrists and other foot care specialists for comprehensive and effective healthcare.

#### "

The treatment plan for foot pain largely depends on the specific diagnosis. However, common and effective treatments include rest and ice to reduce inflammation, NSAIDs, compound creams and medical foods to help with pain, stretching exercises (eg, gastrocsoleus stretching) to improve flexibility, and physical therapy to strengthen the foot muscles. For some conditions, I recommend orthotic inserts to provide better support. In cases of severe or chronic pain, more advanced treatments such as shockwave therapy, cortisone or platelet rich plasma injections or surgery may be considered.

Paul Kim, MD Golden State Orthopedics and Spine

The APMA's study reports that Americans have **positive experiences with podiatrists**, and the average rating of podiatrists within the healthgrades.com directory is 4 out of 5 stars of the 13,704 podiatrists receiving ratings.

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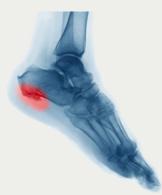
For foot pain, [I would suggest] suggests physical therapy, foot exercises, stretches, cold compress, splinting, shoe inserts, orthotics, and more, depending on your specific case. [I might] suggest a combination of treatments to ensure your foot receives the attention it needs. When your foot has limited mobility and constant pain, [I might] proceed with surgery to correct the problem.

Dr. Mufaddal Gombera, MD Fondren Orthopedic Group

#### Imaging Methods in Diagnosing and Managing Foot Pain

Imaging methods, including X-rays, MRIs, and CT scans, have assumed a progressively significant role in diagnosing and addressing foot pain.

These techniques reveal intricate visualizations of the foot's bones, muscles, tendons, and ligaments, enabling healthcare professionals to precisely pinpoint the root cause of pain and devise an efficient treatment strategy.



Furthermore, improvements in imaging technology have rendered these examinations swifter, more cost-effective, and readily accessible, underscoring their growing importance as a valuable resource in the management of foot pain.

#### Non-Invasive Approaches for Foot Pain Management

The term 'conservative treatments' refers to methods aimed at managing foot pain without resorting to invasive procedures such as surgery.

Typically, these treatments involve physical therapy exercises, massage, personalized orthotics, and adjustments to one's lifestyle.

Interestingly, survey findings reveal that 46% of respondents use orthotics or inserts, 45% opt for physical therapy, and 74% utilize ice as part of their foot pain management strategy.

When rated on an effectiveness scale ranging from 1 to 4 (with 1 signifying ineffectiveness and

4 representing high effectiveness), orthotics/ inserts scored an average of 2.071, physical therapy received an average rating of 2.333, and ice therapy achieved an average score of 1.962.

The medical industry has seen an upswing in the adoption of these conservative treatments, as individuals increasingly seek alternatives to surgical interventions in their pursuit of managing foot pain through less invasive means.



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Common and effective [non-invasive] treatments for foot pain can include rest, ice, compression, and elevation (RICE), over-the-counter pain relievers, [and] physical therapy.

Dr. Suzanne C. Fuchs LuxePodiatry

With ongoing research and technological advancements, there is a large number of conservative treatments emerging to aid in foot pain management.

Consequently, these treatments have gained popularity among individuals seeking effective solutions to alleviate their symptoms.

#### **Medications**

The use of medications in foot pain management has gained traction, leveraging developments in pharmacology. These include non-steroidal anti-inflammatory drugs (NSAIDs), opioids, and corticosteroids.

#### Surgery

Minimally invasive surgical techniques have surged in popularity due to their benefits, such as reduced pain, shorter recovery times, and improved cosmetic outcomes compared to traditional open surgery.

Our survey of 2,500 respondents revealed that 28% had opted for surgery to address their foot pain. Innovations like computer-assisted surgery and robotics have enhanced surgical precision, leading to better patient results.

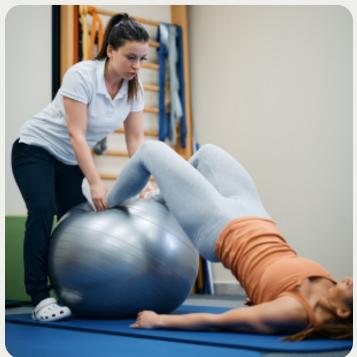
This trend aligns with the broader shift toward more efficient, effective, and patient-centered care.



#### Alternative and Complementary Therapies

The use of alternative and complementary therapies in managing foot pain has risen, reflecting a preference for non-invasive and cost-effective options.

Systematic reviews have highlighted the increasing use of complementary and alternative medicine (CAM) for chronic pain management, including massage, acupuncture, chiropractic care, and herbal medicine. Patients with foot pain are turning to these therapies due to their reduced invasiveness and milder side effects, reflecting a broader movement toward holistic health and wellness.



