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

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

# 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

<table>
<thead>
<tr>
<th>Name</th>
<th>NHI</th>
<th>Address</th>
<th>DOB</th>
<th>AGE</th>
<th>Phone</th>
<th>Ethnicity</th>
<th>GP</th>
</tr>
</thead>
</table>

## MEDICAL HISTORY

<table>
<thead>
<tr>
<th>Type</th>
<th>DM1</th>
<th>DM2</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treatment</td>
<td>☐ Insulin</td>
<td>☐ OHAs</td>
<td>☐ Diet</td>
</tr>
<tr>
<td>Latest HbA1c</td>
<td>When</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Random BGL</td>
<td>CVD Risk</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>Renal</td>
<td>eGFR</td>
<td>Creatinine</td>
<td></td>
</tr>
</tbody>
</table>

| Smoker | yes | no | ABC Provided | yes | no |

## RISK STRATIFICATION

### LOW RISK FOOT

No risk factors present e.g. no loss of protective sensation or absent 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.

## DIABETES FOOT SCREENING

### NEUROLOGICAL TESTING

- **10g Monofilament Testing Sites**
  - 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

- **Palpable Dorsalis Pedis** yes no
- **Palpable Posterior Tibial** yes no
- **Previous Vascular Surgery** yes no When?
- **Intermittent Claudication** yes no Night or Rest Pain 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)**

## 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.

## 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**

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DIABETES FOOT SCREENING AND RISK STRATIFICATION

**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 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.

**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.

**DEFINITIONS**

**ACTIONS**

**ACTIVE**
- 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 ischaemia. 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.

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**Definition**

- **One risk factor present**
  - Loss of protective sensation
  - Absent or diminished pulses
  - Foot deformity with callus
  - Pre-ulcerative lesion

- **Low risk**
  - Protective sensation intact (10g pressure)
  - One or more pulse present in each foot

- **Moderate risk**
  - Previous amputation
  - Previous ulceration
  - Loss of protective sensation
  - Absent or diminished pulses
  - Foot deformity with callus
  - End stage renal failure

- **High risk**
  - Previous amputation
  - Previous ulceration
  - Absent or diminished pulses
  - Foot deformity with callus
  - End stage renal failure

- **Active**
  - Active foot ulcer
  - Spreading infection
  - Critical Limb Ischaemia
  - Gangrene
  - Hot swollen foot with/without pain possible active Charcot

- **Urgent referral Multi-disciplinary or Hospital Foot Clinic**
  - Emergency admission if rapidly deteriorating or systemically unwell

- **Urgent referral to vascular with acute ischaemia**
  - Urgent referral to vascular with acute ischaemia
  - Agreed and tailored management plan according to patient needs

- **Agreed and tailored management plan according to patient needs**
  - Provide written and verbal education with emergency contact numbers

- **Active foot ulcer**
  - Spreading infection
  - Critical Limb Ischaemia
  - Gangrene
  - Hot swollen foot with/without pain possible active Charcot

- **Admit to Hospital**
  - Refer to Multi-disciplinary or Hospital Foot Clinic

- **Refer to podiatry for assessment and management**
  - Specialist intervention when appropriate
  - Review of footwear with referral to orthotist if appropriate

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

- **Refer to podiatry for assessment and management**
  - Refer to podiatry as appropriate

- **Optimise diabetes control**
  - Written and verbal foot health education as appropriate
  - Agreed and tailored management/treatment plan according to patient needs

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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

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

MEDICAL ADMISSION
- Severe infection
- Rapid deterioration of ulcer
- Deep abscesses
- 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
- Decolouration of toes/foot: pale, dusky, black
- Pain at rest; often at night
- Signs of necrosis
- If in doubt, seek advice from the Multi-disciplinary or Hospital Foot Clinic

MULTI-DISCIPLINARY/HOSPITAL FOOT CLINIC

COMMUNITY PODIATRY

COMMUNITY PODIATRY SERVICE

MULTI-DISCIPLINARY/HOSPITAL FOOT CLINIC

Postal Address:
Physical Address:
Tel:
Fax:

COMMUNITY PODIATRY

Postal Address:
Physical Address:
Tel:
Fax:

MANAGEMENT

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