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Foot care for people with diabetes: Western Australia standards

2024

Diabetes Health Network

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Contents

Introduction

Nearly 5 per cent of the Western Australian population live with diabetes.[1] Diabetes is a complex metabolic condition that is associated with both acute and chronic complications. Diabetes-related foot disease is amongst the most costly and complex complications and a leading cause of hospitalisation and lower extremity amputation (LEA).[2 - 5] LEAs in people with diabetes are typically preceded by foot ulcers, minor injuries, foreign bodies, burns or acute Charcot foot, all of which may be complicated by infection and/or ischaemia.[2,6] Many LEAs are avoidable with timely access to safe, high-quality, evidence-based care for people living with diabetes.[7]

The Foot Care for People with Diabetes: Western Australia Standards (the Standards) and guidelines are based on evidence from national and international validated, referenced sources. They have been adapted for Western Australia (WA) and have been endorsed by the WA Health Diabetes Health Network. This follows extensive consultation with partners across the health system, including the WA Health High Risk Foot Working Group. They complement the Western Australia Framework for Action on Diabetes and Diabetes Service Standards 2014.[8]

This document does not necessarily reflect the current availability and quality of foot care services throughout WA. The standards are designed to indicate best practice and to be challenging and aspirational, yet realistically achievable within a 10-year timeframe across WA (including rural and remote areas). Flexibility will be required in their implementation in different areas to take account of differing circumstances.

The Standards will guide development of future plans to connect and enable the WA health system to deliver consistent, sustainable and evidence-based services to improve foot care for people with diabetes across WA. In recognition of the continual emergence of new research and evidence, the document will be reviewed and updated over time as appropriate.

Abbreviations and definitions

Abbreviations

CKD: Chronic kidney disease
DFA: Diabetes Feet Australia
DFD: Diabetes-related foot disease
DFU: Diabetes-related foot ulcer
ED: Emergency department
iHRFS: Interdisciplinary high-risk foot service or foot clinic
IWGDF: International Working Group of the Diabetic Foot
LEA: Lower extremity amputation
LOPS: Loss of protective sensation
NADC: National Association of Diabetes Centres
PAD: Peripheral artery disease
SINBAD: Site (ulcer), ischaemia, neuropathy (LOPS), bacterial infection, area and depth
SIRS: Systemic inflammatory response syndrome
WA: Western Australia
WIfI: Wound, ischaemia, foot infection

Definitions

Definitions have been sourced from the International Working Group on the Diabetic Foot: Definitions and criteria for diabetic foot disease[9] and the Foot Forward Australian Diabetes-related Foot Disease Pathways.[10]

Callus: Hyperkeratosis caused by excessive mechanical loading.

Charcot foot (neuro-osteoarthropathy): Non-infectious destruction of bone and joint(s) associated with neuropathy, which, in the acute phase, is associated with signs of inflammation.

Comorbidities: The presence of one or more additional conditions co-occurring with a primary disease. While many people with diabetes and foot infection may not require hospitalisation, people with comorbidities, such as renal failure or an immunocompromised state, may benefit from admission.

Diabetes-related foot disease: Disease of the foot of a person with current or previously diagnosed diabetes mellitus that includes one or more of the following: peripheral neuropathy, peripheral artery disease, infection, ulcer(s), neuro-osteoarthropathy, gangrene, or amputation

Diabetes-related foot ulcer: Foot ulcer in person with currently or previously diagnosed diabetes mellitus and usually accompanied by neuropathy and/or peripheral artery disease (PAD) in the lower extremity.

Foot deformity: Alterations or deviations from normal shape or size of the foot, such as hammer toes, mallet toes, claw toes, hallux valgus, prominent metatarsal heads, pes cavus, pes

planus, pes equinus, or the result of Charcot neuro-osteoarthropathy, trauma, amputations, other foot surgery or other causes.

Loss of protective sensation: A sign of diabetes-related peripheral sensory neuropathy, characterised by an inability to sense light pressure, for example, as applied with a 10 g Semmes-Weinstein monofilament.

Peripheral artery disease: Obstructive atherosclerotic vascular disease with clinical symptoms, signs, or abnormalities on non-invasive or invasive vascular assessment, resulting in disturbed or impaired circulation in one or more extremities.

Section 1: Foot screening and prevention standards

	Foot screening and prevention standards	Best practice care considerations	Evidence base
1	All people diagnosed with diabetes should receive foot care education and self-management advice relative to their level of risk (see also Foot screening and prevention standard 4 below).	Structured foot care education should address topics such as foot ulceration and the associated complications, and preventative foot self-care behaviours, including but not limited to: • seeking professional help in a timely manner after identifying a foot problem • not walking barefoot, in socks without shoes or in thin soled slippers • wearing adequately protective footwear • undergoing regular foot checks • practicing proper foot hygiene.	IWGDF guidelines (2023) (prevention)[11] DFD guidelines (2021) (prevention)[12] FootForward Integrated Diabetes Foot Care Pathway (2021) (Appendix 1)
2	Until adequately assessed, all Aboriginal people with diabetes should be considered high risk for foot complications. Foot checks are recommended at every clinical encounter and active follow up.	Ensure clinical practice is culturally responsive when conducting a foot assessment and providing foot care advice for Aboriginal people.	FootForward Integrated Diabetes Foot Care Pathway (2021) (Appendix 1)
3	Foot screening should be performed by a suitably trained healthcare professional to assess the at-risk foot and implement an appropriate Foot Action Plan.	Foot screening has been shown to reduce the incidence of foot complications through early detection and enabling proactive management of risk factors. Foot screening should include:	IWGDF guidelines (2023) (practical guidelines and prevention)[11]

	Foot screening and prevention standards	Best practice care considerations	Evidence base
		• enquiring about previous foot ulceration, amputation and diagnosis of end-stage renal disease • visually inspecting the feet for presence or progression of foot deformity • assessment of neuropathy with either 10g monofilament or Ipswich touch test • palpation of foot pulses • assessment of footwear • assessment for abundant callus and any pre-ulcerative sign on the foot. A Foot Action Plan comprises the following: • review footwear • provide structured footwear education • optimise diabetes holistic management including modifiable risk factors • organise referrals and recall date for re-screening based on risk classification • develop self-management plan that supports preventative self-care behaviours. See Appendix 2 for foot screening consultation example.	DFD guidelines (2021) (prevention)[12] FootForward Integrated Diabetes Foot Care Pathway (2021) (Appendix 1)

	Foot screening and prevention standards	Best practice care considerations	Evidence base

4	All adults with diabetes should receive foot screening and have their foot risk stratified in the following manner:
	• Very low risk: no loss of protective sensation (LOPS) and no peripheral artery disease (PAD).
	• Low risk: LOPS or PAD present.
	• Moderate risk: LOPS and PAD present, or LOPS and foot deformity present, or PAD and foot deformity present.
	• High risk: LOPS or PAD present, and one or more of the following:
	  ○ history of foot ulcer
	  ○ lower extremity amputation (major or minor)
	  ○ end stage renal disease (chronic kidney disease (CKD) 4 or 5)
	  ○ active significant foot complication.
	