#### **Stretching and Exercise**

Stretching and exercise have gained prominence as effective foot pain management strategies, particularly for conditions such as plantar fasciitis.

# 73% of survey respondents reported incorporating stretching exercises, with an average effectiveness rating of 2.075 on a scale of 1 to 4.

Studies have underscored the efficacy of exercise, especially stretching, in reducing pain and enhancing functional capabilities in individuals with plantar fasciitis.

# "

Stretching and strengthening exercises are an easy routine to implement and help to prevent injury and provide support and stability throughout the foot and ankle. Dispensing custom orthotics provides support for the foot and ankle by mapping out biomechanical pressure points and alleviating stress and overuse. Anti inflammatory medications or injection therapy can help to alleviate acute inflammation but I also instruct my patients that without treating the root of the problem, symptoms can return and potentially worsen so a guided therapy routine whether on their own or with a physical therapist is important. When conservative treatments fail, I discuss and provide surgical treatment and management.

Jason Hymowitz, DPM - Holy Name

Physical therapy, often including stretching and exercise, has proven valuable in foot pain management.

Stretching improves flexibility and reduces muscle tension in the feet, while exercises strengthen foot muscles and support structures.

The growing acceptance of stretching and exercise signifies a broader shift toward conservative and noninvasive treatments. In our survey we found that 1 of 3 adults (31%) with foot pain prioritize foot care and consistently take steps to maintain it.

#### Massage and other Complementary Therapies for Foot Pain

Our study revealed that 71% of survey participants used massage and 33% opted for acupuncture. These methods received a 2.279 and 2.069, respectively, on a 1 to 4 scale of pain relief effectiveness.

Several factors have contributed to the rise of massage and complementary therapies for foot pain management:





**Increased Awareness:** People are increasingly recognizing the benefits of alternative therapies for pain management.

#### 2

**Desire for Non-Invasive Treatments:** Many individuals seek less invasive pain management options.

#### 3

**Improved Access to Information:** The internet has facilitated access to information about complementary

therapies and their potential in foot pain relief.

4

**Holistic Health Approach:** There is a broader shift toward holistic health and wellness, focusing on addressing the root causes of pain rather than just symptom management.



#### Integration with Conventional Medicine:

Complementary therapies are increasingly integrated with conventional medical treatments, allowing a multidisciplinary approach to foot pain management.



These trends collectively illustrate the dynamic landscape of foot pain management, offering a range of options to cater to individual preferences and needs.

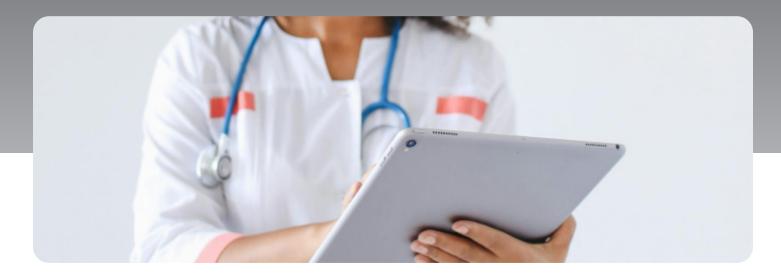
Among the 2,500 survey responses, the most common treatments for foot pain included:

Over-The-Counter Medication		77%
Ice		74%
Stretching Exercises		73%
Massage		71%
Compression Sock/Foot Sleeve		65%
Activity Modification		55%
Orthotic / Insert		46%
Bracing		46%
Prescribed Medication(s)	_	46%
Physical Therapy		45%
Night Splint		35%
Injection - Steroid		33%
Acupuncture		33%
Surgery		28%
Platelet-Rich Plasma Injection		26%
Shock Wave Therapy		26%

#### The average effectiveness of treatments, on a scale from 0 - 4. (0 being "not effective at all" and 4 being "extremely effective")

Over-the-Counter Medication	2.065	77%
Ice	1.962	74%
Stretching Exercises	2.075	73%
Massage	2.279	71%
Compression Sock / Foot Sleeve	2.031	65%
Activity Modification	2.128	55%
Orthotic / Insert	2.071	46%
Bracing	1.957	46%
Prescribed Medication(s)	2.263	46%
Physical Therapy	2.333	45%
Injection - Steroid	2.181	35%
Night Splint	1.906	33%
Acupuncture	1.906	33%
Surgery	2.314	28%
Platelet-Rich Plasma Injection	2.054	26%
Shock Wave Therapy	2.114	26%

# Advancing Foot Health



The advancement of foot health is increasingly characterized by a heightened focus on public education, aimed at enhancing awareness about preventive practices and the early detection of footrelated issues.

This educational push is complemented by ongoing research dedicated to uncovering new methods for pain relief and deepening the understanding of various foot health conditions. Such efforts are instrumental in developing more effective treatments.

