GIG CYMRU NHS WALES
Bwrdd Iechyd Prifysgol Caerdydd a'r Fro
Cardiff and Vale University Health Board

Foot care

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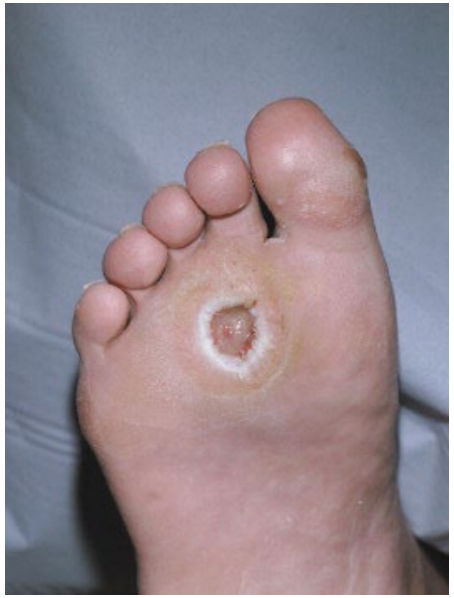
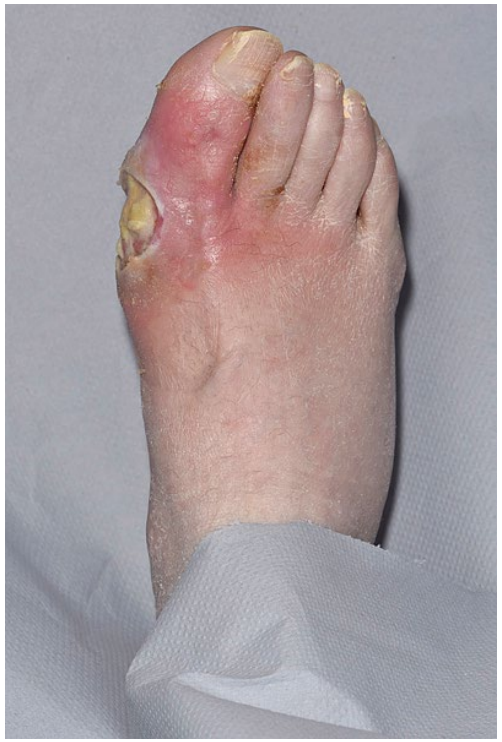
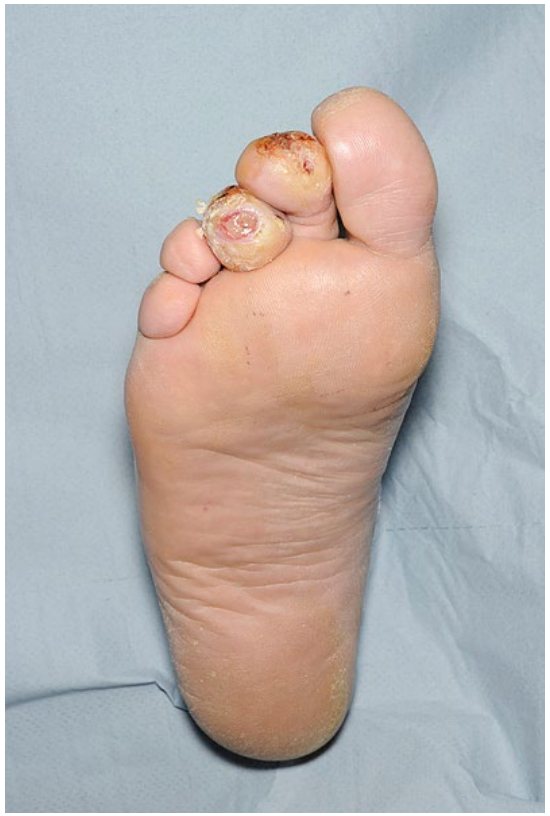
Honorary Tutor, Cardiff University

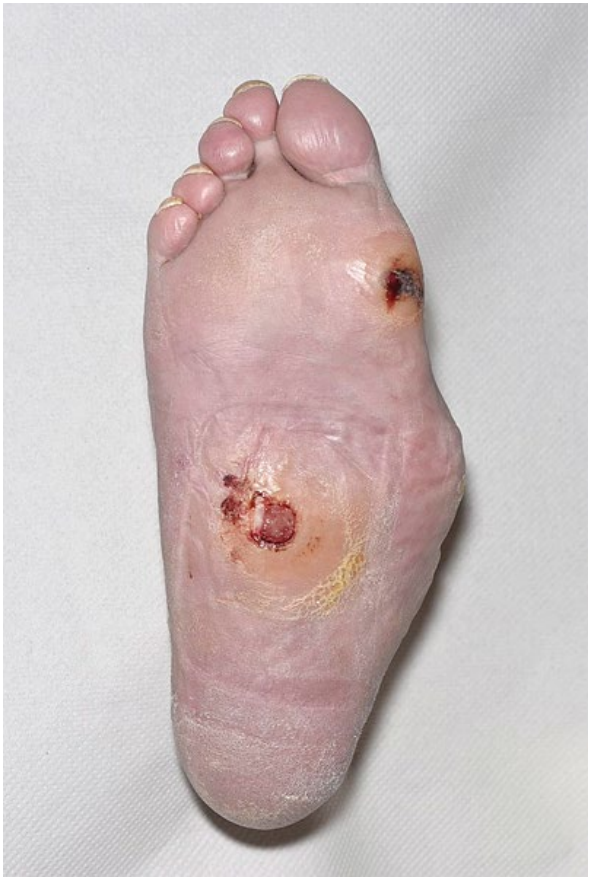
CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD

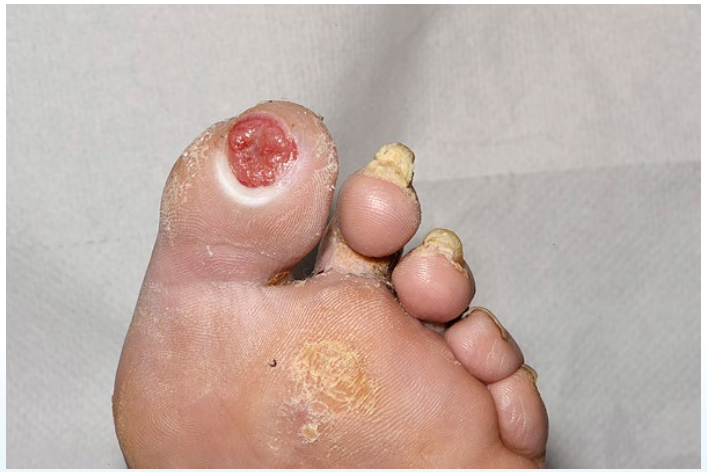
Diabetic foot disease











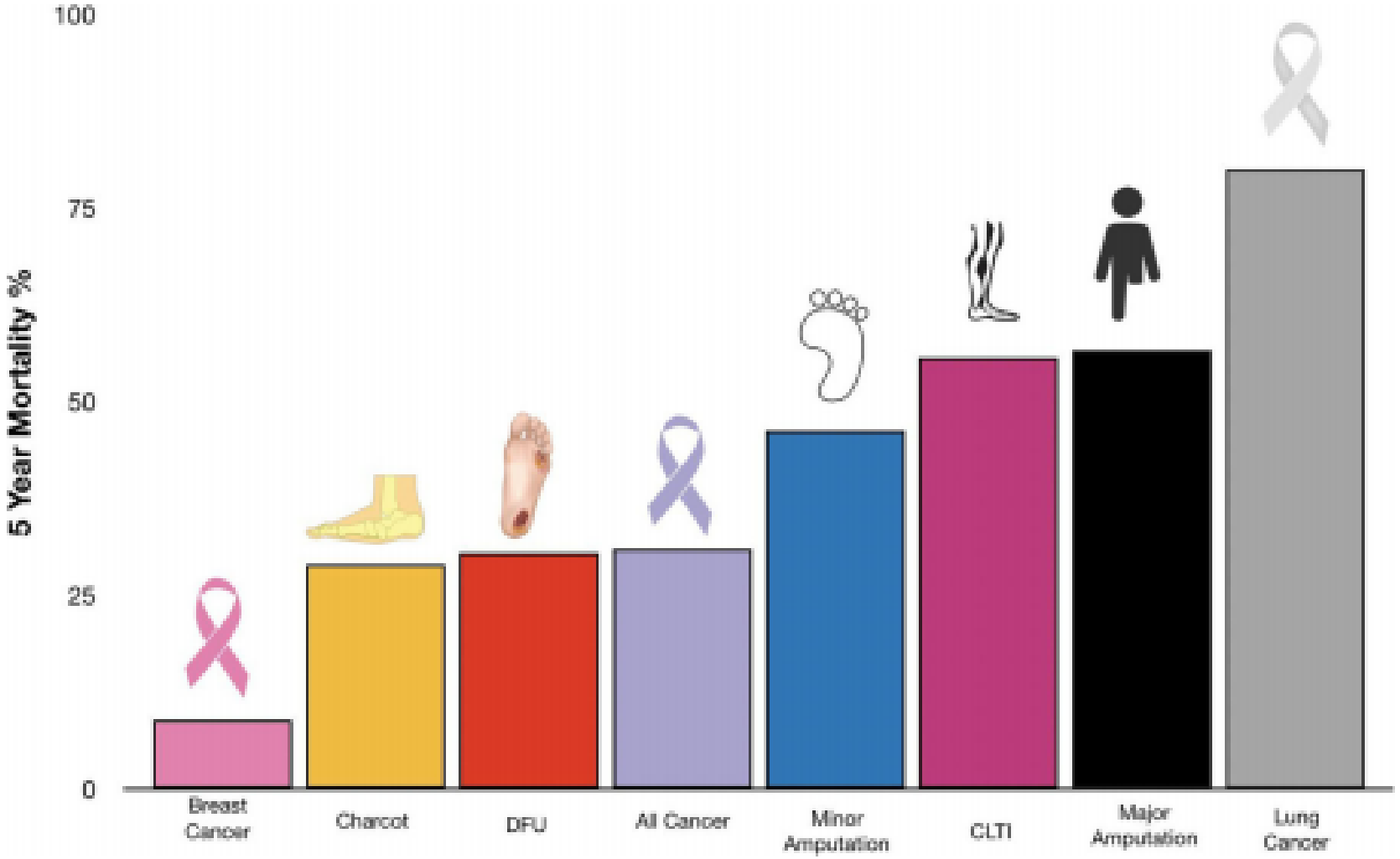


Fig. 1 Five Year Mortality of Diabetic Foot Complications and Cancer. Diabetic foot complications compared to cancer. DFU = diabetic foot ulcers [11] = 30.5%. Charcot = Charcot neuroarthropathy of the foot [14]. All Cancer = pooled 5 year survival of all cancers [11]. CLTI = chronic limb threatening ischemia [28, 29]. Major Amputation = above foot amputation [20–22, 26, 27]. Minor Amputation = foot level amputation [17, 27]

What's new?

- NICE NG19 diabetic foot problems quality statements (2023)
  - Statement 6 Adults with type 2 diabetes have 9 key care processes completed every 12 months.
  - Adults with type 2 diabetes admitted to hospital have an assessment of their risk of developing a diabetic foot problem.
- IWGDF (2019) – new guidance due out this year.
- All Wales Prudent Model for Prevention of Diabetes Related Foot Crisis.
- Patient activation

Foot screening

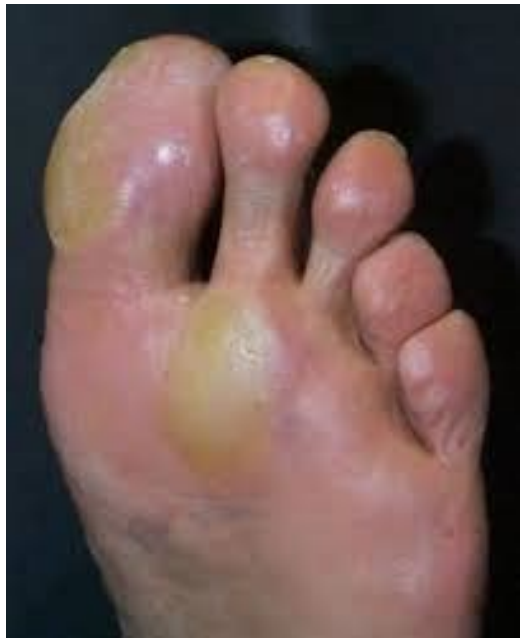
- Identify foot risk & provide an opportunity to prevent DFD.
- Timely foot screening examinations.
- Patient expectations – ‘what to expect?’
- Patient goals.

