

Module C

Vascular and Non-Vascular Complications of Diabetes

1. Neuropathy and Diabetes Foot Disease

Learning aims

To appreciate that all residents with diabetes are at risk of damage to the nervous system, which may present as several syndromes.

To learn that diabetic peripheral neuropathy (DPN) is the most common form of nerve damage and one of the main reasons for developing a foot ulcer.

To be aware that diabetic neuropathy can be a cause of erectile dysfunction (ED) as well as some gastrointestinal conditions.

To appreciate that regular screening for nerve damage is essential to manage early problems.

NICE Guidance – Foot Protection Across All Settings

- ① A foot protection service for preventing diabetic foot problems, and for treating and managing diabetic foot problems in the community should be available in your area.
- ① The foot protection service should be led by a podiatrist with specialist training in diabetic foot problems, and should have access to relevant healthcare professionals – consult your local podiatry service for more information.
- ① Remember - **Healthcare professionals may need to discuss, agree and make special arrangements for disabled people and people who are housebound or living in care settings, to ensure equality of access to foot care assessments and treatments for people with diabetes**



Diabetic peripheral neuropathy and foot disease

- ① Diabetic peripheral neuropathy (DPN) is the most common form of neuropathy and is one of the main reasons for developing a foot ulcer.
- ① Residents with diabetes should receive regular foot examinations in order to identify foot disease and prevent foot ulcers. This is recommended by NICE (National Institute for Health and Care Excellence): see <https://www.nice.org.uk/guidance/ng19>

Diabetic peripheral neuropathy and foot disease

All residents to have their shoes, socks, bandages and dressings removed to undertake a careful examination. Examination of patients' feet according to NICE Guidelines should include:



Testing of foot sensation using a 10g monofilament as part of a foot sensory test



Palpation of foot pulses



Inspection of any foot deformity



Inspection of footwear

Neuropad - A potential new emerging test for detecting peripheral neuropathy in diabetes

- ① *Neuropad* is a new 10-minute screening test for neuropathy in the feet and is being evaluated at present for use within the NHS. This slide is given for information only.
- ① It is a test that depends on a colour change when a small pad (like a plaster) is applied to the sole of the foot:



- ① The pad is blue to start with and if it changes to pink after 10 minutes – this is a **NORMAL** result
- ① If the pad remains blue in colour or changes to a mixture of blue and pink, then this indicative of **nerve damage** being present.
- ① *See section on further reading for more information.*

Diabetic peripheral neuropathy and foot disease

- ① Depending on the findings, the risk of developing foot disease is classified as:
 - Low risk
 - Moderate risk
 - High risk
- ① Each care home should develop a foot care protocol according to the risk category depending on available services and NICE guidelines.
- ① Consult with your manager and local community nursing team to develop such a protocol.

Diabetic peripheral neuropathy (DPN) and foot disease

- ⦿ Remember that DPN can be associated with both sensory and motor problems in the legs and feet
- ⦿ In the presence of diabetes foot disease, agree a management plan including foot care education with each person.
- ⦿ Encourage residents with diabetes to inspect their own feet daily and report any changes (e.g. pain, sensation, infection, reddening of skin, etc) to care staff.
- ⦿ **Remember:** for those residents at moderate or high risk of developing diabetic foot disease and who may not be able to self-inspect, daily foot checks by care staff should be considered.



Diabetic peripheral neuropathy and foot disease

- ① According to the advice from the foot protection service, arrange regular reviews – 3 - 6 monthly intervals:
- ① At each review:
 - inspect the resident's feet
 - re-examine sensory function
 - consider need for vascular assessment
 - evaluate footwear within the care home
 - enhance foot care education

High risk of foot ulcers

- ⊙ A high risk is present when neuropathy or absent pulses are detected, plus deformity or skin changes or previous ulcers
- ⊙ Arrange frequent reviews (1–3 monthly) by the foot protection team (or local podiatrist)
- ⊙ At each review:
 - inspect resident's feet
 - consider need for vascular assessment
 - re-examine sensory function
 - evaluate and ensure the appropriate provision of
 - intensified foot care education.
 - specialist footwear and insoles.
 - skin and nail care
 - ensure special arrangements for those people with disabilities or immobility.



