

Supporting Information

Supplementary material

This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

Appendix to: Lazzarini PA, Raspovic A, Prentice J, et al. Australian evidence-based guidelines for the prevention and management of diabetes-related foot disease: a guideline summary. *Med J Aust* 2023; doi: 10.5694/mja2.52136.

Electronic Appendix

Table of Contents

eTable 1: SINBAD system	. 2
eTable 2: Wound, ischaemia and foot infection system	
eFigure 1: Peripheral artery disease pathways for a person presenting with diabetes	. 4
eFigure 2A: Infection diagnosis pathway for a person with diabetes and suspected foot infection	. 5
eFigure 2B: Infection management pathway for a person with diabetes and suspected foot infection	า6
eFigure 3: Offloading pathway for a person presenting with a diabetes-related foot ulcer	. 7
eFigure 4: Wound healing interventions pathway for any person presenting with a diabetes-related foot ulcer	

eTable 1: SINBAD system

Wound classification

Category	Definition	Score
Site	Forefoot Midfoot and hindfoot	0
Ischaemia	Pedal blood flow intact: at least one palpable pulse Clinical evidence of reduced pedal flow	0 1
Neuropathy	Protective sensation intact Protective sensation lost	0 1
Bacterial infection	None Present	0 1
Area	Ulcer <1 cm ² Ulcer ≥1 cm ²	0 1
Depth	Ulcer confined to skin and subcutaneous tissue Ulcer reaching muscle, tendon or deeper	0 1
Total possible score		6

eTable 2: Wound, ischaemia and foot infection system

Wound classification

eTable 2: Wound, ischaemia and foot infection system



Grade	Ulcer	Gangrene	
	No ulcer		
0	Clinical description: ischaemic rest pain (requires typical symptoms + ischaemia grade 3); no wound	No gangrene	
4	Small, shallow ulcer(s) on distal leg or foot; no exposed bone, unless limited to distal phalanx		
1	Clinical description: minor tissue loss. Salvageable with simple digital amputation (1 or 2 digits) or skin coverage	No gangrene	
	Deeper ulcer with exposed bone, joint or tendon; generally not involving the heel; shallow heel ulcer, without calcaneal involvement	Gangrenous changes limited	
2	Clinical description: major tissue loss salvageable with multiple (\geq 3 digital amputations or standard TMA \pm skin coverage	to digits	
	Extensive, deep ulcer involving forefoot and/or midfoot; deep, full thickness heel ulcer \pm calcaneal involvement	Extensive gangrene involving forefoot and/or midfoot; full thickness heel necrosis ± calcaneal involvement	
3	Clinical description: extensive tissue loss salvageable only with complex foot reconstruction or nontraditional TMA (Chopart or Lisfranc); flap coverage or complex wound management for large soft tissue defect		

Ischaemia

Grade	Ankle-brachial index	Ankle Systolic Pressure (mmHg)	Toe pressure, transcutaneous oxygen pressure (mmHg)
0	≥ 0.80	>100 mmHg	≥ 60 mmHg
1	0.60 - 0.79	70 - 100 mmHg	40 - 59 mmHg
2	0.4 - 0.59	50 - 70 mmHg	30 - 39 mmHg
3	≤ 0.39	< 50 mmHg	< 30 mmHg