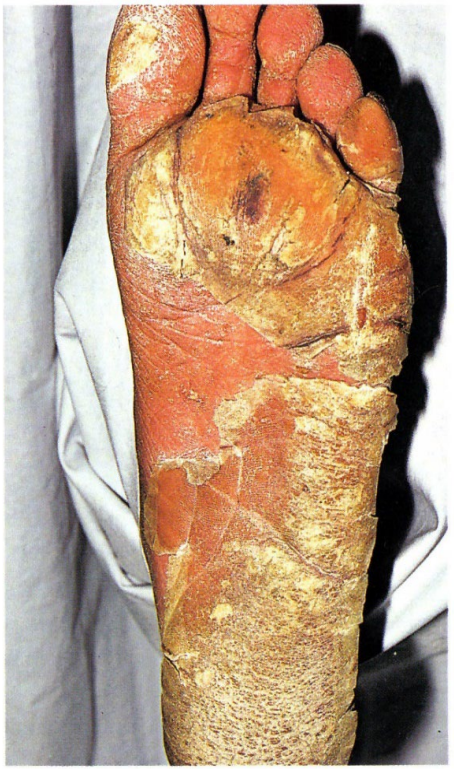
Foot screening?

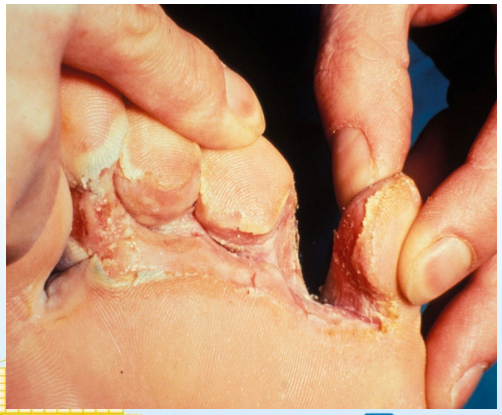
- **Step 1: What to ask**
  - Health history
  - Symptoms
  - History of podiatric care

Foot screening?

- **Step 2: What to look for**
  - **Dermatological exam**
  - Neurological exam
  - Musculoskeletal exam
  - Vascular exam
  - Footwear exam







Foot screening?

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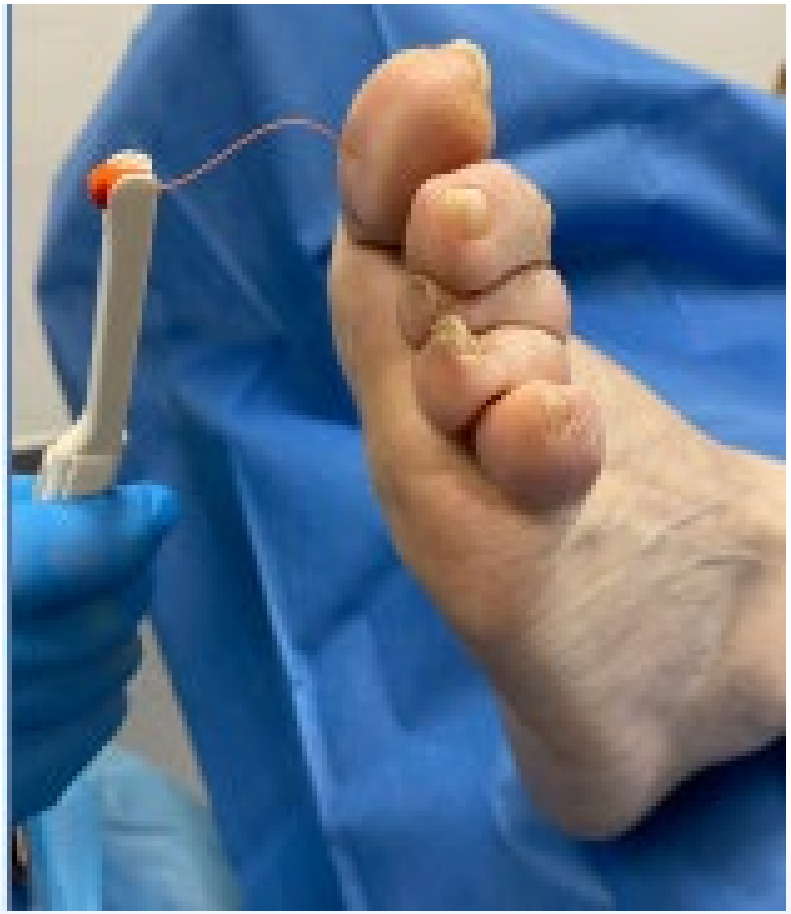

Foot screening?

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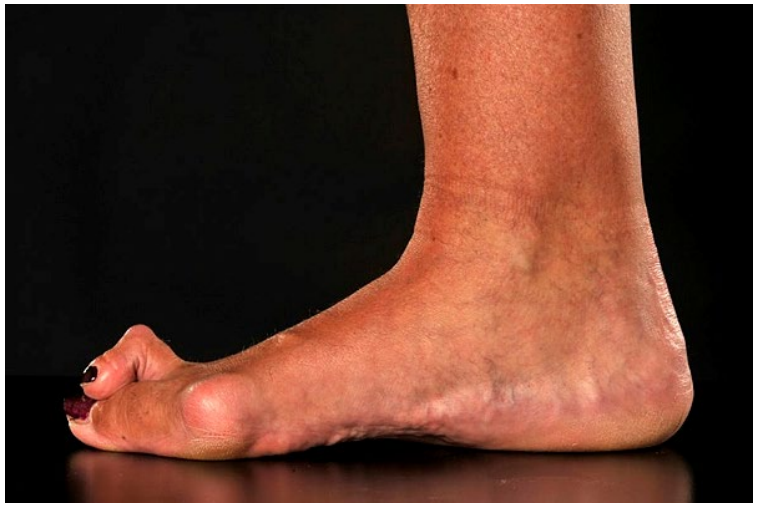

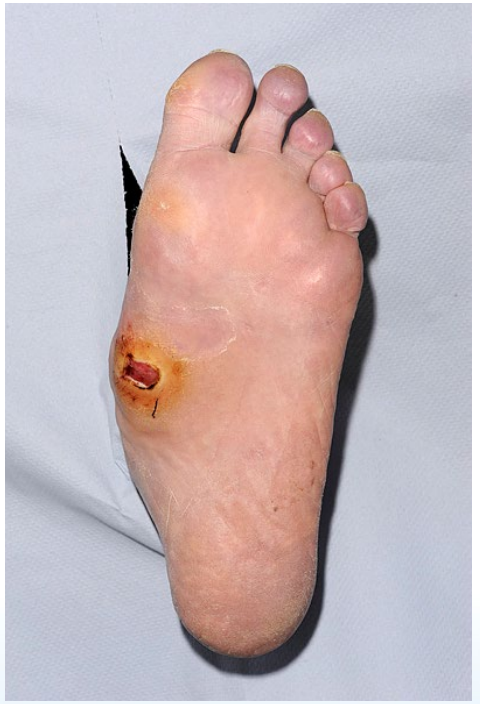

Foot screening?

