Trust Guideline: Management of Feet in People with Diabetes Presenting to Hospital

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A clinical guideline

For Use in:	Inpatient wards, assessment units and Diabetic foot clinic
By:	Medical, Surgical, Nursing and Podiatry staff
For:	People with diabetes
Division responsible for document:	Medical Division
Key words:	Diabetes, feet, foot, ulceration, infection, gangrene, heels
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Compliance links:	NICE clinical guideline NG19 (2015) Diabetic Foot Problems: Prevention and management
If Yes - does the strategy/policy deviate from the recommendations of NICE? If so why?	No deviation

This guideline has been approved by the Trust's Clinical Guidelines Assessment Panel as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes. The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document

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Version and Document Control:

Version Number	Date of Update	Change Description	Author
4	14/10/2021	Guidelines & Quick reference 1, 2, 3 & 4 updated	Heather Dinar, Catherine Gooday, Prof. Ketan Dhatariya

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Assessment and Admission of patients presenting with acute diabetic foot ulceration/infection/gangrene in A&E, Medical or Surgical Admissions

Admitting patients with acute diabetic foot problems from outpatient diabetic foot clinic

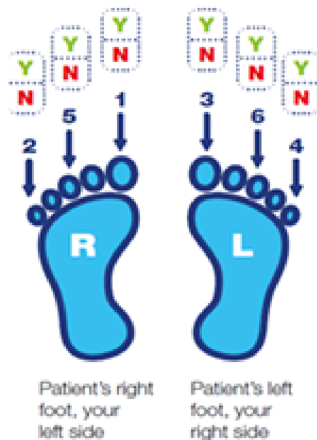
Preventing hospital acquired heel ulceration

The 2-minute Diabetic Foot Checker

Patient Identifier label

B

Step 1- Assess Sensation



Assess sensation for all patients with diabetes on admission with the Ipswich Touch Test (ITT)

- Remove socks and fully expose feet
- Tell the patient you will touch their feet. Confirm with the patient right and left by firmly touching each leg and saying "this is your right", "this is your left".
- Ask the patient to say right left when they feel you touching them on each side
- Ask them to close their eyes
- Lightly touch the toes for approximately 2 seconds following the sequence in the image.
- Circle **Y** for each correct response or **N** for no response or incorrect response.

ITT score (count number of N s) = ...

If there is 1 or more **N** then refer to Diabetic Foot team

Step 2 – Identify Risk Factors *tick all that apply*

- ☐ ITT Score (in Step 1, above) 2 or more
- ☐ Previous foot ulcer
- ☐ Previous Amputation
- ☐ History of Peripheral Vascular Disease
- ☐ Dementia/acute confusion
- ☐ Renal Failure
- ☐ Visual Impairment

If **any** of these are ticked, proceed to step 3,
Check Feet Daily and record on the Nursing Personalised Care Plan

Step 3 – Identify Concerns and Refer

Carefully check both feet.

Check each foot carefully - does the patient have any foot ulcers/lesions Yes ☐ No ☐
If yes, refer **immediately** to the Diabetic Foot Team and document in the Wound Care Plan.

Is ulcer/lesion new Yes ☐ No ☐ If yes fill out a DATIX form.

Ensure adequate offloading is in place: See TrustDocs #10044 for more information

The Diabetic Foot Team: SPOR on ICE, Call 4522, bleep 0758 during office hours

Print name		Signature	
Designation		Date *dd/mm/yyyy*	

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Objective

This guideline will ensure that each person with diabetes admitted to the NNUH receives care of their foot/feet as defined by NICE NG19 guidelines on the management of diabetic foot disease, read with 'Joint Trust Guideline for the Antibiotic Management of Diabetes Related Foot Infections in Adults' (Trustdocs ID: 1289).

Rationale

This guideline offers best practice advice on the hospital based care of people with diabetic foot problems. It is based on NICE clinical guidelines NG19. 18.1% of inpatients have diabetes, which equates to 1 in 6 beds. The feet of people with diabetes can be affected by neuropathy, peripheral arterial disease (PAD), foot deformity, infections, ulcers and gangrene. Diabetic foot problems require urgent attention since a delay in diagnosis and management increases morbidity and mortality, longer hospital stays and contributes to a higher amputation rate. About 2.5% of the diabetic population have ulceration at any one time. Around 7,000 people with diabetes undergo a major or minor amputation each year. The annual costs of diabetic foot disease to healthcare agencies in the UK are estimated to exceed £1 billion.

