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Alethea Foster reviews the National Institute for Clinical Excellence's Clinical Guidelines for Type 2 Diabetes: Prevention and Management of Foot Problems (NICE, 2004)

KEY WORDS

Diabetes
Ulceration
Feet

An evaluation of NICE guidelines on foot care for patients with diabetes

In the NHS, there is a perceived need for evidence-based guidelines to improve outcomes in all fields of health care. Management of the diabetic foot, which is a major public health problem, is one clinical field that needs quality guidelines. In response to this, the National Institute for Clinical Excellence (NICE) has published *Clinical Guidelines for Type 2 Diabetes: Prevention and Management of Foot Problems (2004)*.

Development of the guidelines The guideline development group (of which this author was a member) was aware that half of all major leg amputations in the UK are performed on people with diabetes who have uncontrolled ulceration, infection, and gangrene. Morbidity and mortality associated with the diabetic foot are unacceptably high.

The NICE guidelines are based on an extensive survey of literature and expert opinion relating to the diabetic foot. Unfortunately there is little evidence from prospective double-blinded research trials, and a lack of consensus among experts in several key areas.

Also, when writing the guidelines NICE committee members could not base their recommendations solely on hard evidence or expert opinion, as they also needed to consider political and financial constraints. The final recommendations for improving outcomes had to be practical, feasible, and affordable.

Content of the guidelines They provide four different levels of risk to be considered when assessing the diabetic foot: low current risk; increased risk; high risk; and the ulcerated foot.

Low current risk Patients with low current risk, characterised by normal sensation and palpable pulses, need foot care education.

Increased risk of foot ulceration Patients presenting with neuropathy, absent pulses or other risk factors need regular review by a foot protection team every three to six months.

This team will inspect the feet, consider the need for vascular assessment, evaluate footwear, and provide enhanced education.

High risk of foot ulcers Those patients who are at high risk of foot ulcers with symptoms including neuropathy or absent pulses, deformity, skin changes, or a previous ulcer, require:

- Frequent review every one to three months;
- Intensified foot care education;

- Specialist footwear and insoles;
 - Skin and nail care.
- The foot protection team should provide this care.

Ulcerated foot and foot care emergencies This category includes patients with ulcers and foot care emergencies (new ulcers, swelling, and discolouration). These patients should be referred to the multidisciplinary foot care team within 24 hours. This team should:

- Investigate and treat vascular insufficiency;
- Initiate and supervise wound management;
- Use dressings and debridement as required;
- Use systematic antibiotics for cellulitis or bone infection if indicated;
- Ensure an effective means of distributing foot pressure, including specialist footwear, orthotics (fitting surgical appliances), and casts;
- Try to achieve optimal glucose levels and control risk factors for cardiovascular disease.

General considerations Nurses need to be extra vigilant in caring for people who:

- Are aged over 70;
- Have had diabetes for a long time;
- Have poor vision;
- Are smokers;
- Are socially deprived or live alone;
- Are housebound or live in residential care or in a nursing home.

Discussion A key statement in the guidelines is that all people with diabetes should have their feet and legs examined for specific problems at least once a year. Few would disagree with this. Patients with diabetes need help to detect problems when they develop neuropathy and lack protective pain sensation.

Training The NICE guidelines recommend that health care professionals who carry out foot examinations must be 'adequately trained'. However, specific details of the training are not given.

Nurses who wish to be involved in inspecting diabetic feet may need education on how to perform simple neurological and vascular assessments, including palpation of pedal pulses, use of a hand-held Doppler to measure the ankle-brachial pressure index and use of a 10g monofilament (used to detect neuropathy). They will also need to be able to examine the foot for abnormalities such as:

- Deformity;
- Limited joint mobility;
- Unsuitable footwear;

- Presence of callus formation (thickening of the epidermis);
- Neglected nails;
- Minor foot problems;
- Swelling, colour change, breaks in the skin, and signs and symptoms of infection.

Referral pathways Detection of potential problems is not enough. It is also necessary to develop pathways of care so that when potential or active problems are detected, rapid referrals can be made so that patients can be seen by the right health care professional in a timely manner.

A foot protection team will manage patients who are at risk of foot problems. This is defined in the guidelines as a team with expertise in protecting the foot. Members of the team would typically include podiatrists, orthotists, and foot care specialists.

Patients with active problems will need to be seen by the multidisciplinary foot care team. This is described as a team of highly trained specialist podiatrists and orthotists, nurses with training in dressing diabetic foot wounds, and diabetes specialists with expertise in lower limb complications. No definition of a 'highly trained specialist podiatrist' is given in the guidelines.

There is currently a shortage of podiatrists, and existing podiatry services are under extreme pressure. It is not clear who will provide patients' foot care if funding is not available to expand these services.

A second key issue is the recommendation in the guidelines that patients with diabetic foot problems should be seen by a multidisciplinary foot care team. However, the guidelines do not specify where the team should be based or exactly what components make up a multidisciplinary foot care team.

The current trend is for diabetes to be managed in primary care and this is reflected in the fact that the guidelines do not insist that patients with diabetic foot problems should be seen in a hospital clinic.

However, evidence indicates that significant reductions in major amputations have taken place in multidisciplinary diabetic foot clinics based in hospitals (Larsson et al, 1995; Edmonds et al, 1986).

Teams that are based within these clinics have immediate access to podiatrists, physicians, nurses, orthotists, interventional radiologists, and surgeons, and offer rapid access to further investigative procedures and surgery.

Lack of clarity about the membership of the multidisciplinary team and its location may affect how the guidelines are implemented in practice. It is likely that the current practice of community podiatrists or

district nurses managing patients with high-risk feet, with varying degrees of support from other health care practitioners, may continue.

Referrals A further problem with the guidelines is that there is no clear distinction between a new, clean ulcer and an ulcer that could be life-threatening or cause the loss of a limb. Patients who have diabetic feet with breaks in the skin, ulceration, swelling or colour change need urgent treatment, and the guidelines recommend that they should be seen within 24 hours.

However, patients with rapidly spreading infection or critical ischaemia cannot afford a 24-hour delay. They need to be seen within two or three hours by an expert hospital-based team so that immediate vascular assessments and interventions can be performed.

Ulcer management There is a further problem with the section in the NICE guidelines on how ulcers should be managed. One or more interventions are suggested, including dressings, antibiotics to treat infection, and pressure relief via special shoes or total contact casts.

However, there is little guidance as to which intervention should be chosen in which circumstance. Unfortunately, this could lead to a reinforcement of current practice where many patients with diabetic foot ulcers have dressings applied to their ulcers with no further interventions until the ulcer deteriorates.

Nurses caring for patients with diabetic foot ulcers should understand that, in addition to dressings, patients need effective pressure relief and management of infection. The guidelines recommend total contact casting as a method of pressure relief. However, this evidence-based technique is not widely used except in a few multidisciplinary specialist centres.

The reason for this is that when insensate diabetic feet are enclosed within a plaster cast that cannot be removed by the patient, problems can sometimes develop under the cast.

If this technique is to be widely used then support systems will need to be developed so that patients can have their casts removed immediately if problems develop. The technique is labour intensive and costly, and extensive training will be needed in order to put it into practice.

Conclusion For the NICE guidelines to be implemented, it will be necessary to recruit and train an enormous force of diabetic foot professionals.

Careful monitoring of patients will be essential, and outcomes such as ulcer healing times and the number of major amputations should be carefully measured for audit purposes. ■

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