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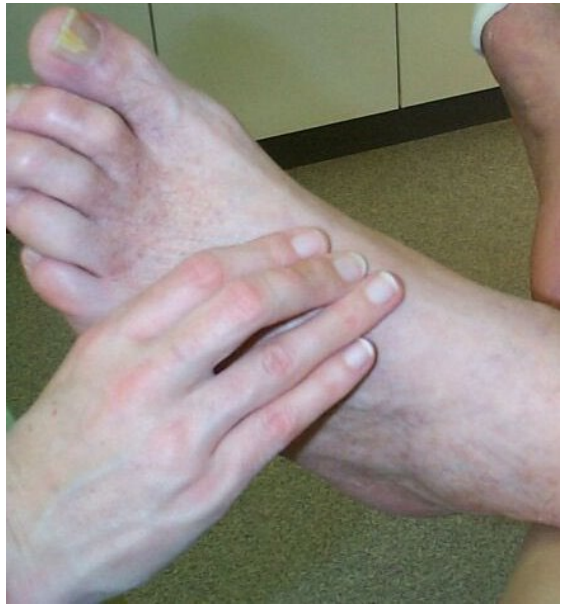

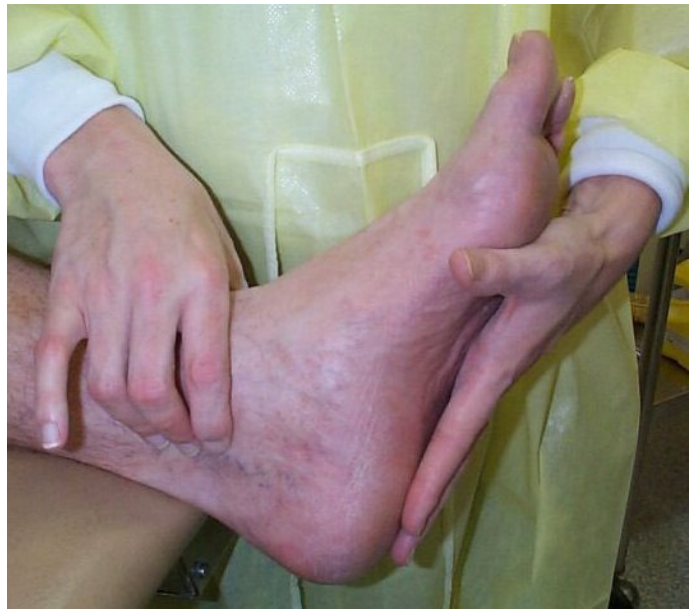

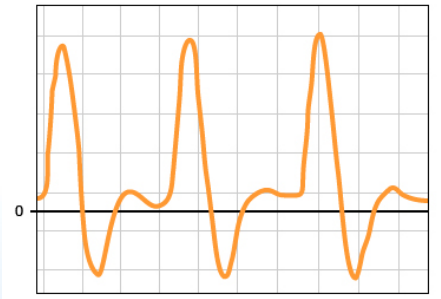

Foot screening?

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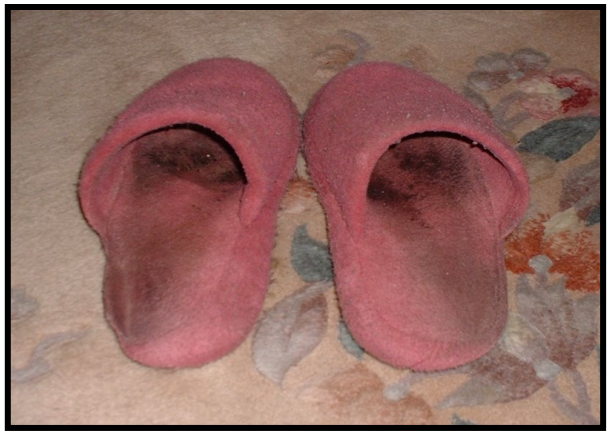


Risk classification / stratification = risk to foot crisis

Identification of foot status and what action to take

DIABETES UK
KNOW DIABETES. FIGHT DIABETES.

	Level of risk	Action
Active	• Ulceration or • spreading infection or • critical limb ischaemia (severe peripheral arterial disease) or • gangrene or • suspicion of acute Charcot foot or an unexplained hot, red, swollen foot with or without pain.	• Rapid referral (within one working day) to the Foot Protection Service (FPS) or the multidisciplinary foot team, for triage within one further working day. • Assess feet and lower limbs, then agree a tailored treatment plan. • Provide written and verbal education with emergency contact numbers. • Refer for special intervention if/when required. • Liaise with other healthcare professionals eg GP as necessary.
High	• Previous ulceration or • previous amputation or • on renal replacement therapy (dialysis or transplant) or • neuropathy (loss of sensation) and lower limb peripheral arterial disease together or • neuropathy (loss of sensation) in combination with callus and/ or deformity* or • lower limb peripheral arterial disease in combination with callus and/or deformity*.	• Refer to a specialist podiatrist or member of the Foot Protection Service (FPS) and request an assessment within 2–4 weeks. • Thereafter they should be assessed every 1–2 weeks if there is immediate concern or every 1–2 months if there is no immediate concern. This is in addition to their annual assessment. Both assessments should be carried out by a specialist podiatrist or a member of the FPS. • Assess feet and lower limbs, then agree a tailored treatment plan. • Provide written and verbal education with emergency contact numbers. • Refer for special intervention if/when required. • Liaise with other healthcare professionals eg GP as necessary.
Moderate	• Deformity* or • neuropathy (loss of sensation) or • lower limb peripheral arterial disease.	• Refer to a specialist podiatrist or member of the Foot Protection Service (FPS) and request an assessment within 6–8 weeks. • Thereafter they should be assessed every 3–6 months in addition to their annual assessment, by a specialist podiatrist or a member of the FPS. • Assess feet and lower limbs, then agree a tailored treatment plan. • Provide written and verbal education with emergency contact numbers. • Refer for special intervention if/when required. • Liaise with other healthcare professionals eg GP as necessary.
Low	• No risk factors, as listed above, present. • Callus alone is considered low risk.	• Annual screening by a suitably trained Healthcare Professional. • Agree self management plan. • Provide written and verbal education with emergency contact numbers.

Record risk status and inform patient of their risk status and what it means.

*A change in foot shape that results in difficulty in fitting a standard shoe, as assessed by the practitioner.
These risk categories relate to the use of the SCI-DC foot risk stratification tool and NICE guidance (NG19, 2015).

