CLINICAL PROTOCOL FOR THE MANAGEMENT OF FOOT CARE FOR DIABETIC PATIENTS

RATIONALE

Clinical evidence suggests that there is considerable potential to improve the quality of foot care for people with diabetes. Targeted preventive services can identify those at risk of ulceration and improve outcomes, and rapid access to multidisciplinary foot care can lead to faster healing, fewer amputations and improved survival.


All nurses need to:

- Check patients have had their holistic annual reviews i.e. eye checks, HbA1C, foot care, as patients who are housebound sometimes do not have all required check ups on a regular basis
- Conduct a foot check at least monthly for patients unable to self care, unless clinical needs indicates more frequent checks are needed,
- Provide health promotion education to care for feet e.g. if patient needed removal of a callus
- Encourage patients to inspect their feet and monitor their condition as part of self management where feasible and record advice in health care records. Including advice on the importance of reporting any concerns to the relevant health professional as soon as possible

TARGET GROUP

This protocol is specifically aimed for Community Nursing Teams and Specialist Nurses

TRAINING

All staff in the Trust are required to comply with mandatory training as specified in the Trusts Mandatory Training Matrix. Clinical Staff are also required to comply with service specific mandatory training as specified within their service training matrix.

DELEGATION AND SCOPE OF PRACTICE

The delegation of nursing care must be appropriate, safe and in the best interests of the patient at all times and the decision to delegate must always be based on an assessment of their individual needs (NMC 2008). Where Trust staff delegate clinical tasks to non
registrants within the team, they will retain accountability and responsibility for that delegation via supervision.

Trust staff should only delegate clinical tasks to other members of staff whom they deem clinically competent and able to fully understand the nature of the delegated task and also what is required of them.

Health care assistants should be encouraged to understand their limitations and recognise when it would be unsafe to proceed with a clinical task which has been delegated to them. In this instance, the member of staff should contact the Community Nursing team and liaise with the most appropriate member of staff.

RELATED POLICIES

Please refer to relevant Trust policies and procedures

BACKGROUND

Foot complications are common in diabetes. Microvascular and macrovascular disease refers to damage that occurs to blood vessels within the body. Another complication is peripheral vascular disease (PVD) which is damage caused to blood vessels supplying lower limbs. This can cause poor circulation, resulting in pain and predisposing patients’ feet to the development of ulceration, which can lead ultimately to amputation. Another complication is neuropathy, which can lead to loss of sensation in the feet, approximately 20 – 40% of people diabetes develop neuropathy. Neuropathy and PVD are secondary to poor blood glucose control and adverse arterial risk factors (such as smoking or dyslipidaemia). Where neuropathy and ischaemia lead to ulceration (especially with poor glucose control), the foot can become infected, often with polymicrobial invasion and it may need to be amputated if the infection is not managed appropriately. Patients undergoing lower limb amputations exhibit a mortality rate of 50 – 75% within five years (NICE 2004).

POTENTIAL CONTRIBUTORY FACTORS LEADING TO FOOT ULCERATION AND INFECTION:

- Friction in ill fitting or new shoes
- Neglect
- Untreated callus
- Self treated callus
- Foot injuries (for example, unnoticed trauma in shoes or when walking barefoot)
- Burns (for example, excessively hot bath, hot water bottle, hot radiators)
- Corn plaster
- Nail infections
- Artifactual (self inflicted foot lesions are rare: occasionally failure to heal is due to this cause)
- Heel friction in patients confined to bed
- Foot deformities (callus, clawed toes, bunions, pes cavus, hallux
rigidus, hammer toe, Charcot’s foot neuro-arthropathy, deformities from previous trauma or surgery, nail deformities, oedema)

FOOT CARE: general management approach

- Effective care involves a partnership between patients and professionals, and all decision making should be shared (DH 2010).
- On diagnosis, a full holistic assessment should be completed to determine the level of risk the foot poses.
- A management plan should be agreed with patients that includes appropriate foot care education, including risks and benefits of treatment/care plan and documented in the patient records.
- An appropriate individual care plan will be mutually agreed between the patient and the health care professional (DH 2008).
- Education will form part of the care plan.
- Check the patient has been recalled for annual foot screening depending on who is providing the care i.e. podiatry service, patients GP, or secondary care depending on their risk category and individual circumstances. If the patient has not been recalled the nurse must follow this up and record outcome in the health records.
- Extra vigilance should be used for people who are older, have had diabetes for a long time, have poor vision, have poor footwear, smoke, are socially deprived or live alone. Any clinical concerns regarding non concordance needs to be recorded in the patients health records.
- To promote optimal glucose levels to meet individual health needs and control of risk factors for cardiovascular disease.

ON DIAGNOSIS OF DIABETES AND ONGOING CARE

On diagnosis the patient’s lower limbs and feet are examined to include:

- Testing of foot sensation
- Palpation of foot pulses
- Inspection of foot deformity
- Inspection of footwear.

