



The “Diabetic Foot”

What secondary care teams would like primary care teams to know

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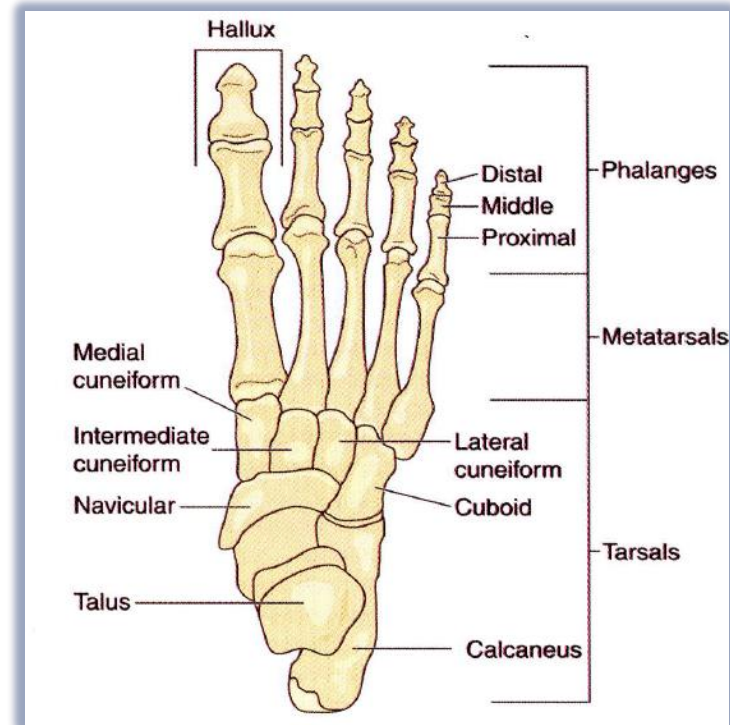
First – A Quiz

- Be honest with yourself. Which of the following would you refer urgently to a specialist diabetes foot clinic?



The Anatomy of the Foot

- No wonder it is prone to problems
 - 26 bones
 - 33 joints
 - 19 muscles
 - 107 ligaments



The Size of the Problem

- Globally 4 million people develop foot ulceration every year
- 15%-25% of healthcare resources are taken up in the treatment of the diabetic foot - in the UK is it £1 out of every £125 in the NHS is spent on the diabetic foot
- Foot ulceration is the leading cause of diabetes related hospital admissions
- People with diabetes are 25 times more likely to lose a leg than people without diabetes
- 70% of amputations are a result of diabetic foot ulceration
- Proper care can reduce amputation rates by 49%-85%
- Every 20 seconds a leg is lost due to diabetes

