

The Scottish Diabetes Foot Action Group:

**Delivering comprehensive
screening services for people with
diabetes in Scotland**

Duncan Stang

The Scottish Diabetes group, with the support of the Scottish Government, had the foresight to recognise the need for a more coordinated approach to diabetes foot care and the delivery of the complex provision for such services. It was decided that the appointment of a national diabetes foot coordinator for Scotland, with dedicated time to look at how service delivery could be enhanced and delivered more efficiently, would be beneficial.

Documents such as the Scottish Diabetes Action Plan (2006), updated in 2010,¹ the SIGN (Scottish Intercollegiate Guidelines Network) and NICE (National Institute for Clinical Excellence) guidelines on diabetic foot care in type 2 diabetes,²⁻³ and the diabetes in-patient document⁴ have all tried to identify what standards patients with diabetic foot problems should expect. Although developing guidelines can be testing, their implementation is a much greater challenge. The Scottish Diabetes Foot Action Group, chaired by Prof. Graham Leese, has the responsibility to deliver the Action Plan across Scotland.

In 2008 Duncan Stang, an advanced specialist podiatrist with 25 years experience working in diabetes, was recruited from his post with NHS Lanarkshire to undertake this task and deliver the recommendations set out in the Scottish Diabetes Action Plan.

Diabetes foot screening is widely regarded as the starting point for all good diabetes foot care services. In Scotland in 2008 the delivery of diabetes foot screening was mainly undertaken by podiatrists, with the information being retained within the podiatry notes and, in some cases, being forwarded to the GP practice to enable it to be recorded separately on the GP system. Only 25% of screenings were recorded on the online Scottish Care Information Diabetes Collaboration (SCI-DC) system.

Given the fact of the sharply rising incidence of diabetes among the population, and no extra podiatry

resources being recruited, it was soon recognised that the way foot screening was being delivered was not only a waste of scarce and valuable podiatry resources but was unsustainable.

The main challenge when carrying out foot screening is for it to be performed in a standardised, quality assured way, with the information recorded only once and capable of being shared with all healthcare professionals associated with the individual.

In Scotland, diabetes care is delivered in both primary and secondary care. The online SCI-DC system consisted of the Scottish Care Information Network (for use in primary care) and Scottish Care Information Clinical (for use in secondary care). This system has now been superseded by SCI Diabetes, which is a single, integrated system linking primary and secondary care.

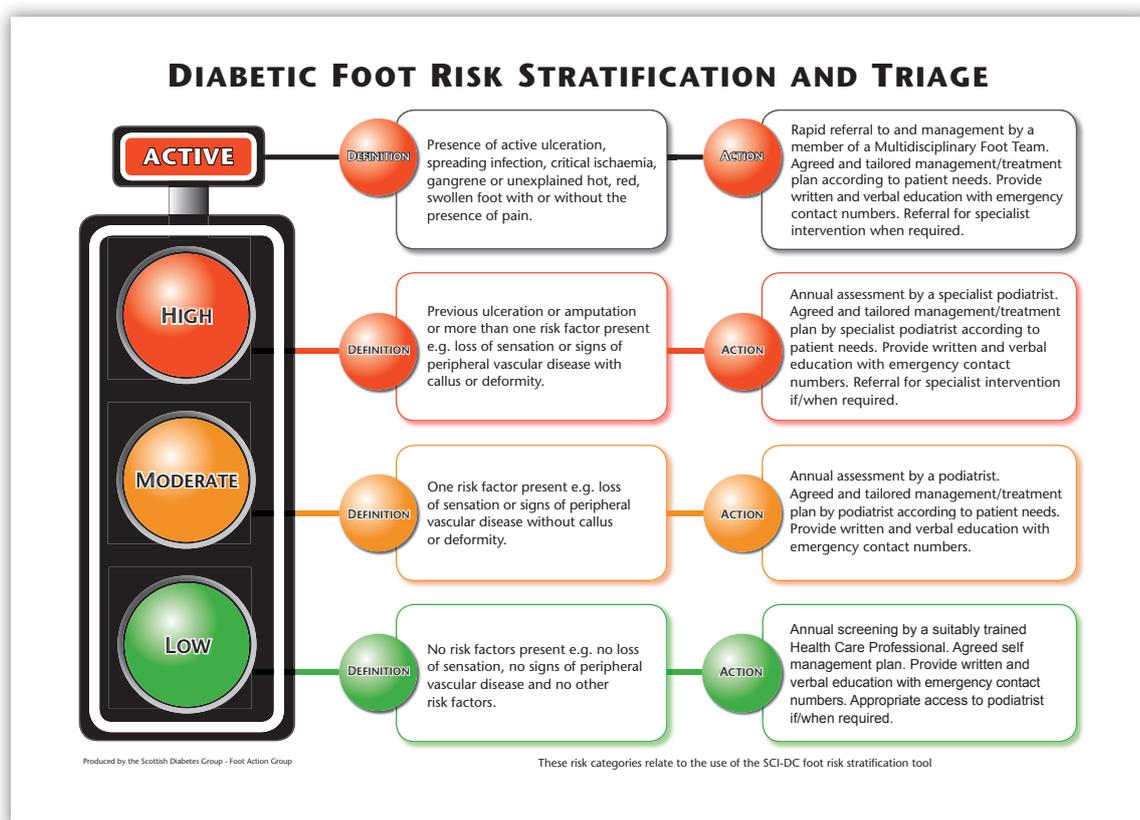
The foot screening module on SCI Diabetes is a simple tool which takes into account all the risk factors that predispose a person to develop a foot ulcer which could lead to amputation.

