



The Surgical Ladder for Prevention of Recurrence

Venu Kavarthapu, FRCS (Tr&Orth)

Consultant Orthopaedic Surgeon
King's College Hospital, London

Honorary Senior Lecturer King's College London
Training Programme Director Orthopaedics SE London
Associate Professor Orthopaedics Southern University of Denmark
Board Member Association of Diabetic Foot Surgeons

Disclosures

- Marquardt
- Orthofix
- Bonesupport

Diabetic Foot Ulcer

- Lifetime risk of diabetic foot ulceration (DFU)
- 85% of amputations precede a DFU
- 50% die 5-years post LLA
- Life expectancy worse than breast, bowel and prostate carcinoma

Ulcer Healing and Prevention of Recurrence

~~15%-25%~~
19%-34%



Prevention of Ulcer and Amputation

What is the reason for a major amputation of a diabetic foot?



- 1 Normal
- 2 High risk
- 3 Ulcerated
- 4 Infected
- 5 Necrotic

Stage

Neuropathic

Charcot

Neuro-ischemic

Critical ischemic

Acute ischemic

Renal ischemic

2



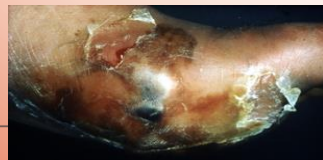
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4



5



ALTH

The Surgical Ladder for Prevention

Ulcer debridement and infection control

Exostectomy

Soft tissue balancing procedures

Minor amputations

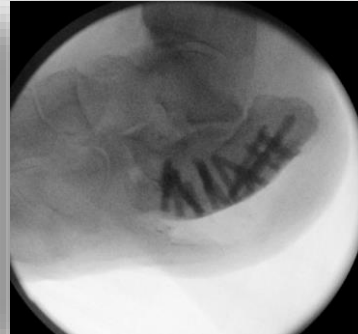
Minor deformity corrections

Major deformity corrections

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Ulcer debridement, infection control
Exostectomy
Soft tissue balancing procedures
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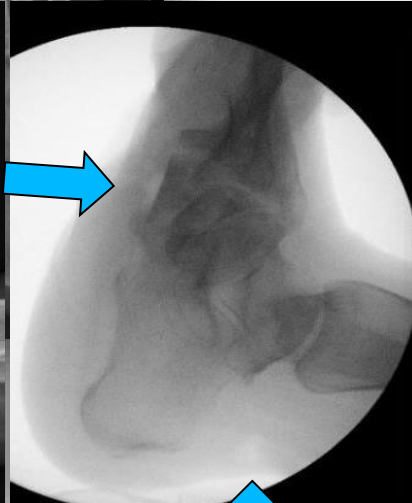
Minor amputations

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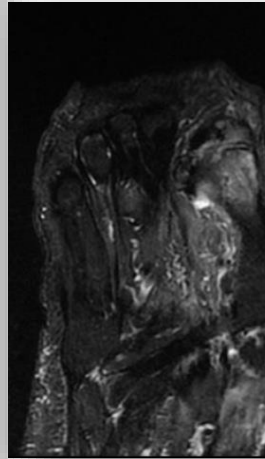
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Poor bone stock

Poor bone healing response

Ulceration / Skin coverage

Vascular compromise

Fixation failures

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Vascular management

Pre-op screening
Distal revascularisation

Ulcer debridement, infection control
Exostectomy
Soft tissue balancing procedures
Minor amputations
Minor deformity corrections
Major deformity corrections

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Vascular management

Targeted infection control

Polymicrobial
Bone biopsy / deep tissue
samples

Modern inpatient care of the orthopaedic patient with diabetic foot disease..
A Bateman, S Bradford, T Hester, I Kubelka,
V Kavarthapu, ME Edmonds.
The International Journal of Lower Extremity
Wounds 1–9, 2015

Ulcer debridement, infection control
Exostectomy
Soft tissue balancing procedures
Minor amputations
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Vascular management

Targeted infection control

Advanced wound care

Dedicated wound team
Negative pressure Rx
Plastic surgery

Ulcer debridement, infection control

Exostectomy

Soft tissue balancing procedures

Minor amputations

Minor deformity corrections

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The Surgical Ladder for Prevention



Vascular management

Targeted infection control

Advanced wound care

Durable fixation

Modern specific devices

Ulcer debridement, infection control

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Vascular management
Targeted infection control
Advanced wound care
Durable fixation
Multidisciplinary approach

Ulcer debridement, infection control
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Major deformity corrections

Improved survival of the diabetic foot: the role of a specialized foot clinic. Edmonds ME, et al Q J Med 1986.

