

# The Scottish Diabetes Foot Action Group 2016 update of the Diabetic Foot Risk Stratification and Triage System

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## Article points

1. In the updated version of the traffic light system, there is a focus on being more proactive with preventative strategies.
2. Renal disease has been introduced as a risk factor.
3. There is a new category — ‘In Remission’.

## Key words

- Foot screening
- Foot ulcer risk
- Ulcer prevention

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**Since its launch in May 2008, the Scottish Diabetic Foot Risk Stratification and Triage System has been successful in improving care. The stratification system has been rolled out across the UK and in other countries, and is an integral part of national clinical guidelines. The Scottish Diabetes Foot Action Group has updated the system to prioritise at-risk patients and introduce earlier preventative management into the action points. The High-risk category has been split to introduce a new category — In Remission — and renal disease has been introduced as a risk factor.**

In May 2008, the Diabetic Foot Risk Stratification and Triage System was launched in the Scottish Parliament by then Minister for Health and Wellbeing Nicola Sturgeon, who called it “an example of best practice” (*Figure 1*). The initiative was led by the Scottish Diabetes Foot Action Group (SDFAG) and supported by the Scottish Diabetes Group and the Scottish Government.

The ethos of the SDFAG is to provide a cohesive national diabetic foot network dedicated to service improvement and better patient outcomes throughout Scotland.

Since its inception, the network has delivered a number of significant national improvements, including the Diabetic Foot Risk Stratification and Triage System. The traffic light system is one of its most recognisable pieces of work.

This system has resulted in a rise in the number of patients in Scotland who have been given a foot risk stratification — from 25% in 2007 to 95% in 2016 (Leese et al, 2016). Most encouragingly, there has been a reduction in variation across health boards from 53% to 3% in the same time frame. This helped deliver equity of service provision across Scotland.

The foot risk stratification traffic light system is now being used throughout the UK and in many other countries. It has become an integral element of clinical guidelines and Diabetes UK’s ‘Putting Feet First’ campaign.

## What prompted this simple system?

The SDFAG has always recognised that foot screening was the cornerstone and starting point for any effective diabetes foot service. It firmly believed that the purpose of screening was to assess a patient’s risk of developing a foot ulcer. However, an equally important component was that any screening system would facilitate the implementation of a management plan according to risk status, using locally available resources.

The simple, visual system was designed to help both clinicians and patients understand risk stratification and what that risk means.

The system simply categorised each patient into four risk categories (low, moderate, high and active) and provided a definition of each category. Most importantly, it also linked the risk category to actions — what the clinician should do, which service or intervention the patient should receive, and who should deliver the care.

The person who delivers the care is defined according to competency level as laid out in the ‘Podiatry Competency Framework for Integrated Diabetic Foot Care’ (TRIEPodD-UK, 2012).

## Why change?

The SDFAG, working in conjunction with the Scottish Care Information-Diabetes Collaboration (SCI-Diabetes), is proud of the validated foot screening system in Scotland and its impact on foot

