Best practice pathway of care for people with diabetic foot problems. Part 2: The pre-ulcerated foot.

A report from a roundtable discussion held on Sunday 8 October 2006 in London. The meeting was supported by an unrestricted educational grant from KCI Medical.

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Introduction

In the first of the roundtable discussions published in the last issue of *The Diabetic Foot* journal those present discussed the differences in care provided to the person with diabetic foot problems. They proposed a new diabetic foot risk classification system (*Appendix 2*; *Table 1* shows the modified version following from this discussion. It will be further modified according to the discussion during the following two meetings.) They also introduced a framework for a pathway of care that includes specifying which healthcare professional should be involved, what they should be doing and when. This has already been adopted by the Foot in Diabetes UK (FDUK) group as the basis of its competency document (available from: Diabetes UK, 2006). This in turn has been adopted by various groups, including Diabetes UK, to form the basis of commissioning for diabetic foot services in England and Wales. In this, the second roundtable discussion, those present revisited the first roundtable and further modified the pathway of care by:

- defining and classifying ulcers
- debating what mechanisms should exist to ensure prompt review of the person with the diabetic foot and how soon is 'prompt'
- discussing where care should be provided and first aid principles for the non-specialist
- examining whether any interventions for the diabetic foot are evidence based.

Present at this roundtable discussion were:

- Paul Chadwick (Principal Podiatrist, Salford)
- Mike Edmonds (Consultant Physician, London)
- Joanne McCardle (Podiatrist, Edinburgh)
- Duncan Stang (Chief Podiatrist, Lanarkshire)
- Lynne Watret (Tissue Viability Nurse, Glasgow)
- Matthew Young (Consultant Physician, Edinburgh, Associate Editor of *The Diabetic Foot*, and Chair of session).

This roundtable discussion, the second of four, focused upon the following key aspects of the ulcerated diabetic foot:

- **Preventative care.**
- **Defining a diabetic foot ulcer.**
- **Mechanisms for prompt review for the person with an ulcerated diabetic foot.**
- **Where the care of such an individual should be provided.**
- **First aid for the non-specialist who encounters the person with an ulcerated diabetic foot.**
- **Whether any intervention for the ulcerated diabetic foot is evidence based.**

Aspects of preventative care

The group re-emphasised the feeling from the first roundtable discussion that screening and identification of risk are the basis for all footcare in diabetes.

Following a few months of reflection after the publication of the first of the roundtable series, the panellists still believed that any healthcare professional who is qualified to screen the diabetic foot should do so. The current diabetic foot services in many (if not all) areas of the country will have to be reconfigured so that the whole multidisciplinary team is involved rather than just the podiatrists. All competences to screen and manage the diabetic foot should link into the Key Skills Framework with one of the most important pieces of knowledge that any diabetes healthcare professional can have: know when to appropriately refer onto someone else, and to follow-up on the referral.

Following on from screening, which healthcare professionals are involved in the care of the foot depends upon the disease stage. Once an individual is identified as being at high risk the National Institute for Health and Clinical Excellence (NICE) recommends they should be seen every 3–6 months thereafter. It was agreed that this is often difficult but not impossible for most services. However, it may require the prioritisation of services to only high-risk people and the end of NHS social podiatry.

Management of the high-risk foot

The panel agreed that despite a paucity of evidence for ulcer prevention it remains clear

from extrapolation of numerous small studies that this should include preventative podiatric care, particularly callus debridement and biomechanical assessment which would lead to the provision of prescription footwear, orthoses or both. There was a general consensus among the group that not all high-risk patients require NHS shoes if their feet are not significantly deformed or clawed. As yet there is no clear evidence for total contact insoles being better than flat sheet materials in preventing ulceration where insoles are required.

Education strategies for high-risk people continue to be controversial. While everyone agrees that informing individuals that they have high-risk feet and should perform self-care is vital, the detail of this message varies from area to area and the effects are not proven. As a minimum, all high-risk patients should be advised to report any suspicious foot lesions to their carer(s) as soon as possible. The specialist footcare service should then be able to respond urgently as described below.