This evolving trend underscores a proactive stance in the realm of foot health, where prevention is given as much importance as treatment, signaling a comprehensive approach to maintaining and improving foot health in the broader population.

In addressing foot health and wellness, establishing a foundation of awareness and education is paramount. Patients must possess a fundamental grasp of foot health and recognize common symptoms to initiate appropriate treatment and effectively manage pain.

However, the APMA highlights a concerning trend in which foot health is often overlooked by most Americans, with many merely engaging in minimal foot care, such as toenail trimming.

Encouragingly, the APMA's findings reveal a desire among patients to enhance their knowledge. A person's primary care visit is a perfect place for this journey to begin.

#### Our survey revealed 1 in 3 adults (31%) with foot pain prioritize foot care and consistently take steps to maintain it.

The American Podiatric Medical Association's (APMA) most recent report states that 84% of Americans agreed that it's important to get the foot care they need and 63% want to know how to better care for their feet.

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For those with foot pain, I recommend regular stretching, which should occur shortly after waking up in the morning. A regular morning stretching routine can help maintain ligaments and muscles/tendons to help prevent stiffness. Wearing quality footwear is also important to help prevent foot pain. Stretching and "cooling down" properly following exercise is also recommended to help prevent foot pain and muscle/tendon contraction.

Dr. Bruce Pinker, DPM, AACFAS, FAPWCA, DABPM, FACPM Progressive Foot Care

In fact, our study revealed that 3 in 4 adults (75%) with foot pain spend an average of **\$332 each month to treat their pain**.

To bridge this gap, healthcare providers and podiatrists are key players in promoting foot health education during primary care visits. By integrating health psychology, health behavior theories, communication strategies, patient empowerment, and cultural beliefs into diabetes education, there is potential for enhanced patient behaviors and better self-care practices.

This comprehensive approach aims to prevent complications related to foot health, particularly in the case of diabetic foot care. It emphasizes early identification of high-risk diabetic foot conditions, prompt diagnosis of foot problems, timely interventions to prevent deterioration leading to amputation, and educating patients on proper foot care and footwear.

In addition to diabetes education, patient awareness plays a crucial role in managing various foot conditions. Studies emphasize that well-informed patients, aware of symptoms related to conditions like plantar fasciitis, can actively contribute to their healing process and reduce the risk of chronic conditions.



Best practices for managing such conditions include consistent stretches, taping, and personalized education. Overall, the evidence underscores the significance of patient education within clinical settings as a means to enhance outcomes for individuals dealing with foot pain conditions and promote proactive foot health practices across the American population.

According to Dr. Mikel Daniels, President, CMO, and Managing Member at WeTreatFeet Podiatry, the continuous evolution of podiatry, driven by the technological advancements, has heightened emphasis on preventative care and patient education. There is a commitment to equipping patients with the knowledge and tools they need to maintain optimal foot health and prevent conditions like plantar fasciitis. The future of of podiatry holds immense promise, as experts in the field continue to embrace these trends and innovations to provide the best possible care for patients.

#### The Impact of Footwear on Foot Pain

One's choice of footwear can significantly affect how pressure is distributed across the foot, potentially

resulting in pain and discomfort.

Footwear that is poorly designed or does not fit properly may not only cause foot problems but also exacerbate existing conditions like plantar fasciitis, metatarsalgia, and overpronation.

A study published in the Journal of Foot and Ankle Research in 2018 revealed that a substantial portion of the population wears footwear that is the wrong size, a factor linked to foot pain and foot-related disorders.

Conversely, well-designed and supportive footwear can play a pivotal role in even weight distribution, reducing the likelihood of developing foot pain.

In our study, 57% of respondents reported experiencing the most discomfort while wearing boots, closely followed by athletic or running shoes at 56%. These two styles top the list of shoes associated with pain.

Dr. Paul Kim, MD of Golden State Orthopedics and Spine, emphasizes the importance of the following features when selecting footwear to minimize foot pain and promote overall foot health:

- Adequate Arch Support: Essential for comfort and to alleviate or prevent foot pain.
- **Cushioning:** Provides shock absorption, reducing the impact on feet during activities.
- **Comfortable Fit:** Ensures the shoe does not cause discomfort or exacerbate existing foot conditions.
- Good Midfoot Arch Support with Coronal Plane Stability: Offers balanced support and stability across the foot.
- Flexion at the 1st Metatarsophalangeal Joint: Allows natural movement of the foot, important for walking and running.

- Room to Wiggle Toes: Prevents cramping and allows for natural foot expansion during the day.
- Secure Fit to Prevent Sliding: Reduces the risk of blisters and other friction-related injuries.
- **Solid Heel Cup:** Minimizes heel movement and friction, enhancing stability and comfort.
- Specialized Footwear for Specific Conditions: Recommends custom orthotics or shoes for those with individual foot issues, providing targeted support and relief.

