Diabetes Foot Screening and Risk Stratification Tool

New Zealand Society

NZSSD

for the Study of Diabetes

Welcome to the Diabetes Foot Screening and Risk Stratification Tool

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This tool is based on the work of the Scottish Foot Action Group (SFAG). It has been adapted (with SFAG permission) by the New Zealand Society for Study of Diabetes (NZSSD) - Podiatry Special Interest Group (PodSIG) for use in the New Zealand context. It is intended to act as a national guide for developing integrated diabetes footcare pathways and to facilitate standardised access to care for people with diabetes related foot complications. The tool is in Word format to enable localisation with the addition of relevant contact details.

SFAG have used the validated Scottish Intercollegiate Guidelines Network (SIGN) risk stratification system. It includes the five criteria of neuropathy, pulses, previous ulceration or amputation, foot deformity and ability to self care. These areas are then combined and stratified into a low, moderate or high risk score. People with a high risk score have demonstrated an 86 fold increased risk of further ulceration and the moderate risk a 6 fold increased risk. Of particular significance was the low risk group which showed a 99.7% chance of remaining ulcer free over a 2.5 year period.[1]

In the New Zealand version, Maori ethnicity has been included as a factor in the moderate and high risk category. The relative risk for diabetes related lower extremity amputation is 6 fold and for Maori women over the age of 65 years it is 10 fold.[2] Currently the diabetes related lower extremity amputation rates do not indicate the need for the inclusions of groups based on ethnicity.

End stage renal failure has also been included. There is a strong association between renal impairment and foot complications.[3] The rate of lower limb amputations for people with chronic kidney disease and diabetes is 10 times that of the population with diabetes alone.[4] People with end stage renal failure have a four fold risk of foot complications. Further compounding this problem is a low perception of foot risk among people on haemodialysis.[5]

Included as part of the tool is The Diabetes Foot Assessment and Risk Stratification Form. It has been developed to provide a promforma for the details required to adequately assess and triage foot risk level. The form follows the five criteria used in the stratification system. It is intended as a guide only and it is not expected that it would be implemented in its current format unless a **paper based** form is required. The information fields could be utilised in most Patient Management Systems (PMS) where the majority of the patient detail fields would automatically populate. It is recognised that many health care practitioners carrying out an assessment will not use a doppler for their vascular assessment but some will, hence the space was provided to record the details. The action plan section is to act as a prompt and in some PMS a referral would be automatically generated.

We hope you find the tool helpful.

NZSSD PodSIG
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1 Leese, G.P., et al., *Stratification of foot ulcer risk in patients with diabetes: a population-based study.* International Journal of Clinical Practice, 2006. **60**(5): p. 541-545.
2 Ministry of Health, *Tatau Kahukura: Maori health chart book 2010, 2nd Edition*, 2010, Ministry of Health: .
3 Margolis, D.J., Hofstad, O., Feldman, H.I., Association between renal failure and foot ulcer or lower extremity amputation in patients with diabetes. *Diabetes Care,*31(7), 1331-1336
4 Eggers,P.W., Ghodes,D., Pugh,J. (1999) Non traumatic lower extremity amputations in Medicare end-stage renal disease population. *Kidney International,*56, 1524-1533
5 Yumang M J, et al., *Perceptions of risk for foot problems and foot care practices of patients on hemodialysis.* Nephrology Nursing Journal, 2009. 36(5): p. 509-516.

DIABETES FOOT SCREENING & RISK STRATIFICATION FORM

Please fill in blank spaces, tick or circle applicable highlighted areas.

Date		Location		Date of last assessment	

PATIENT DETAILS

Name		NHI	
Address		DOB	
		AGE	
Phone		Ethnicity	
GP			
Practice		Phone	

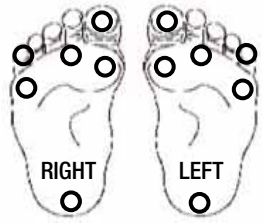
MEDICAL HISTORY

Type	DM1 DM2	Duration	
Treatment	☐ Insulin ☐ OHAs ☐ Diet		
Latest HbA1c		When	
Random BGL		CVD Risk	%
Renal eGFR		Creatinine	
Smoker	yes no	ABC Provided	yes no

DIABETES FOOT SCREENING

NEUROLOGICAL TESTING

10g Monofilament Testing Sites



✓ Detected ✘ Not detected

Loss of protective sensation (LOPS) if < 11 sites detected from both feet

/ 12 sites		LOPS	yes no
Painful neuropathy (pain, paraesthesia, numbness, burning, sharp)			yes no
Specify			