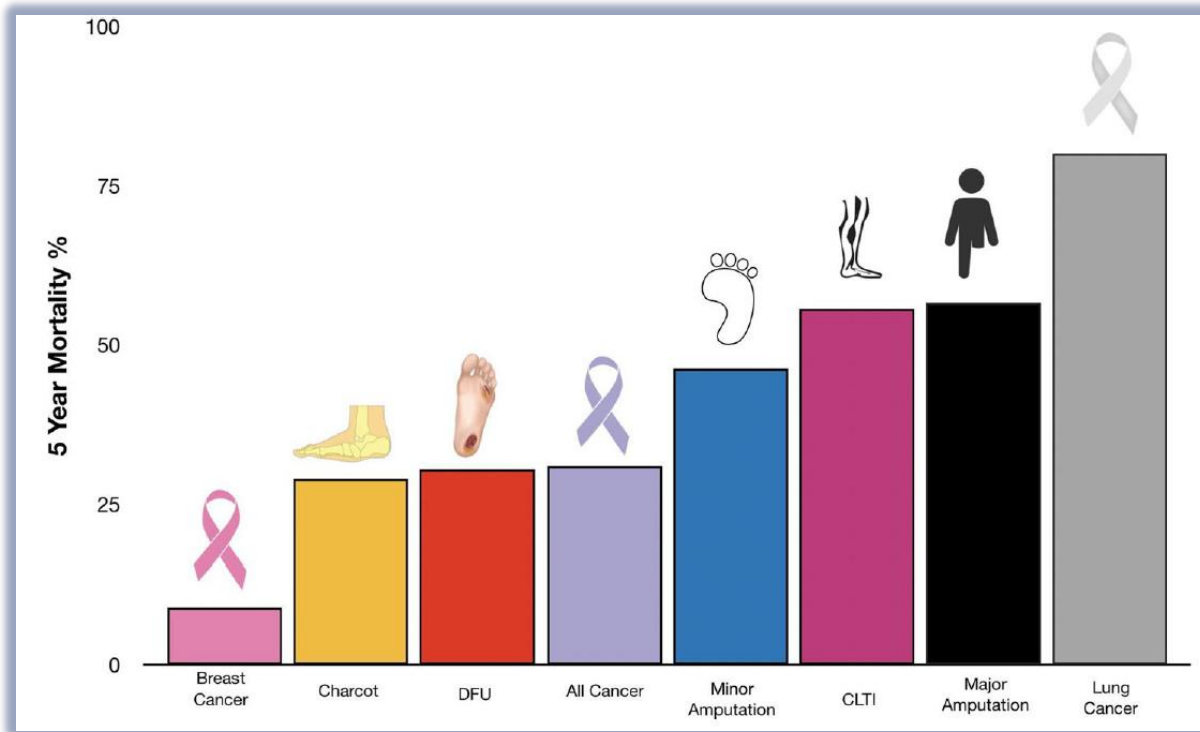
Some More Foot Facts

- Only 50% foot ulcers heal within 6 months
- One in 12 of all foot ulcers result in an amputation of toes or legs
- 3 year re-ulceration rate is 35-40%
- 1% of people with diabetes have had a major limb amputation

OK, So it's a Problem

- It gets worse
 - 17% 1 year mortality following foot ulceration
 - 10% 1 year mortality post lower limb amputation
 - 50% 3 year mortality post lower limb amputation
 - 70% 5 year mortality post lower limb amputation

Mortality of DFU vs Common Cancers



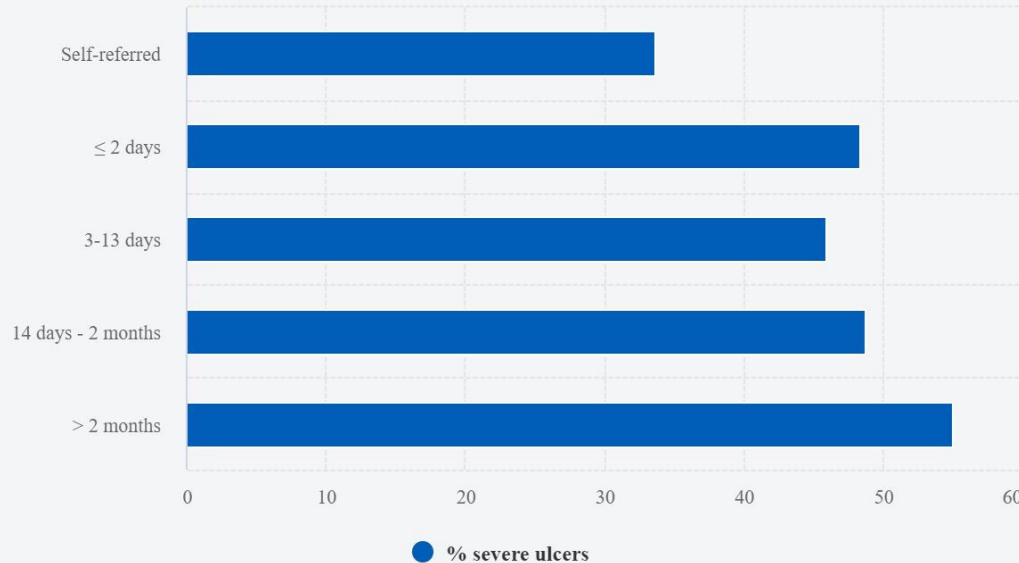
Risk Factors for Foot Ulceration

- Previous amputation
- Past foot ulcer history
- Peripheral neuropathy
- Foot deformity
- Peripheral arterial disease
- Visual impairment
- Diabetic nephropathy (dialysis patients)
- Poor glycaemic control
- Smoking