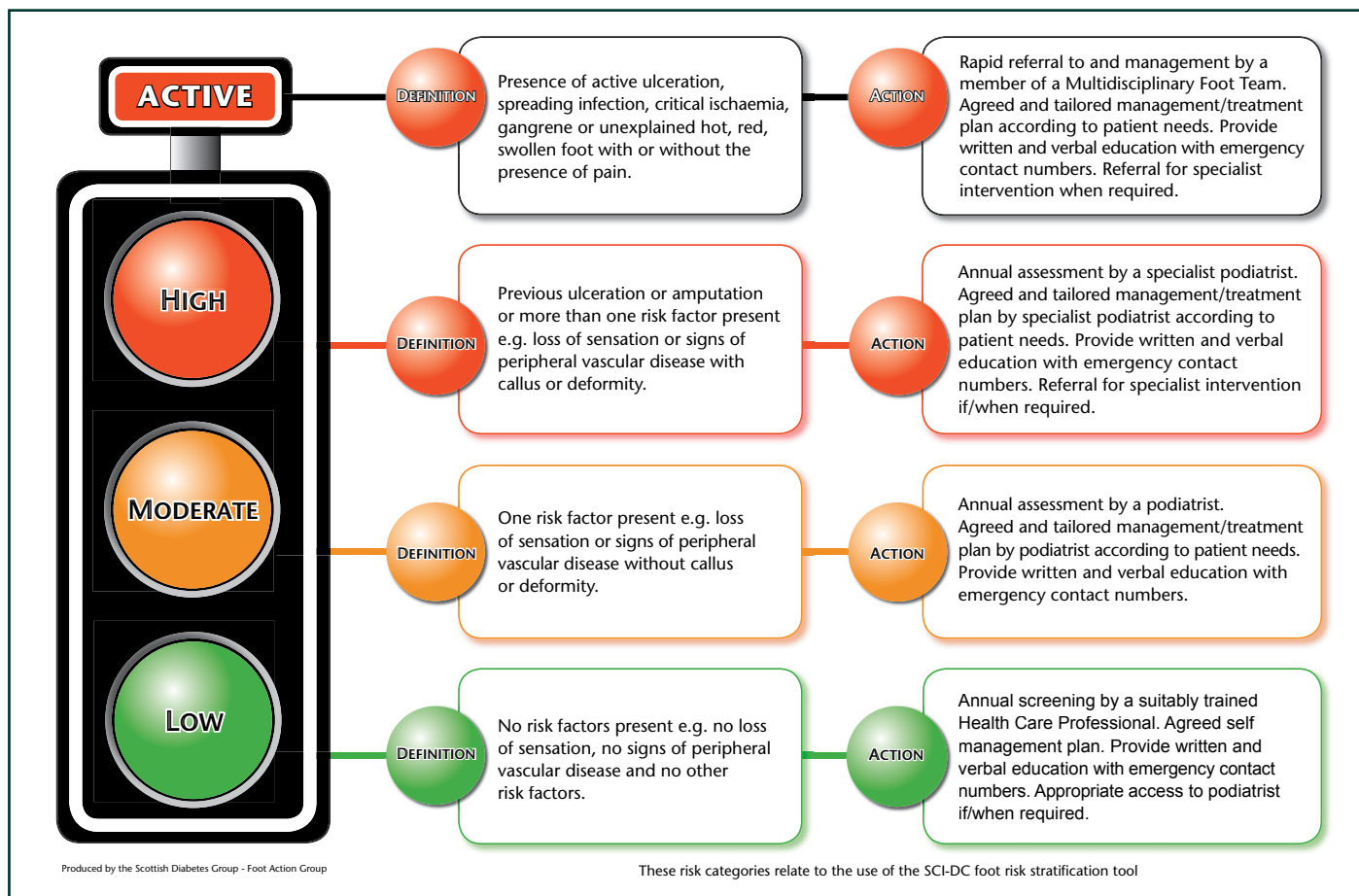


Figure 1. The 2008 Diabetic Foot Risk Stratification and Triage System used a traffic light to help clinicians and patients understand what risk meant.

care, but decided that further improvements were required (Leese et al, 2006; 2007).

It was decided to prioritise the at-risk groups and be more proactive with preventative strategies. This requires a more aggressive approach to try and prevent ulcer recurrence and a more effective and efficient approach to managing active ulcers.

Even in centres of excellence, there is a 30% ulcer recurrence rate with standard therapy at 15 months (Lavery et al, 2007), and a 50% recurrence at 3 years (Boulton et al, 1986; Chantelau and Haage, 1994; Birke et al, 1995; Uccioli et al, 1995; Murdoch et al, 1997; Lavery et al, 1998).

The Scottish Intercollegiate Guideline Network (SIGN) and the National Institute for Health and Care Excellence (NICE) both recommend preventative care in the form of footwear advice or the provision of footwear and/or insoles to at-risk patients (SIGN, 2013; NICE, 2015). This includes the use of running-style, cushion-soled trainers, rather than

ordinary shoes, and custom-built footwear or orthotic insoles to reduce callus severity and ulcer recurrence. Offloading prevents ulcer recurrence, in addition to promoting healing, and needs to be used more in routine practice (Colagiuri et al, 1995; Bus et al, 2016).

### The 'In Remission' category

The decision to split the high-risk category into 'In Remission' and 'High' is visually the most significant change to the traffic light system.