VASCULAR

RIGHT FOOT			LEFT FOOT	
Palpable Dorsalis Pedis	yes no		Palpable Dorsalis Pedis	yes no
Palpable Posterior Tibial	yes no		Palpable Posterior Tibial	yes no
Previous Vascular Surgery	yes no	When?		
Intermittent Claudication	yes no	Night or Rest Pain		yes no
If yes (describe)				

RISK FACTORS

Previous diabetes amputation	yes no	Previous ulceration	yes no
Significant structural foot deformity	yes no	End stage renal failure	yes no
Significant callous / pre-ulcerative lesion	yes no	Maori Ethnicity	yes no
Foot care: patient is capable or has help to self-manage foot care			yes no
Others (specify)			

ACTIVE FOOT

Active Ulceration	yes no	Suspected Charcot Foot (see desc.)	yes no

If yes, urgent referral to Multi-disciplinary or Hospital Foot Clinic.
Urgent hospital admission for severe or spreading infection or critical limb ischaemia.

RISK STRATIFICATION

LOW RISK FOOT
No risk factors present e.g. no loss of protective sensation orabsent or diminished pulses.

ACTION
Annual screening by a suitable trained nurse or health professional. Agreed self-management plan. Provide written and verbal education with emergency contact numbers. Appropriate access to podiatrist if required.

MODERATE FOOT
One risk factor present e.g. loss of sensation, absent or diminished pulses without callus or deformity.

ACTION
Annual risk assessment by a podiatrist. Agreed and customised management and treatment plan outlined by podiatrist according to patient's needs. Provide written and verbal education with emergency numbers.

HIGH RISK FOOT
Previous amputation or ulceration or two or more risk factors present e.g. loss of sensation, absent or diminished pulses, PAD, foot deformity with significant callous formation, pre-ulcerative lesions, end stage renal failure or Maori ethnicity.

ACTION
Annual assessment by podiatrist. Agreed and customised management and treatment plan by podiatrist according to patient's needs. Provide written and verbal education. Referral for specialist intervention if/when required

ACTIVE FOOT DISEASE
Presence of active ulceration, unexplained hot, red, swollen foot with or without the presence of pain (suspected Charcot foot), severe or spreading infection or critical limb ischaemia.

ACTION
Urgent referral to Multi-disciplinary or Hospital Foot Clinic for active ulceration and suspected Charcot foot. Urgent Hospital admission for severe or spreading infection or critical limb ischaemia. Provide written and verbal education with emergency contact numbers.

ACTION

Risk category	● ☐ **Active Foot Disease**	● ☐ **High Risk Foot**	● ☐ **Moderate Risk Foot**	● ☐ **Low Risk Foot**	
☐ Patient informed of risk category	☐ Patient instructed on risk management	☐ Education pamphlets provided to patient			
Currently attending:	☐ MDT/ Hospital Foot Clinic	☐ Community Podiatrist	☐ Private Podiatrist	☐ Patient self-cares	☐ Nil
Refer to:	☐ Hospital Foot Clinic	☐ Community Podiatrist	☐ Diabetes Service	☐ Vascular Service	☐ District Nursing
☐ Other	Specify				
Additional comments					
Screened by		Designation		Clinic	