Defining a diabetic foot ulcer

The *Collins Concise Dictionary* definition of an ulcer is 'a disintegration of the surface of the skin or a mucous membrane resulting in an open sore that heals very slowly' ('ulcer', Collins Concise Dictionary, 1999). The only differentiating factor between such a defined ulcer and a diabetic foot ulcer is that the latter occur in people with diabetes and is a consequence of co-morbid conditions. However, from a practical standpoint, ulceration, Charcot neuroarthropathy and other foot pathologies are often treated differently across the NHS.

In some areas, for service reasons, foot ulcers are not referred on until they are present for a few weeks or become static. This group believes that if a healthcare practitioner or patient believes they have a problem they should be referred or be able

From left to right: Duncan Stang (Chief Podiatrist, Lanarkshire); Paul Chadwick (Principal Podiatrist, Salford); Joanne McCardle (Podiatrist, Edinburgh); Matthew Young (Consultant Physician, Edinburgh, Associate Editor of The Diabetic Foot*, and Chair of session).*

Table 1. Proposed new diabetic foot risk classification system.

Risk status	Risk definition	Plan of care
Low risk	Diabetes but no evidence of established risk factors.	Basic education and open access if problems.
High risk, not yet ulcerated	Diabetes and established risk factors. No history of foot ulceration.	Structured care with regular review by appropriately skilled healthcare professionals.
Active ulceration	People with diabetes and with active foot problems, such as ulceration or Charcot neuroarthropathy.	Review and treatment by specialist diabetic footcare services.
After-care of the person with a healed ulcer or amputation	People with diabetes with a healed ulcer or an amputation.	To be determined at the fourth meeting of this roundtable in Spring 2007 and published in *The Diabetic Foot* journal volume 10 issue 2.

'A simple phone call, as opposed to a letter, will speed the referral process up immeasurably'

to refer immediately to a multidisciplinary footcare team – and the problem of what an ulcer is can be decided later.

Ensuring a prompt referral

Those involved in the care of people with diabetic feet should be trained as to when, how and whom to refer to. If any healthcare professional is unable to deal with a certain aspect of an individual's condition, they should seek appropriate referral especially as diabetic foot problems can deteriorate at an exponential rate. Reaching a consensus on how to ensure that an individual is seen quickly and appropriately is difficult.

A simple phone call, as opposed to a letter, will speed the process up immeasurably but many services cannot respond without letters of referral. Another method agreed by the panel is that a telephone triage could be adopted. However, there should be a 'gatekeeper' for all referral contacts, telephone triages and so on. This person should, in the panellists' opinion, be the diabetes specialist podiatrist.

Another important person to educate is the person with diabetic foot problems: for example, to get him or her to call the relevant out-of-hours service when necessary. Signs such as recognising increasing redness, malodour, pain and warmth in their feet are, in the panellists opinion, relatively easy to do and educating this population on recognising and reporting these symptoms is relatively straight forward.

The Scottish Intercollegiate Guidelines Network (SIGN) and NICE both suggest that urgent cases are seen within one working day. The roundtable attendees suggested that perhaps NHS care trusts should pay for diabetes specialist podiatrists to work a 7-day week, similar to the emergency physiotherapy service. The cost of doing so would be offset by reductions in bed-days or reduced amputations by treating the infected ulcerated diabetic foot out-of-hours quickly and efficiently. More importantly, such a service would greatly improve the individual's quality of life.

For any out-of-hours services to be successful, healthcare professionals with no specialist knowledge of the diabetic foot need to be educated to recognise:

- the ischaemic foot
- the neuropathic foot
- the infected foot.

An analogy a panellist used was that of a patient seeing his or her GP with a sore tooth: the GP would never consider trying to manage it him or herself, they would be sent to a dentist; so, when the GP comes across a 'sore foot' why do they not send them to a podiatrist? 'It is getting the mind-set correct', they agreed. Therefore, the most important thing that groups of healthcare professionals with an interest in and specialist knowledge of diabetic foot problems and their treatment can do is to raise awareness among their peers.

Where should out-of-hours care be provided?

