



# Diabetic Foot Problems: Inpatient Management

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## INTRODUCTION

Diabetes is one of the United Kingdom's most common chronic diseases affecting 6% of the population which corresponds to 3.2 million people, with this figure set to rise. In addition, this increased prevalence will have implications upon the costs to the NHS, with the NHS forecast to spend 17% of its entire budget (rising from 10%) by 2035. Diabetic foot problems are a common complication due to ischaemia and peripheral neuropathy, resulting in disability and further increasing the burden on the NHS. There is no continuity of care across the UK for diabetic foot problems. The reason for this is a combination of differences in trust policies and location factors. To counter this, NICE have produced clinical guidance (CG119) on the inpatient care of diabetic foot problems.

## METHODS

This audit consisted of an initial review of the relevant NICE guidelines and then a retrospective review of patients presenting with diabetic foot problems in inpatient care at QEHB. We looked at patients who presented in the last year with diabetes mellitus, and either diabetic foot ulcers, infections, cellulitis or osteomyelitis of the toes/feet.

This search criteria returned 81 patient notes. We then screened these notes for suitability for the audit. A significant proportion of notes had to be excluded due to incorrect coding, missing notes or incorrect pathology in the foot (figure 1).

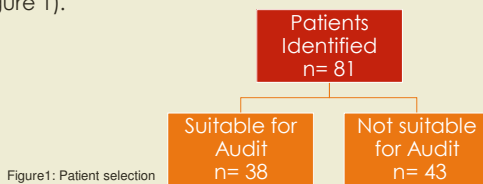


Figure 1: Patient selection

A data collection tool based on the NICE guidelines was designed and utilised to collect the relevant data. 77 different variables were looked at and data collected for, corresponding to the guidance set out by NICE regarding inpatient foot care.

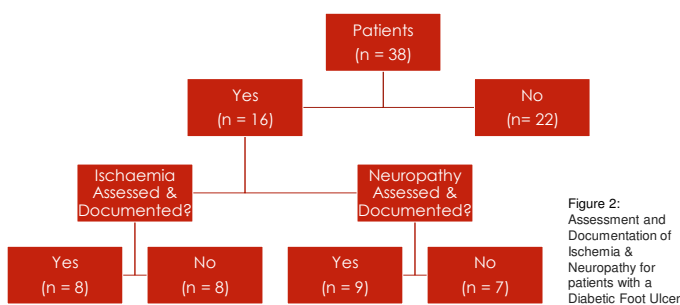


Figure 2: Assessment and Documentation of Ischaemia & Neuropathy for patients with a Diabetic Foot Ulcer

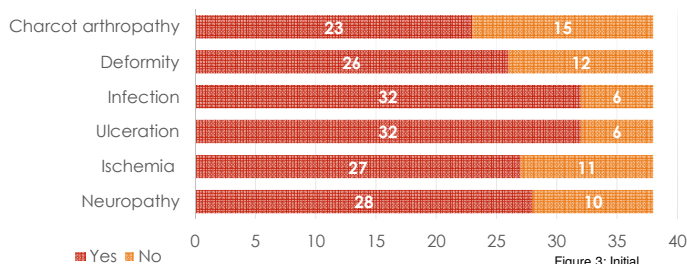


Figure 3: Initial Examination of Feet

## References:

- Diabetes: facts and stats (2014), How common is diabetes. <https://www.diabetes.org.uk/Documents/About%20Us/Statistics/Diabetes-key-stats-guidelines-April2014.pdf> (cited on 18th February 2015)
- Diabetic Foot Problems: Inpatient Management of Diabetic Foot Problems. NICE Clinical Guideline 119 [Internet]. 2011 [cited 2015 March 16]. Available from URL: <https://www.nice.org.uk/guidance/cg119/resources/cg119-diabetic-foot-problems-inpatient-management-full-guideline3>, (cited on 18th February 2015)

## RESULTS

- 74% (n=28) of patients were referred to the multidisciplinary foot care team within 24 hours of the initial examination (Figure 4).
- 66% (n=25) of patients had a diabetic foot problem as their dominant problem. 76% (n=19) of these patients were transferred to a consultant member of MDT (Figure 5).
- In patients with a diabetic foot ulcer (n=16), 50% (n=8) were assessed for ischaemia and 56% (n=9) for neuropathy (Figure 2).
- There was no named contact throughout the inpatient care pathway for all patients.
- 16% (n=6) of patients went through the admission unit without the examination of their feet (Figure 3). Deformity and Charcot's Arthropathy were least examined
- 34% (n=13) of patients had osteomyelitis, 12 of which had an X-ray of the foot. 3 of these patients also had an MRI.
- 56% (n=9) of patients with a diabetic foot ulcer had debridement.
- 55% (n=21) of patients had a vascular assessment, with 11 patients having further investigations (including doppler, angiogram, angioplasty, CTA, therapeutic enoxaparin).
- 95%, 100% and 97% of patients had their diabetes, CKD and anaemia, assessed respectively.

Referral to MDT within 24 hours of Initial Examination

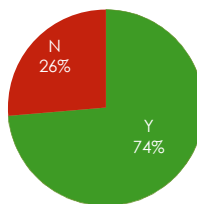


Figure 4

% of care transferred to a consultant member of the MDT in patients with a diabetic foot problem

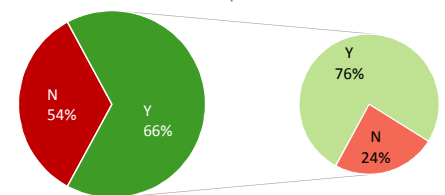


Figure 5

## CONCLUSION

- Radiology was used in 92% of suspected osteomyelitis cases, with subsequent MRI being used in 25% of these patients, saving the cost of 9 MRIs, coming to a total saving of £5859.
- Examination of the foot with respect to neuropathy and ischemia was under-assessed and under-documented in patients with a diabetic foot ulcer.
- In general, documentation of examinations done and subsequent findings was poor. Vast improvements are needed by training the junior clerking doctors
- QEHB was NICE non-compliant with regards to a named contact throughout the inpatient stay. An inpatient podiatrist would greatly improve the standard of diabetic foot healthcare.
- QEHB was close to meeting NICE recommendations in assessment of diabetes, anaemia, sepsis and pain. Also, a review of initial management and infection treatment was of a high standard.
- NICE guidelines were met for the assessment and use of pressure relieving surfaces, discharge planning, access to physiotherapy and the assessment of CKD.

## LIMITATIONS

- Small patient population due to exclusion criteria and incomplete notes
- Poor documentation of notes regarding foot examination.

## PLAN OF ACTION

- Present our findings at the diabetes departmental meeting to show how the department's performance relates to the NICE guidelines.
  - Highlight the need for an inpatient podiatrist
  - Improvements in documentation of foot examination
  - Increase in foot examination when clerked in.
- Recommend the use of a foot examination template at initial examination.
- Present the audit at Diabetes UK Annual Professional conference.
- Re-audit in 1 year to assess for improvement.