Ulcers – Why Speed of Referral Matters

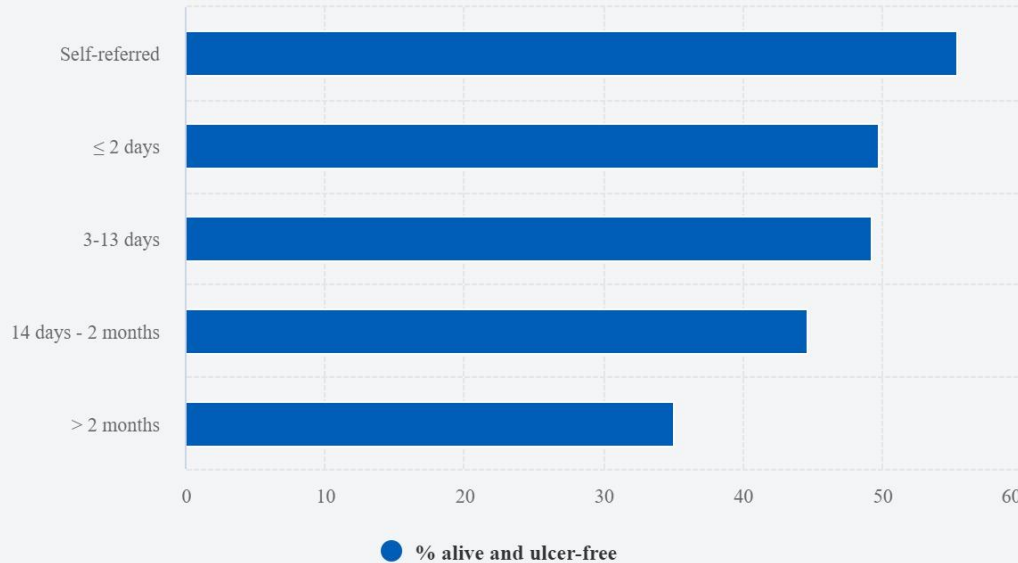
Chart 2: Percentage of ulcers graded as severe at first expert assessment (FEA), by time to FEA, England and Wales, 2014-21



The earlier someone is seen, the less likely the wound is to be classed as 'severe'