The national diabetes inpatient audit (NaDIA) reported that 51.4% of diabetes related hospital admissions are due to foot disease. A further 1.1% of Inpatients with diabetes developed a new diabetic foot lesion during their hospital stay, and this has not reduced since 2017.
NaDIA states:
'Whilst under a hospitals care, no patients should deteriorate enough so that they develop a new instance of a foot lesion'

The aim of this guideline is to prevent, wherever possible, avoidable amputation and hospital acquired ulceration in people with diabetes. This will be through accurate assessment, with timely and appropriate intervention. All patients with diabetes should have a foot assessment and appropriate referral within the first 24hrs of admission.

CHECK!

Urgent referral to expert services for all newly occurring, or deteriorating foot disease leads to improved outcomes.

NICE NG19 recommends that all patients with diabetes should be assessed and referral should be made to the MDFT within 24hrs of admission if ulceration or ischaemia is present. Re-assessment should occur if there is any change in the patients' status. If the ulceration or ischaemia is the **predominant** reason for admission, the relevant consultant member of the MDFT should take over their care. If the foot ulcerations/ ischaemia are not the predominant reason for admission, the MDFT will offer assessment and management of the foot concerns, but the patient will remain under the care of the parent team

Initial Examination and Assessment

See *Quick reference 1*.
A copy of the '2 minute diabetic foot checker chart' is included in this guideline, *Quick reference 4*.
If the patient is assessed in A&E, medical or surgical admission units as not needing to be admitted to hospital, an outpatient follow up appointment should be arranged at the Diabetic Foot Clinic. A referral should be sent to the podiatry secretaries telephone 01603 288522 (Ext 4522) or nnu-tr.diabeticfootclinicnnuhft@nhs.net. The patient should be issued antibiotics as per Guideline for the Antibiotic Management or Diabetes Related Foot Infections in Adults: Trustdocs ID: 1289 if an infection is suspected.

Factors that need to be assessed are:

- Neuropathy

Lightly touching the toes of a patient with diabetes is an effective way to assess for neuropathy and risk of foot ulceration. This test is called the Ipswich Touch Test (ITT), it can also be known as Touch the Toes Test – *See Quick reference 4.*

- Lower limb Ischaemia

An attempt should be made to palpate the dorsalis pedis and posterior tibial pulses in both feet and the presence or absence recorded in the notes. Patients with a history of vascular disease elsewhere in the body, e.g., ischaemic heart disease, should be considered as possibly having PAD. The absence of both pulses in either foot indicates peripheral arterial disease. Patients with active foot ulceration without foot pulses or with symptomatic vascular disease (claudication or rest pain) should be referred to the on call vascular team.

- Ulceration

Document the duration, location, size and depth of the ulcer.

- Severity of Infection

Assessment of severity of foot infection and guidance on initial antibiotic management of patients admitted with suspected diabetic foot infection is outlined in the Joint Trust Guideline for the Antibiotic Management of Diabetes Related Foot Infections in Adults' (Trustdocs ID: 1289). Baseline deep tissue samples from the wound should be taken and sent to microbiology, or if this is not possible, swabs sent. If osteomyelitis is suspected and initial x-ray does not confirm its presence, then an MRI should be considered.

Pressure Ulcers & Heels

People with diabetes are at increased risk of developing hospital acquired pressure ulceration due to their neuropathy and/or ischaemia. Patients assessed as at risk of developing hospital acquired pressure ulceration in the '2 minute foot check chart' should be offered an alternating mattress. Heels should be checked daily for any signs of pressure and recorded as part of standard pressure area monitoring. See *Quick reference 3* for guidance on preventing hospital acquired heel ulcerations.

People who develop hospital-acquired foot complications should be referred to the Diabetic Foot Clinic via ICE. A Datix entry should be completed, and Tissue Viability informed.

Management of diabetic foot ulcers

The podiatrists will only assess and treat diabetic foot ulceration; this should be below the level of the malleoli and not venous.

As a 1st line dressing the team would normally recommend non adhesive, simple dry dressing for foot ulceration, such as NA, and gauze. Recommendations on the type of dressing and the frequency of change will be made when the patient is assessed by a member of the MDFT. Bandage should be used rather than adhesive tape to secure dressings as this will minimise skin trauma at dressing change. Dressings need to be changed every 48hrs to allow for assessment of the wound, unless there is clinical justification.

Patients in limb salvage situations may benefit from the use of advanced wound care techniques. The MDFT will make recommendations on the appropriateness of these treatment options.