Our research, along with findings from the APaMA's report, indicates a clear preference among Americans for comfort and relief from foot pain in their choice of footwear. The APMA has observed that most adults, both men and women, seek not only better-looking feet but also more comfortable shoes.

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Improper footwear, which fails to provide adequate support or is ill-fitting, can exacerbate existing conditions or create new problems. Structural abnormalities, like flat feet or high arches, can also contribute to pain due to the uneven distribution of pressure across the foot.

Paul Kim, MD Golden State Orthopedics and Spine

In a recent survey by MESH01, involving 420 active and outdoor men and women, workplace footwear preferences were clear. A significant 95% of consumers prioritize comfort in their work shoes, followed by style (68%), durability (63%), and versatility (43%).

Consistent with these findings, **our study reveals that 70% of adults consider foot pain when purchasing shoes.** 



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Choosing the right kind of shoe ensures that your foot remains healthy, and it also prevents discomfort. [I suggest] choosing the right kind of footwear that offers comfort and support to your foot. Shoes that cushion your foot and fit well are the ones you should go for. Your shoe should have 1 to 1.4 cm at the end so it is snug but does not clamp your foot. In short, look for shoes that are comfortable, support the alignment of your foot, cushion it, and have a little wiggle room.

Dr. Mufaddal Gombera, MD, Fondren Orthopedic Group

A market analysis by Grand View Research indicates a shift from fashion footwear to more comfortable, athleisure-oriented styles. Their analysis reveals that athletic footwear is the fastest-growing segment globally. But what defines the comfort of a shoe, especially in terms of alleviating foot pain during walking? A study in the Journal of Foot and Ankle Research identifies several key characteristics of a comfortable shoe. These include:

#### 3



Proper fit to the foot

Use of softer, more flexible materials in the upper, midsole, and insole Lower heel elevation

Lightweight design

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When shopping for new footwear, support and stability are features to prioritize. If a shoe can be easily folded in half, twisted, or manipulated, you can be sure it lacks the support necessary to provide general stability throughout the gait cycle and during activity. A shoe that has an element of rigidity along with cushion and mild rocker bottom to assist in propulsion is going to keep your feet feeling strong and healthy.

Jason Hymowitz, DPM Holy Name Orthopedics and Pfisterer Orthopaedics

According to the APMA report, 66% of women and 62% of men expressed a desire for greater shoe comfort. Our study's findings align with this sentiment, as it revealed that **70% of adults consider foot pain when purchasing shoes.** 

Additionally, in a November 2023 survey of 1,000 people, KURU Footwear found that 76% of Americans value comfort above style.



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When shopping for new footwear, patients should look for shoes that offer good arch support, are the right size, and have enough room for the toes. Shoes should also be activity-appropriate.

Dr. Suzanne C. Fuchs LuxePodiatry

#### Significance of Routine Foot Assessments

Regular foot examinations serve as a valuable means to detect potential issues like foot injuries, infections, and underlying medical conditions that might be contributing to foot pain. Identifying these concerns at an early stage allows for prompt treatment, averting the progression to more severe health problems and enhancing the overall health of the foot and lower limb.

Furthermore, routine foot exams offer the chance for individuals to undergo evaluations of their gait and foot mechanics, potentially leading to enhanced mobility and a decreased risk of future foot-related issues.

#### Understanding the Role of Insurance in Foot Pain Management



Insurance plays a pivotal role in the realm of foot pain management by shouldering the financial burden of necessary treatments and procedures geared towards pain relief and overall foot health. This encompasses various interventions like physical therapy, orthotic inserts, and even surgical procedures.

Presently, the healthcare industry is witnessing a shift toward value-based care, emphasizing the improvement of patient outcomes while effectively managing costs. This transition may involve a greater emphasis on preventive measures, including regular foot exams and screenings aimed at early detection and prevention of foot pain before it escalates into a significant concern.

Another notable trend is the growing focus on nonsurgical approaches to foot pain, such as physical therapy, chiropractic care, and orthotic inserts. Insurance plans may encompass these treatments as viable alternatives to more invasive and expensive procedures.

Furthermore, insurance providers are increasingly recognizing the value of coverage for wearable technologies, like smart insoles, which aid in monitoring and managing foot pain. Furthermore, there is a growing emphasis on nonsurgical interventions for foot pain, including options like physical therapy, chiropractic care, and orthotic inserts. These treatments may be included in insurance plans as substitutes for more invasive and expensive procedures.

Additionally, many insurance companies are placing a heightened emphasis on offering coverage for wearable technologies, such as smart insoles, which aid in the monitoring and management of foot pain.



# **Booming Foot Care Market**



With growing awareness of foot health among the public, there's a noticeable rise in the investment in foot care products.