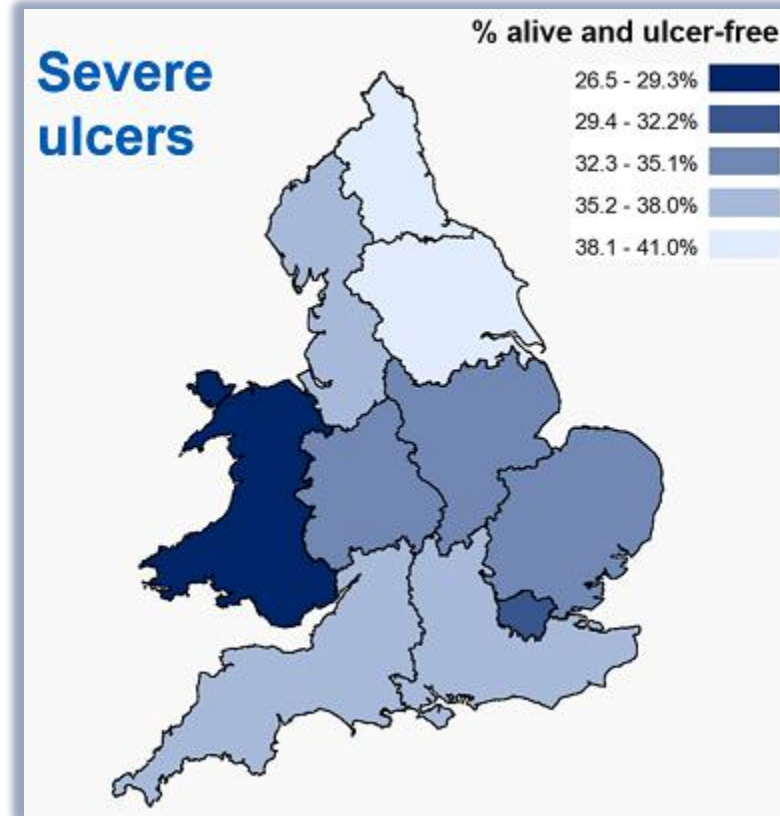
Ulcers – Why Speed of Referral Matters

Chart 3: Percentage of people alive and ulcer-free at 12 weeks after FEA, by time to FEA, England and Wales, 2014-21

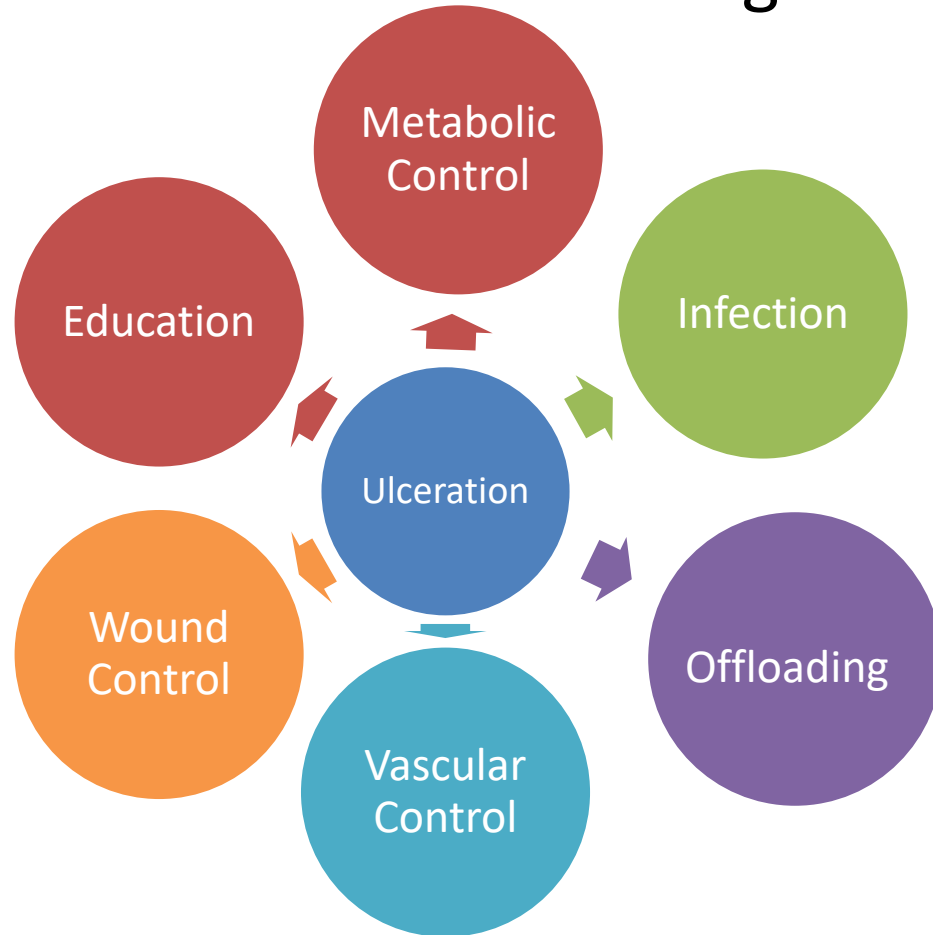


The earlier someone is seen, the more likely they are to be alive and ulcer free at 12 weeks after first expert assessment