	Screening for peripheral neuropathy and foot complications in young people with type 1 diabetes should commence at puberty or from age 11 years with 2 – 5 years diabetes duration and be repeated annually thereafter.
	
	Screening for peripheral neuropathy and foot complications in young people with type 2 diabetes
		Identified risk factors include:
		• loss of protective sensation (insensate to 10g monofilament)
		• foot deformity
		• peripheral arterial disease (PAD)
		• previous significant history of foot complication.
		
		Previous significant history of foot complication includes:
		• amputation
		• foot ulceration
		• severe infection
		• nonactive Charcot foot
		
		A significant active foot complication may include:
		• ulceration below the ankle with or without infection
		• severe infection (e.g., cellulitis, osteomyelitis or abscess)
		• recent amputation
		• gangrene or necrosis
		• active Charcot foot.
			IWGDF guidelines (2023) (prevention)[11]
			
			DFD guidelines (2021) (prevention)[12]
			
			FootForward Integrated Diabetes Foot Care Pathway (2021) (Appendix 1)
			
			ISPAD Clinical Practice Consensus Guidelines 2022[13]
			
			Australian Paediatric Endocrine Group type 2 diabetes mellitus in children and adolescents guidelines (2020)[14]

	Foot screening and prevention standards	Best practice care considerations	Evidence base
	should commence at diagnosis and be repeated annually thereafter.		
5	Foot screening frequency should be based on the identified stratification of risk for a person with diabetes and should be reassessed over time.	Recommended foot screening frequency: • Annually for people who are at very low risk. • Regularly (every 6 to 12 months) for people at low risk • Frequently (every 3 to 6 months) for people who are at moderate risk. • More frequently (for example, every 1 to 3 months) for people who are at high risk, if there is no immediate concern. • Very frequently (for example, every 1 to 2 weeks) for people who are at high risk, if there is immediate concern. Need for variation from these time frames should be determined by the treating podiatrist or medical practitioner as clinically necessary.	NICE Diabetic foot problems: prevention and management guideline (2019)[15] IWGDF guidelines (2023) (prevention)[11] DFD guidelines (2021) (prevention)[12] FootForward Integrated Diabetes Foot Care Pathway (2021) (Appendix 1)
6	Where possible, all identified risk factors should be managed proactively to prevent ulceration or deterioration.	Proactive management strategies may include: • Supporting access to appropriate footwear and customised orthotics to accommodate deformity and reduce the risk of ulceration with neuropathy, as deemed clinically necessary, to reduce or	IWGDF guidelines (2023) (prevention)[11] DFD guidelines (2021) (prevention)[12]

	Foot screening and prevention standards	Best practice care considerations	Evidence base
		manage significant risk by podiatrist and/or specialist. • Treat any pre-ulcerative sign or abundant callus on the foot, ingrown toenail and fungal infection on the foot to help prevent a foot ulcer in a person with diabetes who is at risk of foot ulceration. • All people with PAD should receive regular evidence-based vascular assessment to monitor for deterioration and enable timely proactive referral to specialists for intervention. • Optimise holistic management of diabetes and modifiable risk factors.	FootForward Integrated Diabetes Foot Care Pathway (2021) (Appendix 1)

Section 2: Assessment and management of active foot disease standards

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base
1	People with acute or chronic complex diabetes-related foot ulceration (DFU) should be managed by an interdisciplinary high-risk foot service or foot clinic (iHRFS).	At a minimum, an iHRFS must have medical governance and should include a: • podiatrist or senior podiatrist • physician, diabetologist or endocrinologist • diabetes nurse educator. Patients of the iHRFS should have access to (or a clearly documented referral pathway to) a vascular surgeon, or specialist with expertise in peripheral arterial disease, and access to peripheral revascularisation procedures. Where possible, the iHRFS should provide access to regular consultation with the following specialists: • vascular surgeon • infectious diseases specialist • orthotist or pedorthist • wound nurse specialist. Where possible, the iHRFS should provide access to (including via referral) one or more specialists that has interest and expertise in foot corrective surgery as clinically necessary.	NADC Collaborative Interdisciplinary Diabetes High Risk Foot Services (iHRFS) Standards Review (2021)[16] NICE Diabetic foot problems: prevention and management guideline (2019)[15]

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base
		Expert remote wound care consulting should be made available to people in regional areas with DFUs via digital imaging or Telehealth to an appropriate iHRFS. If a comprehensive iHRFS is not accessible locally (e.g., in rural and remote areas), and the patient is not acutely unwell, implementation of gold standard care of a DFU (see strategies and considerations for Standard 2) should be provided by a general practitioner (GP) and podiatrist, and/or a wound care nurse and a diabetes nurse educator, at minimum.	
2	Referral to an iHRFS should occur if: • No infection in a superficial ulcer – if not greater than 50 per cent reduction by 2 to 4 weeks, refer to iHRFS or similar service if no iHRFS exists locally. Urgent (same day) referral to an iHRFS should occur for the following: • Infection present without systemic signs or symptoms: ○ Mild infection, <2cm erythema periwound involving skin and subcutaneous tissue.	Gold standard practice for DFU includes: • Score ulcer (use SINBAD plus other classification systems as appropriate) to assess progress and facilitate faster triage. • Address infection if present. • Optimise perfusion, diabetes holistic management and modifiable risk factors. • Comprehensive history, neuro-vascular and wound assessment. • Offloading the ulcer or Charcot foot. • Local wound care: sharp debridement and ulcer dressing to absorb exudate.	FootForward Integrated Diabetes Foot Care Pathways (2021) (Appendix 3) D-Foot International fast track pathway[17] NADC Collaborative Interdisciplinary Diabetes High Risk Foot Services (iHRFS) Standards Review (2021)[16]

