GUIDELINE FOR MANAGING NEUROPATHIC PAIN IN PRIMARY CARE

- This is an updated guideline that includes recommendations from NICE CG173
- This guideline presents a treatment plan for use before considering referral.
- If complex regional pain syndrome is suspected, refer early.
- The Neuropathic Pain Scale is useful to aid diagnosis and for detecting change in pain after treatment.
- Amitriptyline and gabapentin are considered by JAPC to be the most cost effective first line choices.
- Combination therapies (e.g. TCAs and anticonvulsants) may be more practical and effective when monotherapy is ineffective rather than switching to a new treatment and could potentially reduce side effects through lower dosages.
- Prescribers should be cautious when considering prescribing strong opioids because of the risk of dependence and should consider referral. Long acting preparations are preferred in carefully selected and screened patients. Patients should be reviewed regularly.
- Risk of harm from oral morphine increases substantially at doses exceeding 120mg/day with no increase in benefit.
- Carbamazepine is the preferred initial treatment for trigeminal neuralgia. If not effective, not tolerated or contraindicated consider seeking expert advice from a specialist.
- Chronic pain and depression often coexist and depression may be a reason why some patients respond poorly to initial treatments.
- Referral to a pain clinic should be carefully considered before starting patients on strong opioids such as morphine.
- For patients where neuropathic pain is having a significant effect on physical functioning and mood who can engage with groups, consider referral to a pain management programme (covering North Derbyshire and Hardwick CCGs); for patients with significant mood issues reactive to management of and adjustment to chronic pain, consider referral to Health Psychology Service (covering North Derbyshire and Hardwick CCGs); for patients in Southern Derbyshire, access to specialist psychological and physiotherapy services is available through Derby Royal Hospital Pain Management Clinic.
- Pregnancy: specialist referral is required particularly if the patient is planning pregnancy and on opioids.
<table>
<thead>
<tr>
<th>Document Update</th>
<th>Date updated</th>
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</thead>
<tbody>
<tr>
<td>1. P.4 advice on pregabalin twice daily dosing added</td>
<td>April 18</td>
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</table>
Managing neuropathic pain in primary care

Introduction
Neuropathic pain (NeP) is defined as a pain arising as a direct consequence of a lesion or disease affecting the somatosensory system. While nociceptive pain is produced by direct damage to the tissues involved, abnormally stimulated nerves are believed to play a key role in NeP. This can result from nerve damage caused by trauma or certain conditions: Diabetes - Herpes zoster (shingles) - Trigeminal neuralgia.

NeP may often be suspected or identified through some of the classical descriptions of the pain that patients can give, such as: ‘burning, shooting, tingling, electric shocks, sharp, nagging, walking on hot coals’. The pain is often worse at night, and may be paroxysmal or continuous. Characteristic signs and symptoms are:
- Hyperalgesia – increased sensitivity to a normal pain stimulus, eg temperature
- Allodynia – pain created by a stimulus that does not ordinarily produce pain, eg application of a cotton swab, wearing of clothes
- Autonomic signs include skin changes such as oedema, shininess, change of perspiration
- Motor – dystonia, weakness and paralysis, and fasciculations.

NeP is thought to affect 8% of the UK population. Patients’ beliefs and perceptions of the pain and its cause, coping strategies, mood changes, disturbed sleep, and anxiety all need to be addressed. Therefore, treating anxiety or depression first might also reduce the need for analgesics. Set realistic expectations and treatment goals. Achieving pain free status is not always achievable. Reduction in pain by 50% is a commonly used endpoint in clinical trials.

Screening tools can be useful to aid diagnosis: the Neuropathic Pain Scale (NPS) is a well known validated scale (see appendix 2). Evidence supports the validity of the NPS items for detecting change in pain after treatments.

Complex regional pain syndrome (reflex sympathetic dystrophy) – in this condition there is a window of opportunity to treat it before it becomes chronic and untreatable (see appendix 3). If suspected, refer early.

Treatment
It is useful to have an indication of when to stop a medication. There is a period of dose titration to response. If there has been no response to treatment within two-to four weeks, after titration to adequate dose, patients are unlikely to develop a response thereafter. Integral to success is regular re-assessment of the patient and stopping medication that is not working effectively.