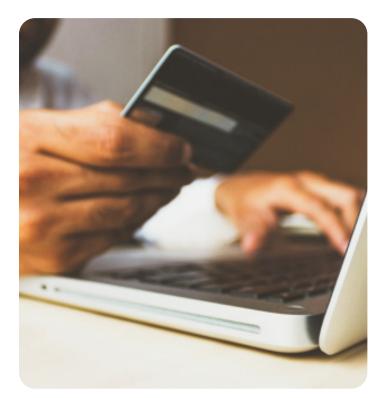
This heightened interest in foot care has spurred the development and distribution of innovative products in this sector. According to recent analyses by Allied Market Research, the market value for foot care products, which stood at \$3.3 billion in 2022, is projected to escalate to \$6.9 billion by 2032, growing at a CAGR of 7.9% from 2023 to 2032.

#### Influence of E-Commerce on Foot Care Product Market

The foot care market is experiencing a boom, driven by increasing public awareness and investment in foot health. Recent market analyses predict the sector's value, which was \$3.3 billion in 2022, to nearly double to \$6.9 billion by 2032.

This growth is further propelled by the influence of e-commerce, which has revolutionized the way consumers access and purchase foot care products, offering convenience, a wider selection, and the benefits of customer reviews and personalized recommendations.

This digital shift has expanded the variety of foot care products accessible to consumers, enhanced by personalized suggestions and customer reviews.



Additionally, there's a noticeable shift toward natural and organic foot care products, as consumers increasingly opt for environmentally friendly and skinfriendly alternatives.

The popularity of over-the-counter (OTC) foot care products is also soaring, as they offer easy, accessible, and cost-effective solutions for common foot ailments, reflecting a trend toward self-managed foot health care.

As e-commerce maintains its growth trajectory, it is anticipated to continue molding the landscape of foot care product sales in the future.

#### **Consumer Preferences for Natural and Organic Foot Care Products**

Studies indicate that consumers are increasingly choosing natural and organic foot care products. This trend is driven by worries about chemical exposure, a preference for environmentally friendly alternatives, and the perception that these products are both more effective and kinder to the skin.

As a result of this change in consumer attitudes, there has been a growth in the market availability of natural and organic foot care products. Companies are adapting to this demand by expanding their selection of such products.



#### Use of Over-the-Counter Foot Care Products

The popularity of over-the-counter (OTC) foot care products has surged as consumers seek easy, accessible, and cost-effective methods to address typical foot issues like blisters, calluses, corns, and athlete's foot.

These products provide an immediate and straightforward remedy for foot discomfort, eliminating the need for prescriptions or doctor appointments.

This increase in OTC foot care products is fueled by a growing consciousness about foot health and people's desire to have greater autonomy in managing their well-being.



# **Cost of Foot Pain**



The financial implications of foot pain extend significantly beyond the direct costs of medical treatment, encapsulating a broad spectrum of economic burdens on both individuals and society.

These costs encompass direct medical expenses, such as doctor's appointments, diagnostic procedures, and medications, as well as indirect costs like lost workdays and diminished productivity. For individuals, the financial impact of managing foot pain can be considerable, especially for those without sufficient insurance coverage, leading to considerable financial stress.

On a societal level, the aggregate expense related to foot pain treatment represents a significant strain on healthcare systems, contributing to the rising overall healthcare costs. The data reveals that **75% of adults experiencing foot pain incur monthly treatment expenses, with a significant portion spending over \$250**. The broader economic impact is magnified by indirect costs, including lost wages and reduced productivity, which not only affect individuals but also businesses and the economy at large. Chronic pain management and long-term disability associated with foot pain can perpetuate financial strain through continuous medical costs and potential loss of income.

Survey data from 2023 and 2024 illustrates a shift in the spending behaviors of individuals managing foot pain. In 2023, a larger fraction of adults (83%) reported monthly expenditures on treatments related to foot pain, covering podiatrist visits, treatments, medications, and orthotics. Among these, 51% spent under \$100, 20% allocated \$100 to \$250, and 11% spent over \$250 monthly.

Conversely, the 2024 survey data suggests a modest reduction in the percentage of adults incurring monthly expenses for foot pain, with 75% acknowledging such costs. The spending pattern also adjusted, with 44% allocating less than \$100 per month, 13% spending between \$100 and \$250, and an increased fraction of 17% dedicating over \$250 monthly to foot pain management.

This alteration in spending patterns could reflect a decrease in the number of individuals needing or pursuing treatment for foot pain or indicate changes in the costs or types of treatments being sought.

The economic implications of foot pain, thus, are multifaceted, affecting individuals' finances, workplace productivity, and the broader healthcare and economic systems. The shift in treatment expenditures underscores the need for effective management and prevention strategies to mitigate the financial impact of foot pain on individuals and society.