Produced by the Scottish Diabetes Foot Action Group

Prudent Model for Prevention of Diabetes Related Crisis

GIG CYMRU NHS WALES | Bwrdd Iechyd Prifysgol Bae Abertawe Swansea Bay University Health Board

Step 1- **Identify Hazards**

Step 2- **Calculate Risk of Hazard Contributing to Crisis**

Step 3- **Inform Patient Centred Management Plan to Reduce Risk**

Step 1
IDENTIFYING HAZARDS

CLINICAL:
- Deformity and/or function loss
- Callus
- Neuropathy
- vascular disease
- Infection
- history of/current ulceration/amputation
- renal replacement

PATIENT ACTIVATION TO SELF MANAGE:
- Knowledge deficit
- Skills deficit
- Importance to self manage [<7/10]
- Confidence to self manage [<7/10]
- Carer support deficit

Step 2
CALCULATING RISK OF CRISIS

ACTIVE CRISIS/FOOT ATTACK

Ulceration, spreading infection, critical limb ischaemia, gangrene, suspicion of acute Charcot foot, unexplained hot ,red ,swollen foot with or without pain

MODERATE

CLINICAL:
- Deformity (not effectively accommodated)
- Neuropathy associated risk behaviours
- PAD or renal replacement with sub optimal self/medical management
- Problematic callus

PATIENT ACTIVATION TO SELF MANAGE:
- Knowledge deficit
- Skills deficit
- Importance to self manage [<7/10]
- Confidence to self manage [<7/10]
- Carer support deficit

LOW

CLINICAL:
- **NO** significant deformity or effectively accommodate
- **NO** neuropathy or effectively self managed
- **NO** PAD or renal replacement therapy or optimal self/medical management
- **NO/NON** problematic callus

PATIENT ACTIVATION TO SELF MANAGE:
- Importance and confidence scores >/= 7/10
- Effective Carer support
- **NO** knowledge and skill deficit

Step 3
IDENTIFYING NEED AND MANAGEMENT PLANNING

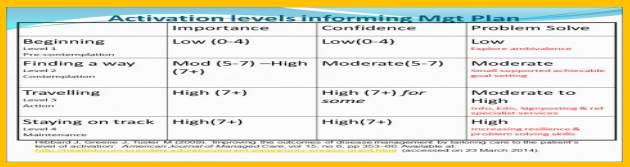
NEED (A)

Foot Protection Service (multidisciplinary team) to manage symptom and cause of acute crisis

NEED (B-E)

CLINICAL:
- Foot Protection Team (Podiatrist/Orthotist)
- Accommodation of deformity
- Redistribution of deleterious pressure
- CV risk modification
- Signposting-medical management
- Neuropathy related risk avoidance

PATIENT ACTIVATION TO SELF MANAGE:
- Explore ambivalence and raise importance to effectively self manage and to engage fully in management plan
- Explore and build confidence to effectively self manage and to engage fully in management plan
- Build knowledge and skill when sufficiently activated

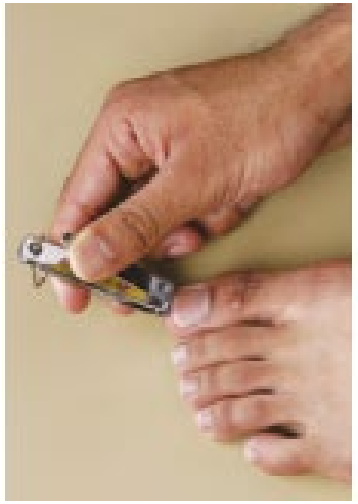


PREVENTION

NEED (G)
- Foot Protection Team (no Podiatrist)
- DAR

Foot screening

- **Step 3: What to discuss**
  - Risk classification
  - Link between HbA1c & foot complications
  - Daily foot care
  - Footwear advice
  - How to get help when needed

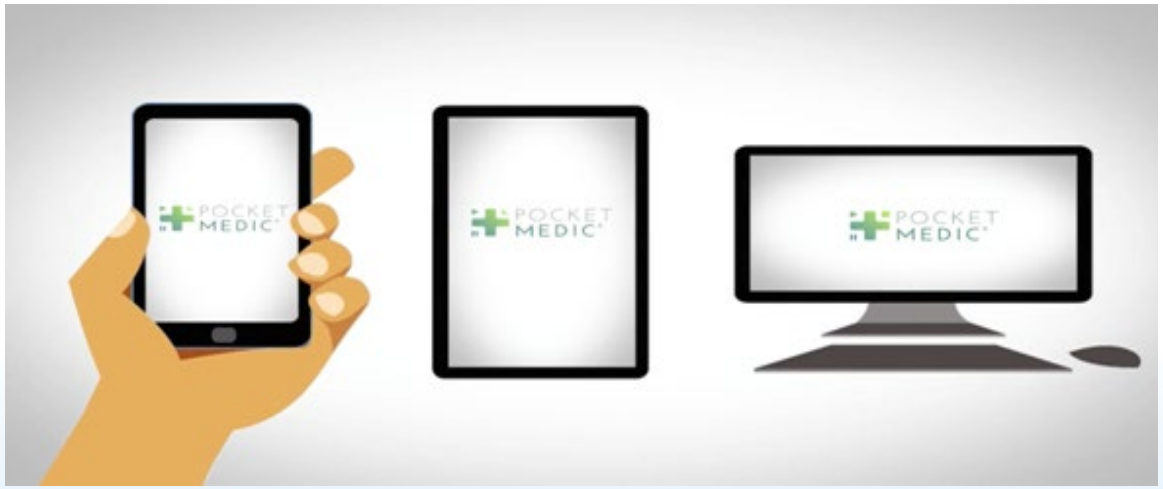


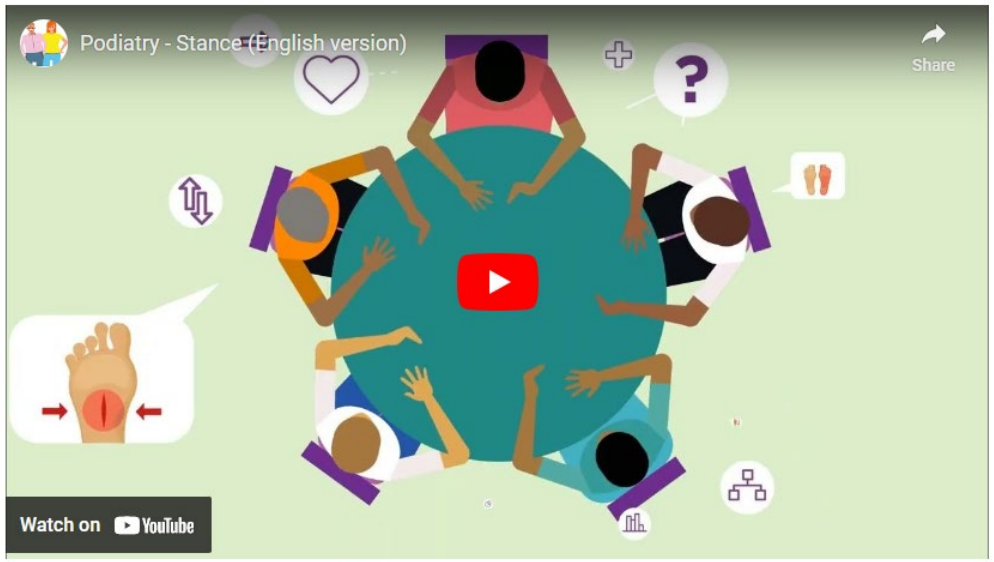
Foot self-care: supporting our patients

- Understanding goals, knowledge, health literacy, skills, health beliefs, activation, confidence, support.
  - ‘Their feet, their risk, their health’.
  - ‘Good foot self care behaviours are key to prevent the development of DFD’.
- Personalised education - identify the best way to support their foot health education.