Regional Variation – at 12 Weeks



Diabetic Foot Ulcer Management

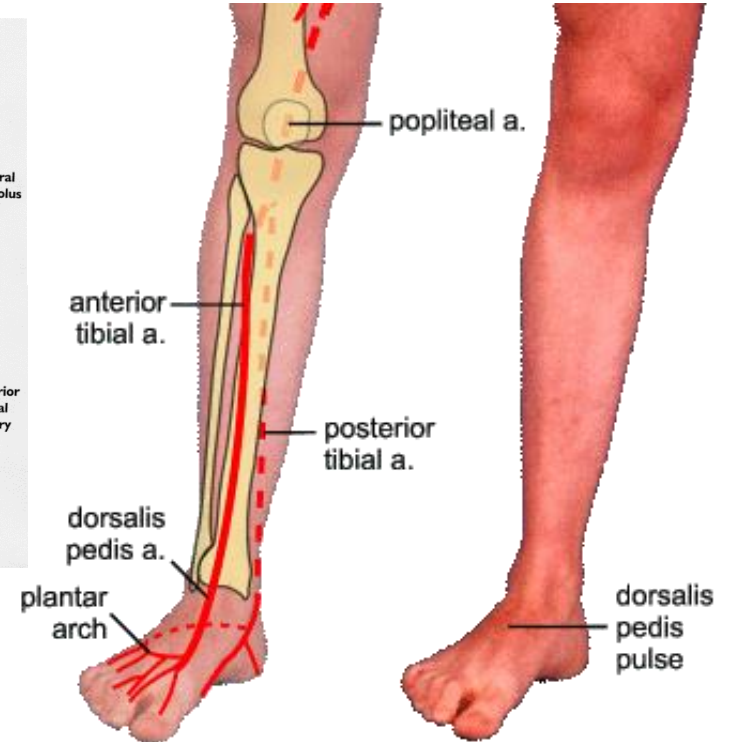
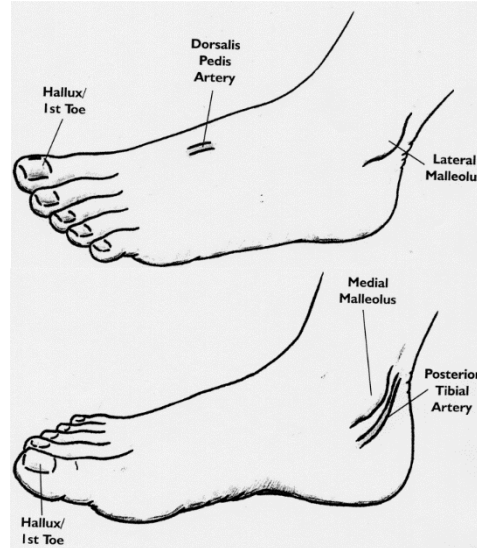


General Foot Assessment

- Peripheral circulation
- Neuropathy

Peripheral Circulation

- The foot has 2 pulses
 - The posterior tibial
 - The dorsalis pedis



Diabetes & Atherosclerosis

- Develop PAD at a younger age
- Affects men and women equally
- Associated with hyperlipidaemia
- Progression is more rapid
- Many parts of the artery develop disease
- Occurs in the distal arterial tree

Conservative Treatment of PVD

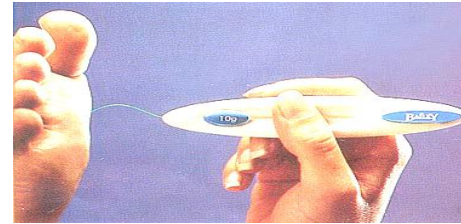
- Antiplatelet therapy
- Statins
- Control diabetes
- Treat hypertension
- Exercise
- Diet
- STOP SMOKING!