Drug choice and doses

<table>
<thead>
<tr>
<th>Drug</th>
<th>Initial dosage</th>
<th>Max dose</th>
<th>Notes (approx. cost for 6 months, November 2017 DT)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tricyclics</strong></td>
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<tr>
<td>Amitriptyline</td>
<td>10mg to 25mg</td>
<td>75mg at night</td>
<td>Increase by 10 to 25 mg weekly (or according to</td>
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<tr>
<td>tablets</td>
<td>once daily</td>
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<td>response and tolerability). An adequate trial</td>
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<td></td>
<td></td>
<td></td>
<td>should last for 6-8 weeks, with at least 2 weeks</td>
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<td></td>
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<td>at the maximum tolerated dose (50mg at night -</td>
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<td>£9.84)</td>
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</table>

Amitriptyline is the 1st line effective treatment choice for treating neuropathic pain and especially when sedation is preferred.

Second line choice of TCA should be based on cost if intolerable adverse effects develop with amitriptyline-which is currently imipramine

<table>
<thead>
<tr>
<th><strong>Anticonvulsants</strong></th>
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<tbody>
<tr>
<td>Gabapentin*</td>
<td>300mg day one</td>
<td>3600mg daily</td>
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<tr>
<td>(not tablets)</td>
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</table>

300mg bd on day two, 300mg tds on day 3. Based on response and tolerability dose can be further increased in 300mg/day increments every 2-3 days up to a maximum of 3600mg/day

(300mg tds - £11.74; 600mg (2x300mg) tds - £23.49)
### Pregabalin** (second line to gabapentin)

- **Dosages:**
  - 150mg in 2-3 divided doses
  - 600mg daily

- **Dosage adjustment:**
  - Based on response and tolerability increase if necessary after 3-7 days to 300mg daily in 2-3 divided doses. If needed increased to a maximum of 600mg/day after an additional 7-day interval
  - (150mg bd - £13.02)

- **Increase gradually according to response usual dose**
  - 150mg bd
  - 300mg daily in 2-3 divided doses
  - 600mg daily
  - (200mg tds - £22.98)

*Minimum time to reach a dose of 1,800mg/day is 1 week, to reach 2,400mg/day is a total of 2 weeks and to reach 3,600mg/day is a total of 3 weeks.*

**JAPC recommends pregabalin as treatment option after an adequate trial of amitriptyline, and after an adequate trial of gabapentin which has shown to be effective but not tolerated. Pregabalin should not be used when gabapentin is ineffective. Gabapentin needs to be given three times a day whereas pregabalin can be given twice a day. This may be of benefit to a small group of patients but will make little difference to most. Aim for twice a day dosing with pregabalin (benefit cost and compliance).**

***Licensed in the UK for trigeminal neuralgia. Seek specialist advice or refer if the drug is not appropriate or doesn't work.***

### Public Health England has published advice for prescribers on the risk of misuse of gabapentin and pregabalin. Professionals prescribing gabapentin and pregabalin are being advised to be aware of not only the potential benefits of these drugs to patients, but also that the drugs can lead to dependence and may be misused or diverted. For further information see [here](#).

**MHRA October 2017** - Gabapentin has been associated with a rare risk of severe respiratory depression even without concomitant opioid medicines. Patients with compromised respiratory function, respiratory or neurological disease, renal impairment, concomitant use of central nervous system (CNS) depressants, and elderly people might be at higher risk of experiencing severe respiratory depression.

Patients experiencing partial response may try a combination of TCA +/- anticonvulsant. This approach is probably more practical and could potentially reduce side effects of particular pharmacological agents through a combination of lower dosages.

### Carbamazepine***

**1st line for trigeminal neuralgia**

- **Dosages:**
  - 100mg once or twice daily
  - 1600mg daily

- **Dosage adjustment:**
  - Increase gradually according to response usual dose
  - 200mg 3-4 times daily

**Licensed in the UK for trigeminal neuralgia. Seek specialist advice or refer if the drug is not appropriate or doesn't work.**

### Other antidepressants

<table>
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<tr>
<th>Drug</th>
<th>Dosage</th>
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<tr>
<td>Duloxetine</td>
<td>60mg OD</td>
</tr>
<tr>
<td>(third line option after adequate trial of amitriptyline/gabapentin/pregabalin)</td>
<td>In diabetic neuropathy, discontinue if inadequate response after 2 months; review treatment at least every 3 months</td>
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<tr>
<td></td>
<td>(60mg od - £14.40; 120mg daily divided doses £28.8)</td>
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*Although licensing allows dosing to 120mg (in divided doses), this has not shown consistently better efficacy and is associated with more unwanted effects and therefore not recommended by JAPC.*

### Opioids

<table>
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<tr>
<th>Drug</th>
<th>Dosage</th>
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<tr>
<td>Tramadol capsules (now a schedule 3 CD – see MM website)</td>
<td>50-100mg</td>
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<td>5 -10mg BD</td>
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Prescribers should consider referring patients before starting morphine. Use modified release morphine (e.g. zomorph). Titrate according to response (maximum dose 120mg/day). The use of immediate release morphine (oramorph) has a very limited role in chronic pain management; its use is in small doses for treating breakthrough pain.