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base
	○ Moderate infection, >2cm erythema periwound involving deeper structures (i.e., tendon/bone) without comorbidities. • Acute Charcot foot, clinical signs of inflammation (redness, heat or swelling) present in the neuropathic foot. Pain may be present despite neuropathy. No evidence of a portal of entry (i.e., ulcer) to suggest infection. • If no urgent iHRFS capacity, the above urgent conditions should be referred to the emergency department (ED).	• Holistic assessment of the individual, including psychosocial factors and whenever able, documenting patient goals in care. • See Appendix 4 for recommended components of active DFU assessment. Treatment delay is a risk factor for increased frequency of lower limb amputation and is associated with longer treatment time, increased wound size and poorer wound healing outcomes. It is incumbent on the primary care team to ensure timely referral to appropriate services, either iHRFS, specialist vascular care, or in the most severe cases, hospitalisation. In rural and regional locations, where urgent access to iHRFS may not be feasible or available, urgent referral to the nearest ED may be required to facilitate prompt assessment and management. For confirmed or suspected acute Charcot foot, if there is no rapid access pathway to an iHRFS clinic, then the default is to refer to nearest ED to facilitate urgent management.	

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base
3	Immediate referral to ED should occur if: • Sudden acute pain, pallor or coldness present over hours or days and impalpable foot pulses in the lower limb(s). • Severe infection with systemic features (SIRS). • Suspected abscess, necrotising infection. • Moderate infection, >2cm erythema periwound involving deeper structures (i.e., tendon/bone) with comorbidities.	Immediate referral to ED should also occur should infection be present without systemic signs or symptoms and there is no urgent iHRFS capacity for management, including for: • Mild infection, <2cm erythema periwound involving skin and subcutaneous tissue. • Moderate infection, >2cm erythema periwound involving deeper structures (i.e., tendon/bone) without comorbidities. The managing ED should contact the nearest relevant iHRFS team for escalation of care as required.	FootForward Integrated Diabetes Foot Care Pathways (2021) (Appendix 3) NADC Collaborative Interdisciplinary Diabetes High Risk Foot Services (iHRFS) Standards Review (2021)[16]
4	All people with a DFU should be clinically examined (by relevant history and palpation of foot pulses) for the presence of PAD.	The following should be considered in the management of PAD for people with DFU: • Clinical examination **does not reliably exclude PAD** in most people with DFU, therefore evaluate with a bedside test, such as pedal Doppler arterial waveforms, in combination with ankle systolic pressure and systolic ankle brachial index (ABI) or toe systolic pressure and toe brachial index (TBI) measurement. • No single modality has been shown to be optimal, and there is **no definite threshold value above which PAD can reliably be excluded**. However, PAD is less	FootForward Integrated Diabetes Foot Care Pathways (2021) (Appendix 3) IWGDF guidelines (2023) (peripheral artery disease)[11] DFD guidelines (2021) (peripheral artery disease)[12]

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base

		likely with ABI 0.9-1.3, TBI ≥ 0.70, and triphasic pedal Doppler waveforms.
		• At least one of the following bedside tests should be performed for a patient with a DFU and PAD, any of which increases the pre-test probability of healing by up to 30 per cent:
		  • a toe pressure of ≥30 mmHg or
		  • a transcutaneous oxygen pressure (TcPO2) of ≥25 mmHg.
		• The wound, ischaemia and foot infection (WIfI) classification system should be used to stratify amputation risk and revascularisation benefit in a patient with a DFU and PAD.
		• **Urgent referral to a vascular surgeon** should be performed for vascular assessment with a view to revascularisation, in a patient with a DFU and:
		  • an ankle pressure of <50 mmHg,
		  • ABI of <0.5,
		  • a toe pressure of <30 mmHg,
		  • TcPO2 of <25 mmHg.
		  • clinical findings of ischaemia:
		  • absent pulses
		  • monophasic or absent pedal Doppler waveforms.	

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base

		• **Referral to a vascular surgeon** should be considered for vascular assessment with a view to revascularisation, in a patient with a DFU and:
		  • ankle pressure < 100 mm Hg or
		  • toe pressure < 60 mm Hg.
		  • wound deterioration or failure to significantly improve (e.g. < 50% reduction in wound area within 4 weeks), despite appropriate infection and glucose control, wound care and offloading.	

5	Clinically infected DFU must be treated immediately with systemic antibiotics and cultured by deep tissue swabs, taken after debridement or by tissue samples, for identification of microorganisms and antibiotic sensitivities.	For all mild and **most** moderate diabetic foot infection, empirically indicated oral antibiotics should be prescribed. For severe diabetic foot infections and moderate diabetic foot infections with comorbidities, administer antibiotic therapy initially by parenteral route and switch to oral therapy when improving and clinically appropriate if appropriate oral agent available. *Note that the use of topical antibiotic agents has not been shown to be effective in the treatment of diabetic foot infection.	IWGDF guidelines (2023) (infection)[11] DFD guidelines (2021) (infection)[12]

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base
6	A classification system should be used for foot ulcers to identify and describe the degree of risk to a person and limb. The classification system used should align with the system recommended for use in the relevant clinical setting.	In a person with diabetes and a foot ulcer, as a minimum, the SINBAD wound classification system should be used for communication among health professionals about the characteristics of the ulcer. In settings where appropriate resources and expertise are available, the WIfI wound classification system may be used for communication among health professionals about the characteristics of the ulcer. In a person with diabetes and an infected foot ulcer, the Infectious Diseases Society of America (IDSA)/IWGDF infection classification system should be used to characterise and guide infection management. In settings where appropriate resources and expertise are available, the WIfI wound classification system may be used to characterise and guide infection management. In a person with diabetes and a foot ulcer who is being managed in a setting where appropriate expertise in vascular intervention is available, the WIfI scoring system should be used to aid decision making in the assessment of perfusion and likelihood of benefit from revascularisation. *Note that it is important to be cautious in the application of any of the currently available classification/scoring systems to offer an individual prognosis for a person with diabetes and a foot ulcer.	IWGDF guidelines (2023) (classification chapter)[11] DFD guidelines (2021) (classification chapter)[12] NADC Collaborative Interdisciplinary Diabetes High Risk Foot Services (iHRFS) Standards Review (2021)[16] FootForward Integrated Diabetes Foot Care Pathways (2021) (Appendix 3)

