**OCCAM INFECTIONS IN A DIABETIC FOOT WOUND**

Not all foot wounds in patients with diabetes are infected. A diabetic foot infection requires the presence of at least 2 signs of local infection, see below

|  |  |
| --- | --- |
| **IDSA Infection Severity\*** | **Clinical Manifestations** |
| Uninfected  | <2 of the signs below |
| Mild | At least 2 of the following: * Local swelling or induration
* Erythema 0.5 to 2cm around the wound
* Local tenderness or pain
* Local warmth
* Purulent discharge

*Exclude other causes of an inflammatory response of the skin (eg, trauma, gout, acute Charcot neuro-osteoarthropathy, fracture, thrombosis, venous stasis).* |
| Moderate | Local infection and erythema > 2cm around the woundLocal infection and involvement of deeper structures (abscess, osteomyelitis, septic arthritis) |
| Severe | Local infection with 2+ SIRS criteria(if concern for Necrotizing infection, see Necrotizing Soft Tissue Infection page) |

\*Guidance does not apply to NSTI, water, bite, trauma related injury/infections

**INITIAL ASSESSMENT:**

Wound must be cleansed prior to assessment:

-Place general wound care order to “Cleanse with soap and water”

-Place nursing communication order “Page provider to coordinate wound exam”

For all patients being admitted for suspected diabetic foot infection, please obtain:

Labs: CBC, BMP, ESR, CRP

Studies: ABI or TBI (toe brachial index)\*\*

 X-Ray affected foot

Perform: Probe wound (test for probe to bone)

Consult wound care

\*\* Wait until cellulitis is treated for 24 hours if too painful to perform initially

**UNINFECTED DIABETIC FOOT INFECTION:**

*<2 of the following: local swelling/induration, erythema, local tenderness/pain, local warmth, purulent discharge* or *alternative cause of inflammation found*

Cultures: Do not obtain cultures of uninfected wounds

ANTIBIOTICS: no antibiotic treatment

See Fast Track Diabetic Ulcer Checklist for expedited discharge (HMC ONLY)

**MILD DIABETIC FOOT INFECTION:**

Micro: usually Gram positives

Cultures: generally not helpful

ANTIBIOTICS:

* cephalexin 500 mg PO QID 5-7 days
* add doxycycline 100 mg PO BID or TMP/SMX 1 DS PO BID if concern for MRSA (prior MRSA infection in the same site OR purulent discharge)
* cephalexin allergy: clindamycin 300 – 450mg PO TID

See Fast Track Diabetic Ulcer Checklist for expedited discharge (HMC ONLY)

**MODERATE DIABETIC FOOT INFECTION:**

**Micro:** Gram Positives, Enterobacteriaceae, +/- anaerobes

**Cultures:** No superficial swabs

Obtain intraoperative cultures of deep tissue OR

Bedside deep culture by Provider/Wound Care NP of cleaned, debrided wound

**SEE OSTEOMYELITIS CONSIDERATIONS (live link to OSTEOMYELITIS CONSIDERATIONS SECTION BELOW)**

**EMPIRIC ANTIBIOTICS:**

* **IF THE PATIENT IS CLINICALLY STABLE WITHOUT SIGNS OR SYMPTOMS OF SYSTEMIC INFECTION, HOLD ANTIBIOTICS UNTIL DEEP CULTURES ARE OBTAINED**
* Once cultures are obtained, oral agents are preferred:
	+ Amoxicillin/clavulanate 875mg/125 mg PO BID
	+ Add doxycycline 100 mg PO BID if concern for MRSA (history or purulence)

 OR (concern for joint or bone involvement)

* + Ceftriaxone 2g IV q24 PLUS
	+ Metronidazole 500 mg IV/PO q8 PLUS
	+ If purulence or history of MRSA: add vancomycin per pharmacy
* De-escalate/tailor antibiotics to culture results. Duration of treatment depends on extent of infection and involvement of deeper tissues.

Consults:

* HMC: Speak to Wound Care team to assess if podiatry consult is warranted
* UWMC Montlake: Call transfer center to consult Podiatry at Northwest for transfer
* UWMC Northwest: Consult Podiatry
* Infectious Diseases Consult if treating for any infection more complicated than an abscess or need for prolonged therapy
* Vascular Surgery Consult if there is significant peripheral artery disease by ABI/TBI

See Fast Track Diabetic Ulcer Checklist for expedited discharge (HMC ONLY) if doing well on oral antibiotics and no need for Podiatry/ID consults

**OSTEOMYELITIS CONSIDERATIONS**

Osteomyelitis should be considered in any DFI with:

* Ulcers that probe to bone or exposed bone present
* X-ray with bony abnormalities consistent with osteomyelitis
* Elevated ESR (>70) without other cause (most commonly concomitant soft tissue, other infection, malignancy, other causes of inflammation)
* Large ulcer > 2cm2
* Non-healing ulcer despite appropriate wound care and off-loading > 6 weeks

**Cultures:** following surgical debridement, a small piece of bone from the proximal margin should be sent for micro and histology. If no surgical debridement can be performed, consider IR guided biopsy

**Imaging:**

* X-ray
* MRI when osteomyelitis is suspected and X-ray is without radiographic findings

**Consults:**

* Infectious Diseases

|  |  |
| --- | --- |
| HMC | Consult General Surgery |
| UWMCMontlake | Consult Podiatry through transfer center at Northwest Campus |
| UWMCNorthwest | Consult Podiatry  |

**SEVERE DIABETIC FOOT INFECTION**

**Micro:** Gram Positives, Enterobacteriaceae, anaerobes. Often polymicrobial.

**Cultures:** Blood cultures prior to antibiotics. No superficial swabs

Obtain intraoperative cultures of deep tissue OR

Bedside deep culture by Provider/Wound Care NP of cleaned, debrided wound

**EMPIRIC ANTIBIOTICS:**

* ceftriaxone 2g IV q24 (substitute cefepime 2g IV Q8 if previous antibiotics in last 30 days) PLUS
* metronidazole 500 mg IV/PO q8 PLUS
* If purulence or history of MRSA: add vancomycin per pharmacy
* If history of MDRO – target treatment to cover prior resistant organisms and/or consult Infectious Diseases
* De-escalate/tailor antibiotics to culture results. Duration of treatment depends on extent of infection and involvement of deeper tissues.

**Consults:**

* If there is concern for NSTI: Consult trauma surgery at HMC

|  |  |
| --- | --- |
| HMC | Consult General Surgery |
| UWMCMontlake | Consult Podiatry through transfer center at Northwest Campus |
| UWMCNorthwest | Consult Podiatry  |

DISCLAIMER:

These recommendations are based on local microbiology, antimicrobial resistance patterns, and national guidelines. They should not replace clinical judgment and may be modified depending on individual patient. Consult pharmacy for renal dosing.

REFERENCES:
Lipsky BA, Berendt AR, Cornia PB, Pile JC, Peters EJ, Armstrong DG, Deery HG, Embil JM, Joseph WS, Karchmer AW, Pinzur MS. 2012 Infectious Diseases Society of America clinical practice guideline for the diagnosis and treatment of diabetic foot infections. Clinical infectious diseases. 2012 Jun 15;54(12):e132-73.