

Version 2023

Practical guidance

for best practice in management
of acute diabetic foot syndrome and
foot ulcer (DFS/DFU)



Diabetic Foot Syndrome (DFS) – First Line Management Guidance according to Risk

Pertinent history assesement (see appendix)

<p>Clinical evaluation: Risk-Stratification</p> <p>→ <i>Signs of Neuropathy?</i> If yes: is acute Charcot Foot / diabetic neuro-osteoarthropathy possible? → follow charcot / offloading guidance and seek expert opinion (Level 2/3 care).</p> <p>→ <i>Is there an ulcer / multiple ulcers?</i> If yes: assess severity according to depth and size (please refer to appendix), management according to risk level and photo doc required</p> <p>→ <i>Suspected Peripheral arterial disease (PAD)?</i> → follow PAD guidance → <i>Signs of Infection / Inflammation?</i> → follow infection guidance</p>		
<p>«SIMPLE» low risk</p>	<p>All of:</p> <ul style="list-style-type: none"> • Superficial wound (grade 1) • No infection • No significant arteriopathy (PAD) • No neuropathy or deformity 	<p>Level 1: Primary care</p>
<p>«COMPLEX» intermediate risk</p>	<p>Any of:</p> <ul style="list-style-type: none"> • Deep wound (≥ grade 2) • Worsening findings or inadequate improvement • Signs of infection • Arteriopathy (PAD) • Neuropathy with deformity • History of ulcer or amputation 	<p>Level 2: Off-site network of DFS Specialists</p>
<p>«EMERGENCY» high risk</p>	<p>Any of:</p> <ul style="list-style-type: none"> • Cellulitis • Gangrene • Systemic infection • Acute limb ischemia • Acute Charcot Foot 	<p>Level 3: On-site interprofes- sional footcare team</p>
<p>Doubt about severity Not confident in evaluation</p>		<p>Refer to Level 2/3</p>

Diabetic Foot Syndrome (DFS) – First Line Management according to Risk

<p>«SIMPLE» low risk</p>	<p>Level 1: Primary care</p> <p>1 A: Pharmacist, medical assistant, podiatrist, nurse, woundcare nurse 1 B: GP</p>	<p>Standard Wound Care possible</p>
<p>«COMPLEX» intermediate risk</p>	<p>Level 2: Off-site network of DFS Specialists</p> <p>family practice medicine, angiology, diabetology, infectiology, interventional radiology, orthopedic footwear technology and shoe service, orthopedic surgery, podiatry HF, wound medicine, vascular surgery & others as needed</p>	<p>Need for structured care plan:</p> <ul style="list-style-type: none"> • Diagnostic workup • Efficient offloading • Appropriate management → Wound care → Arteriopathy (PAD) → Infection
<p>«EMERGENCY» high risk</p>	<p>Level 3: On-site interprofes- sional footcare team</p> <p>On-site interprofessional diabetic foot care team, comprising outpatient and inpatient management</p>	<p>Need for emergency care plan</p> <p>Same as Level 2, plus:</p> <ul style="list-style-type: none"> • Fast-track Revascularization • Orthopedic surgery (if no PAD) • i.v. antibiotics • Strict offloading
<p>Doubt about severity Not confident in evaluation</p>		<p>Refer to Level 2/3</p>

Close follow-up is mandatory at each level (at least weekly)!
 If no improvement is noted on reassessment or **red flags*** occur, the highest level of care (Level 3) must be applied.

* definitions see next pages

Level 1A – DFS Management

Criteria permitting standard care (1 – 2 weeks):

- **Grade 1 ulcer** (see appendix)
- **Duration < 1 week**
- **Not** on pressure exposed location (not on plantar surface)
- **No Neuropathy** (Monofilament = 4/4, Pallesthesia > 4/8)
- **No significant PAD** (= 2 foot pulses perceptible, ABI ≥ 0.9)
- **No Infection** (IDSA* Grade 1)

1. Thorough History and Examination
2. Standard wound care
3. Follow up within 1 week mandatory

- **Signs of local infection without systemic symptoms**
(rubor 0.5 – 2 cm; IDSA 2)
- **Ulcer duration > 1 week, but < 4 weeks**

Level 1 B

- **Past amputations / DFU**
- **Deformity**
- **Suspected PAD** (< 2 foot pulses perceptible, ABI < 0.9)
- **Ulcer duration > 4 weeks**
- **Multiple ulcers**
- **Deep ulcer** (≥ grade 2) **and / or plantar ulcer** (pressure exposed)
- **Worsening findings or inadequate improvement**
(woundsize reduction < 10 %/week)
- (Consider: if Hx of past amputation/severe deformity, chronic charcot; Grade 3 ulcer)