Opioids should only be started after careful assessment and referral should be considered. Consider tramadol only if acute rescue therapy is needed as NICE advices do NOT use long-term unless advised by specialist.
Opioids carry the potential risk of dependency (see appendix 1). Risk of harm from oral morphine increases substantially at doses exceeding 120mg/day with no increase in benefit.

### Topical (not first-line)

| **Capsaicin cream** 0.075% (BROWN – post herpetic neuralgia or painful diabetic peripheral polyneuropathy, if topical preparation required) | Apply small amount (pea size) 3-4 times daily (not more than 4 hourly) | **After lesions have healed**  
Avoid hot shower or bath just before or after application.  
(Cost- 45g - £14.58) |
| --- | --- | --- |
| **Lidocaine medicated plaster 5%** (BROWN – PHN only after capsaicin; BLACK – all other indications) | Apply up to three plasters for up-to 12 hours within a 24 hour period | Plaster should be worn for 12 hours, and then removed for 12hours, in rotation. Discontinue after 2-4 weeks if no response. Assess on-going need regularly and discontinue if ineffective.  
(Ralvo is the cost-effective brand £61.54 for 30 patches) |

Capsaicin cream is licensed for the symptomatic relief of post-herpetic neuralgia only after lesions have healed.

Capsaicin is also licensed for the relief of painful diabetic neuropathy but should only be used under the direct supervision of a hospital consultant who has access to specialist resources- classified RED for this indication.

Capsaicin patches (Qutenz) has been classified as RED that requires specialist assessment and training on the use of the patch.

The topical therapies capsaicin and lidocaine may be useful for localised treatment (post-herpetic neuralgia) in patients whom alternative treatments have proved ineffective or where such treatments are contraindicated.

- Higher doses than the maximum doses should be under specialist care/ supervision
- It may be appropriate to initially try regular paracetamol or an NSAID. However, simple analgesics are usually ineffective in pure neuropathic pain but may help with a coexisting nociceptive condition.

The NNTs from the respective Cochrane reviews are: TCAs about 3; gabapentin 3 to 4; pregabalin 4 to 11; duloxetine about 6. The Canadian HTA review concluded that economic analysis demonstrated that TCAs consistently dominated anticonvulsants and SNRIs and represent an optimal use of healthcare resources in neuropathic pain. First-line treatment with TCAs led to fewer health costs and more health than the other two drug classes.

NICE recommend duloxetine and pregabalin as first line options alongside amitriptyline and gabapentin. JAPC considered the evidence and cost effectiveness and recommend they are available in a non-specialist setting to be prescribed after adequate trials of amitriptyline and gabapentin.

### Criteria for referral to Health Psychology Service (North Derbyshire and Hardwick CCGs)

General Practice can refer directly to the Health Psychology service for patients with any kind of chronic pain presentation where they are interested in exploring and would benefit from an individualised psychological approach to support them to:

- manage and influence their pain symptoms
- cope with pain medication and make decisions about treatment
- adjust to changes in everyday life due to their pain and/or treatment
- recover from low mood, anxiety and stress associated with their pain and/or treatment

Inclusion criteria are adults (18+), where enduring or severe mental health issues are stable enough for a patient to be well enough to access and benefit from health psychology approach (with adequate Recovery Team assessment and support) and where any substance misuse has been recognised and been appropriately treated and managed.

Patients requiring a pain clinic referral to review pain medication and pain management will be assessed for their psychological needs as part of a comprehensive assessment.
Patient referrals can be made via e-mail to DCHST.health-psychology@nhs.net

Criteria for referral to Pain Management Programme (North Derbyshire and Hardwick CCGs)
For adults (18+) who are experiencing difficulties with pain and who would be interested in engaging with an educational group approach, the programme combines explaining the physiological and psychological mechanisms involved in the pain experience. Exploring strategies to help improve both physical function and mood, adopting a gentle approach to making enjoyable and rewarding lifestyle changes that can significantly impact on medication use and quality of life. Many previous participants have said that attending the programme has given them the support and encouragement, guidance and confidence needed to take control of their pain and do something about it. The programme is run jointly by Health Psychology and Physiotherapy. The programme runs in Chesterfield and other venues in North Derbyshire. Patients can be referred directly to the Pain Management Programme, Physiotherapy Service, Walton Hospital.

