Chapter 16
G-Out: Footwear for Gout Patients

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Abstract

Gout is defined as “one of the most painful forms of arthritis” a person can suffer. Gout is caused by a build-up of uric acid in the joints that eventually forms sharp crystals that collect around the joints especially in the ball of the foot and big toe. The purpose of this invention is to provide alternative supporter to gout patients, to minimize the length of supporter in comparison to crutches and to recognize the proper shoes for gout that are also economically priced. This foot wear for gout was invented so that it allows the foot and toes plenty of space because the crimping, pinching and pressure caused by tight fitting footwear can impede blood circulation around the toes and feet. Sluggish flowing blood is more likely to form and deposit crystals. Moreover, the toes are the number one spot for recurring gout attacks by far. This foot wear was also designed to avoid pressure on the crucial big toe joint. It is sturdy for control and stability and also comfortable, have good cushioning, and have well-padded insoles. This G-Out shoes will leave big impact in terms of socio-economy by widening in the industrial and marketing field as well as the commercialization field and more job opportunities can also be provided. We plan to commercialize this product by finding a suitable company that is interested to collaborate with us to produce this custom-made shoes and make it into a proper, ready-to-use gout shoes that is accessible in the market.

Introduction

Gout is caused by a build-up of uric acid in the joints that eventually forms sharp crystals that collect around the joints (especially at the ball of the foot and big toe). Uric acid is a waste product that originates from a type of protein called purine. The human body removes its waste product through the endocrine system and is flushed out of the body via urine. For Gout patients, the uric acid is in excess and is not removed but collected at the joints. Previously, gout would result in one being handicapped but currently the advancement in science and technology has ensured that gout can be controlled. Gout usually affects men in the age group 30-60 and women after menopause. It causes inflammation and pain that can last from a few days to a few weeks.

The common location for gout is the big toe. The infected toe would become red, warm and swollen. The patient would be in terrible pain. The affected joints would be very painful until any form of friction would result in terrible pain. This pain is prolonged and would extend to 1-2 weeks if not treated. Gout could affect other joints in the body such as the ankle, knee, wrist and fingers. Uric acid can collect under the skin in the form of ‘bumps’ called ‘tophi’. In the urinary track, it could collect and crystalize as ‘kidney stones’. The first signs of gout include inflammation, swelling, tenderness and pain (mostly occurring in the great toe of the foot).

Content

The reason that we came up with this innovative idea is to provide alternative supporter to gout patients, to minimize the length of supporter in comparison to crutches and to recognize the proper shoes for gout that also are economically priced. For gout patients, insignificant footwear could make gout worse. Many people with gout commonly wear the wrong type of shoes, leading to increased pain, and disability. Wrong shoes are shoes with poor footwear characteristics that include poor cushioning, lack of support, lack of stability, and motion control. Suffering from gout affecting the big toe means that special footwear must be considered in order to avoid the pain attacks. Proper footwear selection to be discussed with gout patients to reduce foot pain and impairment.

a. The major factors when considering shoes for gout patients are:

b. To allow the foot and toes plenty of space. The space needed because the crimping, pinching and pressure caused by tight fitting footwear can impede blood circulation around the toes and feet.
Sluggish flowing blood is likely to form and deposit crystals and the toes are the main recurring gout attacks location.

c. To avoid pressure on the crucial big toe joint. It is gout's favorite location, so treat it well.

The conventional wisdom is that shoes for gout should be sturdy - for control and stability (in case you bump or bash your feet).

They should be comfortable, have good cushioning, and well-padded insoles. A lack of these features means footwear is inadequate for a gout sufferer. Lightweight, over-worn, tight footwear will not give your feet a comfortable enough ride, and protection. When there's no protection, if you get a bash, twist or bump, that shock can set off a gout flare in people living with gout.

<table>
<thead>
<tr>
<th>Aspects</th>
<th>G-Out Footwear</th>
<th>Brand ‘X’ shoes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to walk</td>
<td>Patients can walk better and more efficient</td>
<td>Walks slowly due to pain and may not able to walk at all</td>
</tr>
<tr>
<td>Pain endured by</td>
<td>Less pain while walking as the gout affected area is not in contact with any</td>
<td>Walking can be painful as the gout affected area is in contact with sole of shoes</td>
</tr>
<tr>
<td>patient</td>
<td>parts of shoes</td>
<td></td>
</tr>
<tr>
<td>Insole of shoes</td>
<td>The insole is half and is set up in sloped manner at a 45 degree angle so</td>
<td>The insole is full and the affected area will be in contact with the insole,</td>
</tr>
<tr>
<td></td>
<td>that the affected area will be left hanging to avoid contact</td>
<td>causing the pain to worsen.</td>
</tr>
<tr>
<td>Stability of</td>
<td>More stable as the sole is wider and the shoes is made up of steel</td>
<td>Less stable as the soles are smaller and narrower</td>
</tr>
<tr>
<td>shoes</td>
<td>More comfortable</td>
<td>Less comfortable</td>
</tr>
<tr>
<td>Comfort of shoes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 Comparison between g-out footwear and other shoes brand
Conclusion

Comparing the G-Out footwear with other shoe brand, it has been proved that our product does bring good and is more effective towards treating gout. By using our product, patients can walk better and easier without experiencing pain. As we all know, sometimes even a small contact with the softest things can be painful for gout patients. When gout patients wear shoes which are narrow and tight fitting as what we usually find at shoe stores, it can cause crimping, pinching and pressure on the foot. Thus, the affected area will be more painful and even worse the patient might not be able to walk at all. G-Out footwear in the other hand has a wider sole to allow the foot and toes to have plenty of space. Therefore, the patients can walk easily and experience lesser or no pain at all. The shoe is also sturdy as it is made up off steel for maximum control and stability (in case the patient bump or bash her or his feet).

As the conclusion, the gout footwear is an alternative to help gout patients walk. Gout patients can now walk independently without help. The affected area can also heal faster without the presence of any kind of pressure. This product is cheap and easy to produce without using high technology. The price of the shoe is reasonable and affordable for patients to buy. Gout footwear is also advantageous to hospitals, pharmacies, and footwear shops. Patients no longer need to depend on the help of crutches to move around but this small convenient device can be a big help to them when gout attacks.

References