#### **Direct Costs of Foot Pain**



**Medical Expenses:** Treating foot pain often begins with diagnostics, including X-rays and MRIs, followed by various treatment modalities such as physical therapy, medication, or even surgery. The costs can vary widely depending on the severity of the condition and the required treatment plan.

**Specialist Care:** For many, managing foot pain involves visits to specialists like podiatrists or orthopedic surgeons. These specialized services often come with higher costs, including the price of custom treatments like orthotics.

**Hospitalization and Procedures:** In cases where surgery or extensive treatment is necessary, hospital stays can add a significant expense. The cost varies based on the type of procedure, length of hospitalization, and the healthcare system in the patient's region.

3 of 4 adults (75%) with foot pain spend money each month to treat their pain. This includes expenses such as podiatrist visits, treatments, medications, orthotics, etc.

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44% spend less than \$100 per month on foot pain related expenses.

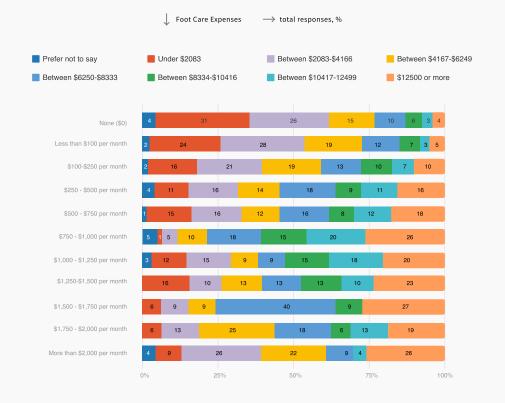


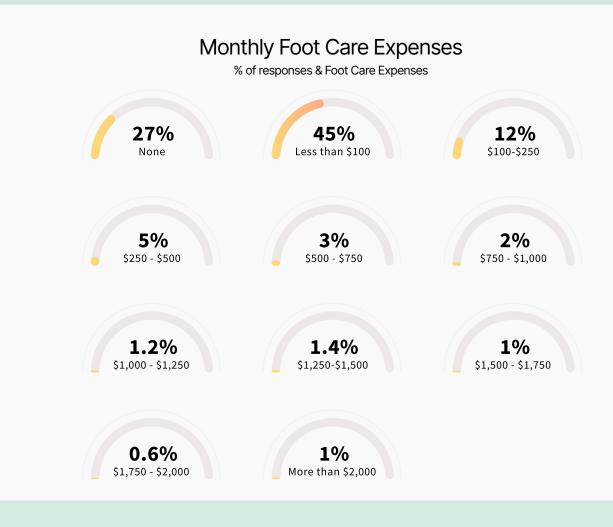
1 in 8 (13%) spend **between \$100 - \$250** per month on foot pain related expenses.



pain related expenses, that's over \$3,000 per year.

#### Monthly Foot Care Expenses & monthly reported income





#### **Indirect Costs of Foot Pain**

Lost Wages and Reduce Productivity: The impact of chronic foot pain extends far beyond the doctor's office. It often seeps into the workplace, manifesting as absenteeism or diminished productivity. When employees are sidelined by foot pain, their ability to perform at their best is compromised, which can lead to missed workdays or reduced efficiency on the job. This not only affects individual earnings and career trajectories but also has broader economic repercussions. Businesses may face decreased productivity, and the cumulative effect of many workers suffering from foot pain can ripple through the economy, affecting overall productivity levels.

Regarding on the job occupational injuries, according to the U.S. Bureau of Labor Statistics, there were more

than 93,000 occupational foot injuries reported in 2021-22. This data serves as a reminder of the risks that workers face daily and the imperative to prioritize their protection in various industries.

#### Long-Term Disability and Chronic Pain

**Management:** For some individuals, foot pain is not a transient issue but a persistent one that evolves into a chronic condition. This can lead to long-term disability, necessitating ongoing medical attention and potentially leading to an inability to work.

The financial implications here are multifaceted: there's the direct cost of continuous medical care, which might include regular appointments, treatments, and medications. There's also the indirect cost of potential income loss, which can strain personal finances and lead to broader socioeconomic consequences.

#### **Societal Impact**

Healthcare System Burden: Annually, millions are spent on treatments ranging from conservative care to surgical interventions. This spending impacts both public and private healthcare sectors, leading to significant resource allocation towards managing these conditions. In public health systems, the high demand for foot care can lead to longer waiting times and strained resources, affecting the quality and accessibility of care. In the private sector, the rising costs contribute to higher insurance premiums and out-of-pocket expenses for patients.

**Economic Impact:** The repercussions of foot pain extend beyond direct medical expenses, casting a wide net over the broader economy. Lost productivity due to work absences, reduced work capacity, and early retirement due to chronic foot conditions contribute to significant economic losses. On a national scale, these losses manifest in decreased workforce efficiency and increased burden on social security systems. Globally, the economic impact is even more pronounced, with varying effects in different regions depending on their healthcare infrastructure and workforce demographics.



