Portsmouth Hospitals NHS
NHS Trust

Guidelines for the Management of Painful Peripheral Diabetic Neuropathy

Portsmouth Multidisciplinary Foot Team

2009

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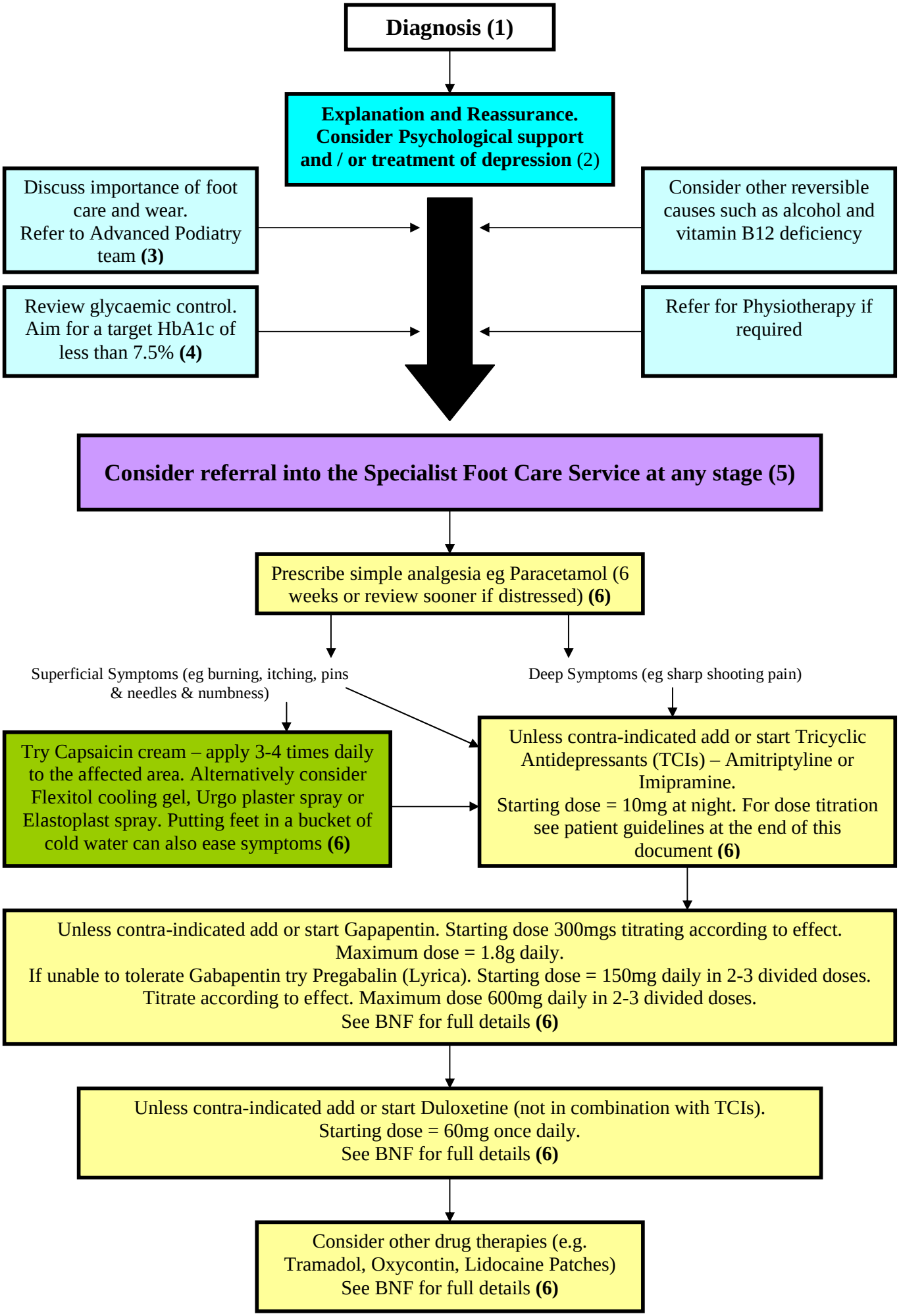
Peripheral neuropathy is a complication of diabetes that is caused by prolonged hyperglycaemia. It is estimated that 20-40% of people with diabetes develop neuropathy although many remain undiagnosed. Elevated blood glucose levels can cause damage to the myelin sheath of the nerve. Loss of this protective sheath leads to reduced sensation (*painless* peripheral neuropathy). It may also lead to unwanted nervous stimulation (*painful* peripheral neuropathy – PPN).

Risk factors for the development of neuropathy include age, duration of diabetes, abnormal lipids, smoking and the presence of other microvascular complications. The loss of sensation associated with diabetic neuropathy significantly increases the risk of foot ulceration.