Transformation of the Multidisciplinary Diabetic Foot Clinic Into a Multidisciplinary Diabetic Foot Day Unit

Int J of Lower Extremity Wounds. 2015

C Manu, O Mustafa, M Bates, G Vivian, N Mulholland, D Elias, D Huang, C Deane, N Cavale, V Kavarthapu, H Rashid, M Edmonds.



Midfoot Hindfoot Deformity Correction

Foot School

Counselling

Micro environment set-up

Medical & Vascular optimisation

Surgical Planning



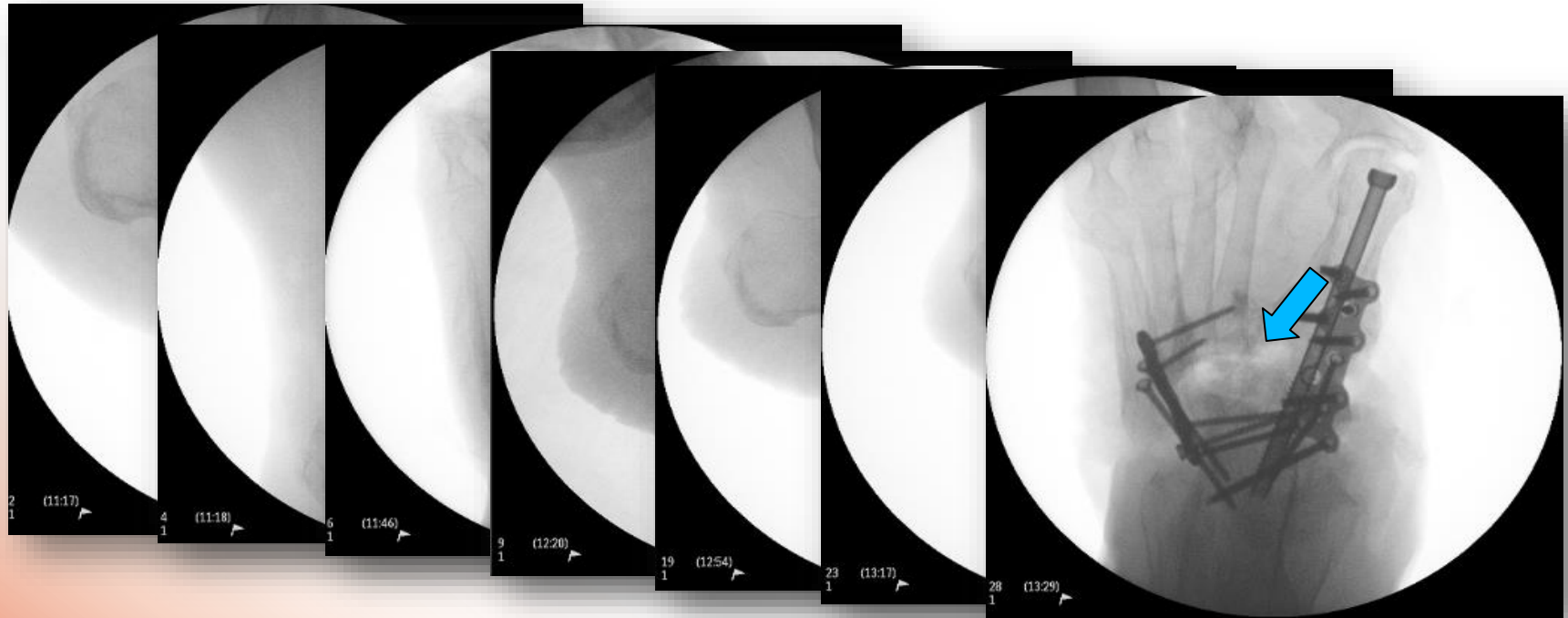
Midfoot Hindfoot Deformity Correction

Infected Midfoot Charcot



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Infected Midfoot Charcot



Midfoot Hindfoot Deformity Correction

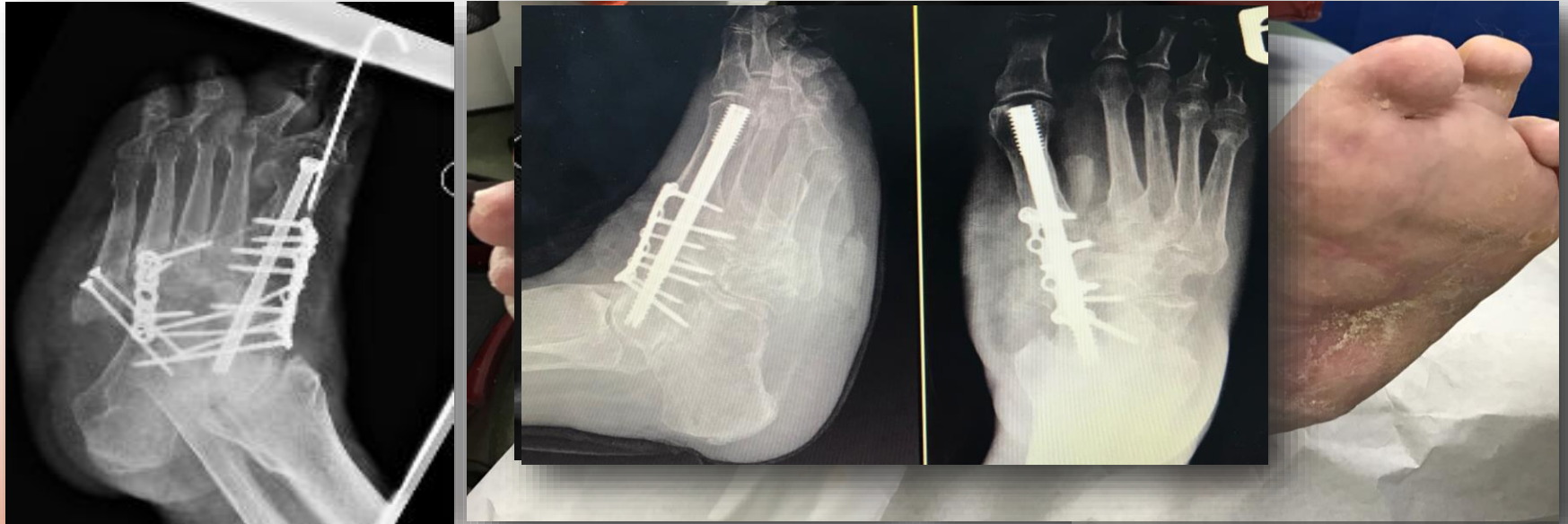
Infected Midfoot Charcot



Midfoot Hindfoot Deformity Correction

Infected Midfoot Charcot

3 months post-op



Midfoot Hindfoot Deformity Correction

44, M

- Type 1
- HIV positive
- Recurrent Left forefoot ulcerations for 18 years
- Previous foot triple arthrodesis and 3 further revision procedures
- Left lateral foot ulcer since 2006



Midfoot Hindfoot Deformity Correction



Midfoot Hindfoot Deformity Correction

Removal of metal work, ulcer debridement, exostectomy, hindfoot and midfoot reconstruction + Vancomycin impregnated calcium preparation..



Midfoot Hindfoot Deformity Correction

Removal of metal work, ulcer debridement, exostectomy, hindfoot and midfoot reconstruction + Vancomycin impregnated calcium preparation..