Patient resources

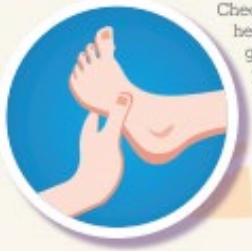
Diabetes UK
Pocket medic
STANCE education
Keepingmewell.com [Diabetes and your feet - Keeping Me Well]





Healthy Me: **My Healthy Feet**

1 Checking your feet



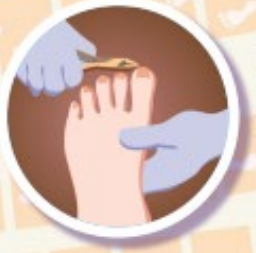
Checking your feet daily helps to promote good foot health. If you are unable to do this yourself get someone to check them for you.

2 Annual foot check

You should have a foot check at your GP surgery every year. You will be given advice on how to look after your diabetes and feet through information prescriptions and use of the Pocket Medic films.

3 Nail Care

Age Connect in some areas across Wales are able to offer a nail cutting service for which there is a charge. Routine nail cutting is not available on NHS podiatry. **https://www.ageconnectswales.org.uk/our-nail-cutting-service**



4 Podiatry Consultation

Poor foot health can mean that you may be referred to an NHS podiatry service who can help you understand how to look after your feet.

5 Foot Attack

If you notice any redness, heat, swelling or break to your skin – It could be a Foot Attack. Seek advice **TODAY** at your local Podiatry clinic or GP surgery. If this is during the weekend ring your GP out of hours or go to your nearest A&E. **DONT DELAY - ACT TODAY!**

6 Meet the team

If you get an ulcer on your foot you may see other specialists to help in your care who can also advise on how to manage your diabetes.

7 Healthy feet

Always take care of your feet so you can live life to the full. Check your feet daily. **Healthy Feet – Happy Feet.**

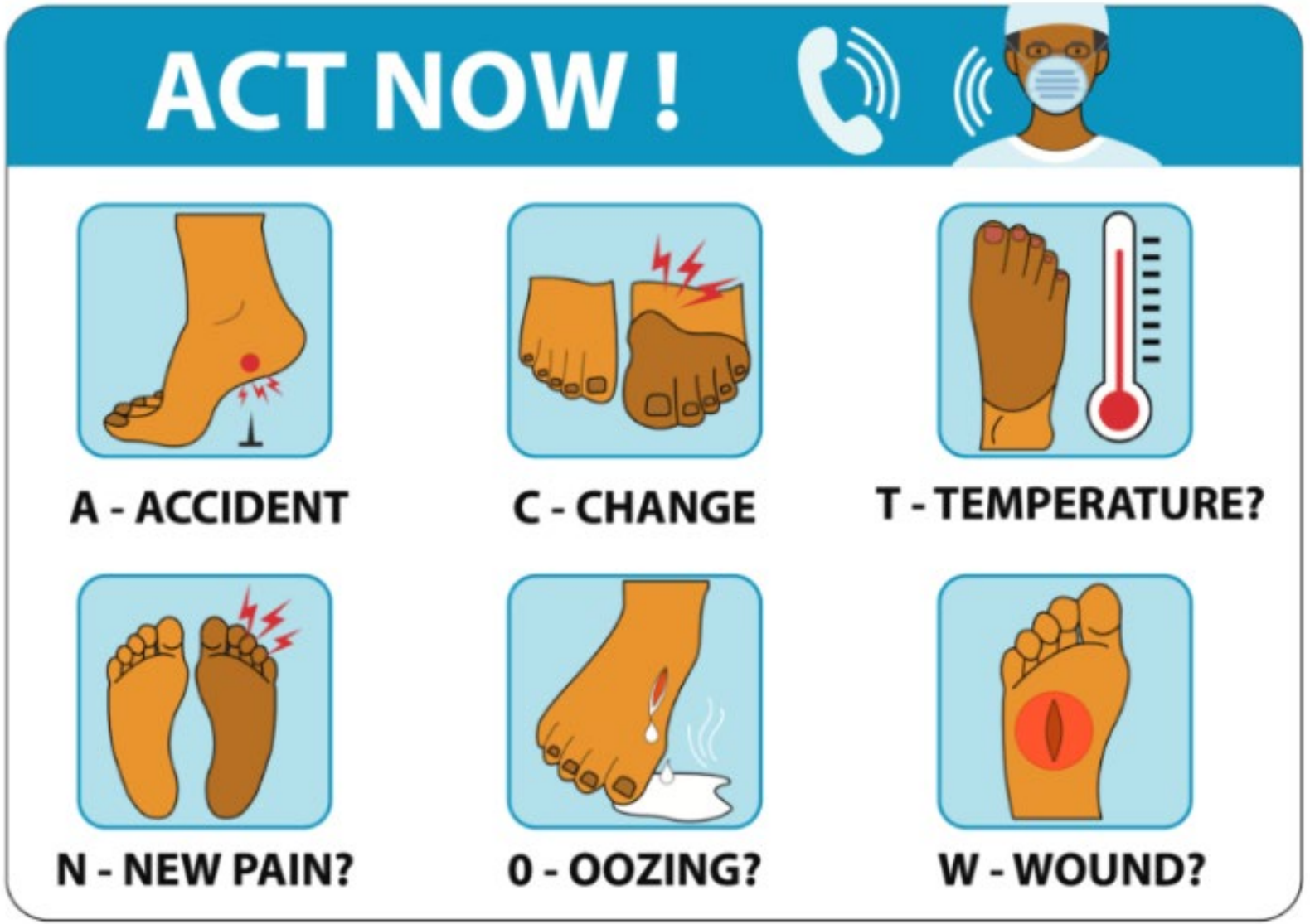
Further advice is available by watching Pocket Medic films on your computer or Mobile phone.

