

Is the diabetic foot getting enough attention in postgraduate medical and surgical curricula?

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Article points

1. The septic, ischaemic or neuropathic foot accounts for more hospital admissions than any other long-term complication of diabetes mellitus.
2. The multidisciplinary team should be educated to diagnose early signs and symptoms to reduce harm.
3. Disappointingly, the diabetic foot receives little attention in UK postgraduate medical and surgical curricula. There is an opportunity to enable common aims for the curricula to raise the profile of the patient who has diabetes and foot problems.

Key words

- Diabetic foot
- Education
- Post graduate training

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Introduction: Diabetes is on the rise and the foot complication is associated with significant morbidity and mortality. The aim of this study was to assess the importance of diabetes and its complications in UK postgraduate medical curricula. **Methods:** The number of times the term 'diabetes' was used in foundation training (FP), core medical (CMT), core surgical (CST) GP, vascular surgery (VS), emergency medicine (EM) and endocrinology curricula were collated, as well as specific management of the foot complication. **Results:** The term 'diabetes' was not specifically mentioned in FP curriculum. It appears three times in CST and 16 times in CMT curricula. The term was used 6, 12, 115 and 200 times in EM, VS, GP and endocrinology curriculum, respectively. The management of the foot complication was only detailed in the VS and endocrinology curricula. **Conclusion:** A FP, CST, early year ED or CMT trainee may complete training without understanding the presentation, urgency or treatment of this debilitating disease process. This is a major gap in the knowledge of the medical workforce that will initially see these patients. Therefore, more should be done in order to improve the knowledge of this condition, which may include introduction of mandatory work-based assessments.

The patient with a foot complication is an emerging medical, economic and social concern, yet seems to be frequently forgotten about in postgraduate medical education. In 2017, it was estimated that 6% of the UK population (3.7 million people) are living with diagnosed and undiagnosed diabetes mellitus, of which 90% have type 2 (Diabetes.co.uk, 2019). As the obesity epidemic continues to threaten Western society, the prevalence and socioeconomical burden of diabetes is expected to soar.

An infected, ulcerated or ischaemic episode associated with a patient with diabetes accounts for more UK hospital admissions than any other long-term complication of diabetes. With the lifetime risk of developing a diabetic foot ulcer approaching 15% (Shearman and Nandita, 2013; NICE, 2015) and costing the NHS £935mn per year (Kerr, 2017), the multidisciplinary team have a responsibility for improving patient education to tackle this growing public health concern. One can argue that this duty

can only be fulfilled if the importance of this medical complication, its prevention and the need for early treatment is emphasised in postgraduate medical and surgical curriculums.

This article explores the current postgraduate curricula in the UK and the modules aligned to the care of the foot complication in a patient with diabetes.

UK medical career progress

Trainees graduating from medical schools are employed in 2-year foundation programmes that encompass most specialities, but normally contain a 4-month placement in medicine, surgery, and often a placement in emergency medicine and community medicine (Figure 1). Trainees then choose to undertake speciality training. This maybe via a core programme that is a 2-year placement within the speciality, followed by further higher speciality training. The exception to this training pathway is general practice, which is currently a 3-year programme.

Foundation training curriculum

It is often felt that foundation year 1 and 2 trainees have the most patient contact on the hospital wards. Such frequent interaction is an opportunity to screen patients for all long-term complications of diabetes. The access to an in-house multidisciplinary team of podiatrists, diabetologists and surgeons allows for a patient care plan to be created, which can be transferred to the community to maintain continuity of care so as to prevent deterioration upon discharge. This is only possible if foundation year trainees are taught about diabetic foot care.

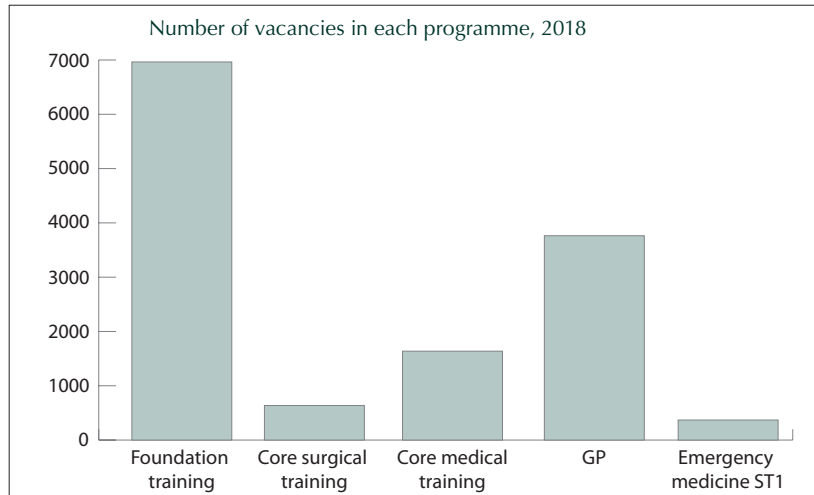
At present, the diabetic foot does not specifically feature in the UK Foundation Training Programme Curriculum 2016 (NHS Health Education England, 2016). The document is 125 pages long and encompasses other acute and chronic disease processes. The term ‘diabetes’ is not mentioned once (Table 1). It relies upon clinical supervisors to be opportunistic and use supervised work-based assessments to introduce an awareness and understanding of preventative and therapeutic measures for the diabetic foot.