The outcome of this process will include:

- Patients will be risk classified
- Patients will have an agreed care plan according to their risk classification
- Patients will receive appropriate education based on their risk classification
- Patients will be referred to the appropriate services based on the results of their screening.

Community Nursing staff should be aware of the following risk categories:

High Risk
Patients who have had a previous foot ulcer or amputation should routinely examine their feet on a daily basis for broken skin, blisters and inflammation, using the aid of a mirror if necessary – this should be incorporated into the patient's care plan. Patients are advised to attend their local accident and emergency department when broken skin, blisters,
swelling and inflammation are observed. Any delay in getting treatment and advice could lead to further complications. All high risk patients should have a follow up appointment with the Trust Community Podiatry Service in their possession.

At Risk
Patients who have reduced sensation, absent pulses, neuropathic pain and possible foot deformity are at risk of diabetic foot ulcers. Patients should be referred to podiatry services where they will be assessed for their need relating to the following and reviewed annually:

- Vascular assessment
- Specialist footwear/insoles
- Treatment for painful neuropathy
- Glycaemic control

Low Risk
Patients with palpable pulses and normal sensation are classed as low risk. Patients should routinely examine their feet for broken skin, blisters and inflammation on a daily basis. Advice and treatment should be sought immediately by patients from their GP or Practice Nurse when signs of infection i.e. pain, swelling, bleeding, discolouration or a sudden increase in temperature are evident. Annual diabetic foot screening is provided by their GP.

MONTHLY REVIEW BY COMMUNITY MATRON OR COMMUNITY NURSE FOR HOUSEBOUND PATIENTS ON THEIR EXISTING CASELOAD

Patients that fit the following criteria will receive 1-3 monthly foot assessments as per NICE guidance (NICE 2004) :-

- Insulin dependent diabetic
- House bound
- Unable to self care

Patients are examined to include:

- Observational foot inspection
- Inspection of footwear.

The outcome of this process is that:

- Patients will receive appropriate health education as required
- Patients will be referred to the appropriate services based on the results of their review as soon as possible and followed up. Checks should be made as to whether a patient is already reviewed by the Trust’s Podiatry Service
- When relevant, any clinical concerns must be shared with GP.
COMPLICATIONS

Neuropathy
Peripheral neuropathy is degeneration of the peripheral nerves which can lead to loss of sensation, motor and autonomic dysfunction. It may also lead to severe foot problems. Detection of neuropathy results in the classification of a patient being increased or high risk.

Vascular Disease
Peripheral vascular disease in the form of atherosclerosis of the leg vessels causes loss of circulation (ischaemia which is often bilateral, multisegmental and distal). Detection of peripheral vascular disease results in the classification of a patient being increased or high risk.

Ulceration Aetiology / Risk Factors
Long-term risk factors for foot ulcers and amputation include duration of diabetes, poor glycaemic control, microvascular complications (retinopathy, neuropathy, and nephropathy), peripheral vascular disease, foot deformities, and previous foot ulceration or amputation. Strong predictors of foot ulceration are altered foot sensation, foot deformities, and previous foot ulcers or minor or major amputation of part of the other foot or amputation of all of the foot.

Charcot Foot
Charcot osteoarthropathy is a progressive condition, characterised by peri-articular fractures and destruction of the bony structures. It is associated with sensory neuropathy. In the majority of patients with Charcot arthropathy, the midfoot or inner longitudinal arch collapses. The acute swelling and the later deformity associated with this are major risk factors for ulceration and subsequently amputation. Foot trauma in a neuropathic foot may be a trigger for the development of Charcot osteoarthropathy. Continued walking promotes progression of the osteoarthropathy and will worsen the deformity.

IMPORTANT – CARE OF PATIENTS WITH FOOT ULCERS / CHARCOT OSTEOARTHOPTHY

If any patient presents with a new ulceration or has a static, non-responsive or deteriorating area of ulceration, swelling or discolouration (may indicate deep infection), critical ischaemia or suspected Charcot Foot then arrange an urgent appointment with the Diabetic Team at Arrowe Park Hospital (APH) / Clatterbridge Hospital immediately. Alternatively advise the patient to attend their local Accident and Emergency department for further assessment and review, as stipulated within the Trust’s Diabetic Foot Care Referral Pathway.

Before any referral to Wirral University Teaching Hospital (WUTH) Diabetic Team can be made, the patient must be under the care of a Diabetic Consultant at APH or Clatterbridge Hospitals. It is the responsibility of the referring clinician to ensure that any patients they refer to WUTH are registered with a consultant. This can be confirmed by phoning Arrowe Park Hospital or Clatterbridge Hospital.

- If the patients’ diabetes is managed by WUTH ring for an appointment or contact the Diabetic Specialist Nurses
• If the patients' Diabetes is managed by their GP, request for the GP to refer back into secondary care where the patient can be managed appropriately. The GP and Practice is to manage this referral process and any subsequent outcomes.

