Foot protection for people with diabetes – a focus on prevention

Presentation by Mike Townson Independent Podiatry Consultant.
Facilitated by Angela Farrell Neubourg Pharma UK Ltd.
Foot Assessment training video Sharon Steele, Diabetic Foot Pathway Lead, Solent NHS Trust.
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4. **Utilise the webinar process as a resource for good practice**
1. NG19 recognises that good communication across the pathway is essential to improve outcomes
2. Members of the foot protection service are unlikely to work in the same building
3. Common learning will deliver best care
4. Webinars are also good for data collection
Foot Protection – how are we doing?

135 Amputations each week in England

Post code variation

80% preventable

3,000 whole time NHS Podiatry posts in England. No increase in Podiatry jobs or training places planned. *NHS England 2015*

200,000 estimated to have past or current foot ulceration – 2.5% (61,400) diabetic population with active ulcer (*Kerr, 2012*) plus 7000 minor/major amputations pa. *PHE 2015*

**2015** Population in England with diabetes 2,814,000.

**2025** Population in England with diabetes 4,189,229.

*Diabetes Statistics, May 2015*
Don’t forget the cost!

- Diabetes £10bn
- 80% on complications
- 10% NHS Budget
- Cost savings not immediate
- Foot complications are particularly costly

Table 10. Estimated annual expenditure on diabetic foot ulcers and amputation, England

<table>
<thead>
<tr>
<th></th>
<th>Lower Estimate</th>
<th>Upper Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary, Community and Outpatient care</td>
<td>£306,508,970</td>
<td>£323,062,601</td>
</tr>
<tr>
<td>Accident and Emergency</td>
<td></td>
<td>£849,278</td>
</tr>
<tr>
<td>Inpatient care – ulceration</td>
<td>£213,151,916</td>
<td>£213,151,916</td>
</tr>
<tr>
<td>Inpatient care – amputation</td>
<td>£43,546,901</td>
<td>£48,896,735</td>
</tr>
<tr>
<td>Post-amputation care</td>
<td>£75,807,423</td>
<td>£75,807,423</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£639,015,210</strong></td>
<td><strong>£661,767,953</strong></td>
</tr>
</tbody>
</table>

Kerr, 2012
Particularly the human cost!

- 50% of people undergoing a major diabetes related amputation survive for just 2 years
- 43% mortality within 5 years of first ulceration

Five-year relative survival rates for the four most common cancers (Source: ONS) and estimated 5-year relative survival rate for patients with diabetic foot ulcer (Estimate derived from: Moulik P.K et al. Diabetes Care 2003;26:491–4.)

Marion Kerr. Footcare for people with diabetes: the economic case for change. 
Case for prevention

• The guideline development group (GDG) agreed that reducing ulceration and re-ulceration rates was the critical outcome for the guideline

• The group made a compelling case that if these could be prevented then the subsequent likelihood of other outcomes such as infection, gangrene, amputation and death would be diminished
“As a result of the largely consistent evidence about the benefits of multidisciplinary care, the Guideline Group decided that a recommendation should be made to **support a foot protection service** for the prevention of diabetic foot problems and the treatment and management of simple diabetic foot problems.”
Why have we not made progress?

• Basic foot care may be simple; getting people to change isn’t

• “Because preventing diabetes and its complications requires behaviour change we have achieved slightly less than ‘s*d all....’

• The management of diabetes is affordable, it is the cost of its complications that will break the NHS”

• “Because our health care system is designed to deliver acute, symptom-driven care, it is poorly configured to effectively treat chronic diseases such as diabetes that require the development of a collaborative daily self-management plan”.

Simon Stevens, CEO NHS; DUK Conference 2015
Foot protection starts here

Obesity (80-85%), physical inactivity, unhealthy diet, smoking and poor blood pressure are the key risk factors.

Deprivation is associated with an increase in each of these.

15 diabetes healthcare essentials

1. Blood glucose levels measured
2. Blood pressure measured
3. Blood fats measured
4. Eyes screened
5. Feet checked
6. Kidney function checked
7. Weight checked
8. Smoking cessation
9. Personalised care plan
10. Attend education course
11. Paediatric care available
12. High quality hospital care
13. Planning for baby
14. Specialist diabetes HCP’s
15. Emotional and psychological support
Focus on being well

• Well controlled diabetes is the leading cause of nothing!!

• To live a long and healthy life develop a long term condition and take good care of it!!

Sir William Osler
Let’s take a closer look at foot protection

• Risk of **foot ulceration can be predicted** by effective screening and risk stratification
• Those **accurately identified as low risk** have a 99.6% chance of remaining ulcer free
• Those **accurately identified at high risk** are 83 times more likely to ulcerate than the low risk group
• The **consequences of a false negative** include increased possibility of ulceration, infection, both minor and major amputation, and death
• The **consequences of a false positive** include increased assessment and discharge from one service to another

Diabetic foot problems: prevention and management NICE guideline 19(NG19) Published: 26 August 2015 nice.org.uk/guidance/ng19
Resource imbalance?