Access to Derby Royal Hospital Pain Management Clinic psychology services
There is no direct referral route but access can be arranged “in-house”. Aims include for patients to:
- manage and influence their pain symptoms via values-based objectives
- adjust and adapt to changes required in everyday life to manage their pain optimally
- recover from low mood, anxiety and stress associated with their pain
For patients who would benefit from a psycho-educational group, they can be referred in-house for a half day Self-Management Session. Patients may then opt into a full Pain Management Programme, co-run between psychology, physiotherapy and Nurse Specialists. Invited into the psychological elements of Pain Clinic are adults (18+) who are ready to make changes; where enduring or severe mental health issues are stable enough to access and benefit from health psychology (with adequate Recovery Team assessment, risk monitoring and support) and where any substance misuse has been recognised and been appropriately treated and managed.
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- Neuropathic pain. Wolfson Unit, Regional Drug & Therapeutics Centre, Drug Update No. 56, September 2007
- Anticonvulsants, SNRIs, and TCAs in management of neuropathic pain. CADTH HTA, January 2009
- Pregabalin for acute and chronic pain. Cochrane Database of Systematic Reviews 2009, Issue 3
- Duloxetine for treating painful neuropathy or chronic pain. Cochrane Database of Systematic Reviews 2009, Issue 4
- Map of Medicine neuropathic pain guideline. BJA 111(1): 73-9 (July 2013)
- Faculty of pain medicines Opioids Aware: A resource for patients and healthcare professionals to support prescribing of opioid medicines for pain (link)
Appendix 1 – Monitoring the safety of opioids

Opioids are not just analgesics; they have a range of effects including endocrine, immunological, cognitive and emotive. Long-term opioid use is associated with numerous adverse reactions. The patients continuing management plan needs to incorporate a process of regular review for the risk and occurrence of adverse drug events. This includes monitoring the patient physically, mentally and in regard to areas of important functioning, for example the ability to drive, work, participate in hobbies, and for possible aberrant drug-related behaviours.

Opioid dosages over 120 mg (mg morphine equivalent) correlate with an increased risk of mortality. Table 1 presents strategies for managing potential opioid-related adverse effects. Perceived risks (noting an absence of adverse opioid effects) and how they are addressed and managed should be documented in the treatment plan during regular clinical reviews.

<table>
<thead>
<tr>
<th>ADVERSE EFFECT</th>
<th>SUGGESTED STRATEGY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gastrointestinal</strong></td>
<td></td>
</tr>
<tr>
<td>Nausea and vomiting</td>
<td>Reduce dose, consider alternate formulation (sublingual, transdermal), exclude chronic constipation</td>
</tr>
<tr>
<td>Chronic constipation and related sequelae including abdominal pain, reflux, haemorrhoids, colonic hypomotility</td>
<td>Recommend regular bulking agent, extra fluids, non-osmotic laxatives</td>
</tr>
<tr>
<td>Reduced salivary flow posing dental problems</td>
<td>Six-monthly dentist reviews, brushing and flossing teeth, extra fluoride treatment, encourage salivary flow after meals, diet</td>
</tr>
<tr>
<td>Gastro-oesophageal reflux disease</td>
<td>Specific treatment e.g. proton pump inhibitor such as omeprazole. Consider reducing or stopping opioids</td>
</tr>
<tr>
<td><strong>Neurological</strong></td>
<td></td>
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<tr>
<td>Impaired cognition</td>
<td>Periodic assessment, mini-mental state examination</td>
</tr>
<tr>
<td>Impaired coordination</td>
<td>Heel-toe gait testing</td>
</tr>
<tr>
<td>Sedation</td>
<td>Consider monitoring with Epworth Sleepiness Scale (for excessive daytime somnolence) and with family and other witness accounts (e.g. pharmacist)</td>
</tr>
<tr>
<td>Hyperalgesia</td>
<td>Consider possibility of drug interaction (e.g. benzodiazepines) and review dosages and need periodic assessment, avoid doses &gt;120 mg (mg morphine equivalent). Management requires a dose reduction or changing to an alternative</td>
</tr>
<tr>
<td><strong>Endocrine</strong></td>
<td></td>
</tr>
<tr>
<td>Hyperprolactinaemia (and galactorrhea)</td>
<td>Monitor prolactin</td>
</tr>
<tr>
<td>Hypogonadism</td>
<td>Monitor testosterone</td>
</tr>
<tr>
<td>Osteoporosis</td>
<td>Monitor from baseline, check vitamin D status, seek specialist guidance</td>
</tr>
<tr>
<td><strong>Respiratory</strong></td>
<td></td>
</tr>
<tr>
<td>Exacerbation of obstructive sleep apnoea</td>
<td>Consult respiratory physician</td>
</tr>
<tr>
<td>Inducing central sleep apnoea</td>
<td>Likely contraindication (e.g. methadone), reduce dose, sleep study (polysomnography), consult respiratory physician</td>
</tr>
<tr>
<td>Respiratory depression</td>
<td>Especially in patients with type 2 respiratory failure (CO2 retention) and those on home oxygen therapy. Deterioration requires specialist intervention and probable opioid discontinuation</td>
</tr>
<tr>
<td><strong>Cardiovascular</strong></td>
<td></td>
</tr>
<tr>
<td>Prolonged QTc</td>
<td>Electrocardiogram (particularly with methadone and oxycodone)</td>
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</table>

