

# Audit of Foot Clinic Antibiotic Protocol: Rationalised Antibiotic Prescribing and No Additional Cost

C Sieber, C Gooday, K Dhatariya, J Turner

Diabetic Foot Clinic, Elsie Bertram Diabetes Centre, Norfolk and Norwich University Hospital NHS Foundation Trust, Norwich, UK

**Background:** At the Diabetic Foot Study Group meeting in Bled in 2009 we presented our antibiotic guideline for the empirical management of diabetes related foot infections (Fig 1). These were implemented in January 2009, and initial findings suggest that we have rationalised yet broadened the scope of outpatient prescribing options<sup>1</sup>.

	FIRST CHOICE		PENICILLIN ALLERGY		DURATION
	PARTIAL OR FULL THICKNESS	EXTENDING TO UNDERLYING SOFT TISSUE/ BONE	PARTIAL OR FULL THICKNESS	EXTENDING TO UNDERLYING SOFT TISSUE/ BONE	
SEVERE	Co-amoxiclav 625mg TDS	Co-amoxiclav 625mg TDS	Clarithromycin 500mgs BD	Clarithromycin 500mgs BD Metronidazole 400mgs TDS	1-2 weeks
Moderate	Co-amoxiclav 625mgs TDS	Co-amoxiclav 625mgs TDS +/- Ciprofloxacin 500mgs BD	Clindamycin 150mg-300mg QDS	Clindamycin 150mg-300mg QDS +/- Ciprofloxacin 500mgs BD	2-4 weeks
Mild to Moderate	Ceftriaxone 1-2g OD IM Ciprofloxacin 500mgs BD Metronidazole 400mg TDS		Ceftriaxone 1-2g OD IM Ciprofloxacin 500mgs BD Metronidazole 400mg TDS		2-4 weeks
Mild to Moderate	Piperacillin/tazobactam 4.5g TDS IV		Clarithromycin 500mg BD IV Metronidazole 400mg TDS IV Ceftazidime 1-2g TDS IV Substitute with ciprofloxacin 500mg BD in true penicillin allergy.		2-4 weeks

Fig 1: Our guideline for the antibiotic management of diabetes related foot infections in adults

**Objective:** To investigate the economic impact of the introduction of this new protocol.

**Methods:** A retrospective analysis of case notes of all the patients who attended our tertiary diabetic foot clinic with a new episode of a diabetes related foot infection was carried out between March 2009 and October 2010. We excluded patients for whom antibiotics had been prescribed based on microbiological investigations (e.g. swabs), or patients requiring parenteral antibiotics. We recorded the date of presentation to our clinic, the degree of infection, and the empirical antibiotic regime prescribed. We then compared the number, range and cost of antibiotic regimens prescribed before and after our guideline was introduced, assuming British National Formulary 2010 pricing for a three week course of treatment.

**Results:** 288 case notes were available for analysis. Of these, 144 patients (50%) were included because they either did not have a diabetes related foot infection or they were not prescribed oral antibiotics empirically. The clinical indications for empirical antibiotic prescribing of the patients included in the study (n=144) is shown in Fig 2. 80 patients were treated empirically after the introduction of the protocol, and these patients were prescribed eight different antibiotic regimens (Fig 4).

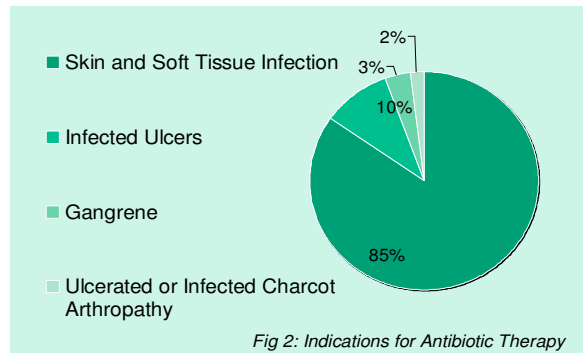


Fig 2: Indications for Antibiotic Therapy

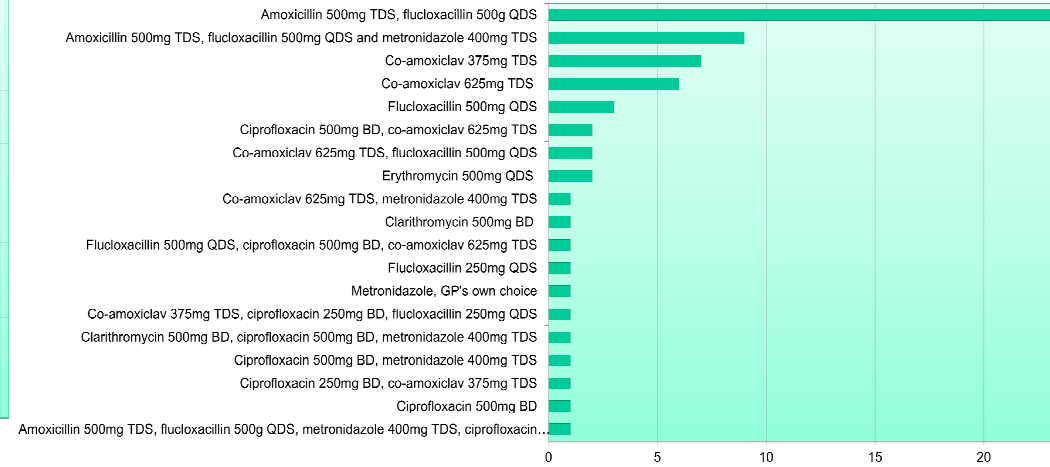


Fig 3: Type and frequency of antimicrobial regimens prior to the introduction of our rationalised protocol

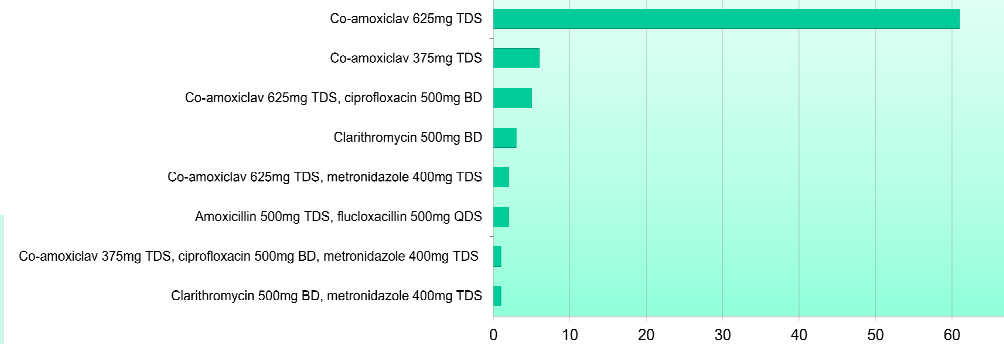


Fig 4: Type and frequency of antimicrobial regimens after the introduction of our rationalised protocol

- The total cost of prescribing before protocol introduction was £1,095.73 (£17.12 per patient).
- Since January 2009 the total cost was £1,317.51 (£16.47 per patient).

**Discussion:** By introducing this antibiotic protocol we have rationalised the prescribing of antibiotics in our diabetic foot clinic with **no** additional drug cost. This is despite a significant increase in use of co-amoxiclav which has a relatively high purchase cost. We have also simplified regimens in the expectation of improving compliance.

1. K Dhatariya et al. Development of a rationalised antibiotic protocol for inpatient and outpatient use in a tertiary diabetic foot clinic. *DFSG Oral Abstract P46* (2009).