



*Lecture as part of a series by Parafricta*

## **Five-Year Clinical Experience of Using Low Friction Fabric Bootees for Heel Pressure Injury Prevention**

**Debbie Gleeson,**

**Lead Nurse for Tissue Viability, St Helens and Knowsley Teaching Hospitals NHS Trust**

### **Background:**

Heel pressure injuries are 25% of all PIs.

The heel is at risk because of:

- Weight of the foot, lack of padding, poor blood supply
- Friction and shear when patient is moved

Just to sit up in bed drags the heel 11 centimeters – this is a huge contributor to heel PIs.

### **Investigation:**

While prevention of heel PIs is in many ways similar to prevention of PIs on other parts of the body, the increased weight of the friction component led us to investigate if we could reduce that risk factor and achieve better results.

Our hypothesis: reducing heel friction using a low-friction bootee would reduce heel PIs significantly and introduce significant cost savings while improving quality of care.

#### **Our 5 year path at Whiston Hospital, a NHS Trust:**

**2011:** we separated the heel PIs out from the others

**2012:** we introduced the Parafricta low-friction bootee together with staff training on using it

**2013:** we added MANDATED education and training in tissue viability



**2014:** we introduced a new risk assessment tool to identify WHO would benefit from the bootees

Our goal was to pinpoint who would benefit most from the bootees, as their cost does not allow using them for all patients. We identified 11 categories which put patients at higher risk specifically for heel PIs:

1. Previous of current heel ulcer – reduced tissue tolerance
2. Diabetes – peripheral neuropathy and numbness
3. Stroke/CVA – limited ability to move one of both legs and neuropathy changes
4. Paralysis – leads to insensibility and atrophy and skin thinning
5. Hip fracture – dragging injuries from knee replacements/digging the heel into the mattress to prevent sliding down the bed
6. Dementia – cognitive impairment – risk of rubbing injuries
7. Peripheral vascular disease – decrease vascular supply and reduces tolerance of mechanical forces
8. Leg spasm/Parkinson's/tremors – rubbing heels on the bed surfaces
9. Agitated – heels on the bed surfaces
10. Leg oedema – compromised capillary flow and reduced tissue tolerance
11. Frequently slides down bed or chair – poor posture in the chair or bed – risk of rubbing injury

Any patient with one or more of the 11 risks was allocated a bootee.

## Results:

In 2015, we compared the incidence of heel PIs as well as the yearly cost of preventing/treating heel PIs over the past 5 years.

In 2011, our total yearly incidence of heel PIs was 50. At £5,241.00 estimated cost to heal a Grade 2 Heel PI, the cost of treating heel PIs was £262,050.00 a year.

In only one year, by 2012, we had reduced our incidence by 32% of heel PIs. After 5 years, we had an 82% reduction in incidence.

By 2015, the total yearly incidence of heel PIs had been reduced to 8. The cost of treating those PIs (using the 2011 uninflated costs) was £41,928.00. Add to that the initial cost of the bootees (£64,130.50) and ongoing cost for laundering (£2,737.50), and the total cost of treatment and prevention of PIs came out to £108,796.00, a reduction in cost of £153,254.00 from the 2011 sum... with much greater patient health and higher quality of care.



## Takeaways:

The Parafricta low friction bootee has become the standard of care in our NHS trust for patients who meet one of the 11 criteria for high risk of heel PIs.

The bootee, however, cannot stand alone. It must be used along with training in tissue viability.

When you combine the two, you can avoid many PIs that were heretofore deemed unavoidable. This is the missing link in preventing heel PIs.

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