

Using a team approach to set up a diabetic foot referral pathway

The Diabetic Foot is delighted to announce the winning entry to the '2nd Innovation Through Collaboration Award', organised through the journal and sponsored by Janssen-Cilag Ltd.

Written by Emma Holland, DSN, Robert Bradbury, Clinical Specialist Podiatrist (Diabetes), and Darryl Meeking, Consultant Diabetologist, from Queen Alexandra Hospital in Portsmouth, the winning entry demonstrates how improved collaboration and communication between



Emma Holland accepts the 2nd Innovation Through Collaboration Award from Mark Inker, representing Janssen-Cilag Ltd, sponsors of the Award, and Alistair McInnes, Editor of The Diabetic Foot.

multidisciplinary team members has resulted in the development of a referral pathway that can be used for people with diabetic foot disease.

The article below describes the development of a foot assessment tool and the referral pathway, which are now used as part of the diabetes guidelines and standards in the authors' health district.

The winning authors receive a £1000 grant for attendance at conferences of their choice next year.

ARTICLE POINTS

1 Patients benefit from increased communication between specialists.

2 Regular multidisciplinary meetings are essential to maintain standards.

3 Improvements in foot care can occur without additional resources.

4 Collaboration and motivation among staff are the two essential requirements.

KEY WORDS

- Diabetic foot disease
- Referral pathway
- Collaboration
- Communication

Introduction

After a period of clinical observation and clinical audit within a diabetes service in southern England, it was decided to attempt to improve the management and outcome of diabetic foot disease, particularly diabetic foot ulceration. A multidisciplinary group was set up for this purpose and one of its first decisions was to establish a referral pathway. Regular group meetings have enhanced communication and collaboration between different disciplines, and helped to disseminate knowledge. The effectiveness of the referral pathway will be assessed in a future audit.

The population of Portsmouth and South East Hampshire health district is 532430 (IHSM, 1999) and there are at least 12000 people known to have diabetes. Screening and referral of people with, or at risk of, diabetic foot ulceration (DFU) are dependent upon effective primary care, but more importantly

the interface between local primary and secondary care.

Identifying the at-risk foot

People at risk of foot disease are identified by healthcare professionals in primary and secondary care using the Baseline Foot Assessment Tool (Figure 1). The tool was introduced 18 months ago after four years of multi-agency development. It was developed to:

- Increase awareness of the importance of diabetic foot disease at primary care level.
- Help primary care workers to identify people at a particularly high risk of diabetic foot problems.
- Try to reduce the incidence of DFU and the amputation rate.
- Standardise the assessment of diabetic feet across the district in both primary and secondary care.

All issues on the Baseline Foot Assessment Tool are key to the identification of complication risk. Weightings, corresponding to severity of risk, were developed by a combination of podiatric experience and evidence of known risk

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factors predisposing to diabetic foot problems, e.g. high foot pressures, callus, abnormal foot shape, prayer sign and loss of muscle tone and joint movement (Halar et al, 1987; Boulton et al, 1994; Olmos et al, 1995; Knowles et al, 1996; Klenerman et al,

1996). This tool is currently being audited to assess its effectiveness at detecting patients with at-risk feet.

Those with a high at-risk foot score (>25) undergo full assessment by an 'advanced' podiatrist (i.e. one who has

Does the patient:	Yes	Yes, but...	No, but...	No	SCORE
1... generally have normal blood sugar levels?	0	2	2	5	
2...suffer any complications with eyes and/or kidneys	5	3	2	0	
3...have any unusual feelings in the leg or feet	5	0	0	0	
	Yes	Yes, but smokes	No	No, and smokes	SCORE
4...walk a fair distance easily? (over 200m up slight incline) ...smoke?	0	5	10	15	
Look for:	Yes		No		SCORE
1 Ulcer	10		0		
2 Cracks between toes and/or corns or calluses	5		0		
3 Abnormal nails	5		0		
4 Abnormal walking style and/or abnormal foot/toe shape	5		0		
5 Overweight (hip to waist ratio<1)	5		0		
6 Prayer sign	5		0		
More than two opposed fingers do not touch=Yes					
Feel for:	Yes	Yes, but...	No, but...	No	SCORE
1 Pulses — at least one palpable on each foot Yes, but... — e.g. only one, weak, No, but... — e.g. oedema	0	5	15	15	
2 Able to feel 10g monofilament (protective sensation) Yes, but... — e.g. hypersensitive/unreliable patient No, but... — e.g. in a small area only	0	5	5	10	
If the total score exceeds 25:					
Please refer the patient to the Podiatry department with the yellow copy of this form. If you have a gut feeling that a low score is wrong, please refer anyway.					
Surname:		Forename:		Date of birth:	
Postcode:		Street number:		NHS Number:	
Registered GP		Insulin dependent			
Surgery name		Insulin requiring			
Year of diagnosis		Non insulin dependent			

Figure 1. The Baseline Foot Assessment Tool for identifying people at risk of foot disease.

