Welcome to the Diabetes Foot Screening and Risk Stratification Tool

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
Michele Garrett, Steve York, Claire O’Shea, Leigh Shaw, Fiona Angus, Judy Clarke and Karyn Ballance

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
### DIABETES FOOT SCREENING & RISK STRATIFICATION FORM

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

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Date of last assessment</th>
</tr>
</thead>
</table>

#### PATIENT DETAILS

- **Name**: [Name]
- **NHI**: [NHI]
- **Address**: [Address]
- **DOB**: [DOB]
- **AGE**: [AGE]
- **Phone**: [Phone]
- **GP**: [GP]
- **Practice**: [Practice]
- **Ethnicity**: [Ethnicity]

#### 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]

#### RISK FACTORS

- **Previous diabetes amputation**: [yes, no]
- **Significant structural foot deformity**: [yes, no]
- **Significant callous / pre-ulcerative lesion**: [yes, no]
- **Foot care: patient is capable or has help to self-manage foot care**: [yes, no]
- **Others (specify)**: [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.**

#### MEDICAL RISK CATEGORY

- **Low Risk Foot**: No risk factors present e.g. no loss of protective sensation, absent or diminished pulses.
- **Moderate Risk Foot**: One risk factor present e.g. loss of sensation, absent or diminished pulses without callus or deformity.
- **High Risk Foot**: 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.
- **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.

<table>
<thead>
<tr>
<th>Risk category</th>
<th>Active Foot Disease</th>
<th>High Risk Foot</th>
<th>Moderate Risk Foot</th>
<th>Low Risk Foot</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>[]</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

#### ACTION

- **Patient informed of risk category**: [ ]
- **Patient instructed on risk management**: [ ]
- **Education pamphlets provided to patient**: [ ]
- **Currently attending**: [ ]
- **Refer to**: [ ]
- **Other**: [ ]

- **Screened by**: [ ]
- **Designation**: [ ]
- **Clinic**: [ ]

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DIABETES FOOT SCREENING AND RISK STRATIFICATION

DEFINITIONS

ACTIVE

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.

HIGH RISK

Previous amputation or ulceration or more than two 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.

MODERATE RISK

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

LOW RISK

No risk factors present - no loss of sensation or absent or diminished pulses.

ACTIONS

ACTIVE

Annual screening by a trained Nurse or Health Professional. Agreed self-management plan. Provide written and verbal education with emergency contact numbers.

HIGH RISK

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.

MODERATE RISK

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.

LOW RISK

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

**LOW RISK**

No risk factors present
- Normal sensation
- No pressure or vibration sensation
- No peripheral arterial disease (PAD)
- Pedal pulses present
- No signs or symptoms of PAD (e.g., claudication, pallor, dependent rubor)

**Definition**
- No risk factors present
- Normal sensation
- No peripheral arterial disease (PAD)
- Pedal pulses present
- No signs or symptoms of PAD (i.e., claudication, pallor, dependent rubor)

**Action**
- Annual foot screening by trained health professional
- Encourage self-management plan
- Footwear assessment

**Referral**
- Refer only for problems requiring podiatry input
- Refer to Private Podiatry as required

**MODERATE RISK**

Any one of the following:
- Loss of sensation
- Peripheral arterial disease
- More than one pulse absent
- Signs or symptoms of PAD
- Previous lower limb arterial interventions
- Significant foot deformity
- Significant callus
- Pre-ulcerative lesion
- eGFR <15 (CKD Stage 5)

**Definition**
- Any one of the following:
- Loss of sensation
- Peripheral arterial disease
- More than one pulse absent
- Signs or symptoms of PAD
- Previous lower limb arterial interventions
- Significant foot deformity
- Significant callus
- Pre-ulcerative lesion
- eGFR <15 (CKD Stage 5)

**Action**
- Annual risk assessment by podiatrist experienced in the diabetic foot
- Examine feet every 3-6 months
- Encourage self-management
- Consider the provision of specialist footwear and insoles if required, measured and fitted by a podiatrist or orthotist

**Referral**
- Refer to podiatrist for assessment and management
- Refer to Podiatry Foot Protection Service

**HIGH RISK**

In remission (One of the following):
- Previous amputation
- Previous ulceration
- Consolidated Charcot foot

**Definition**
- In remission (One of the following):
- Previous amputation
- Previous ulceration
- Consolidated Charcot foot

**Action**
- Risk assessment and management by podiatrist experienced in the diabetic foot
- Examine feet at every patient visit
- Review of patient’s footwear
- Consider the provision of specialist footwear and insoles if required, measured and fitted by a podiatrist or orthotist

**Referral**
- Refer to podiatrist for assessment and management
- Admit to hospital

**ACTIVE RISK**

Any of the following:
- Foot ulcer
- Spreading infection
- Critical limb ischaemia
- Gangrene
- Hot swollen foot with/without pain possible active Charcot foot
- Post-operative including open wound

**Definition**
- Any of the following:
- Foot ulcer
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**Action**
- Risk assessment and management by podiatrist experienced in the diabetic foot
- Examine feet at every patient visit
- Review of patient’s footwear
- Consider the provision of specialist footwear and insoles if required, measured and fitted by a podiatrist or orthotist

**Referral**
- Refer to Multidisciplinary or Hospital Podiatry/Foot Clinic

**Provide written and verbal education relevant to risk assessment and with emergency contact numbers**
REFERRAL PATHWAY FOR ACTIVE DIABETIC FOOT DISEASE

RISK STATUS
- **Active Foot Disease**
  - Active foot ulcer
  - Hot swollen foot with/or without pain-suspected Charcot foot
  - Severe or spreading infection
  - Critical limb ischaemia
  - If in doubt, refer or contact to discuss

- **High Risk**
  - Foot intact and stable
  - Previous amputation
  - Previous ulceration
  - Referral to community podiatry service for ongoing management

REFERRAL PATHWAY
- **MULTIDISCIPLINARY/HOSPITAL FOOT CLINIC**
  - **MEDICAL ADMISSION**
    - Severe infection
      - Rapid deterioration of ulcer
      - Deep abscess
      - Spreading cellulitis
      - Systemically unwell
    - Access to surgical team if required
    - If in doubt, seek advice from the Multi-disciplinary or Hospital Foot Clinic
  - **URGENT VASCULAR REVIEW**
    - Acute / critical limb ischaemia
      - Discolouration of toes/foot: pale, dusky, black
      - Signs of necrosis
      - Pain at rest, often at night
    - If in doubt, seek advice from the Multi-disciplinary or Hospital Foot Clinic

MANAGEMENT
- **MULTI-DISCIPLINARY/HOSPITAL FOOT CLINIC**
  - **ALL PATIENTS WITH ACTIVE FOOT DISEASE**
    - Ongoing review by appropriately skilled and experienced podiatrist
    - Information given about future foot care and how to access services in an emergency
    - Refer to Orthotist for footwear if clinically required
    - Antibiotics as required
    - Referral to vascular, orthopaedics, surgical or medical if clinically required

- **COMMUNITY PODIATRY**
  - **COMMUNITY PODIATRY SERVICE**
    - Postal Address:
    - Physical Address:
    - Tel:
    - Fax:

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