£650m on less than 20% of diabetes population
The Guideline Development Group produced a risk stratification system almost identical to the Scottish SIGN risk stratification criteria with the addition that those on renal replacement therapy should be also
NG19 risk factors

- Neuropathy (*use a 10 g monofilament as part of a foot sensory examination*)
- Limb ischaemia (*palpate full pulses; see NICE PAD guideline*)
- Callus
- Deformity

- *Infection* and/or inflammation
- *Ulceration*
- *Gangrene*
- *Charcot arthropathy*

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Assess the person's current risk of developing a diabetic foot problem using the following risk stratification

- **Low risk**: no risk factors present
- **Moderate risk**: 1 risk factor present
- **High risk**: previous ulceration or amputation, *on renal replacement therapy*, or more than 1 risk factor present

- **Active diabetic foot problem**: ulceration, spreading infection, critical ischaemia, gangrene, suspicion of an acute Charcot arthropathy, or an unexplained hot, red, swollen foot with or without pain

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Callus & Deformity

Callus and deformity are risk factors independent of neurovascular status

A challenge or opportunity?

• The presence of callus is highly predictive of ulceration *Murray Young et al*

• 80% of ulcerations occur on sites of callus *Sage, R 2001*

• Hard skin can be managed

• Commissioned pathways may differ from NICE

• What are the key messages?
Screening (foot check)
• Detects early disease
• Involves tests with a predictive value and an agreed cut-off point for referral
• Does not involve a treatment plan
• Patient does not influence outcome
• Appropriate training and competence required

Assessment
• Establishes a diagnosis
• Involves clinical decision making skills and clinical autonomy for onward referral
• Decides on a future management plan
• Patient may influence outcome
• Appropriate training and competence required

Mousley 2006; Diabetic Foot Journal
Poll

Do you undertake foot screening or assessment?

- Daily
- Weekly
- Monthly
- Rarely
- Never
Foot Screening - Poll

For those who have undertaken foot screening do you feel confident in undertaking a foot check and giving an accurate foot risk status which influences future care management?

- Yes always
- Yes sometimes
- Occasionally
- Rarely
- Never
The important bit!!

Diabetes Foot Assessment Video
Key messages from video

• Engagement with patient throughout, open questions, summarising your understanding of their responses and repeating key messages and check patient understanding

• Describe what the complications are and don’t underplay the risk. Foot ulcer is more than a marker of complication status - it is an independent factor in determining mortality rates

• The outcome of the foot check is to give a foot risk status and indicate a direction of care. However, it is also a huge opportunity to provide good general diabetes and cardiovascular risk management

• There is no specific evidence on the number of sites to be tested with a monofilament. 10, 5 or even 3 per foot are used for screening. Be consistent

• Ensure the patient leaves knowing what their personal foot risk is in avoiding complications that you have described, reinforced with a leaflet
Check – Protect - Refer

- CPR for feet; Inpatients in Scotland
  
  Stang 2015

- CPR for Prevention
Check

- Wellness
- Signs & Symptoms
- Whole foot and the creases!
- Legs
- Risk level
- Patient understanding of health and foot risk
- Current care
- Potential hazards – footwear/work/activities....

Resources available via Diabetes UK

- [https://www.diabetes.org.uk/Professionals/Resources/Feet/](https://www.diabetes.org.uk/Professionals/Resources/Feet/)
Protect

- Skin & nail care including fungal infections
- Tissue viability
- Callus reduction
- Foot shape and function – identify peak pressure areas and offload with appropriate orthoses
- Footwear
- Occupation/hobby
Improved skin care achievable

- Up to 80% of people with diabetes suffer from dry skin, which is more vulnerable to breakdown\(^1\,^2\).
- Dry skin on a neuropathic diabetic foot is one of the common risk factors for foot ulcer formation\(^1\).

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2. Fohles E. Foam creams provide additional benefits as skin care products in diabetes mellitus. *DermoTopics* 2011;August
Importance of Skin Care in people with diabetes

• Treating dry skin is a key element of preventing skin breakdown and foot ulcers in people with diabetes\(^1,2\)

• However skin care is often neglected\(^3\)

• A daily foot care regime must include an appropriate emollient to replenish the skin’s moisture and fat content and create a protective layer against the outside environment\(^4,5\)

• Dry skin on a diabetic foot has traditionally been treated with an emollient. Conventional creams should not be applied between the toes because this can cause the skin to become too moist and lead to an infection developing\(^4,5\)

• “Moisturising feet is more important than brushing teeth in people with diabetes” Mike Townson

