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# Understanding Achilles Tendonitis and the Role of Orthotics

## Achilles Tendonitis

Achilles tendonitis is a common condition that affects the Achilles tendon, which connects the calf muscles to the heel bone. This condition often results from overuse, leading to pain and stiffness in the back of the heel. Individuals with Achilles tendonitis may find it challenging to walk, run, or participate in physical activities. Recognizing how to manage this condition is vital for maintaining mobility and comfort.

One effective treatment for Achilles tendonitis is the use of custom orthotics. An orthotic is a specially designed insole that provides support to the foot. For individuals suffering from this condition, orthotics need to have a higher heel. This elevated heel helps to reduce the strain on the Achilles tendon by decreasing the angle at which it pulls on the heel, ultimately alleviating pain and discomfort.

When creating custom orthotics for Achilles tendonitis, the process often starts with developing a prototype. This first version of the orthotic is tailored to the individual's foot shape and specific needs. Healthcare providers can adjust the prototype to ensure it offers the right level of support and comfort before finalizing the design.

To illustrate how orthotics can help, researchers may use a graph to display changes in pressure on the foot before and after using the device. This graphical representation can demonstrate how a higher heel reduces pressure on the Achilles tendon, allowing for more comfortable movement. Additionally, understanding kinetic energy—the energy of motion—can help explain how the foot's movement impacts the Achilles tendon. When walking or running, the kinetic energy generated can lead to increased stress on the tendon, especially if the foot is not properly supported.

In conclusion, Achilles tendonitis can cause significant discomfort, but it can be effectively managed with the right treatment. Custom orthotics designed with a higher heel play a crucial role in providing support and reducing the impact on the Achilles tendon. By recognizing the importance of this feature, the development of effective prototypes, and how these devices work, individuals can find relief and return to their favorite activities with greater ease and comfort.

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