

Screening and Risk Stratification for Diabetic Foot Ulcers: A Review

Context

Type 2 diabetes is a chronic disease characterized by high blood glucose. The estimated prevalence of diabetes in Canada is 6.8% — roughly 2.4 million Canadians — and it is increasing, with a 230% increase from 1998. Diabetic foot ulcer (DFU) is the most common chronic complication, affecting 4% to 10% of patients with diabetes. Predisposing factors include long disease duration, trauma, infection, poor glycemic control, improper footwear, advanced age, smoking, and lower socioeconomic status. However, neuropathy and peripheral vascular disease are the most significant risk factors. DFU complications include wound infection, osteomyelitis, cellulitis, and amputation, and can lead to significant morbidity, mortality, and health care costs.

Technology

Primary care screening programs for DFU in patients with diabetes may include risk stratification, patient education, and referral to more specialized care. Risk stratification considers factors such as whether a patient has neuropathy or peripheral vascular disease to help determine their risk for DFU. Depending on a patient's level of risk, suitable preventive measures can be undertaken.

Issue

By focusing preventive interventions based on risk, a significant reduction in DFU occurrence and related complications might be expected. However, screening and risk stratification of the large patient population with diabetes requires considerable resources. A review of the clinical effectiveness, cost-effectiveness, and evidence-based guidelines will help to inform decisions about screening for DFUs.

Methods

A limited literature search was conducted of key resources, and titles and abstracts of the retrieved publications were reviewed. Full-text publications were evaluated for final article selection according to predetermined selection criteria (population, intervention, comparator, outcomes, and study designs).

Key Messages

- DFU screening programs reduce the occurrence of DFU and DFU complications in patients identified to be at high risk.
- Whether DFU screening programs in primary care for the general population with diabetes are feasible or effective is uncertain.
- Evidence-based clinical practice guidelines all recommend DFU screening of patients with diabetes.
- The majority of clinical practice guidelines recommend secondary care referral for patients identified as high risk for the development of DFU.
- The cost-effectiveness of DFU screening and risk stratification is uncertain.

Results

The literature search identified 233 citations, 19 of which were deemed potentially relevant. An additional 13 reports were retrieved from other sources. Of these 32 reports, 9 met the criteria for inclusion in this review: 1 systematic review and 8 guideline documents.

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