Foot infection

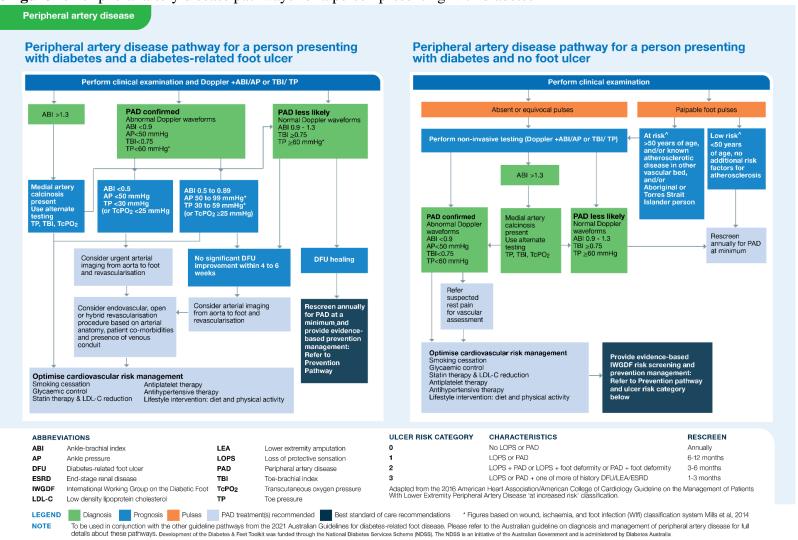
Grade	Clinical manifestation of infection	IDSA/IWGDF infection severity
0	No symptoms or signs of infection	Uninfected
1	Infection present, as defined by the presence of at least two of the following items: • Local swelling or induration • Erythema > 0.5 to ≤ 2 cm around the ulcer • Local tenderness or pain • Local warmth • Purulent discharge (thick, opaque to white, or sanguineous secretion)	Mild
	Local infection involving only the skin and the subcutaneous tissue (without systemic signs).	
	Exclude other causes of an inflammatory response of the skin (e.g. trauma, gout, acute Charcot Neuro-osteoarthropathy, fracture, thrombosis, venous stasis)	
2	Local infection (as described above) with erythema > 2cm, or involving structures deeper than skin and subcutaneous tissues (e.g. abscess, osteomyelitis, septic arthritis, fasciitis)	Moderate
	No systemic inflammatory response signs (as described below)	
3	Local infection (as described above) with the signs of SIRS as manifested by two or more of the following: • Temperature > 38°C or < 36°C • Heart rate > 90 beats/min • Respiratory rate > 20 breaths/min or PaCO ₂ < 32mmHg • White blood cell count > 12,000 or < 4000cu/mm or 10% immature (band) forms	Severe

PACO₂: Partial pressure of arterial carbon dioxide, SIRS: systemic inflammatory response syndrome

"Ischaemia may complicate and increase the severity of any infection. Systemic infection may sometimes manifest with other clinical findings, such as hypotension, confusion, vomiting, or evidence of metabolic disturbances, such as acidosis, severe hyperglycaemia, new-onset azotaemia.

Adapted from Mills, J.L. et al. The Society for Vascular Surgery Lower Extremity Threatened Limb Classification System: Risk stratification based on Wound, Ischaemia and foot Infection (Wiff). Journal of Vascular Surgery, Jan 2014 and Lew, EJ et al. Clinical Application of the Society for Vascular Surgery (SVS) Lower Extremity Threatened Limb Classification System: Risk stratification based on Wound, Ischaemia and foot Infection (Wiff). Wound practice and research, Nov 2014

eFigure 1: Peripheral artery disease pathways for a person presenting with diabetes



eFigure 2A: Infection diagnosis pathway for a person with diabetes and suspected foot infection Infection Infection diagnosis pathway for a person with diabetes and suspected foot infection Assess for local or systemic signs or symptoms of infection 1. Tips for collecting diagnostic samples Wherever possible collect tissue, bone or pus using an aseptic technique for culture Infection present Histopathology should also be requested on bone specimens Avoid taking superficial swabs of ulcers as they will more likely identify colonising organisms than infecting pathogens Before collecting a sample, debride and clean (using saline) the ulcer base Do not sample areas of necrotic or non-viable tissue UNCLEAR Perform CRP Infection likely infected or ESR 2. IWGDF severity classification scheme for diabetes-related foot infections Suspected osteomyelitis Mild GRADE 2 Consider additional imaging such tissue infection suspected YES Any infection associated Involves only the skin or Infection is not associated with systemic inflammatory subcutaneous tissue with systemic inflammatory Assess using probe to bone test, ESR or CRP and Erythema extends <2cm response syndrome (SIRS), response syndrome (SIRS) from the wound margin as manifested by ≥2 of the and either: following: Collect a specimen for culture (i.e. No systemic features of infection an aseptically collected tissue Involves structures Temperature, >38°C or <36 °C specimen if soft tissue infection; see Box 1) deeper than the skin Likely osteomyelitis and subcutaneous Heart rate, >90 beats/min tissues (eg. tendon, Respiratory rate, >20 breaths/min or PaCO₂ muscle, joint, bone) UNCLEAR <32 mmHg White blood cell count Erythema extends ≥2cm Assess with MRI, 18-FDG-To diagnose >12 x 10⁹/L or <4 x 10⁹/L, or >10% immature from the wound margin definitively and/or PET/CT, or determine pathogen collect a bone leukocyte scintigraphy +/- CT sample for culture AND histopathology if Osteomyelitis: Infection involving bone (add '(O)' after grade) possible Assess severity of infection according to IWGDF/IDSA classification scheme (see Box 2) Contraindication Recommended not to use Suggest not to use Mild Moderate Severe For culture Foot temperature · Molecular microbiology techniques **GRADE 2 GRADE 3 GRADE 4** Quantitive microbial analysis

Development of the Diabetes & Feet Toolkit was funded through the National Diabetes Services Scheme (NDSS). The NDSS is an initiative of the Australian Government and is administered by Diabetes Australia

Infection type Recommended good standard of care

LEGEND

about this pathway.

