

What is podiatric surgery, and can it help to improve outcomes for chronic diabetic foot disease?

Anthony Maher, Carolyn Chee and Lisa Metcalf

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Article points

1. Integrating podiatric surgery services into the acute Diabetes MDT may be part of the solution to easing pressure on stretched hospital services.
2. The opinion of a podiatric surgeon should be sought where offloading, debridement, footwear and orthotics have failed to achieve a sustained improvement.

Key words

- Diabetic foot
- Multidisciplinary team
- Podiatric surgery

Authors

Anthony Maher is Consultant Podiatric Surgeon, Nottinghamshire Healthcare NHS Foundation Trust, UK; Dr Carolyn Chee is Consultant Physician, Department of Diabetes, Nottingham University Hospitals Trust, UK; Lisa Metcalf is Advanced Diabetes Podiatrist, Department of Diabetes Nottingham University Hospitals Trust & Nottinghamshire Healthcare NHS Foundation Trust, UK

The relentless demand for diabetic foot care and the drive to reduce amputation rates is placing an untenable strain on an already financially stretched English national health service. As a consequence, commissioners and providers alike are having to come together to consider novel ways of working. This article argues that integrating podiatric surgery into the acute diabetes multidisciplinary team (MDT) may be part of the solution to easing pressure on hospital services. The authors share their experience of utilising podiatric surgery in the management of diabetic foot disease. Podiatric surgeons in England currently work in a variety of acute and community settings but increasingly have a role to play in the acute MDT. Podiatric surgeons can offer the MDT advice or treatment where the usual conservative podiatric or medical treatments have failed to heal ulceration or infection.

The epidemic of diabetes shows no sign of easing up and current estimates are that diabetic foot disease costs the NHS in the region of £1bn annually (Kerr, 2017). An estimated 3.8mn people live with diabetes in the UK (Diabetes UK, 2018) and up to 10% will go on to develop a foot ulcer (NICE, 2016). The relentless demand for diabetic foot care and the drive to reduce amputation rates is placing an untenable strain on an already financially stretched national health service. This is evidenced by the most recent National Diabetes Foot Care Audit (England & Wales) with a startling 47% of commissioners admitting that NICE-recommended care structures were not in place, while one in eight were not certain what care they commission (NHS Digital, 2018).

But perhaps there is hope, the current climate of austerity is forcing commissioners and providers alike to consider novel and innovative approaches, while the advent of integrated care providers and integrated care services is beginning to encourage collaboration

across organisational boundaries. Arguably the competitive tendering processes created by the internal market have previously hindered innovation and collaboration across organisations, but the recently published ‘NHS Long Term Plan’ hints at the end of the internal market, which could see commissioners, community and acute providers working together to find solutions for their local population health needs (NHS, 2019). The plan also mentions diabetes and the need for CCGs to reduce variation in care and for hospitals to provide access to multidisciplinary teams (MDT) (NHS, 2019).

This article argues that integrating podiatric surgery services into the acute diabetes MDT may be part of the solution to easing pressure on stretched hospital services. The authors share their experience of utilising podiatric surgery in the management of diabetic foot disease.

What is podiatric surgery?

Podiatric surgery has emerged over the past few decades as an alternative provider of day care foot

surgery in England. The first NHS podiatric surgery service was launched in Herefordshire in the 1980s and there are now over 100 practicing podiatric surgeons across England with around 50 NHS-funded centres. However, with some notable exceptions, podiatric surgery in England has generally concentrated on the management of elective foot disease as opposed to the treatment of the at-risk foot. Yet in the USA, podiatric surgeons are firmly established members of the diabetes MDT (Armstrong et al, 1996). In recent years, podiatric surgeons in England have become more involved in diabetic foot surgery, often applying their biomechanics knowledge and elective skills to minimise amputations and working in community hospitals or clinics generally with rapid access to theatres (College of Podiatry, 2017).