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base
		*Note that a SINBAD score of ≥ 3 is associated with poorer DFU healing outcomes, including reduced likelihood of the person with diabetes being alive and ulcer free at 12 and 24 weeks.	
7	Offloading/pressure management should be provided to optimise healing of plantar wounds.	All people with foot ulceration should be provided with the most appropriate and effective offloading relative to their wound and personal risk factors, for example, falls risk. Non-removable offloading should be offered for plantar neuropathic, non-ischaemic, non-infected forefoot and midfoot ulcers as the first choice of offloading treatment to promote healing of the ulcer. If an irremovable device is not appropriate, tolerated or acceptable to the patient, then alternative removable offloading devices should be considered, using the Offloading Flow Diagram (see Appendix 5) as a guide, and considering the below examples: • removable ankle or knee-high device • medical grade footwear +/- foot orthotic • felted foam and offloading device/footwear.	IWGDF guidelines (2023) (offloading)[11] DFD guidelines (2021) (offloading)[12]
8	Regular, sharp debridement of slough and surrounding callus should be performed on all	Sharp debridement should be limited to those who are suitably trained and can demonstrate competence in	IWGDF guidelines (2023) (wound healing)[11]

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base
	non-ischaemic foot wounds by a trained health professional to optimise healing.	performing debridement for DFU whilst adhering to local policies and protocols.	DFD guidelines (2021) (wound healing)[12] NADC Collaborative Interdisciplinary Diabetes High Risk Foot Services (iHRFS) Standards Review (2021)[16]
9	Wound management principles should be based on exudate control, comfort and cost, and tailored to patient preference and wound aetiology.	Selection of wound management products should be aligned to national and international evidence-based diabetes-related foot disease (DFD) guideline recommendations. Wound cleansing is a fundamental component of wound bed preparation, and is defined as actively removing surface contaminants, loose debris, non-attached non-viable tissue and/or remnants of previous dressings from the wound surface. Sterile water or saline should be used for wound cleansing when required. Sharp debridement should be performed where indicated (see 2.8).	IWGDF guidelines (2023) (wound healing)[11] DFD guidelines (2021) (wound healing)[12] International Wound Infection Institute Wound Infection in Clinical Practice: Principles of best practice (2022)[18]

	Assessment and management of active foot disease standards	Best practice care considerations	Evidence base
		Optimal wound management should also include appropriate offloading, management of infection and optimising PAD. Where possible, dressing management and wound care should be provided by a nursing service/trained health professional. If a nursing/wound care service is not available, self-management education to support safe and sterile wound care should be provided to the patient and/or carer.	
10	All people with diabetes who present or are admitted to a WA hospital with an active foot complication should be assessed by and followed up as regularly as deemed appropriate by a podiatrist or iHRFS to prevent recurrence and readmission.	Expert remote wound care consulting should be made available to people in regional areas via digital imaging/Telehealth to an appropriate iHRFS where necessary.	NADC Collaborative Interdisciplinary Diabetes High Risk Foot Services (iHRFS) Standards Review (2021)[16] FootForward Integrated Diabetes Foot Care Pathways (2021) (Appendix 3)

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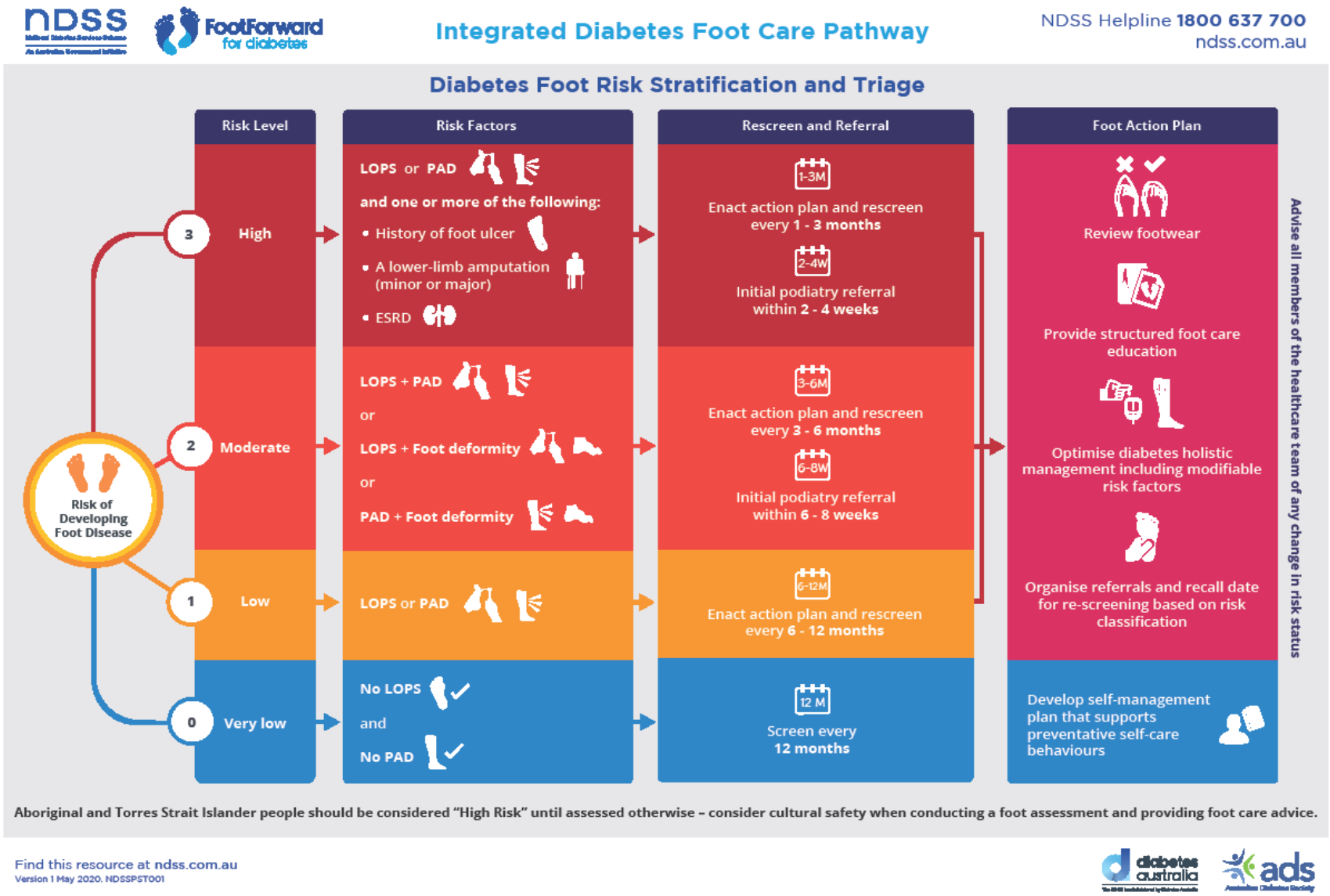
Appendix 1: Integrated Diabetes Foot Care Pathway – Diabetes Foot Risk Stratification and Triage (NDSS, FootForward for Diabetes)



