

A Guide for Patients and Families

# Care of Diabetes Related Foot Deformities



## What are the diabetes related foot deformities?



Foot deformity (abnormal changes in the shape of toes, arches, and bottom of feet) increases your risk of diabetic foot complications such as ulcer, infection, and pain.

The deformities may range from claw toe, high foot arch, to a severely deformed rocker bottom foot (Charcot foot).

### What causes diabetes related foot deformities?

Poorly controlled blood sugar can damage the nerves to the feet\* and weaken the foot muscles. These subsequently contribute to foot deformities.



*\*Refer to our pamphlet on "Diabetes Neuropathy" for more details.*



High arched foot (pes cavus) along with clawing of toes in people with diabetes develop as a result of weakness of foot muscles to maintain a normal foot shape. This is due to diabetes affecting the nerves supplying sensation and movement to the muscles of the foot.



Charcot foot is an uncommon but severe foot and ankle condition in people with diabetes neuropathy who may not recall any significant trauma to their feet.

They continue to walk on the affected foot without knowing there are changes as they may not feel the intense pain associated with the injury due to nerve damage. With repeated pressure, the damaged bones and joints can continue to be destroyed, resulting in change in foot shape and structure.

### **ATTENTION!**

It is important to detect a Charcot foot early as the collapse in foot joints results in irreversible deformity of foot shape and structure.

The foot shape will not return to normal in the absence of reconstructive surgery and it is difficult for you to find shoes to accommodate the level of deformity. As such, areas of high pressure in the feet may result in development of thickened skin (calluses), that may eventually breakdown (ulcer) and result in infection.



# What are the symptoms?

## Foot deformities



Abnormal shapes in foot and toes

## Charcot foot



The early signs of an active Charcot foot are swelling and warmth in the foot or ankle. There may be pain or redness.



The person may not feel the pain or the same level of pain as someone without nerve damage.



Charcot foot often results in a rocker-bottom foot deformity and is usually a result of not diagnosing and managing the condition early.



Some may develop foot wound (ulcers) or infection.

## How to prevent Charcot foot?



One important aspect of preventing Charcot foot is to control your blood sugar to reduce your chance of developing diabetes neuropathy.



It is very important to have your feet check at least once daily.



Check your feet daily for cuts, sores, injuries and changes in foot or toe shape.



Ensure that you wear appropriately fitted shoes.

\*For people with diabetes and significant foot deformity (Charcot foot), your podiatrist may recommend customised footwear and/or insoles.



*Refer to our pamphlet on "Footwear" for more details.*



Check the inside of your footwear for any loose objects that might cause injuries before wearing them.

## Treatment for Charcot foot



When you have an active Charcot foot, you may be recommended by your podiatrist or orthopaedic surgeon to wear a plaster cast or protective walker boot.



In addition, you may also be advised to use crutches or wheelchair to aid in your ambulation such that you minimise.

This process may take months and it is important to journey with your podiatrist, orthopaedic surgeon or specialists in the multi-disciplinary foot clinic.





It is very important to wear the protective boot device (taking weight off the affected foot) or plaster cast prescribed to you by the podiatrist to prevent further changes in shape of the foot. Crutches, knee walker or wheelchair may be prescribed to prevent any weight on the affected foot.



You may be recommended to reduce walking during the period when you have a below knee cast on.



After the cast is removed, you may be advised to use custom insoles or footwear to ensure a proper fit and relieve the pressure points.



Surgery may be recommended by your orthopaedic specialist for those who have serious ankle and foot deformities that are at risk of developing a foot ulcer or are unstable.



Have your diabetes, high blood pressure, weight and high cholesterol under control



Stop smoking

## When should I seek medical treatment?

- ▶ If you develop a red, hot, swollen foot or toe, new wound, sudden onset of severe pain over your foot, warm or discolouration over your toe or foot. It is important to seek immediate medical attention.



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