Patients in the High-risk category who have had previous ulcers have been identified as a sub-group. They are now termed as being In Remission (Figure 2). This approach accentuates the principle that such patients are not 'cured' of their foot disease, but are in remission and have a high risk of recurrent or relapsing ulcers, further amputation or further Charcot.

'High risk' is defined as having more than one risk factor present, eg, a combination of loss of sensation, signs of peripheral arterial disease,

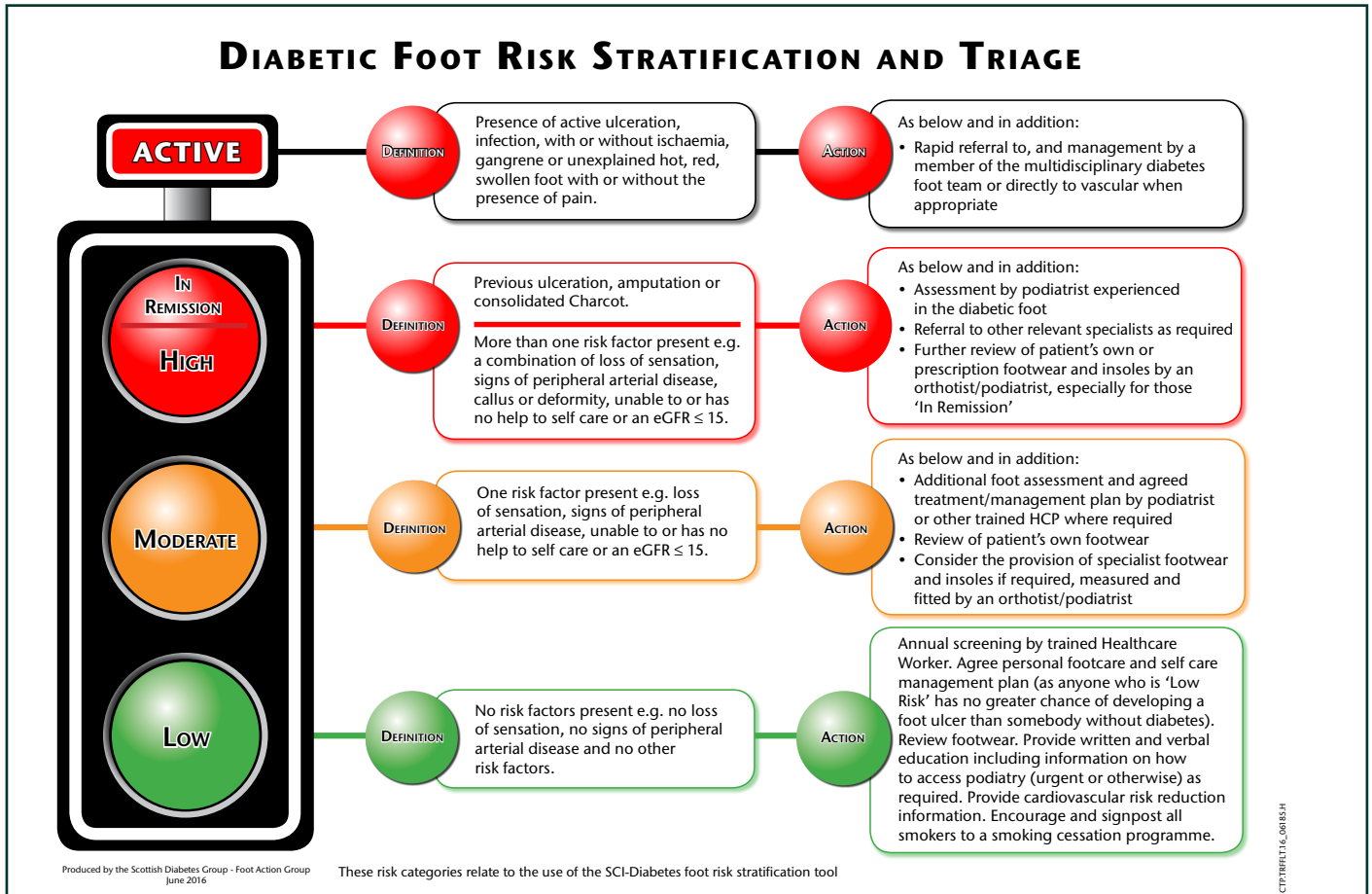


Figure 2. The new 2016 Diabetic Foot Risk Stratification and Triage System makes a number of changes, including a new 'In Remission' category.

callus or deformity, unable to/or has no help to self care or an estimated glomerular filtration rate (eGFR)  $\leq 15$ .