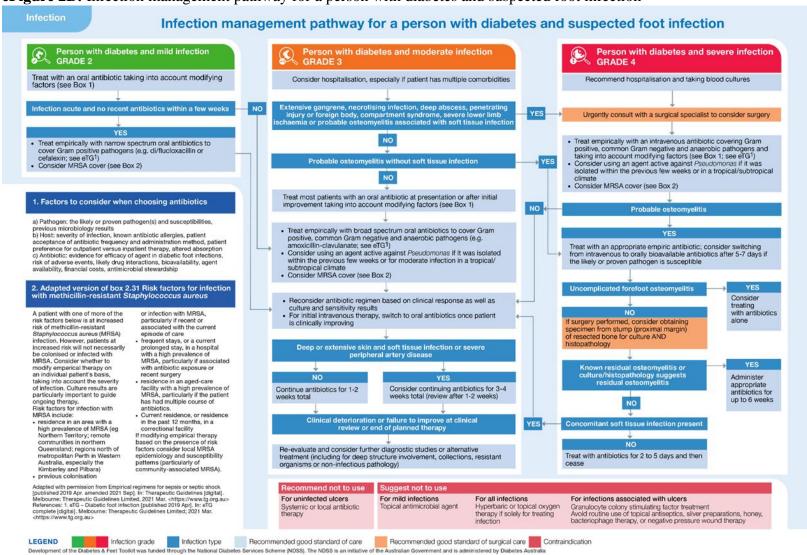
NOTE

Source: Figure reproduced with permission from the Diabetes & Feet Toolkit (Version 1, February 2022); National Diabetes Services Scheme (NDSS), an initiative of the Australian Government and is administered by Diabetes Australia (https://www.ndss.com.au/about-diabetes/resources/find-a-resource/diabetes-and-feet-toolkit/).

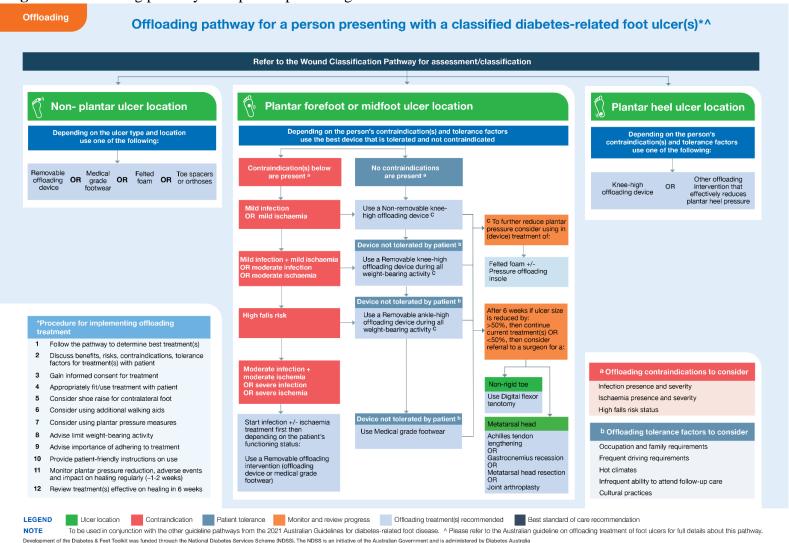
Suggested standard of care Contraindication

To be used in conjunction with the other guideline pathways from the 2021 Australian Guidelines for diabetes-related foot disease. Please refer to the Australian guideline on management of diabetes-related foot infections for full details

eFigure 2B: Infection management pathway for a person with diabetes and suspected foot infection



eFigure 3: Offloading pathway for a person presenting with a diabetes-related foot ulcer



eFigure 4: Wound healing interventions pathway for any person presenting with a diabetes-related foot ulcer