PAGE POINTS

1 Lack of an appropriate referral pathway was delaying surgical foot care.

2 A multidisciplinary group of professionals caring for diabetic feet was established.

3 Regular meetings have become an opportunity to share and disseminate knowledge.

4 There is now a clear pathway which allows easy and appropriate access to the required speciality.

5 A fast-track system is in place for patients potentially requiring hospitalisation.

completed a locally recognised diabetes course), who identifies and manages specific risk factors and is able to refer on to other specialists.

A second-level Foot Risk Assessment Tool (FRAT) is currently being developed and should shortly be in use for the advanced podiatrist to assist in the identification of the risk factors involved.

The problem faced

Our most pressing issue is to ensure that active foot disease is optimally managed.

A retrospective audit of hospital in-patients undergoing limb amputation revealed that patients had been channelled through a range of hospital specialists in a haphazard manner before surgery. It is now well established that debridement of non-healing infected foot ulcers and use of revascularisation procedures where appropriate are important (Collier and Brodbeck, 1993).

Our concern for patients was that the lack of a referral pathway was delaying surgical footcare, principally debridement and revascularisation. This emerged during the one-year period of informal clinical observation undertaken by the diabetes team.

Our approach to a solution

We therefore set out to establish a multidisciplinary group concerned with diabetic foot care to improve communication between healthcare professionals and to establish a structured and integrated care pathway using existing resources.

The team

The multidisciplinary diabetic foot care group included a range of specialists caring for the diabetic foot, including:

- Acute medical physicians
- Advanced podiatrists
- DSN
- Diabetologists
- District nurses
- Orthotists
- Tissue viability nurses
- Vascular surgeons.

The general aims of the group were to:

- Highlight the problems and barriers to achieving optimal service within primary and secondary care

- Develop a forum within primary and secondary care for distributing knowledge.
- Establish clinical links and access across specialities.

Referral pathway development

The major conclusion from the first meeting (held in May 1999) was that we should establish a referral pathway for patients with diabetic foot disease, encompassing both primary and secondary care. The pathway was to act as a guideline to primary care and give direction on accessing these available specialities for further treatment. The pathway also aimed to streamline the use of available resources, thereby utilising them more effectively.

The referral pathway was disseminated, discussed and agreed with admitting bed bureau staff; acute medical and surgical staff; general and care of the elderly physicians. The referral pathway (Figure 2) is not yet intended to be a care pathway but the need for a holistic approach to patient care was recognised. Hence, the DSN developed the first draft of the discharge guidelines, which are being further developed in ongoing meetings with the trust discharge planning team. The referral pathway has now been in place within secondary care for nine months and forms part of the district-wide diabetes care guidelines and standards.

Benefits of group meetings

Group meetings have taken place every two months since inauguration. Other issues addressed in our group meetings have included the development of guidelines for the use of antibiotics in DFU and post-operative orthotic care.

The regular meetings have become an opportunity to share and disseminate knowledge to others concerned with reducing the impact of diabetic foot disease. They have also helped us to establish a multiprofessional diabetic foot service with existing resources to help care for patients more effectively.

Communication is the key

Patients have benefited from increased communication between specialists, particularly within secondary care. There is now a clear pathway which allows for