# **Technological Innovation in Foot Health**



Technological innovation in foot health is advancing rapidly, driven by a range of cutting-edge developments. Wearable technology, such as smart insoles and socks, is revolutionizing the way foot health is monitored, offering detailed insights into walking patterns and early detection of potential issues.

Virtual reality (VR) is emerging as a valuable tool in foot pain management, providing immersive experiences for pain distraction and tailored rehabilitation exercises.

Advanced imaging technologies, including 3D printing, are transforming the production of custom orthotics, offering personalized support and pain relief.

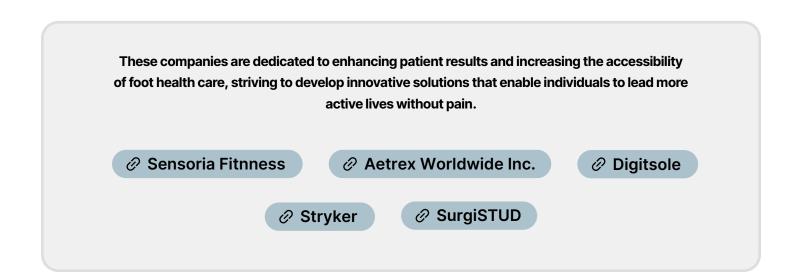
Artificial Intelligence (AI) is enhancing the accuracy of diagnosing foot conditions through detailed analysis of

medical images and predictive analytics.

Telemedicine is making foot care more accessible and convenient, especially for those with mobility challenges or living in remote areas.

Additionally, minimally invasive procedures aided by robotic technology are improving precision in foot surgeries and rehabilitation.

Lastly, regenerative medicine, particularly stem cell therapy, is offering new avenues for treating foot injuries and chronic conditions, focusing on enhancing the body's natural healing processes. These innovations collectively signify a significant leap forward in foot health care, promising improved patient outcomes and more efficient healthcare delivery.



#### Wearable Technology

Wearable tech like smart insoles and socks is revolutionizing foot health monitoring. These devices go beyond simple step counting, offering detailed insights into aspects like pressure distribution, crucial for understanding walking patterns and identifying potential issues.



These wearables excel in early detection of foot problems, spotting subtle changes that could signal pain or injury. This early detection helps prevent minor issues from becoming serious.

They also monitor recovery progress from foot injuries or surgeries, providing continuous updates on foot condition. This helps both individuals and healthcare providers make well-informed treatment decisions.

In a March 2023 study, the introduction of an innovative sensorized insole system was shown to effectively measure plantar pressure and shear stress in real-time. This advancement is particularly promising for daily monitoring and early detection of diabetic foot ulcers (DFU) in diabetic patients. The system's adaptability to different types of footwear, along with its comfort and safety, as evidenced in initial trials, underscores its significant role in the advancement of wearable health technology for the prevention of DFUs.

Overall, wearable technology is playing a key role in proactive foot health management, gaining popularity for its effectiveness in improving outcomes and aiding in maintaining better foot health.

#### Virtual Reality Applications in Foot Pain Management

Virtual reality (VR) is becoming a valuable tool in managing foot pain. This technology offers immersive experiences that help in pain distraction, making it easier for patients to cope with discomfort.

VR is also used for tailored rehabilitation exercises. These exercises are designed to improve foot function and strength in a virtual environment, which can be less intimidating and more engaging than traditional methods.

Additionally, VR enables virtual consultations, allowing patients to receive professional advice and guidance

without the need for physical travel. This is especially beneficial for those living in remote areas or with mobility challenges.

VR has been shown to be effective in reducing both acute and chronic pain in various medical scenarios. For instance, a study by Wong et al. demonstrated VR's capacity to lessen labor pain, yielding notable reductions in pain and anxiety levels.

Hadjiat and Marchand delved into the pain relief mechanisms of VR, primarily through distraction and modulation of neural processes.

These findings are particularly relevant for foot pain management, suggesting that VR can offer a noninvasive, engaging, and effective approach to pain relief.

Overall, VR's unique and interactive approach is enhancing the way foot pain is treated, potentially leading to better patient outcomes and faster recovery times.



#### **Advanced Imaging Technology**

3D printing is changing how custom orthotics are made, offering tailored foot support and pain relief. This method speeds up production, increases precision, and is more accessible.

Orthotics made with 3D printing can be created as needed, ensuring a high level of customization and a

better individual fit. This technology cuts down on the need for several fittings and shortens the time from measuring to receiving the orthotic.

Overall, the use of 3D printing for custom orthotics can significantly enhance patient results by providing improved support and reducing pain and discomfort.

#### Artificial Intelligence in Diagnosing Foot Conditions

Artificial Intelligence (AI) is playing a crucial role in improving the diagnosis of foot-related ailments. Al algorithms are capable of analyzing medical images like X-rays or MRIs with high accuracy, helping to quickly and accurately diagnose foot conditions.