For further information on the care of your feet please check out the **Pocket Medic** links above.

Patient information (4 key points).

- Information about diabetes affects feet and the importance of blood glucose control.
- The person's current individual risk of developing a foot problem. Low risk does not mean no risk.
- Basic foot care advice and the importance of foot care.
- Foot emergencies and who to contact.

ACT NOW

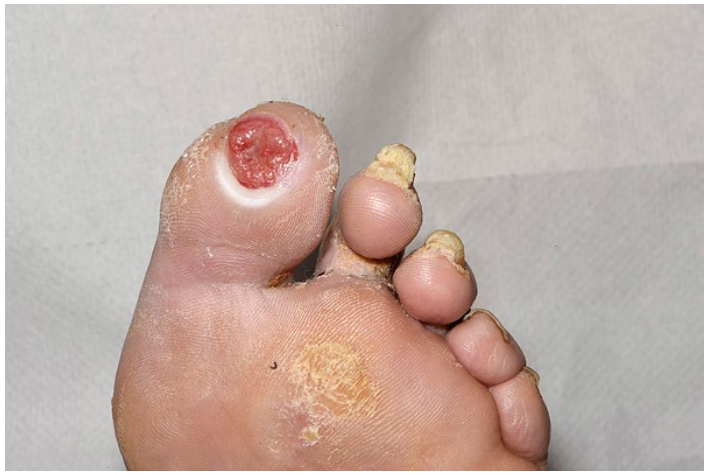

ACT NOW !
A - ACCIDENT
C - CHANGE
T - TEMPERATURE?
N - NEW PAIN?
0 - OOZING?
W - WOUND?

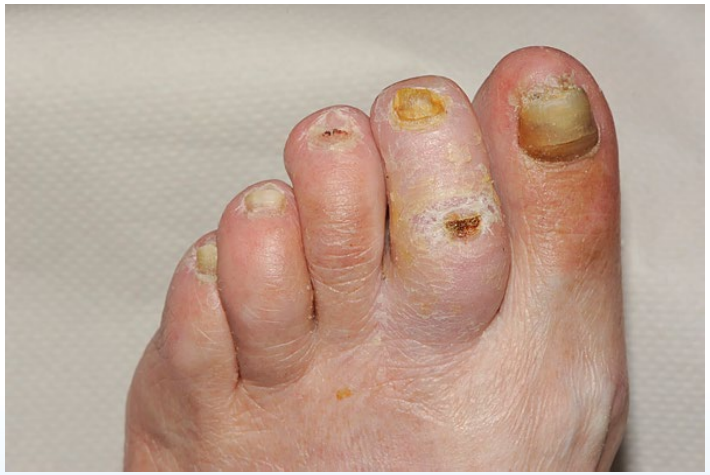
Foot self-care: supporting our patients

- Follow up – coaching for activation, exploring importance & confidence.
- Timely access to FPT / MDFT.

When and how to refer in more serious cases

- NICE (NG19) 2016 & IWGDF (2019) rapid referral within 1 working day to FPT or MDFT for triage within 1 further day for:
  - Ulceration / spreading infection / suspicion of acute Charcot foot or unexplained hot red swollen foot with or without pain / critical limb ischaemia / gangrene.
- Local pathways.
- Hot foot clinic / Walk in Clinic.





PATHWAY FOR DIABETIC FOOT ULCERATION

AT FIRST PRESENTATION

D-FOOT international

International Diabetic Foot Care Group

HIGH RISK CO-MORBIDITIES

- HEART FAILURE
- END STAGE RENAL DISEASE
- DEPRESSION

HOLISTIC APPROACH

- MEDICAL / SOCIAL HISTORY
- CLINICAL EXAMINATION
- LABORATORY INVESTIGATIONS

KEY DOCUMENTS:

NICE CG 19
https://www.nice.org.uk/guidance/ng19

National Diabetes Foot Audit (NDFA)
http://content.digital.nhs.uk/footcare

ASSESSMENT OF THE DIABETIC FOOT ULCER (RAG)

PALPABLE PULSES. MILD INFECTION AS PER IDSA GUIDELINES FOR INFECTION. TEXAS CLASSIFICATION A0-1 AND B0-1.	TEXAS CLASSIFICATION A2/B2/C0/C1	INFECTION AND OR NON PALPABLE PULSES* END STAGE RENAL DISEASE/ACTIVE HEART FAILURE. TEXAS A3/B3/C2/C3/D0-D3	ABSCESS SPREADING / WET GANGRENE FEVER OR OTHER SIGNS OF SEPSIS
NON COMPLICATED DFU	**COMPROMISED DFU**	**COMPLICATED DFU**	**SEVERELY COMPLICATED DFU**
Refer to a member of the FPT, as per your local guidelines / pathway.	Refer to a member of the FPT who is also an extended member of the MDFT within 1 working day.	Refer to a member of the MDFT immediately (within one working day), as per your local guidelines/pathway	Refer immediately for hospitalisation (as per your local pathway)
Standard of Care	**Standard of Care**	**Standard of Care**	Once stabilised / procedure completed / on discharge refer back to MDFT and/or FPT as per local guidelines / pathway
4 weeks of treatment. Expect 50% reduction in ulcer size within 4 weeks. If not, treat as **indicated by TEXAS.**			
Regular reassessment and appropriate follow up. Consider adding TLC-NOSF dressing to your standard of care[1].	Regular reassessment and appropriate follow up. Consider adding TLC-NOSF dressing to your standard of care[1].	Regular reassessment and appropriate follow up. Consider adding TLC-NOSF dressing to your standard of care[1].	

GOAL: CREATE ULCER FREE DAYS / GIVE ULCER REMISSION / LIMB SALVAGE/ QUALITY OF LIFE / DECREASE MORTALITY (NDFA)

STANDARD OF CARE

NON COMPLICATED DFU

OFFLOADING: Patients should be educated to minimise standing and walking. Reduction of pressure is essential for ulcer protection and healing. Offer non-removable casting to offload plantar neuropathic, non-ischaemic, uninfected forefoot and midfoot diabetic ulcers. Offer an alternative offloading device until casting can be provided (NICE NG 19). Regular follow up should be undertaken to ensure clinical effectiveness and concordance. Review LEAP document : http://www.weds-wales.co.uk/supporting-documents-and-information.htm

METABOLIC CONTROL / HOLISTIC MANAGEMENT: Metabolic approach requires optimisation of glycaemic control, malnutrition and oedema (if present). Optimal management of relevant co-morbidities (including mental health) is mandatory.

