Lower limb complications

Short stay

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Although not novel with the recent emphasis on in-patient diabetes, and in-patient diabetes foot care in particular, the paper by Cichero et al (summarised alongside) is a timely reminder that improving in-patient care for individuals with diabetic foot can be beneficial for the organisation, as well as the individual.

Following the introduction of a podiatric high-risk foot co-ordinator to the diabetic foot team at Great Western Hospital, Swindon, Cichero et al were able to present a reduction in average length of in-patient stay from 33.7 days to 23.3 days (mean difference 10.4 days, 95% confidence interval [CI], 0.0–20.8, *P*=0.05). The authors found no statistically significant difference in the re-admission rate of in-patients between the 10-month pre-pilot period before the co-ordinator joined the team and the 11-month pilot period after they joined: 17.2% (95% CI, 12.2–23.9%) and 15.4% (95% CI, 12.0–19.5%) respectively (*P*=0.82). Curiously though, there were more admissions in the pilot period, but this is not fully explained (in the article).

In-patient costs are usually the largest part of diabetic foot care costs, so significant notional savings can be made by reducing bed-days. The authors estimated that the annual cost saving following the appointment of a new co-ordinator role was around £234 000 for the 2010–2011 year, although at £250 per bed-day this seems like quite a cheap hospital (the hospital where I work estimates £500 per bed-day, for example). In reality, without closing wards and reducing staff costs, most of these savings will not be realised. However, where there are achievable savings in time, reduced bed occupancy producing less "boarding" and overall stress on over-loaded in-patient systems, the intangible "savings" will be as important.

Moving more patients to out-patient care will also help to reduce cross-infection and healthcare-associated infections. The article by Collier et al (summarised on the next page) explored a particular contention of mine. I have been working in diabetic foot care for nearly 25 years, and, despite large numbers and prolonged courses of antibiotics for the majority of people with diabetes and foot ulceration, I rarely see *Clostridium difficile* infections in my patients.

Collier et al estimated the *C. difficile* rate among people with diabetic foot ulcerations as 1.25 cases per 10 000 patient-days of antibiotics, and their follow-up seems robust. This reassuring number does not prompt great joy or even a suggestion that current practice is safe, but I would go further and suggest that, in the main, it is a big step towards reassurance about current practice in most diabetic foot clinics. ■

J Foot Ankle Res

Podiatric high-risk foot co-ordinator role

Readability	✓✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓

1 At the Great Western Hospital, Swindon, a podiatric high-risk foot co-ordinator was employed to the diabetic foot team in the hope that this role would help reduce the length of stay for people with acute diabetic foot episodes, reduce the rate of re-admission and reduce bed costs.

2 Originally, the diabetic foot team comprised a vascular surgeon, an endocrinologist, a podiatric surgeon and a part-time diabetes podiatrist.

3 In August 2010, the podiatric high-risk foot co-ordinator position was filled by a podiatric surgical registrar who had several years' experience of high-risk hospital foot care. The new role was on-call during office hours 5 days a week.

4 A retrospective medical audit was performed to evaluate the differences in length of stay and rate of re-admission between the 11-month pre-pilot period and a 10-month pilot period once the position was filled.

5 Following the introduction of the co-ordinator, the average length of stay reduced from 33.7 days to 23.3 days (*P*=0.05), but there was no difference in re-admission rate between the two study periods (*P*=0.82).

6 The extrapolated annual cost saving following the implementation of the new co-ordinator role was calculated to be £234 000 for 2010–2011.

7 The audit showed that a co-ordinator role may provide cost savings by reducing the length of stay of in-patients by providing the best possible co-ordinated care.

Cichero MJ, Bower VM, Walsh TP, Yates BJ (2013) Reducing length of stay for acute diabetic foot episodes: employing an extended scope of practice podiatric high-risk foot coordinator in an acute foundation trust hospital. *J Foot Ankle Res* **6**: 47

Int J Clin Pract

Clostridium difficile in people with diabetic foot ulcers

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓✓✓

1 *Clostridium difficile* is an anaerobic cytotoxin-producing bacterium that can cause infectious diarrhoea, pseudo-membranous colitis and toxic megacolon.

2 Diabetes is a risk factor for *C. difficile* infection, so the authors investigated the risk of *C. difficile* infection in people with diabetic foot ulcers, as these people receive multiple antimicrobial agents in their treatment (another risk factor for *C. difficile*).