Sourced from: www.footforward.org.au/for-health-professionals/.[10]

Appendix 2: FootForward foot screen checklist

NDSS National Diabetes Services Scheme — An Australian Government Initiative

FootForward for diabetes

Patient name: _____
DOB: _____
MRN: _____
Address: _____
_____

Foot Check Checklist

Diabetes is one of the most common causes of foot disease. Other conditions can also impact on the health of the foot. There can be many factors that can be screened for to identify and target referrals to manage these conditions.

Does the client have end-stage kidney disease (e.g. on dialysis or medication)?	☐ Yes ☐ No	
	Right Side	**Left Side**
Does the client have a lower limb amputation?	☐ Yes ☐ No	☐ Yes ☐ No
Has the clientpreviously had a foot ulcer?	☐ Yes ☐ No	☐ Yes ☐ No

Check for changes in circulation (blood supply):

Can you feel the pulses in the foot?

	Right Side	**Left Side**
Dorsalis Pedis	☐ Yes ☐ No	☐ Yes ☐ No
Posterior Tibial	☐ Yes ☐ No	☐ Yes ☐ No

If you ticked no, your client may have a blockage and will need further assessment by their GP or clinic nurse

Check for changes in nerve feeling/sensation (nerve damage):

Can they feel the monofilament or the light touch of your finger (choose one test)?

Using a monofilament

Write'Y' (yes) or N (no) on the diagram to indicate the client's response to the monofilament. Three responses are required for each foot.

Using a touch test

Write'Y' (yes) or N (no) on the diagram to indicate the client's response to the touch test. Three responses are required for each foot.

If you ticked no, it is likely that your client has impaired sensation and will need further assessment by their GP or clinic nurse

nDSS
National Diabetes Services Scheme
An Australian Government Initiative

FootForward
for diabetes

Check for current foot problems

Does your client have a current Foot Ulcer or wound?	☐ Yes ☐ No	☐ Yes ☐ No

Draw on the foot outlines any foot problems you find

Top of foot

Left Foot Right Foot

Bottom of foot

Left Foot Right Foot

If there is a current foot ulcer or wound that is not being managed, apply first aid and ask your client to see their GP within 2 days.

Has there been a recent change in foot shape or increased swelling and redness in only one foot.	☐ Yes ☐ No	☐ Yes ☐ No

If you ticked yes and your client has no known reason for the changes, ask the client not to walk on the foot and to visit the GP or podiatrist today, as the client may have a condition called Charcot Arthropathy.

nDSS
National Diabetes Services Scheme
An Australian Government Initiative

FootForward for diabetes

Is there any other deformity present?	Right Side	Left Side
Bunion	☐ Yes ☐ No	☐ Yes ☐ No
Hammer toes or claw toes	☐ Yes ☐ No	☐ Yes ☐ No
Charcot Arthropathy	☐ Yes ☐ No	☐ Yes ☐ No
Does your client have skin or nail problems?		
Cracks	☐ Yes ☐ No	☐ Yes ☐ No
Thick, hard skin (callus or corn)	☐ Yes ☐ No	☐ Yes ☐ No
Discoloured skin	☐ Yes ☐ No	☐ Yes ☐ No
Thick or curly nails	☐ Yes ☐ No	☐ Yes ☐ No
Ingrown nails	☐ Yes ☐ No	☐ Yes ☐ No

