

## Commentary

# Commentary on developing clinical guidelines for management of diabetic foot ulcers in primary health care

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## Introduction

Foot disease affects nearly 6% of people with diabetes [1] and includes infection, ulceration, or destruction of tissues of the foot [2]. The risk for amputation in patients with diabetes is 15 times greater than for Diabetic Foot Ulcer (DFU) [3] precedes the non-diabetic population and the majority of amputations. Most amputations start with ulcers and can be prevented with good foot care and screening to assess the risk for foot complications [4]. In Qatar, diabetic foot is becoming an escalating problem due to the high prevalence of diabetes of approximately 16% [5]. To address this issue, clinical guidelines on the prevention and initial management of diabetic foot in primary care setting in Qatar were developed. This commentary provides a summary of the development of the clinical guidelines and its summary.

## How were the guidelines developed?

The clinical guidelines were developed to offer specialists and non-specialists everywhere a practical, relevant clinical guide to appropriate decision making and effective wound healing in people presenting with a DFU. In dealing with DFUs. In Primary Health Care A multidisciplinary guideline development group consisting of primary care practitioners who are experts in the field of wounds management from deferent specialities such as physicians, nurses and pharmacists.

Such guidelines are going to be reviewed and approved by PCGR (Primary Care Guidelines Review Committee) which formed from the most senior experts in Family Medicine, diabetology, diabetic foot rehabilitation, and vascular surgery.

## What is DFU?

Uncontrolled diabetes contributes to the development of neuropathy and peripheral arterial disease (PAD) by complex metabolic pathways [6]. Loss of sensation caused by peripheral neuropathy, ischaemia due to peripheral arterial disease, or a combination of these may lead to foot ulcers [7]. Poor-fitting shoes and walking barefoot with insensate feet are the most frequent causes of ulceration, even in patients with purely ischemic ulcers. Therefore, meticulous examination of shoes and footwear behaviour in all patients.

## How is DFU diagnosed?

In diagnosing DFU, a consistent strategy for evaluating a foot wound, as this will guide further evaluation and therapy. The following approach is recommended:

Evaluate all patients for the presence of PAD by taking a symptom-directed history and palpating foot pulses, if possible, using a Doppler instrument. The presence of a pedal pulse waveform largely excludes

PAD. However, ankle/brachial pressure can be falsely elevated due to calcification of the arteries. In selected cases other tests, such as measurements of toe pressure or transcutaneous pressure of oxygen (T<sub>cp</sub>O<sub>2</sub>) is considered if available or to be referred to secondary medical care facility. However, no specific symptoms or signs of PAD reliably predict healing of the ulcer.

Neuro-ischaemic is the combined effect of diabetic neuropathy and ischemia, whereby macrovascular disease and, in some instances, microvascular dysfunction impair perfusion in a diabetic foot.

## How to manage DFU in primary care?

The principle aim of DFU management is wound closure. More specifically, the intention should be to treat the DFU at an early stage to allow prompt healing. The essential components of management are:

- Treating underlying disease processes.
- Ensuring adequate blood supply.
- Optimal wound care, including infection control.
- Pressure offloading

Effective foot care should be a partnership between patients, care giver and healthcare professionals this means providing appropriate information to enable patients and care giver to participate in decision making and understand the rationale behind some of the clinical decisions as well as supporting good self-care.

## How can it be prevented?

- Regular follow-up and surveillance for diabetic retinopathy for adults with diabetes is required and early treatment for those identified with retinopathy is vital.
- Strict blood pressure and blood glucose control in people with diabetic nephropathy can reduce the rate of deterioration in their renal function, as well as their risk of cardiovascular disease.
- Maintenance of adequate and balanced diet is the main treatment for diabetes to improve glycemic control. Obesity should be prevented. These subjects should be actively encouraged to lose weight if they are obese. This will not only improve the diabetes control but will

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also reduce the pressure on the foot. Similarly, a low-fat diet is important to reduce cardiovascular disease.

- Exercise is the cornerstone and prevents peripheral neuropathy. Exercise or activity is beneficial for people with diabetes. Physiotherapy can correct the gait abnormality and possibly prevent the development of DFU.

### When to refer to secondary?

It is recommended that patients be referred to secondary care in the following circumstances:

- Complicated wounds (not improving or resolving) i.e. (Wounds secondary to cancer).
- Treatment goals are not being met after four weeks of treatment, or wound is not improving with present strategies.
- Secondary Cause is unclear, or other conditions are complicating the present wound.
- Additional diagnostic testing if indicated.
- Severely contaminated wounds requiring drainage.
- Tendon, nerve or vessel damage that requires repair
- Compression between two rollers (e.g. industrial, washing machine)

- Strong concern about cosmetic outcome.
- Wound caused by glass or possibility of foreign body in wound

### Conflicts of interest

The authors declare that they have no conflicts of interest.

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