3 Retrospective observational data for diabetes foot ulcers were gathered from the Diabetes/Podiatry Clinic database in NHS Ayrshire and Arran and cross-matched with the NHS Ayrshire and Arran Microbiology database.

4 There were 111 people with diabetes receiving care from the diabetes/podiatry clinic during this time (mean age 59 years, mean duration of diabetes 16 years and mean HbA_{1c} 67 mmol/mol [8.3%]).

5 Antimicrobials were prescribed for 7938 days (mean number of antimicrobial days per individual 71.5 days). There was one case of *C. difficile* infection among the 111 participants giving an incidence of 1.25 cases per 10 000 patient-days of antibiotics, or 1 case per 209 foot ulcers.

6 It was unclear why the incidence of *C. difficile* in people with diabetic foot ulcers was so low. One explanation could be that people with diabetes have a different gut flora to people without diabetes, which might provide protection from antibiotic-induced *C. difficile* overgrowth.

Collier A, McLaren J, Godwin J, Bal A (2014) Is *Clostridium difficile* associated with the '4C' antibiotics? A retrospective observational study in diabetic foot ulcer patients. *Int J Clin Pract* **68**: 628–32

J Am Podiatr Med Assoc

Insole durability

Readability	✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓✓

1 Insoles are used to help prevent diabetic foot ulcers and are often only replaced when foot lesions deteriorate, increasing the risk of ulceration.

2 The authors measured the durability of 60 pairs of insoles from individuals with diabetes and neuropathy over 12 months using an in-shoe pressure measurement device.

3 Pressure measurements were taken at insole issue, 6 months and 12 months.

4 There were significant differences in insole depth at the first metatarsal head and heel seat between issue and 6 months, and issue and 12 months, but not between 6 months and 12 months. Most insole compression occurred in the initial 6 months.

5 An in-shoe pressure measurement system, rather than a visual check by a healthcare professional, is the most efficient way to measure compression.

Paton JS, Stenhouse E, Bruce G, Jones R (2014) A longitudinal investigation into the functional and physical durability of insoles used for the preventive management of neuropathic diabetic feet. *J Am Podiatr Med Assoc* **104**: 50–7

J Am Podiatr Med Assoc

The Amputation Prevention Initiative

Readability	✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓✓

1 The Amputation Prevention Initiative seeks to study the methods that can be implemented to reduce the number of non-traumatic lower-extremity amputations (LEAs) from diabetes.

2 US hospital billing and discharge data were analysed and GPs were surveyed to investigate the standard, routine diabetic foot examination.

3 The age-adjusted rate of hospitalisations for LEA in people with diabetes was estimated to be 30.8/100 000 residents of Massachusetts, USA.

4 Men and black individuals were at a higher risk of LEAs.

5 Only 2.01% of GPs surveyed reported routinely conducting all components of the diabetic foot examination, and 28.86% reported not performing any.

6 These findings suggest that many GPs are failing to perform the major components of the diabetic foot examination.

Cook EA, Cook JJ, Labre MP et al (2014) The amputation prevention initiative. *J Am Podiatr Med Assoc* **104**: 1–10

J Am Podiatr Med Assoc

Shoe size change over time

Readability	✓✓✓✓
Applicability to practice	✓✓✓✓
WOW! Factor	✓✓✓

1 Ill-fitting shoes are known to precipitate diabetes-related amputations and foot ulcers; therefore, the authors surveyed 200 male US veterans to evaluate the change in shoe size over time to measure the prevalence and extent of improperly sized shoe wear.

2 Participants had to be able to recall their weight and shoe size at induction into military service and had their current shoe size measured.

3 In total, 48% of participants had a ≥1 shoe size change in foot length since skeletal maturity; 39% of these did not notice the change in shoe size over time. Those most affected by increased shoe size experienced the greatest weight gain in adulthood, which attributed to foot splaying.

4 This study highlights the importance of regularly checking foot wear in people with diabetes at high-risk of diabetic foot.

Connolly JE, Wrobel JS (2014) Recognizing the prevalence of changing adult foot size. *J Am Podiatr Med Assoc* **104**: 118–22

"The audit showed that a podiatric high-risk foot co-ordinator position within the diabetic foot team may provide cost savings by reducing the length of stay of in-patients."