Midfoot Hindfoot Deformity Correction

Full wound healing. Bone union at 5 months, remained infection free > 3 years

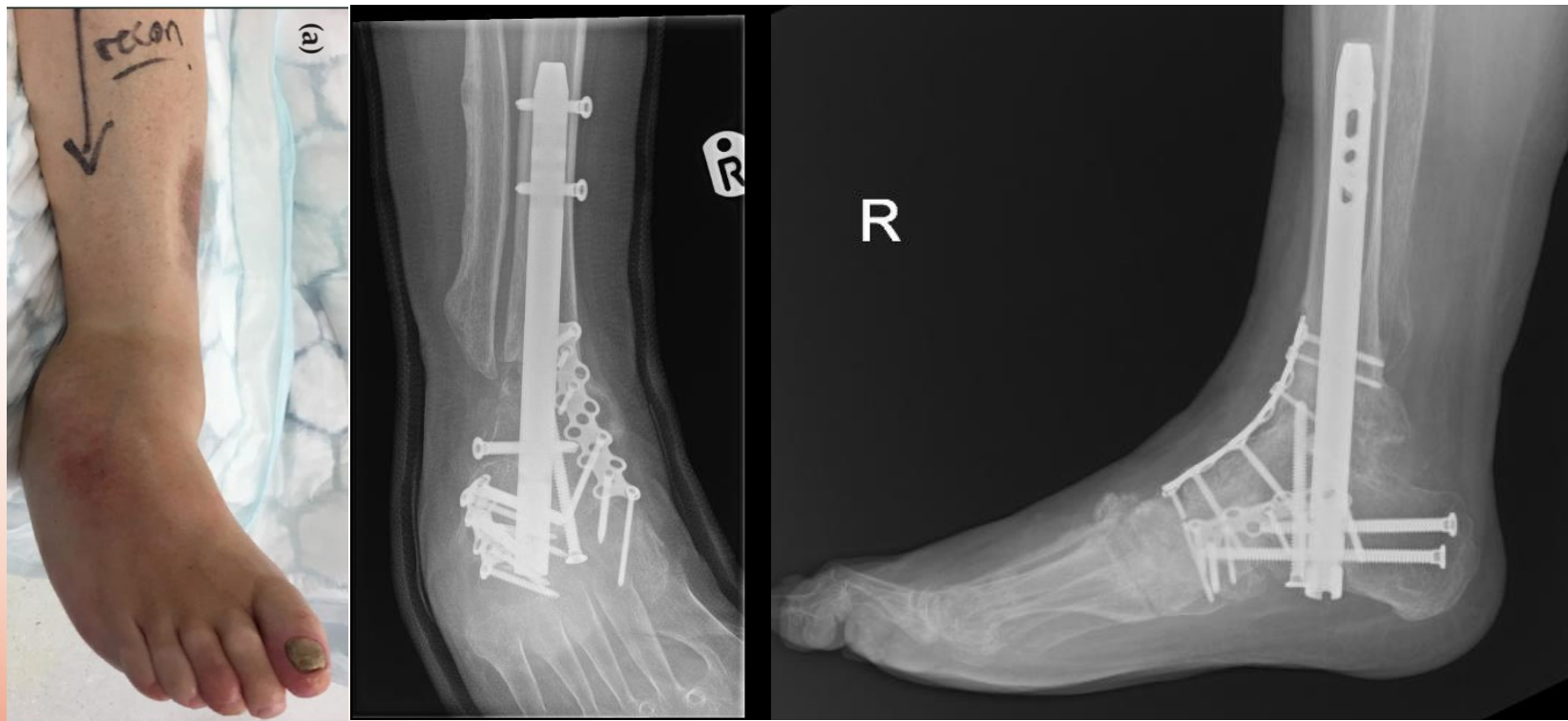


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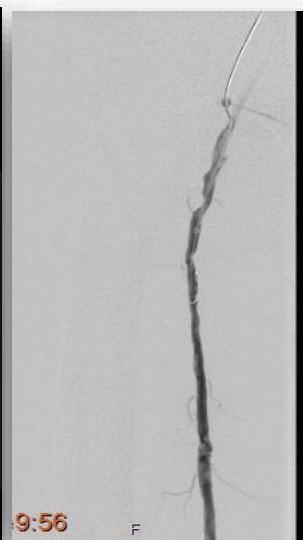