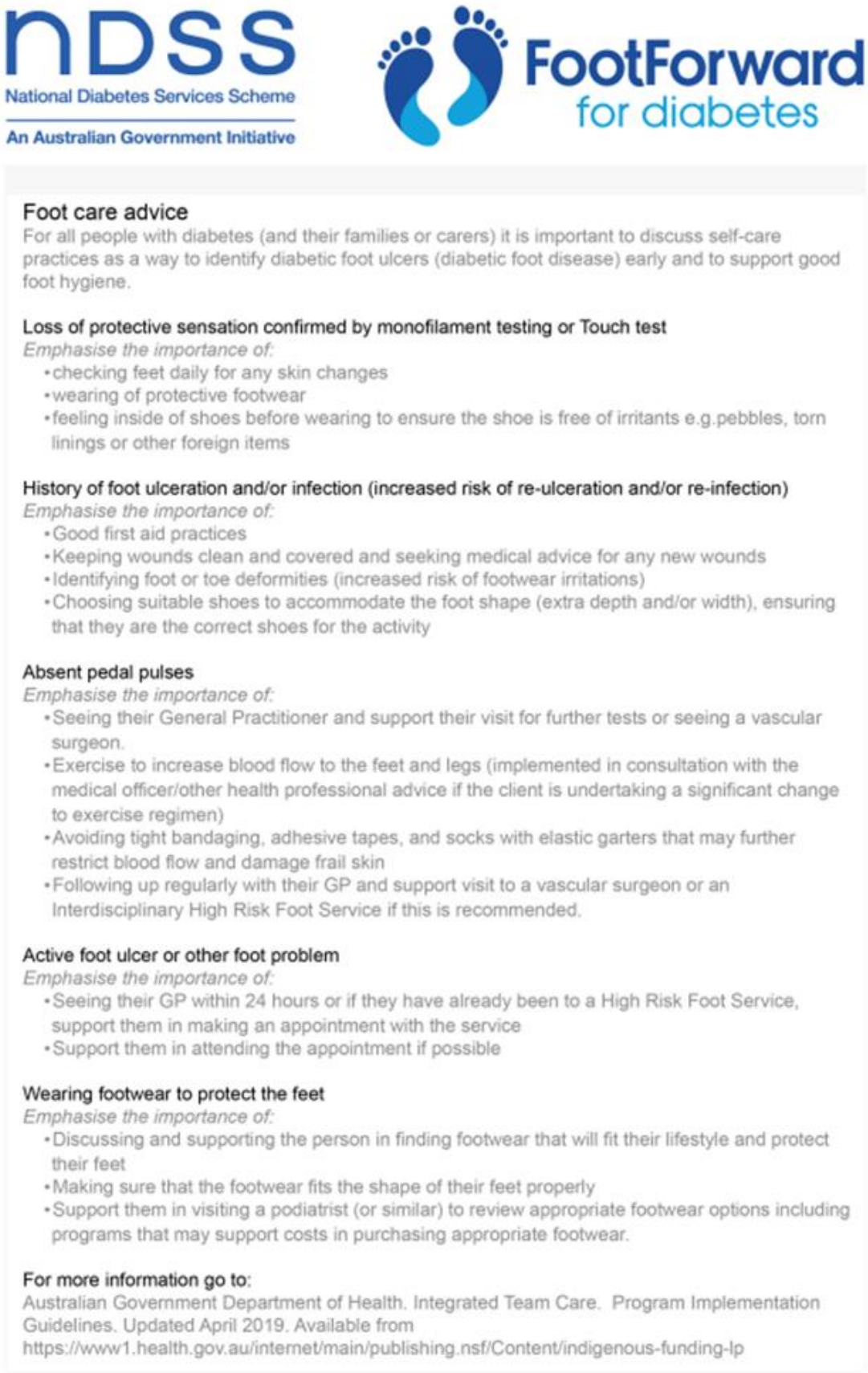
If you ticked yes, your client may benefit from seeing a podiatrist (or someone with similar training).

Check self-care ability	
Is your client able to see all surfaces of their feet?	☐ Yes ☐ No
Is your client able to care for their feet or is there someone available to help care for their feet?	☐ Yes ☐ No
Are your client's feet adequately cared for today?	☐ Yes ☐ No
Is your client wearing footwear today?	☐ Yes ☐ No
Does the footwear fit well?	☐ Yes ☐ No

If you have ticked yes to one or more of boxes of this foot screen checklist, refer to:

☐ GP ☐ Nurse ☐ Podiatrist ☐ Other	Foot care advice is important in supporting self-care. Refer to the attached information, and tailor your advice to your clients' needs.

Name of person completing this form: Date:



Foot care advice

For all people with diabetes (and their families or carers) it is important to discuss self-care practices as a way to identify diabetic foot ulcers (diabetic foot disease) early and to support good foot hygiene.

Loss of protective sensation confirmed by monofilament testing or Touch test

Emphasise the importance of:

- checking feet daily for any skin changes
- wearing of protective footwear
- feeling inside of shoes before wearing to ensure the shoe is free of irritants e.g.pebbles, torn linings or other foreign items

History of foot ulceration and/or infection (increased risk of re-ulceration and/or re-infection)

Emphasise the importance of:

- Good first aid practices
- Keeping wounds clean and covered and seeking medical advice for any new wounds
- Identifying foot or toe deformities (increased risk of footwear irritations)
- Choosing suitable shoes to accommodate the foot shape (extra depth and/or width), ensuring that they are the correct shoes for the activity

Absent pedal pulses

Emphasise the importance of:

- Seeing their General Practitioner and support their visit for further tests or seeing a vascular surgeon.
- Exercise to increase blood flow to the feet and legs (implemented in consultation with the medical officer/other health professional advice if the client is undertaking a significant change to exercise regimen)
- Avoiding tight bandaging, adhesive tapes, and socks with elastic garters that may further restrict blood flow and damage frail skin
- Following up regularly with their GP and support visit to a vascular surgeon or an Interdisciplinary High Risk Foot Service if this is recommended.

Active foot ulcer or other foot problem

Emphasise the importance of:

- Seeing their GP within 24 hours or if they have already been to a High Risk Foot Service, support them in making an appointment with the service
- Support them in attending the appointment if possible

Wearing footwear to protect the feet

Emphasise the importance of:

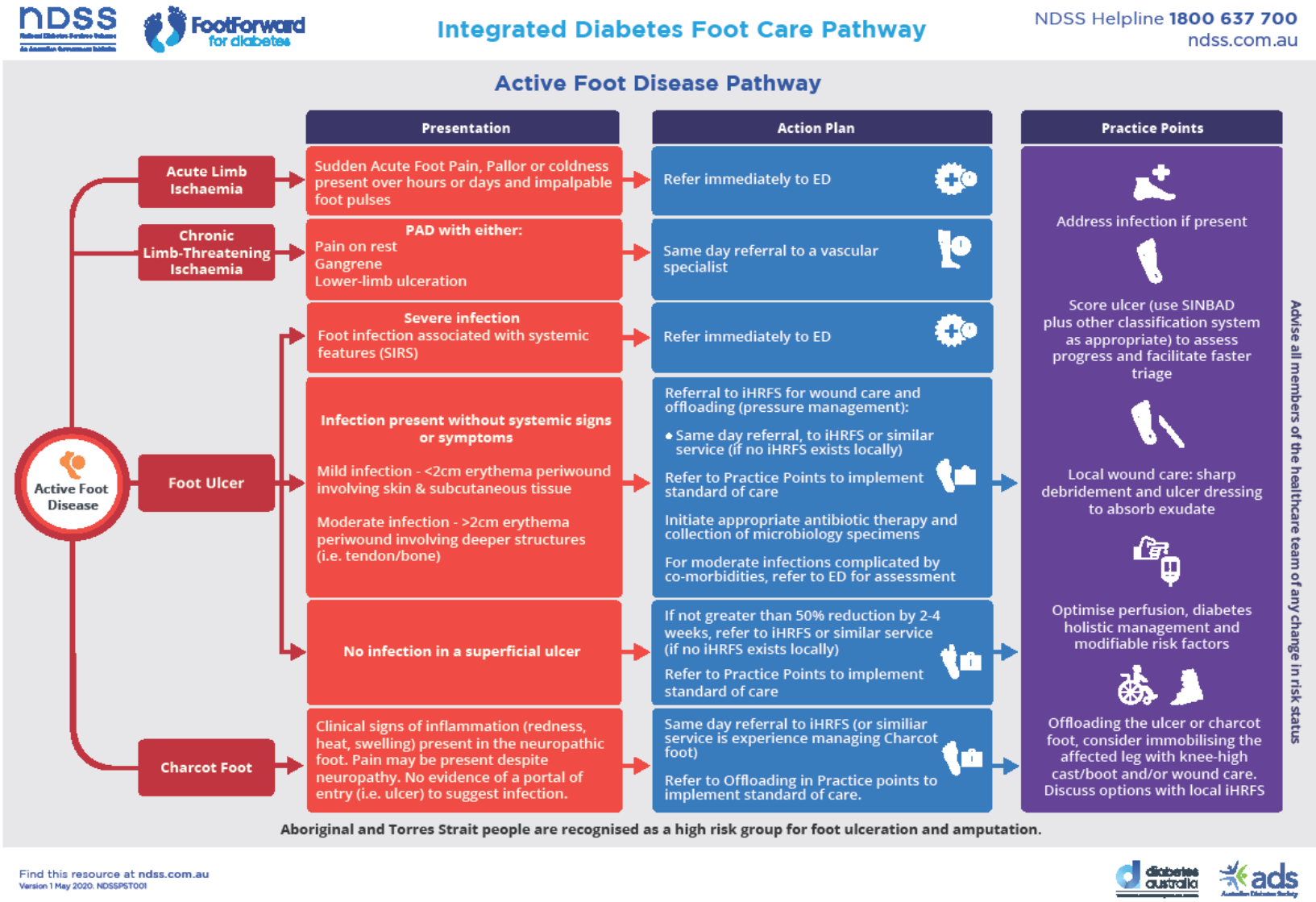
- Discussing and supporting the person in finding footwear that will fit their lifestyle and protect their feet
- Making sure that the footwear fits the shape of their feet properly
- Support them in visiting a podiatrist (or similar) to review appropriate footwear options including programs that may support costs in purchasing appropriate footwear.

For more information go to:

Australian Government Department of Health. Integrated Team Care. Program Implementation Guidelines. Updated April 2019. Available from https://www1.health.gov.au/internet/main/publishing.nsf/Content/indigenous-funding-lp

Sourced from: www.footforward.org.au/for-health-professionals/.[10]

Appendix 3: Integrated Diabetes Foot Care Pathway – Active Foot Disease Pathway (NDSS, FootForward for Diabetes)



Sourced from: www.footforward.org.au/for-health-professionals/.[10]

Appendix 4: Components of an active diabetes foot disease Assessment

1. Medical history

- Diabetes history
- Comorbidities
- Smoking history
- Mobility
- Psychosocial history

2. Cultural safety when providing healthcare for Aboriginal and Torres Strait Islander Australians

Ensure clinical practice is culturally responsive when conducting a foot assessment and providing foot care advice for Aboriginal and Torres Strait Islander people.

3. Foot history

- Current/recent DFU/hospitalisation/amputation/other surgery
- Past DFU/hospitalisation/amputation/other surgery
- Charcot foot active/chronic
- Other foot deformity

4. Assessment of foot ulcers

A standardised approach is required, including the following items as a minimum:

- location/site
- change (e.g., new, healed, infected, smaller, larger or no change)
- type (e.g., neuropathic, neuro-ischaemic or ischaemic)
- cause
- size (including depth)
    - does the ulcer probe to the bone?
    - is a sinus present?
- wound base (e.g., sloughy, granulating or necrotic)
- surrounding skin (e.g., macerated, indurated, normal/healthy or dry/scaly)
- exudate type and amount (e.g., purulent, haemoserous or serous)
- odour
- aigns of infection (e.g., erythema, pain or malodour)
- patient-related factors (e.g., end-stage renal disease, oedema, malnutrition, poor metabolic control or psycho-social problems).

Measurement: A measurement of the wound/s should be taken at each consultation, either by measurement of length x width x depth with a sterile ruler and/or measurement of area with a wound camera. This will allow for accurate tracking of wound progress and dimensions.

5. Classification of foot ulcer

The foot ulcer should be classified at initial presentation using either SINBAD (minimum standard) or WIfI (recommended in iHRFS setting and/or where appropriate vascular surgical expertise is available).

IWGDF/IDSA and/or WIfI should be used to classify infection grade for infected DFUs.

Classification should be re-assessed as the ulcer size or appearance changes, when vascular assessments are performed, and where presence of infection is observed.

6. Assessment of foot deformity

Assess for foot deformity using the table below. A score of 3 or above inidcates foot deformity.

Deformity	Yes (= 1) / No (= 0)
Small muscle wasting	
Hammer/claw toes	
Bony prominences	
Prominent metatarsal heads	
Charcot arthropathy	
Limited joint mobility	
Total:	

Surgical: Major and/or minor amputation, other foot deformity secondary to surgical intervention.

Charcot foot: If clinical signs or symptoms of acute Charcot neuroarthropathy are present (swelling, pain, warmth, erythema or deformity), then an appropriate assessment should be completed including measurement of dermal temperatures of both feet, clinical examination of the foot and plain x-ray.

7. Vascular assessment

A vascular assessment of the feet is conducted at initial assessment and repeated on a regular basis to establish the presence of peripheral arterial disease. Symptoms including rest pain and claudication (including claudication distance) should be documented. The clinical assessment includes:

- palpation of pedal pulses +/- popliteal pulses
- observation for ulceration and tissue loss
- inspection of skin colour and integrity
- assessment of skin temperature (cool or warm)
- inspection for presence of oedema
- assessment of capillary refill time (normal ≤ 2 secs).