In Scotland a cultural change has been achieved, moving away from the concept of foot examination towards a concept of foot risk stratification. This robust screening programme has built a solid foundation for the rest of the diabetes foot service delivery to be built upon. The SCI Diabetes foot screening programme adopts the ethos of risk stratification, which includes examining pulses and nerve function, and also includes other

predictors of foot ulceration such as previous ulceration,⁵ significant structural foot deformity, presence of significant callus, and self-care ability, combining them into an integrated foot risk score. When this information is recorded on the foot screening module within SCI Diabetes the system automatically calculates the risk status into low, moderate or high risk of ulceration or active foot disease. The SIGN guideline advocated the use of the Scottish foot risk score (see Figure 1),²

which was validated in a study of 3,526 patients.⁶ Individuals identified as being at high risk had an 83-fold increased risk of subsequent foot ulceration, with a six-fold increase for moderate risk patients.⁶ Patients at low risk had a 99.7% (95% confidence interval: 99.6%–99.8%) chance of remaining ‘ulcer free’ after 2.4 years follow-up, indicating that the ‘low risk’ status was correct.⁶

Figure 1: The SIGN guideline Scottish foot risk score ‘Traffic Light’ system²



To enable this system to work for the benefit of patients and all associated healthcare professionals (HCPs) it was decided that people with diabetes attending a podiatrist clinic would have their screening carried out annually by that podiatrist as part of their treatment/management plan. Those people without

a podiatric need, and therefore not attending a podiatrist, would have their foot screening carried out by whichever HCP was providing their care. This could only be achievable in a safe and quality-assured manner if the HCPs delivering the care had the knowledge and competence to carry out the simple task of foot screening.

The online Diabetes Foot Screening training module⁷ was developed by the Scottish Diabetes Foot Action Group in association with the E-Learning Department of Edinburgh University and supported by the Scottish Government. This online resource has allowed all HCPs dealing with people with diabetes to gain skill, knowledge and confidence through interactive learning and to carry out the simple task of diabetes foot screening in a standardised manner. The website has been an outstanding success, with more than 10,000 visits and in excess of 6,000 unique visitors.

The Scottish Diabetes Foot Action Group, The Scottish Government, Foot in Diabetes UK, NICE and SIGN were among those that brought about the change in the Quality Outcome Framework (QOF) with the introduction of DM 29.⁸ This new QOF indicator ensures the need for risk stratification leading to the introduction of an appropriate treatment and management plan according to the assigned risk score, the introduction of which has been made easier in Scotland as the system for risk stratification was already in place through the SCI system.