Midfoot Hindfoot Deformity Correction



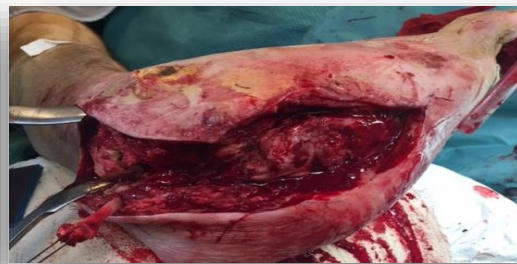
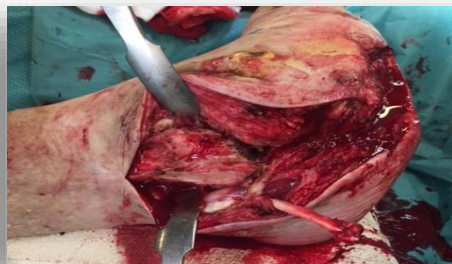
Midfoot Hindfoot Deformity Correction

57 M, Type 2 DM
Recurrent ulcer right foot with severe Charcot deformity. SFA occlusion



Midfoot Hindfoot Deformity Correction

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Recurrent ulcer right foot with severe Charcot deformity. SFA occlusion



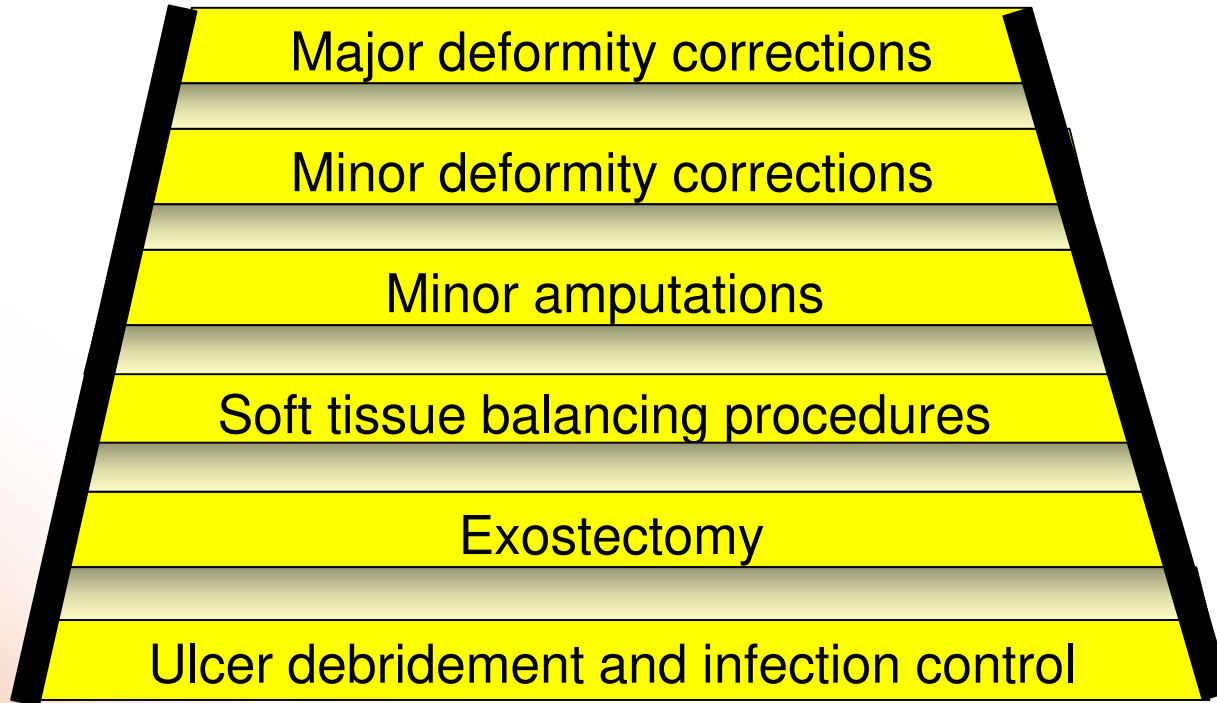
Midfoot Hindfoot Deformity Correction

FWB in 6 months

Ulcer and infection free for 29 months



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Thank You