General practice emergency treatment centres, minor injury units and emergency departments are where patients present after hours. Minor injury units in all hospitals should already have review systems in place to prevent further deterioration of any injury. However, due to the multifactorial nature of diabetic feet, many cases are poorly treated, for example, when decisions are made on intravenous antibiotic treatment regimens for the infected diabetic foot.

The panel suggested that: 'In order to reduce bed-days, which is very pertinent to the modern NHS, patients with, for example, cellulitis could be treated as an inpatient for their first intravenous antibiotic treatment, then discharged with oral antibiotics with follow-up being carried out in a specialist outpatient clinic.'

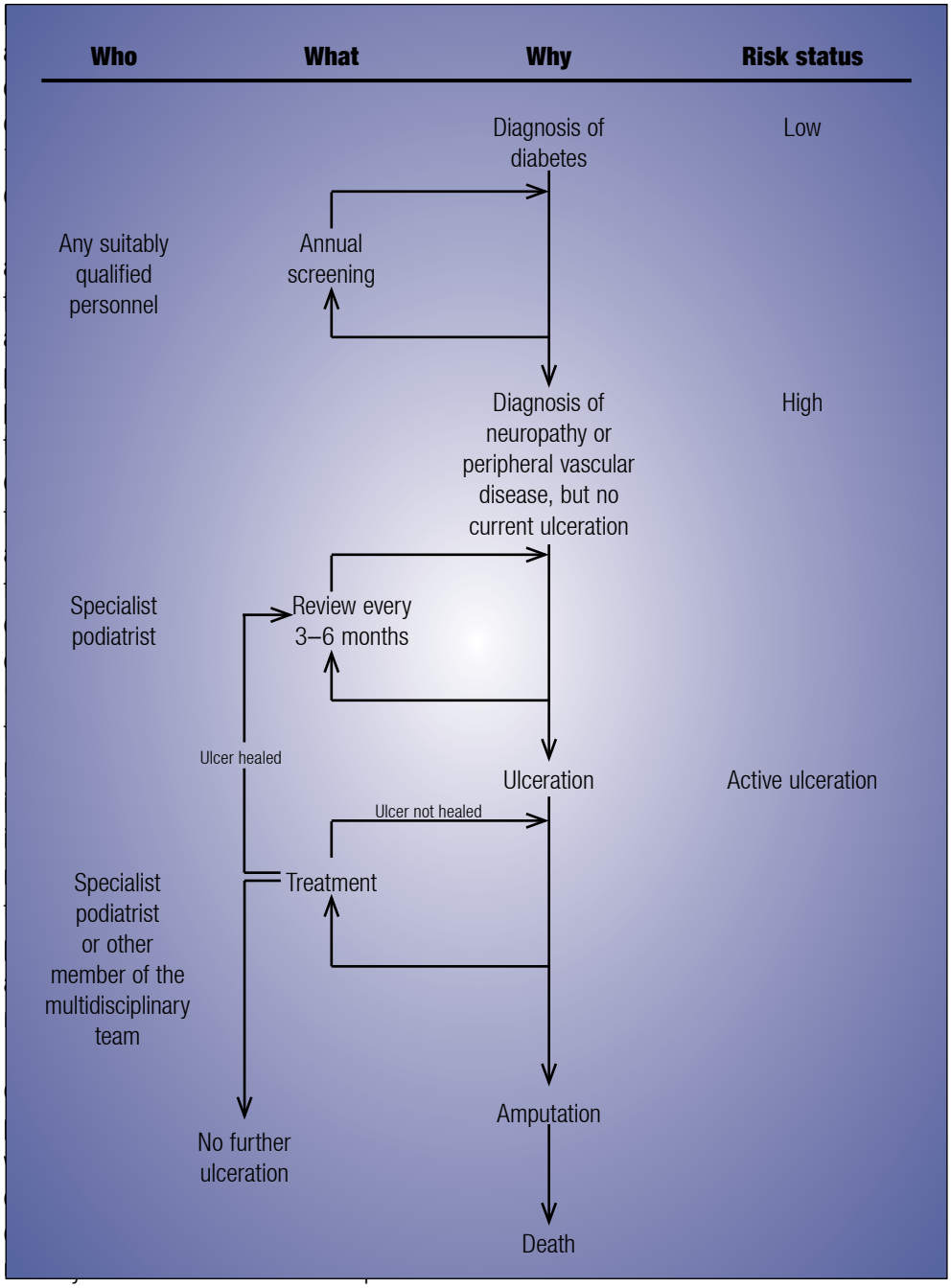
An on-call service by a group of diabetes specialist podiatrists