Neuropathy

- There is no internationally accepted way of defining neuropathy
 - So, do it one way, and then stick to it all the time
- Light touch
- Vibration sense
- \pm Pin prick

Light Touch

- Use a Semmes-Weinstein 10g monofilament



Or

The Ipswich Touch Test

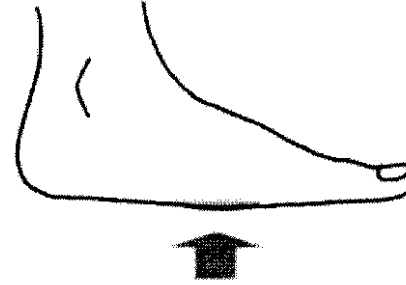
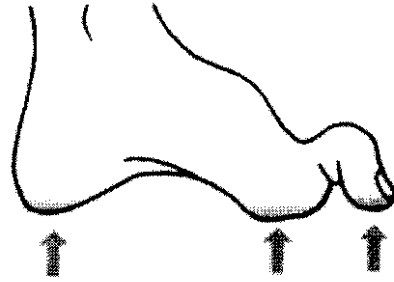
A simple and novel method to identify inpatients with diabetes at risk of foot ulceration

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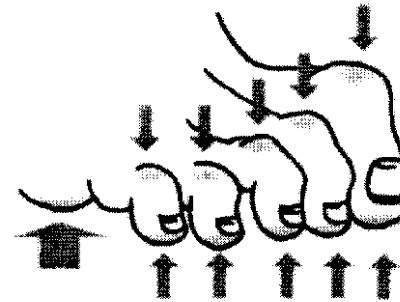
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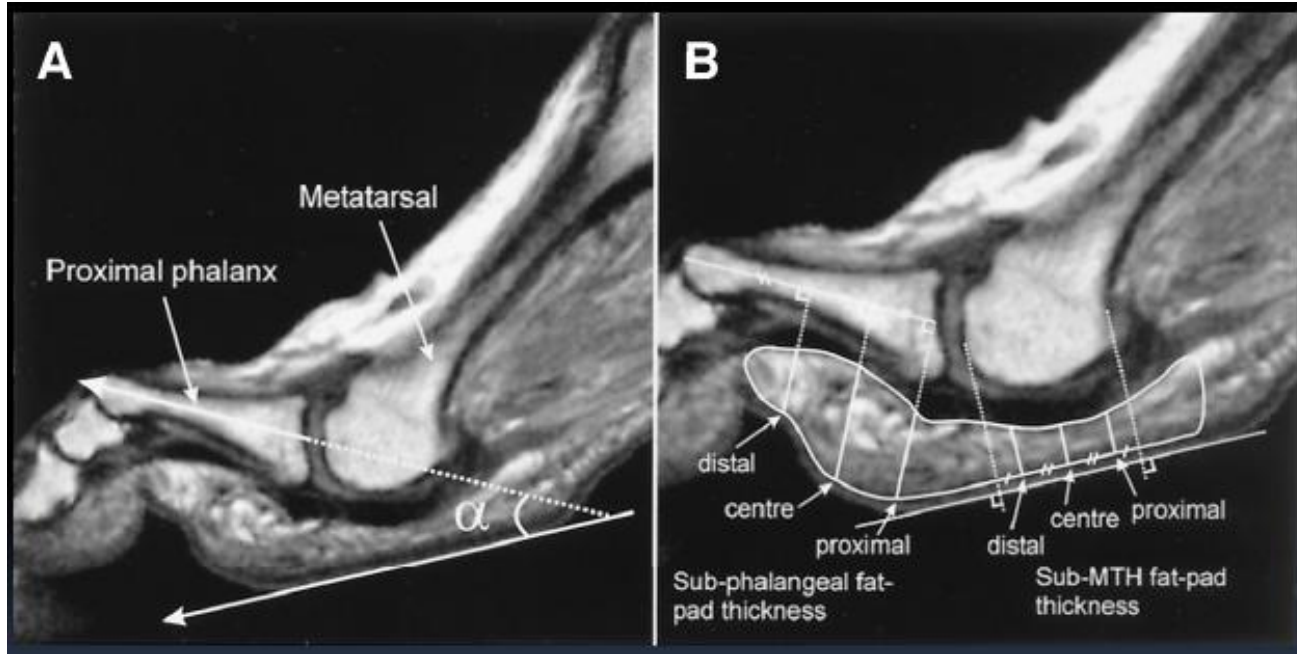
Motor Neuropathy