Moreover, AI extends its capabilities to predictive analytics, examining patient data to foresee potential foot health issues. This allows for personalized treatment plans that consider each patient's medical history and lifestyle.

A study published in August 2023 highlights Al's significant contributions to enhancing diagnostic precision, optimizing treatment strategies, and elevating patient experiences in managing foot and ankle disorders.

The integration of AI in foot health diagnosis is a rapidly advancing area, promising to enhance patient outcomes and streamline healthcare efficiency significantly.

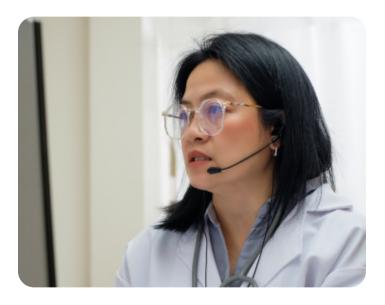


#### Telemedicine

Telemedicine is transforming foot care by offering remote consultations and digital assessments, making it more convenient for patients.

Through telemedicine, patients can easily talk to healthcare providers via video calls or other remote methods, which is especially helpful for those with mobility challenges, those living in remote areas, or even those with a busy schedule. This reduces the need for physical clinic visits.

This approach not only makes foot care more accessible but also speeds up diagnoses, treatments, and follow-ups, leading to better patient outcomes. Telemedicine's impact on foot care highlights its role in enhancing healthcare accessibility and efficiency.



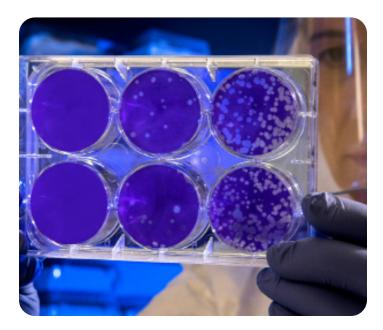
#### **Minimally Invasive Procedures**

Robotic technology is making significant strides in foot surgery and rehabilitation, known for its precision and control. In surgeries, such as ankle replacements and tendon repairs, computer-controlled robots assist surgeons, leading to more precise, minimally invasive procedures. This reduces the risk of human error and contributes to quicker, more efficient recoveries. In rehabilitation, robotic devices play a crucial role. They help track a patient's progress, tailor treatment plans, and enhance recovery outcomes. The integration of robotics in both foot surgery and rehabilitation is transforming the field, offering patients better outcomes and faster recovery times. This innovative approach is minimally invasive, offering a promising alternative to traditional surgery. The primary aim of stem cell therapy in foot care is to improve functionality, reduce pain, and ultimately enhance the quality of life for patients with foot injuries and conditions.

#### **Regenerative Medicine**

Recent advancements in stem cell research are making a significant impact on the treatment of foot injuries and chronic conditions. Stem cells, known for their ability to repair and regenerate damaged tissues, are now being applied in foot and ankle treatments.

These cells have the unique ability to develop into various types of cells, including those found in tendons, ligaments, and cartilage. When injected into an injured area, stem cells can enhance the body's natural healing processes, potentially speeding up recovery times.



# Conclusion



As we have observed in our latest study and in researching current trends, it's evident that foot pain continues to be a significant health concern in America, with an array of factors contributing to its sustained prevalence.

Individuals, however, have the power to proactively maintain their foot health. Engaging in regular exercise, choosing suitable footwear, and incorporating stretching into their daily routine remain key strategies.

Healthcare providers are increasingly pivotal in this landscape.

Their role in early detection and effective treatment of foot-related conditions, alongside patient education on proper foot care and injury prevention, is more crucial than ever.

As we move forward, the collaboration between individuals and healthcare professionals is essential in addressing the persistent issue of foot pain in America. Emphasizing foot health, along with preventive and therapeutic measures, is vital. This approach not only promises enhanced comfort and mobility for individuals but also contributes to their overall well-being and quality of life, reflecting a continued commitment to addressing this widespread health concern.

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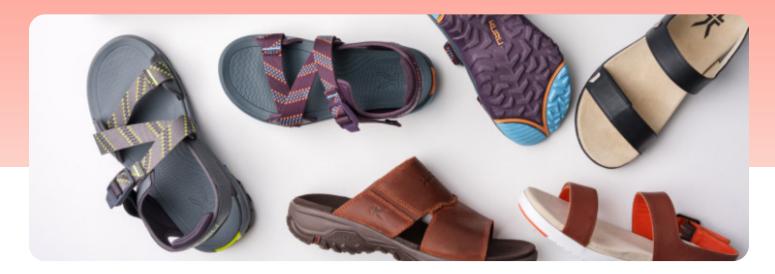
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