Management of suspected Charcot

People with diabetes presenting with unexplained unilateral swelling of the foot and/or ankle may have Charcot Neuroarthropathy. Patients should be advised to do minimal weight bearing while awaiting expert assessment and baseline weight bearing x-rays of the foot and ankle should be ordered. A referral to the Diabetic Foot Clinic via ICE should be completed.

Referral to the Multidisciplinary Foot Care Team (MDFT)

The NNUH has a MDFT that provides assessment and care of patients admitted to hospital with acute diabetic foot complications. The team has representation from Endocrinology, Vascular, Orthopaedics, Microbiology, Plastics, Podiatry and a specialist vascular amputee nurse.

There is a weekly MDFT ward round which normally takes place on a Tuesday morning. Urgent referrals should be made to the on-call consultants as per *Quick reference 1*, and non-urgent referrals can be made via the Diabetic Foot Clinic Referral form on ICE. The podiatrist is available to offer advice and assess patients during working hours 8.45am – 4.30pm and can be bleeped on 0758.

The MDFT will assess all aspects of patients care relevant to the management of the diabetic foot complication, a management plan will then be agreed and documented. The patient will be reviewed as necessary by members of the team. However, if the foot is deteriorating or there are any concerns regarding the patient please contact the team immediately by bleeping 0758.

In the presence of systemic sepsis, concern of deep seated infection (i.e. palpable gas) and/or acute ischaemia, immediate advice from the on-call Vascular Surgeon and Endocrinologist should be sought. See *Quick reference 1*.

Referral for routine podiatry

Routine podiatry treatment such as skin and nail care will only be provided to long stay high-risk patients or in the cases of extreme neglect. These patients will be triaged as low priority and will only be seen when all other acute referrals have been reviewed. Patients arriving for elective procedures should be advised to continue with their outpatient arrangements for podiatry treatment. The podiatrists will review patients without diabetes if required, but these patients would not be reviewed by the Ward round MDFT.

Patients can be referred to the Diabetic Foot Clinic via ICE or if an urgent opinion is required the podiatry team can be bleeped on 0758.

Discharge planning

When there is a diagnosis of osteomyelitis, patients will be assessed by a member of the MDFT for their suitability for outpatient IV antibiotics to aid early discharge. They may require a PICC line insertion prior to discharge. Patients admitted with acute diabetic foot complications should have an outpatient appointment arranged at the Diabetic Foot Clinic within 1-2 weeks of discharge dependent on clinical need. These factors need to be considered prior to discharge:

- Area the patient lives – Foot clinics are based at The James Paget and Queen Elizabeth hospitals, as well as NNUH.
- Need for continued outpatient antibiotics.
- Suitable footwear, or a device provided by foot clinic to go home in which will accommodate any dressings and alleviate pressure from the wound.
- Arrangements for community or practice nurses for re-dressings.
- Continued support for their diabetes.
- Are cardiovascular risk factors being adequately managed?

Outpatient appointments for the NNUH can be arranged by contacting the podiatry secretaries on ext. 4522.

<u>Admissions from the Diabetic Foot Outpatient Clinic</u>

Patients identified in the outpatient clinic as requiring admission will be managed according to *Quick reference* 2

Clinical audit standards

1. These standards will be audited according to NG19 Diabetic foot problems: Prevention and management.
2. National Diabetes Audit Inpatient Activity 2010-2019 (NaDIA)

Summary of development and consultation process undertaken before registration and dissemination

The authors listed above drafted this guideline on behalf of the MDFT who have agreed the final content. During its development it was has been circulated for comment to:

- Diabetes team - Prof. Ketan Dhatariya.
- Vascular team - Mr. Morrow and Mr. Bennett.
- Orthopedic team - Mr. Loveday.
- Tissue viability team.
- Podiatry team.

Following feedback the guideline has been updated:

- All original quick reference guides have been updated.
- The diabetic foot assessment chart has been added as a quick reference guide.
- References have been updated.
- The updated pressure ulcer assessment tool has been added.

Distribution list/ dissemination method

This guideline will be available on the trust intranet site. Launch of the guidelines will be included in the weekly communication bulletin.

References/ source documents

- NICE clinical guideline NG19 (2015) Diabetic foot problems: Prevention and management.
- Diabetes UK (2009) Putting Feet First – Commissioning specialist services for the management and prevention of diabetic foot disease in hospital.

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- The NHS Atlas of Variation in Health Care (2016).
- Kerr M (2017) Diabetic foot care in England: An economic study.
- Rayman G et al (2011) The Ipswich touch test. *Diabetes care* 34:1517-1518.
- https://ctru.leeds.ac.uk/wp-content/uploads/2019/01/PURPOSE-T-version-2-User-Manual-V2.pdf