After a comprehensive survey, the Scottish Diabetes Foot Action Group recognised that the foot health education that was available throughout Scotland for people with diabetes was not fit for purpose. There was a variety of health board specific material, and some produced by industry, but none of this complemented the Traffic Light system (Figure 1).

All available material was gathered from across Scotland and, through a lengthy period of extensive consultation with patients, podiatrists, consultants and diabetes specialist nurses, new information leaflets which were deemed to be more fit for purpose were produced.

The leaflets are risk targeted and colour coordinated to complement the Traffic Light system, with 'Low Risk' printed in green, 'Moderate Risk' in amber and 'High Risk' in red. The other leaflets to make up the 'set' are 'Looking after your diabetic foot ulcer', 'Holiday feet', 'Advice about your footwear' and 'Charcot foot'.

After consultation with the Plain English Campaign, the leaflets gained the Crystal Mark for clarity. They have also been translated into the five most common non-English languages spoken in Scotland (Arabic, Bengali, Cantonese, Polish and Urdu) by the minority ethnic inclusion group. These leaflets are available to download from the Diabetes in Scotland website.⁹

As a result of the work carried out by the Scottish Diabetes Foot Action Group, the target – set out in the Scottish Diabetes Action Plan by the Scottish Government – of 80% of the diabetes population of Scotland being recorded on the SCI system with an allocated risk score, was successfully achieved by the end of 2012.

In view of the recently published paper, 'Reduced Incidence of Lower-Extremity Amputations in People With Diabetes in Scotland: A nationwide study',¹⁰ it is clear that a 'sea change' in diabetes foot care is taking place in Scotland, but the Scottish Diabetes Foot Action Group realises there is a lot of work still to be done and is concentrating its efforts on improving access to multidisciplinary foot clinics and inpatient care now that there is a firm foundation to build upon.

References

- 1 Scottish Government (2010). *Diabetes Action Plan*. Edinburgh: Scottish Government. www.diabetesinscotland.org.uk/Publications/DAP2010.pdf (accessed 16 May 2013).
- 2 Scottish Intercollegiate Guidelines Network (SIGN) (2010). *Management of diabetes. A national clinical guideline*. www.sign.ac.uk/pdf/sign116.pdf (accessed 16 May 2013).
- 3 National Institute for Clinical Excellence (2004). *Clinical Guidelines for Type 2 Diabetes. Prevention and management of foot problems*. www.nice.org.uk/nicemedia/live/10934/29242/29242.pdf (accessed 16 May 2013).
- 4 National Institute for Health and Clinical Excellence (2011). *Diabetic foot problems. Inpatient management of diabetic foot problems*. www.nice.org.uk/nicemedia/live/13416/53556/53556.pdf (accessed 16 May 2013).
- 5 Abbott CA, Carrington AL, Ashe H, et al. The North West Diabetes Care Foot study: incidence of, risk factors for, new diabetic foot ulceration in a community-based cohort. *Diab Med*. 2002;19: 377-84.
- 6 Leese GP, Reid F, Green V, et al. Predicting foot ulceration in Diabetes: validation of a clinical tool in a population-based study. *Int J Clin Prac*. 2006;60:541-5.
- 7 Scottish Diabetes Group/University of Edinburgh (2011). *The Foot Risk Awareness and Management Education (FRAME) project. An e-learning resource*. www.diabetesframe.org (accessed 16 May 2013).
- 8 Health and Social Care Information Centre. Quality and Outcomes Framework, DM 29. The percentage of patients with diabetes with a record of a foot examination and risk classification. mqi.ic.nhs.uk/IndicatorDefaultView.aspx?ref=1.09.04.24 (accessed 16 May 2013).
- 9 Diabetes in Scotland. Publications (Leaflets). www.diabetesinscotland.org.uk/Publications.aspx?catId=2 (accessed 16 May 2013).
- 10 Kennon B, Leese GP, Cochrane L, Colhoun H, Wild S, Stang D, et al. Reduced Incidence of Lower-Extremity Amputations in People With Diabetes in Scotland: A nationwide study. *Diabetes Care* 2012;35(12):2588-90.