Level 2 (inform Level 1 B)

RED FLAGS

- **Local infection with systemic symptoms or rapid progression** (fever, IDSA 4)
- **Suspected critical ischemia** emergency**
- **Consider if Grade 3 ulcer (see appendix)**
- **Worsening findings or no adequate improvement**
(woundsize reduction < 50 % within 4 weeks)
- **Suspected necrosis** (black wound)
- **Severe deformity needing surgical correction**
- **Suspected Charcot**
- **Acute painful neuropathy**
- **Endstage renal disease (dialysis)**

Level 3 care

Level 1B – DFS Management

Criteria permitting standard care (max 3 – 4 weeks):

- **Grade 1 ulcer** (see appendix)
- Duration < 4 weeks
- **Not** on pressure exposed location (not on plantar surface)
- **No Neuropathy** (Monofilament = 4/4, Pallesthesia > 4/8)
- **No significant PAD** (= 2 foot pulses perceptible, ABI ≥ 0.9)
- **No or localised infection without systemic symptoms** (IDSA* Grade 1 and 2)

1. Thorough History and Examination
2. Standard wound care
3. Targeted and effective Offloading
4. At least weekly follow up mandatory

- **Past amputations / DFU**
- **Deformity**
- **Suspected PAD** (< 2 foot pulses perceptible, ABI < 0.9)
- **Ulcer duration > 4 weeks**
- **Multiple ulcers**
- **Deep ulcer** (≥ grade 2) **and / or plantar ulcer** (pressure exposed)
- **Worsening findings or inadequate improvement**
(woundsize reduction < 10 % / week)
- (Consider: if Hx of past amputation / severe deformity, chronic charcot; Grade 3 ulcer)

Level 2

RED FLAGS

- **Local infection with systemic symptoms or rapid progression** (fever, IDSA 4)
- **Suspected critical ischemia** emergency**
- **Consider if Grade 3 ulcer (see appendix)**
- **Worsening findings or no adequate improvement**
(woundsize reduction < 50 % within 4 weeks)
- **Suspected necrosis** (black wound)
- **Severe deformity needing surgical correction**
- **Suspected Charcot**
- **Acute painful neuropathy**
- **Endstage renal disease (dialysis)**

Level 3 care

* Infectious Diseases Society of America

** ABI <0.5, tcPO2 <25mmHg, toe pressure <30mmHg

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** ABI <0.5, tcPO2 <25mmHg, toe pressure <30mmHg

Level 2 – DFS Management

Criteria suggesting need of structured care plan:

- **Past amputations / DFU**
- **Deformity**
- **≥ Grade 2 ulcer** (see appendix) **and / or plantar ulcer** (pressure exposed)
- **No improvement after 4 weeks under optimal care on Level 1**
- **Signs of moderate infection** (rubor > 2 cm, IDSA* Grade 3)
- **Intervention requiring vascular imaging**

1. Thorough history and examination
2. Standard wound care
3. Targeted and effective Offloading
4. Thorough vascular specialist work up
5. At least weekly follow up mandatory

RED FLAGS

- **Local infection with systemic symptoms or rapid progression** (fever, IDSA 4)
- **Suspected critical ischemia** emergency**
- **Consider if Grade 3 ulcer (see appendix)**
- **Worsening findings or no adequate improvement** (woundsize reduction < 50 % within 4 weeks)
- **Suspected necrosis** (black wound)
- **Severe deformity needing surgical correction**
- **Suspected Charcot**
- **Acute painful neuropathy**
- **Endstage renal disease (dialysis)**

Level 3 care

Appendix Assessing the severity of an ulcer*

→ Grade 1 ulcer:

superficial, full thickness lesion not deeper than dermis (= epidermis to dermis)

→ Grade 2 ulcer:

penetrating to subcutaneous structures, involving fascia, muscle, tendon, joint capsule

→ Grade 3 ulcer:

involving bone / joint

Pertinent History

→ Diabetes:

type, duration, level of control, treatment, complications

→ Co-morbidities:

cardiovasc. disease, incl. PAD revascularization, renal function, visual impairment, smoking history, obesity

→ Ulcer History:

past ulcer, amputations, location, number of ulcers, cause, duration, treatment

→ Social situation:

housing conditions, mobility, support

* Infectious Diseases Society of America

** ABI <0.5, tcPO2 <25mmHg, toe pressure <30mmHg

* based on Armstrong & SAD classification

Lavery LA et al. J Foot Ankle Surg 1996; 35:528-531; Macfarlane RM et al. Diabet Foot 1999; 2:123-131

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Organizations

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Alle Mitglieder von QualiCCare
finden Sie online unter:
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