At least one bedside screening test for peripheral arterial disease should be performed. Options include measurement of toe pressures, ankle-brachial index, toe- brachial index and/or transcutaneous oxygen pressure.

Results from ankle brachial index assessment can be unreliable in people with diabetes due to the presence of arterial calcification.

8. Neurological assessment

A neurological assessment of the feet is conducted to determine whether there is loss of protective sensation (LOPS) and is completed using a 10g monofilament and 128Hz tuning fork. The Light Touch test can be used to screen for LOPS when the 10 g monofilament and/or 128 Hz tuning fork is not available.

10g Monofilament: Three sites are tested on both feet, hallux, plantar first metatarsal head and plantar fifth metatarsal head. Failure to detect the monofilament at 2/3 sites indicates loss of protective sensation (LOPS).

128Hz Tuning Fork: The tuning fork is applied to 3 bony sites of the foot, dorsal aspect of the first distal phalanx, malleolus and tibial tuberosity. Failure to detect the tuning fork at 2/3 sites indicates loss of vibration sensation.

Light Touch Test (also called Ipswich Touch Test): Ask the person to close their eyes and say 'yes' when they feel their foot being touched. The examiner lightly touches the tips of the first, third, and fifth toes of both feet for 1 – 2 seconds with the tip of their index finger. LOPS is likely when light touch is not sensed in ≥ 2 sites.

9. Biomechanics

Conduct an assessment of foot function and biomechanics. Where available and clinically indicated, an assessment and mapping of foot plantar pressures may be performed.

10. Imaging

Plain x-ray imaging of the affected foot should be considered in all patients and particularly when conditions such as osteomyelitis, septic arthritis, and/ or Charcot foot are suspected. Additional imaging modalities such as MRI, CT and/or radionuclide scans of the foot/lower limb may also be required.

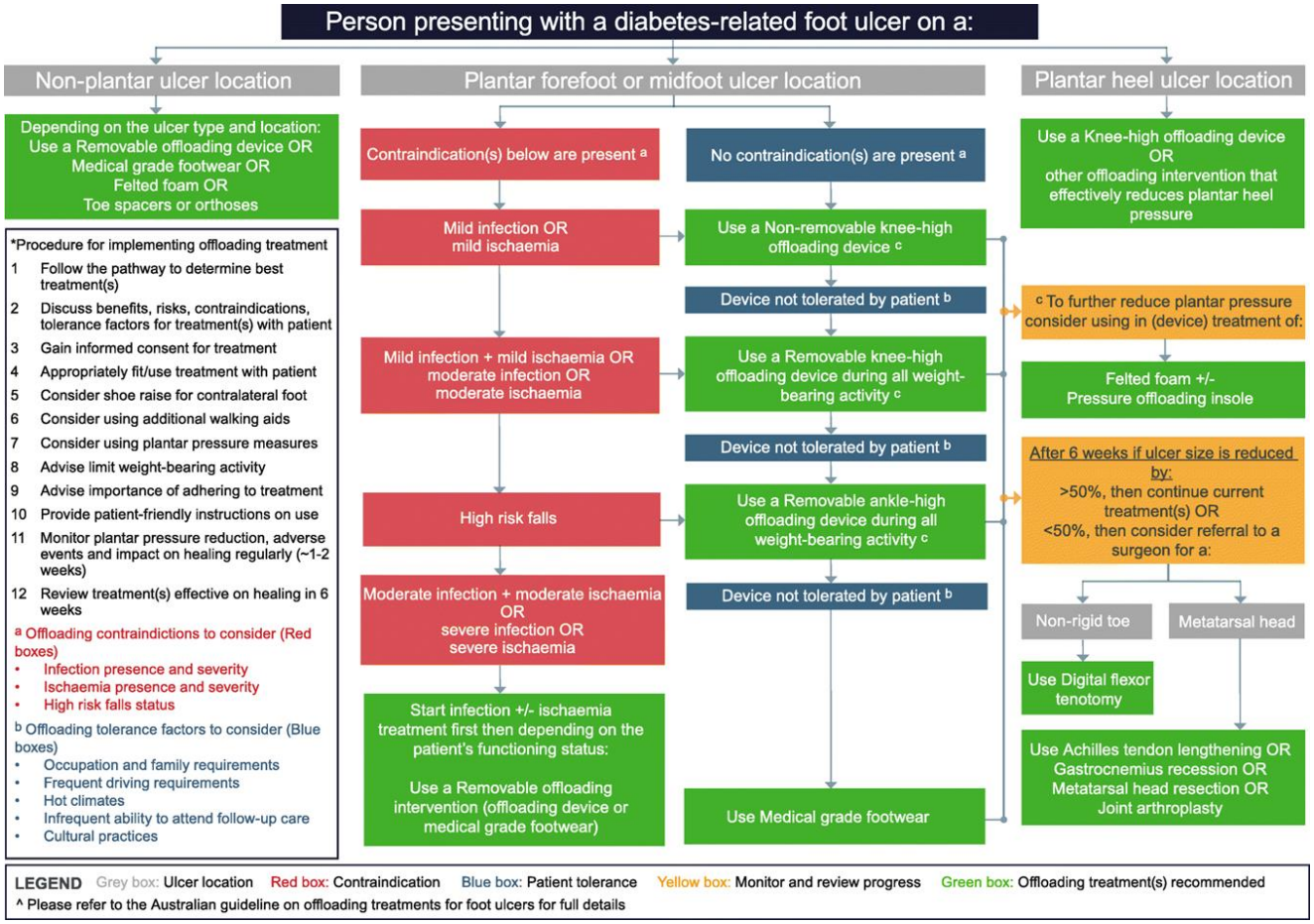
11. Impression

An initial impression of the ulcer characteristics, causes, comorbidities and complications should be documented.

12. Initial management plan

Initial management plan including wound management, dressings, offloading and involvement of interdisciplinary high risk foot service and/or additional medical and surgical specialists should be formulated.

Appendix 5: Offloading pathway for DFU components of an active diabetes foot disease assessment



Sourced from: jfootankleres.biomedcentral.com/articles/10.1186/s13047-022-00538-3#Abs1.[19]

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