Core medical training

Core medical trainees are expected to manage patients with diabetes and any subsequent long-term sequelae. The current curriculum does contain a section on diabetes mellitus and trainees are expected to have completed assessments, such as case base discussions (CBDs), in order to demonstrate their competencies, however, no specific mention has been made to diabetic foot ulcers or the complex management of diabetic ischaemia, sepsis and neuropathy (Joint Royal Colleges of Physicians Training Board, 2013). It is, therefore, possible that trainees may progress to higher medical training without gaining sufficient knowledge to manage diabetic foot ulcers.

Core surgical training

Similarly, even though there is some mention of diabetes mellitus in the CST curriculum in regards to its perioperative management, no specific mention has been made to diabetic foot ulcers (Intercollegiate Surgical Curriculum Programme, 2017). This is concerning as some of these trainees will progress to vascular surgery and will have a pivotal role in managing such patients with limited knowledge and surgical skills.



Emergency medicine

It is crucial for emergency medicine (EM) doctors who work at the frontiers of any hospital to pick up signs of early diabetic foot disease for prompt and early management of this condition. However, the current EM curriculum does not mention diabetic foot disease or even management of long-term complications of diabetes (The Royal College of Emergency Medicine, 2015). This is of major concern as patients with diabetes who attend accident and emergency (A&E) may not be assessed fully for signs diabetic foot disease.

Diabetes and endocrine specialty curriculum

Unsurprisingly, diabetic foot care is covered in considerable detail in the Diabetes and Endocrine for Specialty Training Curriculum (Joint Royal Colleges of Physicians Training Board, 2017). Strongly emphasised in the curriculum is a multidisciplinary

Figure 1. Number of vacancies in each programme, 2018 (Health Education England, 2018).

Page points

1. There is a lack of attention paid to diabetes in foundation training curriculum.
2. The diabetic foot requires more attention in postgraduate curriculums.
3. Junior doctors will need to be able to identify and protect the diabetic foot.

Table 1. demonstrating number of term ‘diabetes’ used in different curriculums.	
Curriculum	Term ‘diabetes’ used
Foundation training	0
Core surgical training	3
Emergency medicine	6
Vascular surgery	12
Core medical training	16
GP	115
Endocrinology and diabetes	200

team approach. Trainees are expected to gain an understanding of the pathogenesis of foot ulcers, investigations for vascular insufficiency and neuropathy, and appreciate the need for patient education and a timely referral to podiatrists and vascular surgeons.

Vascular surgery curriculum

By the time a patient is referred to a vascular surgeon, it is often too late. The saying 'prevention is better than cure' is very true for the diabetic foot. The Intercollegiate Surgical Curriculum Programme Syllabus (2018) explores the vascular complications of diabetes. Trainees as early as from the intermediate stage of their training (ST3 and ST4) are expected to gain competency in diabetic foot care, patient education, surgical debridement and amputations (both elective and emergency), wound care and revascularisation procedures. Regular work-based assessments again play a pivotal role in ensuring satisfactory knowledge and skills have been acquired.

General practice curriculum

Lastly is the general practice curriculum. The management of chronic diseases, such as diabetes, has evolved to a primary care focussed approach (Rushforth et al, 2016). Instrumental to this, is the introduction of the Quality and Outcomes Framework (QOF) scheme (Latham and Marshall, 2015). Further pressure is likely to be placed on general practitioners (GPs) in the future. The expectation then is that GPs become proficient in the initial management of diabetes and its complications. One of the 12 core areas of the 'Care of People with Metabolic Diseases' component of the Royal College of General Practice Curriculum is understanding the role of good diabetic care and when to refer for specialist care (The Royal College of General Practitioner, 2016). While not directly focussed on foot care, it at least introduces the topic.

Once a trainee progresses onto this curriculum they have been a doctor and delivered patient care for at least 4 years. Opportunities may have been missed prior to specialty training of identifying at risk feet and working with the multidisciplinary team to delay the development of ulcers, sepsis and amputations (both major and minor). Admittedly, trainees specialising in diabetes and endocrine are more frequently exposed to this patient cohort than

any other hospital specialities and, therefore, it bears more relevance to them. However, preventative medicine is everyone's responsibility. Knowledge of the components of good diabetic foot care and indications for podiatry or surgical involvement can be the difference between saving and losing a digit, limb or life.

Conclusion

The increasing global threat of diabetes mellitus is widely recognised. Diabetic foot disease is associated with significant morbidity and mortality, as well as financial implications to both the individual and society. Following a diabetic amputation, the 5-year mortality is frighteningly high, estimated at 70% (NICE, 2018). As a medical profession, more must be done to educate ourselves first, in order to educate patients and, ultimately, protect the diabetic foot. ■

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