DIABETES FOOT SCREENING AND RISK STRATIFICATION

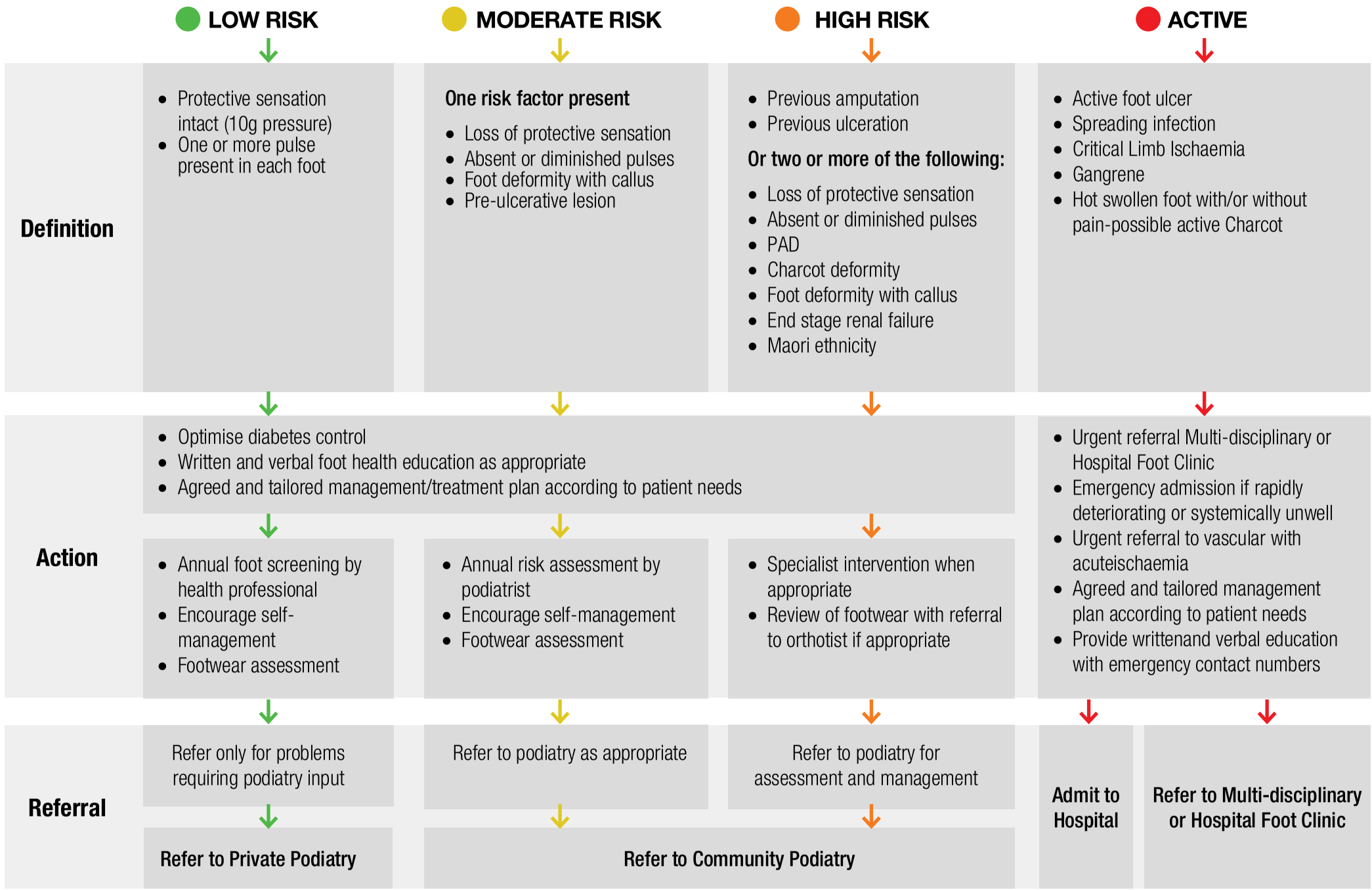
DEFINITIONS

ACTIVE	HIGH RISK	MODERATE RISK	LOW RISK
Presence of active ulceration, unexplained hot, red, swollen foot with or without the presence of pain (suspected Charcot foot), severe or spreading infection, or critical limb ischaemia.	Previous amputation or ulceration or two or more risk factors present –e.g. loss of sensation, absent or diminished pulses, PAD, foot deformity with callus, pre-ulcerative lesions, end stage renal failure or Maori ethnicity.	One risk factor present – e.g. loss of sensation, absent or diminished pulses without callus or deformity.	No risk factors present - no loss of sensation or absent or diminished pulses.

ACTIONS

ACTIVE	HIGH RISK	MODERATE RISK	LOW RISK
Urgent referral to the Multi-disciplinary or Hospital Foot Clinic for active ulceration or suspected Charcot foot. Urgent admission for severe or spreading infection or critical limb ichaemia. Provide written and verbal education with emergency contact numbers.	Annual assessment by a podiatrist. Agreed and customised management plan with a podiatrist according to patient needs. Provide written and verbal education with emergency contact numbers. Referral to specialist if required.	Annual risk assessment by a podiatrist. Agreed and customised management plan outlined by podiatrist according to patient needs. Provide written and verbal education with emergency contact numbers.	Annual screening by a trained Nurse or Health Professional. Agreed self-management plan. Provide written and verbal education with emergency contact numbers. Appropriate access to podiatrist if required.

REFERRAL PATHWAY FOR DIABETES FOOT SCREENING AND ASSESSMENT



REFERRAL PATHWAY FOR ACTIVE DIABETIC FOOT DISEASE