'In Remission' is defined as 'previous ulceration, amputation or consolidated Charcot'.

The term 'consolidated Charcot' has been used rather than 'previous Charcot'. The SDFAG decided that a patient with a Charcot foot that has consolidated technically still has a Charcot foot, and thus the term 'previous Charcot' would have been incorrect.

The phrase 'in remission' was first used by Professor David Armstrong in the US to clarify that when a patient has had a previous ulcer they are not actually healed. In the patient's mind, a previous ulcer which has healed will probably mean the end of the matter but, in fact, the chance of recurrence is actually high.

A significant proportion of patients in the high-risk group will never develop an ulcer or undergo

amputation, but those who have had a previous ulcer and are classed as In Remission have a greater than 50% chance of recurrence after 3 years (Boulton et al, 1986; Chantelau and Haage, 1994; Birke et al, 1995; Uccioli et al, 1995; Murdoch et al, 1997; Lavery et al, 1998; Dargis et al, 1999). For this reason, it was decided that this new risk category had to be introduced.

### Introducing renal disease as a risk factor

Renal disease contributes to delayed wound healing and subsequent amputation (Lavery et al, 1998; Leese et al, 2011). An eGFR  $\leq 15$  has, therefore, been introduced as an additional risk factor for foot ulceration. The patient's eGFR will be automatically populated into the foot screening data set from the SCI-Diabetes system. If the eGFR is recorded as being  $\leq 15$ , it will contribute towards the risk calculation automatically without the clinician having to enter the data.

**“The changes made to the Diabetic Foot Risk Stratification and Triage system will hopefully promote a more proactive preventative care strategy that will ensure the best possible outcomes for people with diabetes in Scotland.”**

### Changes in the traffic light schema

In the Low-risk category action box there is a simple change of wording from: “Annual screening by a suitably trained Health Care Professional” to “Annual screening by trained Healthcare Worker”. This is to broaden the spectrum of who can carry out foot screening, especially for the Low-risk category.

Another change in the Low-risk category action box is the inclusion of wording to clarify that anyone who is categorised as being at low risk has no greater chance of developing a foot ulcer than somebody without diabetes. This change reinforces patient education regarding appropriate self-management.

### Proactive preventative strategies

There are some other simple wording changes in line with the change of emphasis towards a more preventative strategy. This is to help promote the change in emphasis towards earlier preventative management. Early intervention, education and managing cardiovascular risk are all important (Young et al, 2008). Therefore, the Low-risk category action box has added:

- Provide cardiovascular risk reduction information.
- Encourage and signpost all smokers to a smoking cessation programme

The Moderate-risk category action box highlights the importance of footwear advice earlier in the disease process and the consideration of the provision of insoles and footwear as a preventative strategy for those who would benefit and are suitable for such an intervention. The changes are:

- Review of footwear
- Consider the provision of specialist footwear and insoles as required, measured and fitted by an orthotist/podiatrist.

For the High-risk category action box, the footwear-related change is:

- Further review of footwear and insoles by an orthotist/podiatrist, especially for those In Remission.

### Changing a well-established system

Work is currently under way to ensure that all the support materials reflect the changes, including the national diabetic foot care leaflets, the FRAME

foot screening training website ([www.diabetesframe.org](http://www.diabetesframe.org)) and the SCI-Diabetes online foot screening tool, as well as printing and distributing of new laminated posters.

### Implementing the ethos of earlier preventative care

The SDFAG is committed to improving diabetes footcare provision throughout Scotland. The changes made to the Diabetic Foot Risk Stratification and Triage system will hopefully promote a more proactive preventative care strategy that will ensure the best possible outcomes for people with diabetes in Scotland and beyond. ■

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