DIABETIC FOOT INFECTIONS – Empirical Guidelines for Primary and In-Patient Care

See supporting evidence - this guidance is for initial treatment only and should be modified in the light of culture and sensitivities.

INFECTION	LIKELY PATHOGENS	FIRST-CHOICE AGENT in Antibiotic naïve patients	SECOND-CHOICEs AGENT(S) – if significant penicillin allergy, or treated with first agent in the last 3 months	DURATION
MILD INFECTIONS	*S. aureus* Streptococci	FLUCLOXACILLIN oral, 500mg to 1g every 6 hours	CLARITHROMYCIN oral, 500mg every 12 hours **Or** DOXYCYCLINE 100mg every 12 hours	7 days
MODERATE INFECTION (Discuss with Microbiologist if deep tissue abscess or gangrene or spreading infection)	*S. aureus* Streptococci Enterobacteriaceae Anaerobes	CO-AMOXICLAV oral (625mg every 8 hours) or IV (1.2g iv tds) every 8 hours **Note:** Consider IV antibiotics and surgical opinion/debridement if spread beneath the superficial fascia, deep-tissue abscess, gangrene and involvement of muscle, tendon, joint or bone or lymphangitis streaking	CLINDAMYCIN oral (or IV) 450mg every 6 hours **Or (if >65 years or risk factors for *C.difficile* diarrhoea)** CO-TRIMOXAZOLE 960mg IV every 12 hours **Note:** (Consider CLINDAMYCIN up to 600mg every 6 hours in obese patients or inadequate response - discuss with Microbiologist)	7 to 10 days
SEVERE INFECTION	*S. aureus* Streptococci Enterobacteriaceae Anaerobes Pseudomonas	FLUCLOXACILLIN 1-2 g IV every 6 hours **Plus** GENTAMICIN 5mg/Kilogram body weight once a day IV (maximum dose 480mg, monitoring required) **Plus** METRONIDAZOLE 500mg IV every 8 hours **Or (if eGFR<60mL/min/1.73m2)** PIPERACILLIN/TAZOBACTAM 4.5g IV every 8 hours	CLINDAMYCIN 600mg oral (or IV) every 8 hours **Plus** GENTAMICIN 5mg/Kilogram body weight once a day IV (maximum dose 480mg, monitoring required) **Or (if >65 years, risk factors for C.difficile diarrhoea, or eGFR<60mL/min/1.73m2)** TIGECYCLINE 50mg IV every 12 hours (loading dose of 100mg) (Discuss with Microbiologist if suspected or previous colonisation with pseudomonas)	Duration depends on clinical condition
OSTEOMYELITIS: Treat as per guideline for mild, moderate and severe foot infection (as above) if immediate treatment is needed (see supporting guidance)				
MRSA INFECTION: Discuss with microbiologist about choice of antibiotic.				

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DIABETIC FOOT INFECTIONS – SUPPORTING GUIDANCE

DEFINITIONS OF INFECTION

MILD INFECTIONS

Presence of ≥ 2 manifestations of inflammation (purulence, erythema, pain, tenderness, warmth or induration):

- Any cellulitis/erythema extends <2cm around the ulcer, and infection is limited to the skin or superficial subcutaneous tissues; no other local complications or systemic Illness

MODERATE INFECTION

Infection (as above) in a patient who is well and metabolically stable but has ≥1 of the following characteristics:

- Cellulitis extending > 2cm
- Spread beneath the superficial fascia, deep-tissue abscess, gangren and involvement of muscle, tendon, joint or bone that may require surgical opinion/debridement
- Lymphangitis streaking

SEVERE INFECTION

Infection in a patient with systemic toxicity or metabolic instability:

- Fever, chills, tachycardia, hypotension, confusion and vomiting
- *Leukocytosis*, acidosis, renal failure, and severe hyperglycaemia

OPTIMISE WOUNDCARE

It is essential to optimise wound management, where necessary by:

- Ensure vascular status satisfactory for healing
- Appropriate wound cleansing and wound product selection/dressing
- Debridement of any callus and necrotic tissue
- Off-loading of pressure
- Provision of made to measure or modular footwear
- Consider surgical opinion

WOUND SAMPLE

- Do NOT swab clean, non-infected ulcers
- Send a soft tissue **biopsy** from the base of the wound (after debridement of superficial debris). If this is not possible, send a **swab** of the ulcer base (after debridement of superficial debris)
- If abscess present, send needle aspiration of pus
- If boney sequestrate, send a bone sample

BASELINE INVESTIGATIONS

- FBC, U&E, LFT, CRP, wound culture, blood culture, X-ray of affected foot.
- MRI (if X-ray –ve for osteomyelitis but clinically suspected).
- Vascular assessment including Doppler assessment, review for angiogram

OSTEOMYELITIS

- **Do not** start antibiotic treatment if systemically well and metabolically stable as it is crucial to obtain bone biopsy samples where appropriate
- **Start antibiotics without delay if: (1) there is a delay in obtaining biopsy (2) systemically unwell or has soft tissue infection**.
- If osteomyelitis is suspected and initial X-ray does not confirm the presence of osteomyelitis, refer to Specialist Diabetic Foot Service. Discuss osteomyelitis cases with a consultant microbiologist.

ADDITIONAL CONSIDERATIONS

- Ensure no CI for antibiotic and dose adjustment per renal function, consult formulary/BNF
- Do **NOT** prescribe antibiotics for clean, non-infected neuropathic ulcers
- If possible obtain Swab/biopsies prior to starting antibiotics
- Avoid Clindamycin in in-patients due to risk of *C.difficile*
- Avoid Co-amoxiclav and Clindamycin if patients previously had *C. difficile*
- Switch to oral antibiotics when indicated
- If no response within 48 hours, or worsening sepsis, discuss with Microbiologist and consider admission for further management (e.g. IV antibiotics/surgical opinion)
- If patient known to be colonised with **MRSA or other resistant organisms** discuss with a microbiologist.

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