PPN usually affects the feet but can also affect the hands. Patients typically describe pins and needles (parasthesia), numbness, itching, burning (despite feeling cold to touch), sharp or shooting pains, restless legs and cramp-like discomfort. PPN may persist for any period of time from a few weeks to a many years. Sudden changes in glycaemic control can exacerbate symptoms. After the first few months the pain tends to gradually improve but the sufferer may be left with *painless* peripheral neuropathy.

This guideline has been designed to assist Health Care Professionals in the management of neuropathic pain. Further information regarding the numbered points within the flow chart can be found over the page.

The guideline can also be found at
www.porthosp.nhs.uk/diabetesendo.html


Diagnosis (1)
Explanation and Reassurance. Consider Psychological support and / or treatment of depression (2)
Discuss importance of foot care and wear. Refer to Advanced Podiatry team (3)
Consider other reversible causes such as alcohol and vitamin B12 deficiency
Review glycaemic control. Aim for a target HbA1c of less than 7.5% (4)
Refer for Physiotherapy if required
Consider referral into the Specialist Foot Care Service at any stage (5)
Prescribe simple analgesia eg Paracetamol (6 weeks or review sooner if distressed) (6)
Superficial Symptoms (eg burning, itching, pins & needles & numbness)
Deep Symptoms (eg sharp shooting pain)
Try Capsaicin cream – apply 3-4 times daily to the affected area. Alternatively consider Flexitol cooling gel, Urgo plaster spray or Elastoplast spray. Putting feet in a bucket of cold water can also ease symptoms (6)
Unless contra-indicated add or start Tricyclic Antidepressants (TCIs) – Amitriptyline or Imipramine.
Starting dose = 10mg at night. For dose titration see patient guidelines at the end of this document (6)
Unless contra-indicated add or start Gapapentin. Starting dose 300mgs titrating according to effect.
Maximum dose = 1.8g daily.
If unable to tolerate Gabapentin try Pregabalin (Lyrica). Starting dose = 150mg daily in 2-3 divided doses.
Titrate according to effect. Maximum dose 600mg daily in 2-3 divided doses.
See BNF for full details (6)
Unless contra-indicated add or start Duloxetine (not in combination with TCIs).
Starting dose = 60mg once daily.
See BNF for full details (6)
Consider other drug therapies (e.g. Tramadol, Oxycontin, Lidocaine Patches)
See BNF for full details (6)

1. <u>Diagnosis</u>

In diagnosing PPN the foot pain must be differentiated from foot pain from other sources (see pain classification chart). In PPN the pain is usually worse at rest, it does not tend to be related to activity and is usually bilateral. Diagnosis is made by taking a careful history of symptoms and carrying out a physical examination. **Nerve conduction studies are not considered necessary**. Sensation loss with a 10g monofilament will usually be demonstrated apart from in those patients picked up with early acute painful symptoms that relates to a sudden change in glycaemic control. **Free training on diabetic foot risk assessment** can be arranged by contacting the Portsmouth Training Team electronically - pcpct.education@ports.nhs.uk

	Claudication	Peripheral Vascular Disease	Neuropathic
Where Felt?	Buttocks,thighs or calf muscles, usually one or both legs	Forefoot and / or lower Limbs – one or both legs	Toes and bottom of feet – usually both. Legs – lower to upper (and Sometimes hands)
Symptoms Described As…	Worse on waking Sharp / cramp like pains	Can occur any time. Worse in bed or with legs elevated. Cramp, burning, aching	Burning, pins and needles, stabbing, walking on hot coals or marbles. Can be constant but worse at night
Relieved By….	Rest	Legs hanging down	Standing, walking around
Feels….	Cold	Cold	Warm to touch / cold
Pulses Present?	Diminished or absent	Diminished or absent	Normal to bounding

2. <u>Psychological Support</u>

The pain associated with diabetic neuropathy can be emotionally and physically exhausting and sufferers often benefit from a clear explanation of the condition. Psychological complications may include feelings of isolation, frustration (from being unsure of the cause or a lack of a clear management plan) and depression (due to a lack of sleep and the strain of living with chronic pain).

3. <u>Foot Care and Podiatry</u>

Patients suffering with neuropathic pain are at increased risk of foot ulceration and its complications and should receive appropriate advice regarding foot care and footwear. **A foot care advice sheet can be found at the end of this document.**

Patients should be referred to the podiatry service for ongoing assessment and prevention plan.

Routine Podiatry Referrals:

Refer to local Podiatry Clinic.

Urgent Podiatry Referrals:

All podiatry clinics will accept urgent referrals. The Healthy Living Centre has a dedicated foot ulcer/diabetes clinics Tel – 02392 381093 to arrange referral. Telephone advice is available 9am-5pm from Sharon Tuck Tel – 07810 656019 and the Podiatry rapid response service. Rapid response is for assessment, advice and intervention for new or housebound patients with foot infection, new ulceration or sudden onset of foot pain. Calls will be returned within 2 hours and appropriate action/appointment offered within 48 hours.