INFECTION AND ASSESSMENT OF PERFUSION

INFECTION*: When there are local signs of infection empirical antibiotic therapy should be administered (refer to your local antibiotic guidelines). Removal of any necrotic or non-viable tissue following comprehensive assessment of infection severity and foot perfusion is required.

ASSESSMENT OF PERFUSION: When a Neuro ischaemic or ischaemic DFU (absence of palpable pulses and/or multiphasic handheld Doppler signal) does not show signs of healing, revascularisation should be considered. If ABPI is <0.5 and/or toe pressure is <30mmHg then refer urgently to vascular services.

LOCAL WOUND CARE: Frequent DFU inspection / assessment, debridement and redressing should be undertaken based on the DFU presentation. Dressing selection is based on the DFU findings, ulcer bed, exudate level, size, depth and local pain. To promote wound progression and in particular in the case of neuro ischaemic DFU consider dressings with Lipido-Colloid Technology with Nano-Oligo Saccharide Factor (TLC-NOSF) (Edmonds et al, 2018).

1. Where evidence of local infection consider appropriate antimicrobial treatment first.

Version 1 created 08.01.2018. Review Jan 2020. Version 2 created by All Wales DFN based on Bowen G, Russell D, Allam J, Goodeve M, Sharpe A, Mitchell L, Mealy H, Manu C. Adapted from Fast Track Pathway for Diabetic Foot Ulceration. Van Acker et al 2017

*IDSA Infectious Disease Society of America

ALL WALES FOOT ULCERATION STANDARDS OF CARE – A VIP APPROACH

Frequent Diabetic Foot Ulcers (DFU) inspection/assessment, debridement and redressing should be undertaken based on the DFU findings.

Assess the wound bed and peri-wound using a local assessment tool. Optimise care with appropriate wound bed preparation.

Patient activation must be integrated at all stages of wound healing to support co-production and optimise outcomes.

VASCULAR:

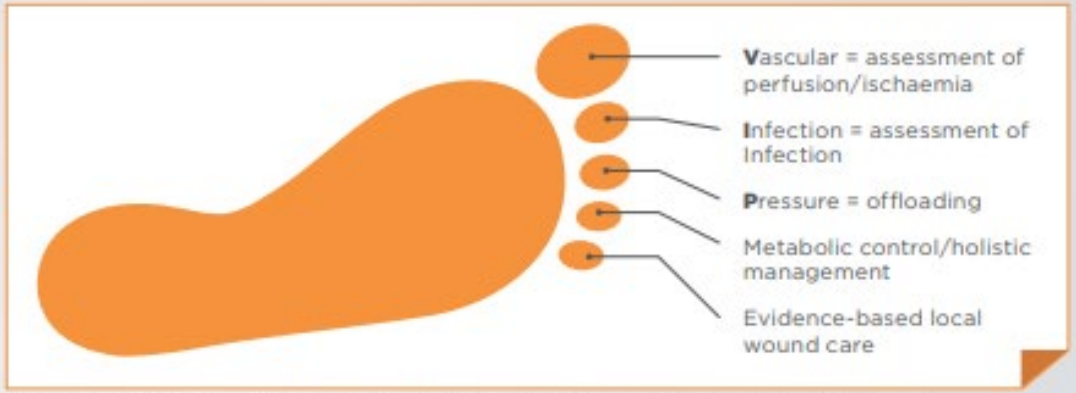
When carrying out a vascular assessment consider clinical features, subjective questioning to identify claudication or rest pain and carry out appropriate vascular tests in line with local vascular pathway.

INFECTION:

1. **EVIDENCE OF INFECTION:**
   Clinical features, refer to IDSA guidelines for grading and refer to local microbiology guidance (Micro guide) for recommended antibiotic cover.
2. **DIFFERENTIAL DIAGNOSIS**
   Consider other causes of red, hot swollen foot such as Charcot, Gout.
   If probe to bone or repeated course of antibiotics consider x-rays for potential bone infection.
   First line sampling - tissue or pus sample from infected wound.
   Second line sampling - if first line is not available - deep wound swab.
   Bone biopsy - see local guidelines.
   Antibiotics to be commenced the same day and then consider changes to target sensitivities if appropriate.
3. **ANTIMICROBIAL WOUND DRESSINGS REFER TO:**
   http://www.weds-wales.co.uk/supporting-documents-and-information.htm

PRESSURE:

See LEAP pathway: http://www.weds-wales.co.uk/supporting-documents-and-information.htm



The pillars of DFU standard of care with the addition of evidence-based local wound care (Wound UK, 2018)

WOUND CARE ASSESSMENT & MANAGEMENT:

DEBRIDEMENT – Debridement should be carried out in all DFUs to remove surface debris, necrotic non-viable tissue and peri-wound callus. This facilitates accurate wound assessment, facilitates wound bed preparation and improves healing by promoting the production of granulation tissue.

DRESSINGS – Use appropriate dressings to facilitate wound healing, based on wound bed characteristics, site of wound and patient preference.

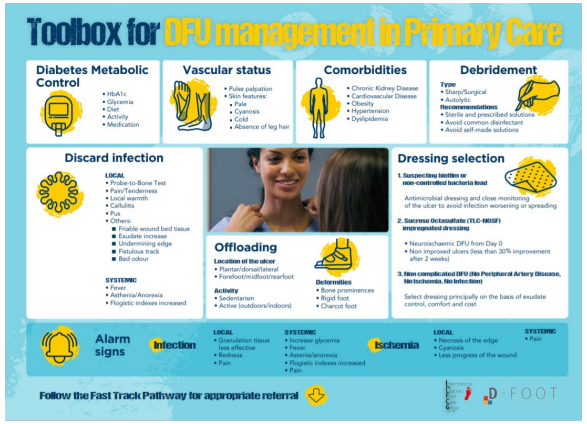
To promote wound closure progression and in particular neuro-ischaemic DFU consider dressings that contain TLC-NOSF. See your local wound care formularly).

HOLISTIC MANAGEMENT:

Optimise management of relevant co-morbidities particularly glycaemic control. Support patients health and well being through 'making every contact count' (MECC).

http://www.weds-wales.co.uk/supporting-documents-and-information.htm

HCP resources



- WEDS website (www.weds-wales.co.uk)
- D-Foot international
- Diabetes foot screening Frame (www.diabetesframe.org)
- CDEP training
  - caring for the diabetic foot in a residential or care setting.
  - Diabetic foot care, screening & risk assessment.

Summary

- Examine and assess foot risk at least annually.
- Provide advice on management to reduce risk.
  - Know your patient, identify their level of activation, ‘their feet, their risk, their health’. Identify the best way to support their foot health education.
  - Remember 4 key points.
- Know when and how to refer in more serious cases. Get to know your local FPT / MDFT.

Thank you for listening

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