All requests for referrals must be recorded and followed up accordingly.

**ONGOING MONITORING FOR MANAGING CLINICIAN**

To evaluate monthly via observational inspection of the foot or as condition changes and document how advice has been sought from specialist professionals i.e. Podiatry service, Tissue Viability Nurses, or General Practitioner.

For patients who have developed diabetic foot ulcers the relevant service documentation must be completed, a wound assessment chart must be completed every two weeks or earlier if the wound is deteriorating.

Follow the Clinical Protocol for Photography and Video Recording of Patients on advice regarding photography to monitor the progress of diabetic foot ulcers, and complete consent form 5 before taking any photographic evidence of wounds.

A pain assessment chart must also be completed to ensure that the patient is receiving appropriate pain relief and located within the patient’s health care notes.

**PATIENT EDUCATION**

Patient education should form an integral part of the patient’s diabetic management plan (DH 2001). Education should be offered at the time of diagnosis and also during the patient’s annual review in accordance with their risk classification and presenting complaint. Health education should include discussion around specific risk factors i.e. smoking and obesity, and referrals made to the appropriate services. All patients diagnosed with diabetes should be offered a structured educational package as part of their general diabetic care i.e. X-PERT Diabetes Education Programme. Patients can be referred into the programme through Trust staff gaining consent from the patient to complete the referral; alternatively patients are able to self-refer independently. Patients who are housebound and unable to attend the X-PERT Diabetes Education Programme can be referred to the Dietetics Service for review within their own home.

**WERE TO GET ADVICE FROM**

In the first instance, Community Nurses within the Trust should seek advice from their Line Manager and when relevant the patient’s GP. When more comprehensive advice is required Community Nurses should contact Diabetes Specialist Nurses for advice and clinical guidance as required. Contact the team at Wirral University Teaching Hospital or Clatterbridge Hospital depending on the patient’s consultant.
INCIDENT REPORTING

Clinical incidents or near misses must be reported and a Trust Incident Form must be completed using the Trust’s incident reporting system.

SAFEGUARDING

In any situation where staff may consider the patient to be a vulnerable adult, they need to follow the Trust Safeguarding Adult Policy and discuss with their line manager and document outcomes.

EQUALITY ASSESSMENT

During the development of this protocol the Trust has considered the clinical needs of each protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation). There is no evidence of exclusion of these named groups.

If staff become aware of any clinical exclusion that impact on the delivery of care a Trust Incident form would need to be completed via the Trust’s incident reporting system and an appropriate action plan put in place.

REFERENCES

DH (2010) Equity and Excellence: Liberating the NHS
## WIRRAL DIABETIC FOOT CARE REFERRAL PATHWAY
### DIABETIC RISK CATEGORIES

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| **Low Risk** | • Normal sensation  
• Normal pulses  
• No previous ulcers  
• No foot deformity  
• Normal vision  
• No callus |
| **At Risk** | • Reduced sensation  
• Absent pulses (abnormal vascular results)  
• Neuropathic pain  
• Other risk factors: foot deformity |
| **High Risk** | • Reduced sensation  
• Absent pulses  
• Foot deformity (Charcot)  
• Previous ulcer  
• Arterial leg surgery  
• Amputation |
| **Emergency** | • New Ulcer  
• Swelling  
• Discolouration (may indicate deep infection or acute ischaemia) or critical ischaemia or suspected Charcot |

### Management

**Low Risk**

- Annual foot screening and education by practice nurse or community podiatrist (Health Professions Council registered)

- Refer to community podiatrist if patient unable to self care.

**At Risk**

- Community Podiatry review within 3-6 months
- Review need for vascular assessment /specialist footwear /insoles/treatment for painful neuropathy /glycaemic control.
- Provide appropriate education.

**High Risk**

- Community Podiatry review and treatment where required within 1-3 months
- Evaluate provision of specialist foot wear/insoles.
- Refer on where necessary.
- Review need for vascular assessment.
- Provide appropriate education.

### Advice

**Low Risk**

- Inspect feet daily.
- Avoid walking barefoot.
- First aid.
- Don’t smoke
- Contact number.
- Access to service.

**At Risk**

- As for Low Risk & Footwear—supportive, cushioning, fastening.
- Avoid extremes of temperature i.e. baths, fires, hot-water bottles, outdoors.

**High Risk**

- Enhance foot care education
- As for Low & At Risk
- Prescriptive footwear compliance.
- Check footwear for wear & tear and foreign bodies.

### Review Time

- Yearly: Review by GP
- 3-6 monthly: By Podiatry
- 1-3 monthly: By Podiatry
- Urgent Hospital Visit required

**Other risk factors:** peripheral vascular disease, old age, plantar callous, poor footwear, foot deformities, social deprivation and isolation, poor vision and smokers
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Status – New / Revised / Trust Change