About podiatric surgeons

First and foremost, podiatric surgeons are allied healthcare professionals and podiatrists registered with the Health and Care Professions Council. Postgraduate training is completed over 7–8 years and is provided jointly by the College of Podiatry (professional body), NHS Trusts and universities. Today, podiatric surgeons work in a variety of environments including, Acute Trust orthopaedic directorates, community Trusts, vascular MDTs, diabetes MDTs and the independent sector.

However, the majority still provide routine elective foot surgery in Community Trust settings and most surgery is performed under a local anaesthetic regional nerve block. The scope of practice is the foot and associated structures, while some of the most common conditions treated by podiatric surgeons include hallux valgus, hallux rigidus, digital deformities, Morton's neuroma and metatarsalgia.

The fact that podiatric surgeons start their career as podiatrists should not be over looked. As a result of this foundation in podiatric medicine, they (like all podiatrists) are well grounded in the nuances of foot structure and function, pathomechanics and medicine as it relates to the foot. Surgical training builds on this with further medicine and pathology, diagnostic imaging interpretation, pharmacology and surgical skills. This building block approach

results in a clinician with a highly focused skill set able to diagnose and manage a range of complex foot health needs via both conservative and surgical approaches.

What can podiatric surgeons offer the diabetic foot MDT?

Podiatric surgeons can step in and offer advice or treatment where the usual conservative podiatric or medical treatments have failed, this is true of both diabetic and non-diabetic populations. In the context of the diabetes MDT, the opinion of a podiatric surgeon should be sought where offloading, debridement, footwear and orthotics have failed to achieve a sustained improvement. It would be preferable to include podiatric surgeons at an early stage of discussions as they are often able to offer insight on the timing and prognosis of any later intervention.

Diabetes MDTs will already have clear surgical pathways for severe infection, acute Charcot or critical limb ischaemia and of course those patients are likely going to require urgent input from the acute surgical teams, which often do not include a podiatric surgeon. There are exceptions — Ahmad and colleagues (2018) demonstrated that integrating a podiatric surgeon into a dedicated lower-limb vascular surgery team can have a positive impact on amputation rates. In another example, podiatric surgeons in Buxton lead the development of a foot protection service incorporating surgical intervention, which has avoided at least 38 acute hospital admissions annually (College of Podiatry, 2017). But there are other perhaps less obvious problems a podiatric surgeon may be able to help with.

The Nottingham podiatric surgery experience

MDT clinics often include a cohort of patients who do not heal with the usual care described above, but are not acutely unwell or critically ischaemic and so do not fit the criteria for either an urgent vascular or orthopaedic pathway. Such patients include those with long-term digital ulceration, local infection or MTP joint ulceration. In April 2014, the Nottingham Diabetes and Podiatric Surgery teams set up a pathway to manage some of these patients in

Page points

1. Podiatric surgeons are allied healthcare professionals and podiatrists registered with the Health and Care Professions Council. Postgraduate surgical training is completed over 7–8 years.
2. Podiatric surgeons have a skill set developed to diagnose and manage a range of complex foot health needs via both conservative and surgical approaches. Surgery can often be performed as a day case under local anaesthetic.
3. Podiatric surgeons can offer the multidisciplinary team advice or treatment where the usual conservative measures have failed.

a community based podiatric surgery theatre. Over the first 2 and a half years, 64 patients attended for surgery on 74 occasions (Maher and Bond, 2017). In summary, the most common reasons for referral were digital osteomyelitis, necrosis or ulceration; hallux IP joint ulceration and; metatarsophalangeal joint ulceration. A range of surgical techniques were employed, but interestingly, only 23% were classed as amputation. All patients were treated as a day case under local anaesthetic. Almost 70% of surgical wounds healed without complication, there were seven post-operative infections, but just over 85% of wounds healed in a mean 5.9 weeks and 70% of patients were subsequently discharged from the MDT and were followed up by community podiatry.