Innovation in Skin Care treatment for people with diabetes

Foam Creams

- Foam creams work differently to traditional emollients and can provide an important management option for the whole foot, **including between the toes**, which is a vulnerable area that previously we have been unable to advise on

- Foam creams are quick to apply, non-greasy and footwear can be put on immediately after application

- “Dressings stick to the skin within seconds of application” Sharon Steele

Keep advice relevant, simple and easy to achieve

Refer

• Lifestyle change – smoking cessation etc
• 15 Healthcare essentials
• Local foot pathways
• Names and phone numbers
• Build relationships

Resources available via Diabetes UK

• [https://www.diabetes.org.uk/Professionals/Resources/Feet/](https://www.diabetes.org.uk/Professionals/Resources/Feet/)

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Carry out reassessments at the following intervals

- **Annually** for people who are at low risk
- **Frequently** (for example, every 3–6 months) for people who are at moderate risk
- **More frequently** (for example, every 1–2 months) for people who are at high risk, if there is no immediate concern
- **Very frequently** (for example, every 1–2 weeks) for people who are at high risk, if there is immediate concern
- **Consider more frequent** reassessments for people who are at moderate or high risk, and for people who are unable to check their own feet
Low risk

- For people who are at low risk of developing a diabetic foot problem, continue to carry out annual foot checks, emphasise the importance of foot care, and advise that they could progress to moderate or high risk.
Patient information about the risk of developing a diabetic foot problem

Provide information and clear explanations to people with diabetes and/or their family members or carers (as appropriate) when diabetes is diagnosed, during assessments, and if problems arise. Information should be oral and written, and include the following:

- Basic foot care advice and the importance of foot care
- Foot emergencies and who to contact
- Footwear advice
- The person's current individual risk of developing a foot problem
- Information about diabetes and the importance of blood glucose control

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Important Conversations

• Working with people to help make behaviour changes
• The self management tasks of managing diabetes can require 2 hours of each day to carry out! Russell et al 2005
• Motivational Interviewing techniques
  – Diabetes Update Autumn 2015

Change is a process, not an event.
Foot protection service

NG19 recommends all CCG’s establish foot protection services for preventing, treating and managing diabetic foot problems in the community.

The foot protection service should assess newly referred people:

- Within 2–4 weeks for people who are at high risk of developing a diabetic foot problem
- Within 6–8 weeks for people who are at moderate risk of developing a diabetic foot problem

The foot protection service should be led by a podiatrist with appropriate specialist training and access to healthcare professionals with skills in the following areas:

- Diabetology – Biomechanics – Orthoses- Wound care

How extensive is the foot protection service?

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For people at moderate or high risk of developing a diabetic foot problem, the foot protection service should:

- Assess the feet
- Give advice about, and provide, skin and nail care
- Assess the biomechanical status including the need to provide specialist footwear and orthoses
- Assess the vascular status of the lower limbs
- Liaise with other healthcare professionals, for example, the person's GP, about the person's diabetes management and risk of cardiovascular disease

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A multidisciplinary foot care service for managing diabetic foot problems in hospital that cannot be managed by the foot protection service

Examples of limb-threatening and life-threatening diabetic foot problems include the following:

- Ulceration with fever or any signs of sepsis
- Ulceration with limb ischaemia
- Clinical concern that there is a deep-seated soft tissue or bone infection (with or without ulceration)
- Gangrene (with or without ulceration)

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Key Messages

• If you are working with people who have diabetes you are part of the foot protection pathway

• Every person with diabetes and all health or care professionals working with them should know the individuals foot risk status

• Preventing foot complications is not just about good foot care

• Foot ulcers develop under hard skin and this risk can be managed effectively

• Find out about the foot referral pathways in your area, who is the foot protection service lead, what are the contact numbers and referral routes to the community and hospital services?

• Changing behaviour isn’t easy but having different conversations and using techniques such as motivational interviewing can make a difference

• If 80% of amputations are preventable we all have a role in improving outcomes
Foot screening poll

Following this webinar how confident would you feel about undertaking a foot screening?

• More confident
• The same
• Less confident
Questions and discussion

- Opportunity to contribute
- Have you learned what is needed?
- Ideas and options for follow up communication and professional networks
- Contribute comments on line
- Reflective log and certificate of attendance is available to all who have attended this live webinar
- Webinar recording will also be available ‘on demand’ to view at your leisure plus reflective log and certificate of attendance
- The web address to download the reflective log and certificate will be given at the end of the webinar
Webinar poll

• Following the webinar, would you be willing to recommend a Neubourg webinar to a colleague?

  • Yes
  • No
Protection from heel to toe

To collect your reflective log and certificate of attendance now, please visit:
www.allpresan.uk.com/resources/diabetes-foot-protection-webinar

You will also find further information on Allpresan® Diabetic Foam Creams and further foot protection resources.