Tel – Portsmouth City - 07770581507

Fareham and Gosport – 07770581370

East Hants – 07770581460

Ward Podiatry Referrals:
Fax referral form to Battenburg Avenue Clinic – 02392 672258 or Tel (queries only) – 02392 670346

4. Glycaemic Control
Optimal glycaemic control may help to ease symptoms and prevent further deterioration, although sudden improvements should be avoided as they may lead to insulin neuritis and increased pain, or pain when none has been experienced before. Patients should aim for home blood glucose levels of between 4-7mmols before meals and 7-10mmols 2 hours after. Locally, the target for HbA1C is set at 7.5% or below and tighter control is advocated in the presence of diabetic complications.

5. Specialist Referral
Referral into the Specialist Diabetes Foot Care Service can be made at any point but would typically be recommended if Amitriptyline and / or topical therapies had been unsuccessful. The following services are available to patients:

Painful Peripheral Diabetic Neuropathy Education Groups –
These are one off structured education sessions that aim to enable people with painful peripheral neuropathy to gain a better understanding of their condition – its cause, available treatments and associated risks. They also aim to help people make informed decisions about how to cope with the disease and ensure that they are aware of support services available to them. More information can be found in Holland E, Bryan H, Skinner C and Robinson K (2005) Group education for painful peripheral diabetic neuropathy. *Journal of Diabetes Nursing* **9** (9): 342 – 345.
Please direct referrals to Kate Marsden at the Diabetes Centre.

Joint Medical / Podiatry Clinic –
This is held at the Diabetes Centre on a weekly basis.
Please direct referrals to Dr D R Meeking at the Diabetes Centre.

Diabetes Centre: Queen Alexandra Hospital
Southwick Hill Road
Portsmouth
Hampshire
PO6 3LY

Tel - 02392 286260
Fax – 02392 286791

6. Drug Treatment
Treatment of PPN often requires a variety of therapies and frequently symptoms will not be completely alleviated. Patients should be informed that treatment aims to reduce pain by around 50% and improve quality of life, sleep and mobility. Topical treatments such as Flexitol Cooling Gel, and plaster sprays are often helpful for superficial symptoms. Capsaicin Cream can also be used but is not suitable if the pain is over a large surface area. Initially patients may experience an increase in pain but with regular application this should diminish. If topical treatments have not worked or are not deemed appropriate then systemic treatments must be considered. Tricyclic antidepressants (Amitriptyline and Imiprimine) and anticonvulsants (Gabapentin and Pregabalin) are the drugs most commonly prescribed. Duloxetine has recently been licensed for the treatment of neuropathic pain. Tramadol, Oxycontin and Lignocaine Patches may be prescribed if the patient continues to suffer.

Foot Care and Footwear Advice for Feet with Peripheral Neuropathy

Daily Visual checks
Look for any new injury and seek help

Daily Skin Care
Wash and dry carefully
Apply moisturiser to any areas of dry skin.

Nail Care
Best attended to frequently as part of foot care routine
Cutting nails may be difficult and it is possible to damage the skin
Weekly filing is the safest and easiest way to deal with toenails

Footwear
Should fit well and be foot shaped
Shoes with adjustable fastening are best
Shoes should not need to be worn in

Remember
People with sensation loss may not notice minor trauma
Caution with hot water bottles or barefoot walking
People may be unaware of their degree of sensation loss
Tight footwear or hosiery could be harmful
Wearing thicker socks/stockings to keep warm in winter may make shoes too tight

Printable version available at www.porthosp.nhs.uk/diabetesendo.html

Patient Guidelines for increasing Amitriptyline doses for The Management of Painful Diabetic Peripheral Neuropathy

Portsmouth Hospitals NHS Trust Diabetes Centre

Tel No : 023 92 286260

Week 1 - START-	**Amitriptyline Hydrochloride 10 mg tablet to be taken at bedtime**
Week 2	If no improvement in symptoms - **Increase dose to 20 mg**
Week 3	If no improvement in symptoms – **Increase dose to 50 mg**
Week 4	If no improvement in symptoms – **Increase dose to 75 mg**
Week 8	If no improvement in symptoms - **Seek further advice .See contact numbers below.**

If any increased dose cannot be tolerated then return to your previous dose and continue for 4 weeks. It may take some time for this treatment to get into your system to be effective.

Mild side effects of this drug are:
Drowsiness, constipation, blurred vision, dry mouth, sweating - these side effects can persist into the next day at the start of your treatment however most of these side effects will fade if you continue to take the tablets.
If however you have difficulty in -
passing water, confusion, rashes and heart palpitations then **:**
Stop the tablets and see your GP if not settling immediately.

If you are concerned / worried about your treatment you may

- **Phone the 'Medicines Information Dept' at Q.A.H on 023 92286632**
- **Or see your GP.**
- **Or phone the diabetes Nurse specialist for further advice on 023 92 286260**

Approved by Diabetes Team /DRM/ELH/ Pharmacy Dept 02.10.01 Revised15/03/04

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