Interdigital pressure



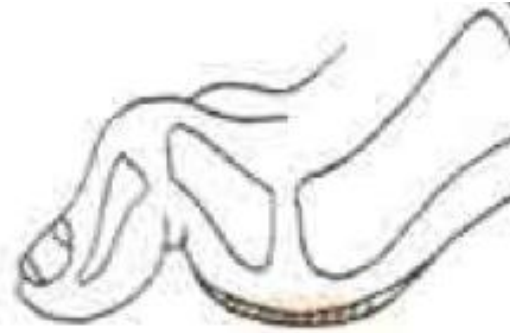
Changes Within the Foot



Changes Within the Foot



The Process



Osteomyelitis



25/8/18



25/9/18

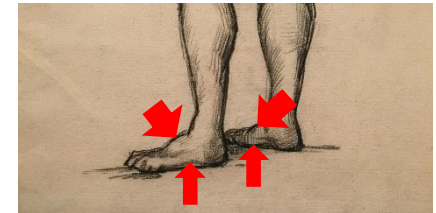


Treatment for Foot Ulcers

- Follow some simple principles
 - Treat any infection that may be present with appropriate antibiotics
 - Debride any tissue that might be dead or getting in the way of healing (this is a podiatrists job)
 - Offload the wound as much as possible (podiatry)
 - Revascularise as necessary (vascular surgical assessment)
- When in ANY DOUBT – refer to the specialist foot team

Charcot Foot

- It is uncommon – occurring in <math><0.5\%</math> of people with diabetes
- It makes up 50% or more of my workload at the N&N
- Due to a combination of factors
 - Peripheral neuropathy
 - Selective sympathetic neuropathy
 - Disruption pre-capillary sphincters
 - High throughput foot
 - Disruption of bone surface regulation
 - Trauma
 - Renal failure



Van Gogh's Idol - 1886

Differential Diagnosis

- Cellulitis
- DVT
- Phlebitis
- Oedema
- Gout
- Osteomyelitis

Charcot Foot

- Diagnosis can be very difficult
- Hot red swollen foot – often painless
- Temperature difference of $>2^{\circ}\text{C}$ between feet
- When in doubt – refer where they may do an MRI



Charcot Foot



Charcot Foot – With Ulceration & Osteomyelitis



Charcot Foot - Management

Acute

- Immobilisation in a TCC
- Pneumatic walkers
- CROW
- Rest
- Crutches

Chronic

- Footwear
- Orthosis
- Corrective surgery
- Health education
- Palliative podiatry

Classifying Risk Status – Low Risk

- Normal sensation and palpable foot pulses
- Intervention
 - To improve knowledge, encourage beneficial self-care and minimise inadvertent self harm
 - Agree management plan that includes education

Classifying Risk Status – Increased Risk

- Neuropathy or absent foot pulses or other risk factor
- Intervention
 - Regular review 3-6 monthly by a member of the foot protection team
 - inspect feet
 - review need vascular assessment
 - evaluate footwear
 - enhance footcare education

Classifying Risk Status – High Risk

- Neuropathy or absent foot pulses and deformity or skin changes or previous ulcer
- Intervention
 - Frequent review 1-3 months by a member of the foot protection team
 - inspect feet
 - review need for vascular assessment
 - evaluate provision of and provide appropriate
 - intensified footcare education
 - specialist footwear and insoles
 - skin and nail care

Back to the Quiz

- Be honest with yourself. Which of the following would you refer urgently to a specialist diabetes foot clinic?



ALL OF THEM

Take Home Messages (1)

- When in doubt - ASK!
- Good referrals result in good triages
 - Severity of acute disease
 - Other comorbidities
- Things can progress VERY rapidly
- Early referral to the foot clinic has been shown to be associated with better outcomes

Take Home Messages (2)

- The number of people with diabetes is increasing
- More and more people will be looked after in primary care or other non-specialists - i.e. by YOU
- More and more people will develop foot problems
- If in doubt – refer to the specialist foot team
- Ask them to stop smoking
- Make sure they are taking their medications as advised



The “Diabetic Foot”

What secondary care teams would like primary care teams to know

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