

Immobilisation - Helping or Hindering the Diabetic Foot?

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Introduction

- Role of off-loading
 - CG10 Type 2 diabetes – foot care (2004)
 - CG119 Diabetic foot problems – inpatient management (2011)
 - Putting feet first: National minimum skills framework (revised 2011)
 - TRIEPod Podiatry Competency Framework (2012)



Case Study 1

- Aged 53, female
 - Type 1 diabetes
 - Diagnosed 1982
 - HbA1c in 2011
 - 64mmol/mol (8.0%)
 - Hypertension
 - Autonomic neuropathy
 - Renal disease - deteriorating
 - Retinopathy
- Medication
- Insulin (Humalog & Lantus)
 - Aspirin 75mg
 - Citalopram 20mg
 - Esomeprazole 20mg
 - Oestradiol
 - Ferrous sulphate 200mg bd
 - Olmesartan 20mg
 - Rosuvastatin 10mg
 - One alfa 0.25mcg
 - EPO monthly

- Attending foot clinic treatment left 3rd MPJ ulceration
- Treated in a total contact plaster cast for three months
- One week after removal of her cast she presented with a very red, hot swollen leg and foot with a 3.5°C temperature difference
- A DVT was excluded
- Plain film



Page: 1 of 1 Compressed 32:1 IM_1003

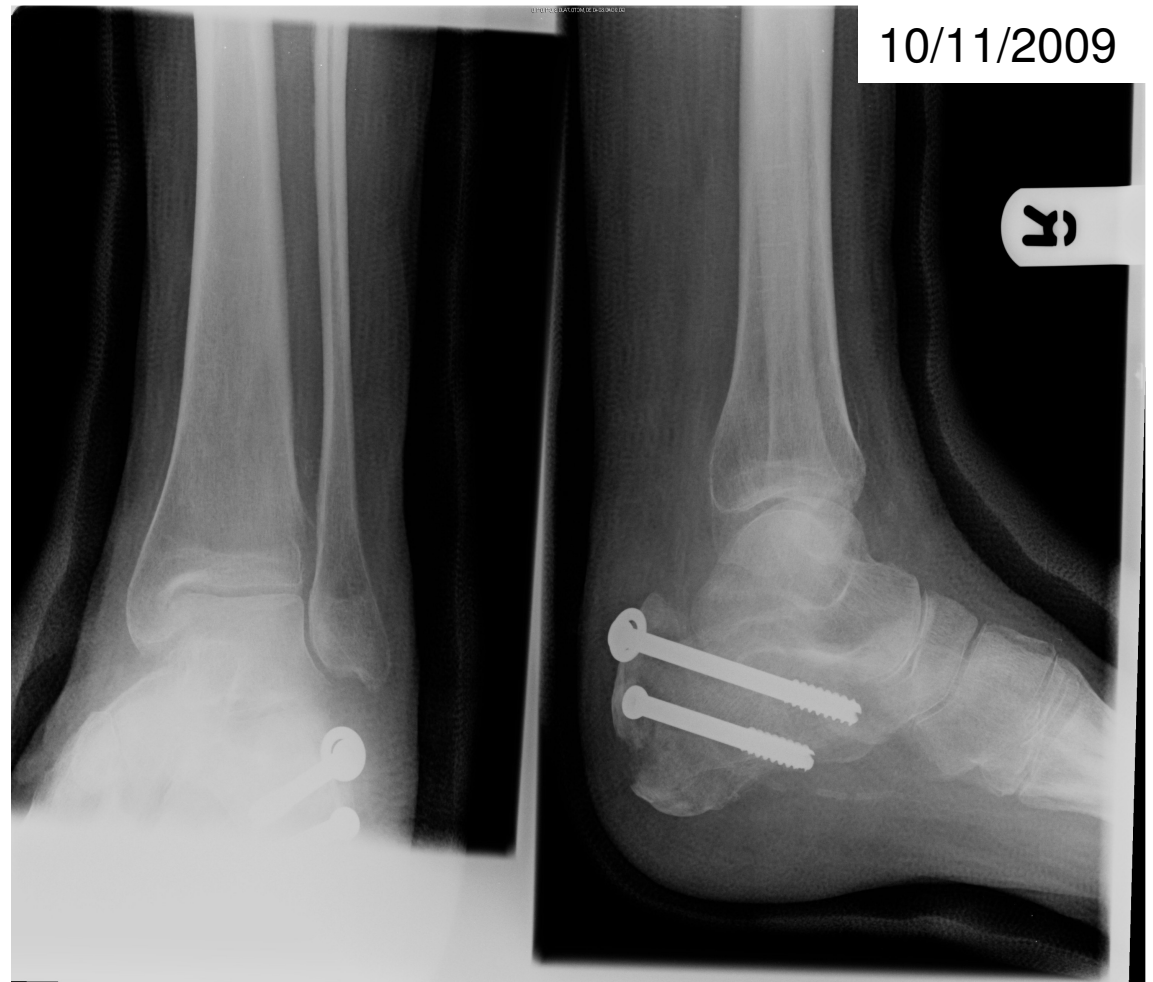


Page: 1 of 3 IM_1003

Left Ankle Injury 2009-2010



Right Calcaneal Injury



Follow Up



Case Study 2

- Aged 44 male
- Type 1 diabetes
- Diagnosed 1996
- HbA1c
 - 53mmol/mol
- Kidney and pancreas transplant 2005
- MI 2006
- Hypertension
- Hyperparathyroidism
- Diabetic retinopathy
- Previous amputation
 - R/hallux 2004 – burn

Medication

- Amitriptyline 20mg and Pregabalin 50mg
- Citalopram 10mg
- Omeprazole 40mg
- Alfacalcidol 750 nanograms
- Simvastatin 40mg
- Sodium Bicarbonate 500mg
- Tacrolimus 2mg and 1mg
- Tamsulosin 400 micrograms
- Amlodipine 10mg
- Methadone 5mg bd
- Frusemide 120mg
- Propanolol 20ng bd
- Prednisolone 5mg
- Mycophenolate Mofetil 500mg
- Adcal 2 tab/day
- Norfloxacin 400mg
- Insulin (Lantus & Humalog)

Admission for Transplant