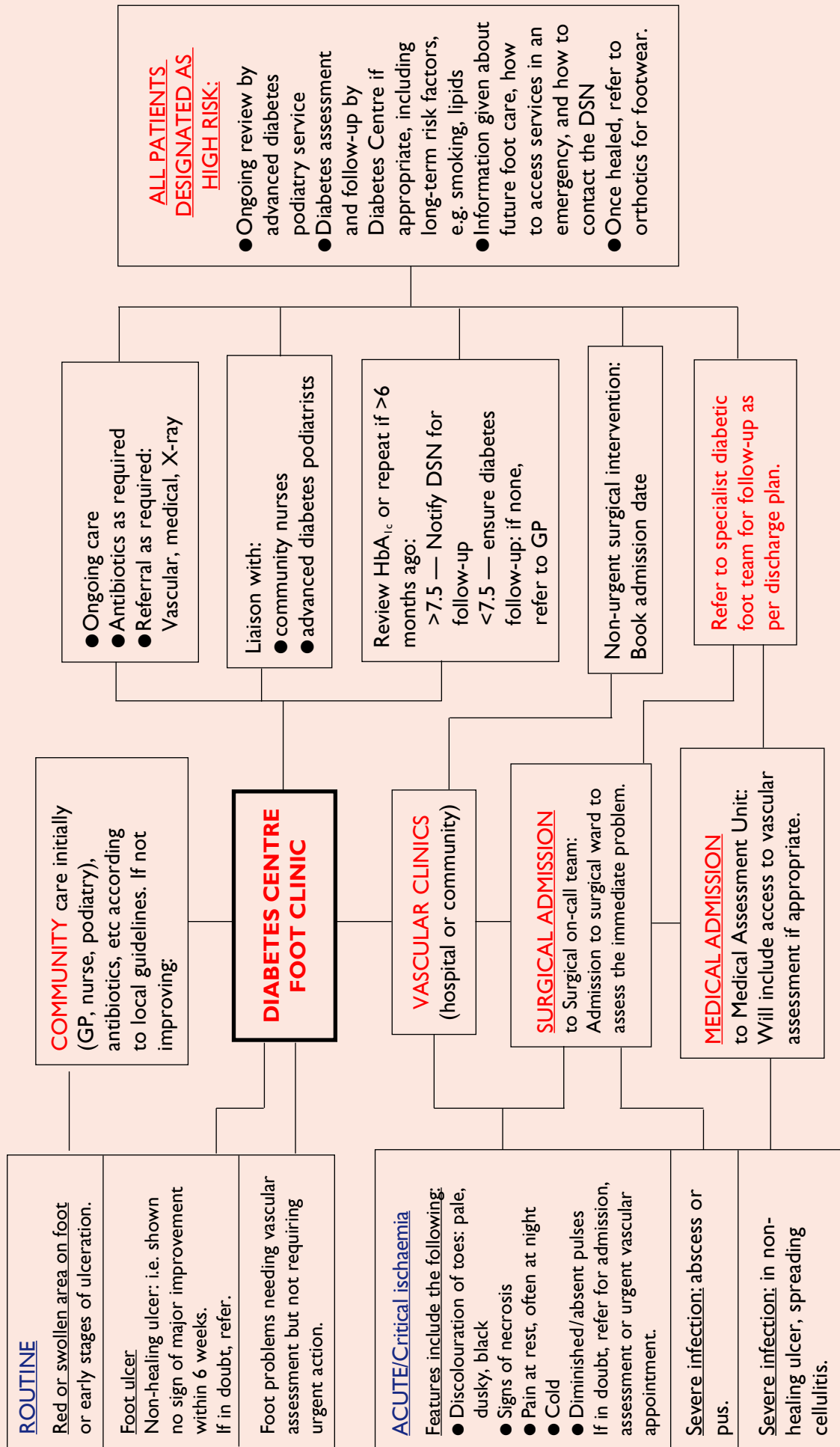
Figure 2. Referral pathway for diabetic foot problems

ADDITIONAL NEEDS

ACUTE CARE & REFERRAL NEEDS

INITIAL REFERRAL ROUTE

REFERRAL GUIDELINES



PAGE POINTS

1 Collaboration between specialities in the acute setting has been dramatically improved.

2 It is envisaged that the future audit will support the need for more 'advanced' podiatrists in primary and secondary care.

easy and appropriate access to the required speciality, whether it is vascular, medical, nursing or podiatric.

Within the pathway, a fast-track system was also developed for patients requiring immediate assessment. Rather than languishing on a range of wards, these patients receive medical and early surgical review. Subsequently, a nurse specialist and podiatrist are also informed. Collaboration between specialities in the acute setting has been dramatically improved.

Patients with acute foot problems admitted to vascular surgical wards are now followed up in a joint nursing/podiatry foot clinic for continued review of glycaemic control, encouragement for good footcare/footwear practice, referral to appropriate specialists for pressure relief, orthotic review or re-admission. This follow-up consultation has enabled easier self-referral for patients who are developing or have existing DFU.

Implications on workload

As yet, we are unable to show that our referral system has led to a significant reduction in amputation rate, but this will be the focus of a future audit. It has become apparent that we are now seeing far more cases of acute diabetic foot disease. This is likely to be due to the improved identification process.

It is recognised that an increased detection rate may have implications on workload. However, we anticipate that earlier detection of diabetic foot disease and earlier access of the appropriate speciality via the fast-track system will lead to shorter in-patient stays and more effective use of resources.

Identification of any rise in the incidence of foot disease should allow us to develop a more appropriate business case to attract additional necessary resources. Any increased resource will be used to support our need for increased podiatric manpower since this is a current limitation (at present we have the equivalent of two days allocated per week for podiatry care within the secondary diabetes service).

Everyone can make a difference

The improvement of our footcare service has primarily been due to improved collaboration and communication between specialities. Addressing footcare issues directly has improved motivation among specialists. Listening to and respecting one another's views has helped extend knowledge and build team cohesiveness. Old barriers have been broken down and grievances have been forgotten. There has been an obvious desire among all contributing healthcare professionals to reduce the impact of diabetic foot disease.

From our experience, it would appear that collaboration and motivation are the two essential requirements for reducing the impact of foot disease in diabetes and that motivation can be infectious. We have also shown that given these requirements, improvements can be made when no additional resources are forthcoming. Our regular multidisciplinary meetings have become an opportunity to share and improve knowledge, skills and experience. We believe that they should be an integral part of services delivering diabetic foot care.

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