Commentary by Dr Carolyn Chee, consultant physician

From the perspective of one of several diabetes foot consultants running a busy diabetes foot service in secondary care, we have vast experience of referring patients to the podiatric surgery team. On average 5,500 new and follow-up patients with diabetic foot ulcers are seen annually in our clinic. We have referred 120 patients for podiatric surgery since 2014; these include patients requiring arthroplasties or minor amputations due to recurrent infected toe ulcers or osteomyelitis and, in particular, those with recurrent foot ulcers where conventional regular podiatric debridement/offloading via casts (non-removable/removable) have proven ineffective. We also refer patients with co-existing peripheral vascular disease with persistent ulcers/infections provided vascular treatment/interventions have been optimised. Other presentations where a referral to podiatric surgery are preferable include toe deformities, such as mallet or claw toes, hallux valgus or in-growing toenails, that are susceptible to risk of ulcers and infections.

Referrals to the podiatric surgeon for cases such as these are favoured over orthopaedic services, particularly if cases require relatively minor intervention and do not require a prolonged length of stay in hospital, provided there are no major patient comorbidities or social/mobility concerns. From a patients' point of view, this increases satisfaction as waiting times to surgery

are reduced (average time of referral to being seen within 1 to 3 weeks) and allays patient anxiety of inpatient stay. Our understanding is not many of our patients are keen for hospital admission or lengths of stays beyond 24 hours unless procedures are to be carried out under general anaesthetic or require intravenous antibiotics.

These make procedures by podiatric surgery ideal and releases pressures on hospital orthopaedic services, NHS hospital bed occupancy and overall improved outcomes and satisfaction of our patients. The only disadvantage albeit a minor one is having procedures deferred at times should there be ongoing infection of the foot preoperatively or if patients circumstances change or become systematically unstable. In any case, these procedures are performed electively so minor delays are often offset by the cost-effectiveness of podiatric surgery.

Patient satisfaction and outcomes are regularly measured and are mainly favourable, thus podiatric surgery in our view is often regarded a beneficial adjunct and contributes to the MDT approach of managing the diabetic foot and prevention of major amputations, particularly with the rising number of patients with diabetes and foot ulcers. There is certainly scope for greater integration between diabetes foot services and podiatric surgery and consideration of increased referrals of our diabetic foot patient population to podiatric surgery.

Commentary by Lisa Metcalf, advanced diabetes podiatrist

The links we have developed with the podiatric surgery unit have benefited several of our patients. Primarily, this has been our patients with neuropathic ulceration due to biomechanical issues that have responded poorly to offloading measures, or those who have re-ulcerated once taken out of cast and provided with orthotic footwear. It can be particularly frustrating for our younger patients who are often working and have coped with the impact of wearing a cast, sometimes for months at a time, to find that their ulcers reoccur or fail to heal. When this is the case, we will always then consider a referral to podiatric surgery. We have had many instances of patients with intractable ulcers of

several years duration having podiatric surgical correction and healing within weeks.

Another group of patients that we commonly refer is those that are keen to have a definitive treatment so that they can get back to normal activities as soon as possible. Patients with ulcers due to toe deformities that wish to remain in commercial footwear have several times chosen to have corrective podiatric surgery, rather than consider bespoke footwear or temporary offloading footwear. Usually, we consider conservative treatments first, but patient choice is a big driver for early referral for surgical intervention. For some patients, the opportunity to remain in 'normal shoes' is very important and podiatric surgery makes this a possibility. From our perspective, we often want to make footwear to fit the patient's foot, but from the patient's view, they often want to make their foot fit their footwear.

The great advantage of working with the podiatric surgery team is how responsive they are. Our patients are usually seen for surgical assessment within a week, with their surgery often following very shortly after, which our patients are often very pleased about. Secondly, the department provide very thorough

aftercare. Because of this, and the excellent communication links we have, patients often do not require appointments at the hospital foot clinic during their postoperative period, as they are so well looked after by the surgical team. The patients tell us they can easily get in contact with the team should they have any concerns or problems, and the podiatric surgery team contact us immediately if our input is required. ■

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