Foot screening
Why

INTERNATIONAL WORKING GROUP ON THE DIABETIC FOOT

• Five cornerstones of the management of the diabetic foot
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1. Regular inspection and examination of the foot.
2. Identification of the foot at risk.
3. Education of patient, family and healthcare providers.
4. Appropriate footwear.
5. Treatment of non ulcerative pathology
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• Risk categorization system
## Risk categorization system

<table>
<thead>
<tr>
<th>Category</th>
<th>Risk profile</th>
<th>Check up frequency</th>
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<tbody>
<tr>
<td>0</td>
<td>no sensory neuropathy</td>
<td>Once a year</td>
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How
Regular inspection and examination of the foot

- All diabetic patients should be examined at first presentation then at least once a year
- Patients with risk factors should be examined every 1-6 months
- Absent symptoms does not mean that the feet are healthy
- Examine the patient on lying down and standing up
- Shoe and socks should be inspected
Foot examination

1. Nails
2. Foot deformity
3. Skin condition
4. Vascular assessment
5. Neurological assessment
Does your patient have neuropathy?
How to diagnose diabetic neuropathy
Clinical Assessment

History

- Are your feet numb
- Burning pain
- Feet sensitive to touch
- Muscle cramp
- Can you tell hot from cold water
- Have you had an ulcer
- Dr diagnosed neuropathy
- Do you feel weak

- Symptom worse at night
- Legs hurt when you walk
- Prickling feeling
- Able to sense feet when walking
- Bed covers hurt your skin
- Your skin crack open
- Unsteadiness
- Previous amputation

_Feldman, Diabetes care, 1994_
Clinical Assessment

- Remember
  - 50% has no symptoms
  - Review other causes of neuropathy (10%)
Clinical Assessment

 Remember

❖ Review diabetes history, management
❖ Daily glycemic records, previous A1c
❖ Review medical history
Physical Examination

- Inspection
- Vibration sense Tuning fork 128
- Reduced protective sensation such as pressure, hot and cold, pain
- Sharp, dull, light touch
- Deep tendon reflex
Physical Examination

- Inspection
  - Vibration sense Tuning fork 128
  - Reduced protective sensation such as pressure, hot and cold, pain
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  - Deep tendon reflex
Inspection

- Muscle atrophy
- Intrinsic minus foot
- Dry skin
Inspection

- Dilated Veins
- Warm Foot

Step By Step Improving Diabetes Foot Care in Egypt

11-13/11/2009
Neuropathy Assessment
What to use
Physical Examination

- Inspection
- **Vibration sense**
  - Tuning fork 128
  - neurothesiometer
Vibration Sense

- Tuning fork is held against a bony prominence:
  - Medial aspect 1st MTP Joint
  - Plantar Hallux
  - Med/Lat Malleolus

- Patients should be reminded that it is the vibration they are required to detect not the sound

- 128

- Perpendicular

- Constant pressure
• Vibration threshold is strongly linked with age
• Males have slightly higher thresholds than females

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<tr>
<th>Age</th>
<th>15</th>
<th>35</th>
<th>55</th>
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<tr>
<td>Males</td>
<td>8.8 volts</td>
<td>12.9 volts</td>
<td>19.9 volts</td>
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<tr>
<td>Females</td>
<td>8.3 volts</td>
<td>10.8 volts</td>
<td>14.6 volts</td>
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NEUROTHESIOMETER

- At the distal pulp of the hallux, over bony prominence
- Voltage is increased until the patient can perceive vibration

Foot ulcer risk increased by 5.6% per volt

*Abott, Diabetes care, 1998*
Physical Examination

- Inspection
- Vibration sense

**Reduced protective sensation**
- pressure
- hot and cold
- pain
MONOFILAMENTS

Which monofilament?

- 10 g, 1g
- Calibrated
HOW TO USE IT?

• Teach your patient
• Perpendicular
• Until bended
• Close his eyes
• Do you feel it
• Where
• 3 times/ site
How many sites to be tested?
How many sites to be tested?
MONOFILAMENTS

How many lost sites to diagnose LOPS

1
Monofilament Failure

- Application on area with callus, scar, ulcer or necrotic tissue
- Require frequent replacement
- Repetitive loading?
TEMPERATURE TESTING

- Two test tubes, hot/cold.
- Therm-tip
- Subjective, crude tests
SUPERFICIAL PAIN TEST

- Neuro - tip
- Areas tested
- Patient response
- Significance
Physical Examination

- Inspection
- Vibration sense
- Reduced protective sensation

- Sharp, dull, light touch
LIGHT TOUCH TEST

- Wisp of cotton wool
- Subjective
- Can be painful if neuropathy exists
Physical Examination

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Deep tendon reflex
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Thank you