CQC guidance for Inspectors on foot care

- ③ The Care Quality Commission (CQC) has guidance available for its Inspectors relating to diabetes care in care homes
- ③ **A key element of the guidance is the recommendation that each home has:**
 - A risk-calculation and assessment tool for diabetes foot disease.** *Use of such a tool by suitably trained staff can reduce unnecessary amputations.*
- ③ Please talk with your care home manager and/or your community nurse diabetes specialist to learn more.
- ③ Please read: Diabetes Guidance for CQC Inspectors(2015): <https://diabetestimes.co.uk/resources/guidance-for-cqc-staff-inspecting-the-quality-of-care-for-residents-with-diabetes-mellitus-living-in-care-homes/>

Sexuality and the Care Home

- ① It is healthy for older adults to experience sexual feelings and desires, and to want to express sexuality in their everyday lives
- ① Providers need to understand the importance of enabling people to manage their sexuality needs. This applies to women as well as to men.
- ① Providers also need to understand the risks associated with people's sexuality needs.
- ① Speak with your care home manager to see what the prevailing policy is in your care home in relation to this area.

Erectile dysfunction (ED)

- ① Diabetic neuropathy can be a contributing factor to erectile dysfunction (ED).
- ① ED may be relatively common in residents with diabetes due to the risk of nerve damage and disease affecting the blood vessels.
- ① Whilst ED should be investigated in most cases, the situation in care homes may not be conducive to this scenario.
- ① Please discuss with your care home manager on how to raise this issue with a resident if you suspect this requires attention.

Erectile dysfunction (ED)

- ◎ Various treatments options are available according to the resident's requirements.
- ◎ A new complaint of ED should trigger a cardiac review as it is an additional risk factor for heart disease.
- ◎ Sometimes, ED may be partly secondary to treatment for something else, e.g. hypertension and a review of a resident's medication by the doctor (GP) or specialist diabetes nurse is warranted.



Diabetic Autonomic Neuropathy (DAN)

- ◎ DAN can cause cardiovascular, genitourinary and gastrointestinal problems.
- ◎ Long duration of diabetes and poor glucose control are risk factors for DAN
- ◎ When DAN affects the gastrointestinal system, it can cause both constipation and diarrhoea
- ◎ If a resident reports any new or unusual symptoms lack of sweating, diminished exercise, bladder problems, or change in bowel habit, think of DAN and seek advice from the doctor (GP).

Key messages

KM

After foot inspection of care home residents with diabetes - report changes in pain, sensitivity, skin integrity, colour or temperature to your care home manager, a registered nurse or doctor (GP).

KM

Urgently refer a patient with a foot ulcer to the multidisciplinary foot protection service (or local podiatrist}

KM

This should trigger urgent wound care, antibiotic treatment and possible revascularisation.

KM

Residents with diabetes and ED should be referred for possible treatment after full liaison with the resident, care home manager and community diabetes nurse specialist.

Questions

Q1. Diabetic neuropathy refers to problems with the nervous system that people with diabetes are more likely to experience. Which two options below represent common forms of diabetic neuropathy?

- A. Foot ulcers
- B. Erectile dysfunction
- C. Anxiety
- D. Alopecia

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- C. Anxiety
- D. Alopecia

Questions

Q2. Foot inspections are important for people with diabetes, and every resident with diabetes should see a podiatrist at regular intervals. Residents with diabetes should also carry out foot inspections themselves if possible; where this is not possible a carer should do this. What should each inspection check?

- A. Any cuts, abrasions or lesions on the feet
- B. Any signs of infection or sensitivity
- C. Any changes in colour or temperature
- D. Any problems with nails
- E. Use of appropriate footwear
- F. All of the above

Questions

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Questions

Q3. The risk of developing diabetes-related foot disease is usually classified as:

- ⊙ Short term, medium term, longer term
- ⊙ Grade 1, grade 2, and grade 3
- ⊙ Low risk, moderate risk, high risk
- ⊙ Level A, level B, level C

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- ⊙ Grade 1, grade 2, and grade 3
- ⊙ **Low risk, moderate risk, high risk**
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Questions

Q4. Which of the following are factors that are likely to influence developing a care home foot protocol:

- Whether the care home has had a CQC inspection
- Care staff awareness of NICE guidelines
- Availability of local foot care
- All of the above

Questions

Q4. Which of the following are factors that are likely to influence developing a care home foot protocol:

- Whether the care home has had a CQC inspection
- Care staff awareness of NICE guidelines**
- Availability of local foot care**
- All of the above

Further reading

- © National Institute for Health and Care Excellence): see Diabetic foot problems: prevention and management. Last updated October 2019.
<https://www.nice.org.uk/guidance/ng19>
- © Simpson J (2018) Abnormal sweating in diabetes — implications for screening for diabetic peripheral neuropathy. *The Diabetic Foot Journal* 21(4): 260–4
- © Independent Diabetes Trust. See Diabetes: looking after your feet. Available at:
www.iddtinternational.org

Learning completed