A new approach to preventing diabetic foot ulceration

Diabetic foot ulceration is a significant problem in the UK. Duncan Stang highlights a new approach to preventing this potentially devastating complication

Today almost 4 million people across the UK are living with diabetes (Diabetes UK, 2015a), with Diabetes UK (2015b) warning in August that this number has increased by nearly 60% in the past 10 years. It is estimated that the number of people affected will double by 2025 with one new sufferer being diagnosed every 3 minutes. Whether people are living with type 1 or type 2 diabetes, the condition can cause serious complications leading to disability and early death.

Diabetes costs the NHS an estimated £10 billion every year, equal to 10% of its total budget. If various actions are not taken now, the longer-term costs and consequences associated with diabetes will be severe—for individuals, the NHS, and wider society.

Around 15% of those with diabetes—currently about 600 000—will develop a foot ulcer in their lifetime, which may lead to amputation. There are currently over 300 new ulcers diagnosed every day. Over 130 amputations take place per week in UK, 80% of which are preceded by a diabetic foot ulcer. Only 50% of people with diabetes who have an amputation survive for 2 years (NHS Diabetes, 2012). The relative likelihood of death within 5 years following amputation is greater than for colon, prostate and breast cancer (Diabetes UK, 2013).

The cost of diabetic foot ulcers and amputations to the NHS in England in 2013/14 was estimated at around £1 billion (Hex et al, 2012).

Good care has been shown to save money in the long run (Diabetes UK, 2014), so investing in preventative measures is cost effective as it helps to improve the quality of life for patients by preventing problems arising.

Duncan Stang, National Diabetes Foot Co-ordinator, Scotland

Figure 1. Insoles that are clinically proven to prevent diabetic foot ulcers are now available on prescription

Diabetic foot screening

Diabetic foot screening is the 'cornerstone' and starting point of all diabetes foot care, and is the foundation on which any good diabetic foot service is built on.

The reason for carrying out diabetic foot screening is to establish the level of risk a patient has of developing a diabetic foot ulcer, which may lead to an amputation, and direct the appropriate care or treatment to try to prevent this occurring.

It is encouraged that routine foot screening is carried out at the GP practice level by 'a suitably trained health care professional' which could be the GP, practice nurse or healthcare assistant.

Training to carry out evidence-based, standardized foot screening is available free of charge to anyone in the UK wishing to gain that competence at: www.diabetesframe.org

It is encouraged that any patient being screened as being in the 'at risk' categories (moderate, high or active foot disease) be referred to podiatry for an assessment with a podiatrist for the formulation of a suitable 'agreed and tailored management/treatment plan by the podiatrist according to the patients needs' (Scottish Intercollegiate Guidelines Network) (SIGN, 2010).

So, what are the major factors that are screened for and the ones that put patients with diabetes at the greatest risk of foot ulceration?

Risk factors for foot ulceration

Peripheral vascular disease, a common finding in individuals with diabetes

Figure 2. Both NICE and SIGN guidelines recommend the use of preventative measures for patients at risk, such as footwear and insoles

(Edmonds and Foster, 2006), together with peripheral neuropathy are the two major risk factors for development of foot ulceration (Khanolkar et al, 2008).

Reduced vascular supply to an affected foot significantly delays healing, and is often associated with poor outcome. Transcutaneous measurements of tissue oxygenation have been shown to correlate with vascular disease severity in ischaemic foot ulcers that occur in patients with diabetes (Graziani et al, 2007), with successful wound healing associated with higher $TcPO_2$ values (Poredos et al, 2005).

In 2013, Diabetes UK launched 'Putting Feet First'—a worthy campaign to advise how patients with diabetes should be able to recognise a 'Foot Attack' and advising them on how to respond in the event of that happening (Diabetes UK, 2013); but in my opinion this is too late and is like shutting the stable door after the horse has bolted.

The identification of risk factors alone will not prevent future problems. Foot screening alone does not prevent amputations, just as retinal screening does not prevent people going blind and breast screening does not prevent people dying of breast cancer. It is the action taken following the screening process and what preventative measures or treatments are implemented that makes the crucial difference.

Both National Institute for Health and Care Excellence (NICE, 2004) and SIGN (2010) guidelines recommend the use of preventative measures for patients at risk, such as footwear and insoles, but is this advice being followed for the 'at risk' patients in the UK to prevent them making the transition from someone who is at risk of ulceration to somebody who has an active foot ulcer?

Is this because the provision of footwear and insoles is looked on as being unnecessary or too expensive, or is it due to the lack of NHS approved devices?

The situation has now changed, as the first ever insoles have been accepted on NHS prescription (FP10/GP10) for all at-risk people with diabetes according to Diabetes UK's 'Diabetic Foot risk Stratification and Triage traffic light system'.

Prevention is better than cure

A unique, UK clinically proven, treatment is now available on NHS prescription that can dramatically reduce the burden, in both financial and human costs, of diabetic foot ulcers by preventing them in the first place.

Liqua Care Diabetic Flowgel insoles are clinically proven to substantially decrease the excessive 'peak pressures' that are the start of most diabetic foot wounds, at the same time significantly increasing the circulation to the foot, lack of which allows the wound to develop into an ulcer and is one of the reasons for slow or non healing.

Aside from being the first insoles available on prescription, this is significant as it is the first time the NHS has ever accepted a prophylactic device for prescription issue. The decision was based on overwhelming evidence including what, in my role as National Diabetes Foot Coordinator for Scotland, I described as a 'quite exceptional' result with a group of diabetic patients over a 2-year period. Based on patient profiles, statistically extrapolated results indicated an expected 75% per capita incidence of developing an ulcer. The actual results after 2 years revealed that not a single instance of foot ulceration had occurred.

Liqua Care Diabetic Flowgel Orthotics are thin, fit in suitable everyday shoes, come in 6 sizes and are readily available on prescription. The cost to the NHS of one pair (good for 12 months) is one third of 1% of the average cost to treat an ulcer.

Patients need to be aware that these insoles are available for all 'at risk' patients with diabetes and it is our responsibility as health professionals to not only identify and record which group of patients are at risk but actually do something about it and make prevention pay.

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