- A femoral nerve palsy
- He developed bilateral heel ulcers during the admission
- Fell and fractured his left tibia and fibula, dislocated R/knee
- Away from foot clinic 9 months
- Initially in wheel chair
- Declined TCC for heels
- R/heel healed



L/heel

- Pt eventually agrees to go into TCC for left heel
- Wound heals after 4 months of casting
- Mobilises into hospital footwear
- After 1 week contacted clinic swollen left foot



4 years later

- Calcaneum fracture healed with off-loading and casting
- Ulcer free
- In hospital footwear
- October 2010 discharged to outreach podiatry

Heel re-ulcerates

- July 2001 patient self refers himself back to foot clinic
R/heel re-ulcerated since March/April
- Initially treated in softcast and the TCC
- October 2011 nearly healed patient requests to come out
of TCC as needed to be able to drive as father surgery
- 2 weeks later seen emergency appt
- Extremely painful swollen L/leg
- Initially put on antibiotics
- Investigated DVT
- Plain film x-rays

November 2011



December 2011



October 2012



Case Study 3

- Aged 64 male
- Type 1 Diabetes
- Diagnosed 1961
 - HbA1c 64 mmol/mol
- Retinopathy

Medication

- Insulin – (Lantus & Novorapid)
- Alendronic Acid 70mg weekly
- Lorsartan 25mg od
- Adcal bd
- Felodipine 10mg od
- Simvastatin 40mg od
- Aspirin 75mg
- Paracetamol



- Admitted with spreading infection
- Underwent right 1st surgical debridement
- Treated in total contact cast until healing



Conclusion

- Patients with poorly controlled or long standing diabetes who have evidence of end organ microvascular damage are at risk of developing fragility traction type fractures of their calcaneum
- This can happen particularly after a period of immobility
- A protected graded increase in activity may prevent such fractures
- Further studies need to be done to determine the optimal approach for this.

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