From left to right: Lynne Watret (Tissue Viability Nurse, Glasgow); Mike Edmonds (Consultant Physician, London).

should be set up in all areas to attend the person with the diabetic foot. Given the complex needs of the infected foot the best filter point – where the patient is seen by the podiatrist and appropriately referred – would be the emergency department. If an on-call service exists this is where patients should be directed to by NHS Direct or NHS-24.

The panel agreed that there should be a complications escalator that goes up and down as and when required: foot complications that improve may recur at a later date, therefore the person with diabetes may need to be seen by the podiatrist at one point in time, by the vascular surgeon the next, then the podiatrist again for the forseeable future.

In conclusion to the first part of the meeting the Chair, Matthew Young, summarised that 'all healthcare professionals caring for the person with diabetic foot complications should have relevant and recognised competences in order to reduce the patients' risk factors for their feet getting worse.' Also that 'an extended out-of-hours podiatry service running 7 days a week is justified and will increase the patient's quality of life.' He added that 'patients should, when out of hours, be referred to a service centre that has access to X-ray facilities (in order to check for Charcot feet, infection and other problems such as fractures), and facilities to administer intravenous antibiotics to treat the infected foot.'



Appendix 1. Flow chart showing the progression of people with diabetic foot complications from diagnosis of diabetes to specific endpoints such as no further ulceration, amputation and death. Risk status is that proposed by the roundtable panellists. This flow chart will be ammended based upon the following two roundtable discussions (this version reprinted from The Diabetic Foot **9***[3]: 147–52).*

First aid principles

themselves not to have specialist knowledge in this area. Any such algorithm has to take into account whether a delay in referring onto other specialists may do further harm to the person with diabetic foot problems – a further can be used by GPs, practice nurses, the non-specialist at the emergency department, and any other healthcare professional with no specialist knowledge of the subject'.

Reports from meetings three and four will be published in

'Such algorithms will reduce non-urgent referrals to the specialist healthcare professional; therefore, allowing them to focus on more problematic cases.'

The Diabetic Foot journal and launched at the 2007 Diabetic Foot Journal Annual Conference and Exhibition (Glasgow, 4–5 June 2007; and London 8–9 2007; see also pages 209–212 in this issue for full information on these conferences and a booking form). ■

'Ulcer' *Collins Concise Dictionary* (1999) 4th edition. Collins, Glasgow

Diabetes UK (2006) *The National Minimum Skills Framework for Commissioning of Foot Care Services for People with Diabetes*. Diabetes UK, London. Available at: http://www.diabetes.org.uk/news/nov06/footcare (accessed 13.12.2006)

Peters EJ, Lavery LA; International Working Group on the Diabetic Foot (2001) Effectiveness of the diabetic foot risk classification system of the International Working Group on the Diabetic Foot. *Diabetes Care* **24**(8): 1442–7

Appendix 2. Proposed new diabetic foot risk classification system.

Low risk	People with no diagnosed neuropathy or peripheral vascular disease (PVD) and with no history of ulceration
High risk	People with diagnosed neuropathy or PVD and a history of previous ulceration, but no current ulceration
Active ulceration	People with current ulceration

Appendix 3. An example of the classic four-stage risk classification of the diabetic foot (adapted from Peters and Lavery, 2001).

Risk status	Description
Low risk ('0')	No neuropathy
Increased risk ('1')	Neuropathy
High risk ('2')	Neuropathy and peripheral vascular disease or deformity
Ulcerated foot ('3')	Previous ulcer or lower extremity amputation