(See the guideline for more information on monitoring of asymptomatic patients taking opioids in the long-term for hormonal deficiencies. If endocrine impairment is demonstrated, patients should be referred to an endocrinologist.)
### Psychiatric

<table>
<thead>
<tr>
<th>Condition</th>
<th>Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mood disorder</td>
<td>Monitor from baseline, reduce dose and review</td>
</tr>
<tr>
<td>Addiction</td>
<td>Consult addiction specialist, consider referral to methadone program.</td>
</tr>
<tr>
<td>Overdosage</td>
<td>Prescribe small amounts (e.g. weekly supply), ensure only one prescriber and likewise pharmacist, assess patient for depression</td>
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</tbody>
</table>

### Other

<table>
<thead>
<tr>
<th>Condition</th>
<th>Management</th>
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<tbody>
<tr>
<td>Fluid retention and oedema</td>
<td>Document, reduce dose, restrict sodium, consider a diuretic</td>
</tr>
<tr>
<td>Occupational and driving impairment</td>
<td>Establish baseline and review with reference to reliable co-informants</td>
</tr>
</tbody>
</table>

Adopted from [http://www.australianprescriber.com/magazine/35/1/20/4](http://www.australianprescriber.com/magazine/35/1/20/4)

* Long-term administration of opioids is associated with endocrine abnormalities.

- Influences on both the hypothalamic-pituitary-adrenal axis and the hypothalamic-pituitary-gonadal axis have been demonstrated in patients taking oral opioids with consequent hypogonadism and adrenal insufficiency in both sexes.
- Hypogonadism and decreased levels of dehydroepiandrosterone sulfate have been reported in men and women.
- Hypoadrenalism - Symptoms include tiredness and/or dizziness on standing and/or Nausea/vomiting/ weight loss. If present check 9am cortisol.

Endocrine effects are probably dose related and can lead to:

- Amenorrhoea in women
- Reduced libido in both sexes
- Erectile dysfunction in men
- Infertility
- Depression and fatigue
- Patients (particularly women of childbearing age) should be told about these effects before starting opioids.

**Endocrine function should be monitored regularly if a patient reports symptoms consistent with potential dysfunction, such as decreased libido, sexual dysfunction or fatigue. (NB these symptoms can also occur as part of the presentation of chronic pain)**

Recommended tests include:

- blood pressure
- electrolytes (especially if tramadol is used)
- fasting glucose levels
- thyroid function tests
- serum testosterone, sex-binding globulin, LH/FSH and oestradiol levels
- bone density (in an ‘at-risk’ group).

If endocrine impairment is demonstrated, patients should be referred to an endocrinologist for advice regarding the benefits of hormonal replacement therapy.

There is insufficient evidence to recommend routine monitoring of asymptomatic patients taking opioids in the long-term for hormonal deficiencies.
Appendix 2 – Neuropathic pain scale

There are scales for measuring different aspects of pain. For one patient, a pain might feel extremely hot, but not at all dull, while another patient may not experience any heat, but feel like their pain is very dull. We expect you to rate very high on some of the scales below, and very low on others. We want you to use the measures that follow to tell us exactly what you experience.

1. Please use the scale below to tell us how intense your pain is. Place an “X” through the number that best describes the intensity of your pain.

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<tr>
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<th>7</th>
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<tbody>
<tr>
<td>No pain</td>
<td>The most intense sensation imaginable</td>
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2. Please use the scale below to tell us how sharp your pain feels. Words used to describe “sharp” feelings include “like a knife,” “like a spike,” “jabbing” or “like jolts.”

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</thead>
<tbody>
<tr>
<td>Not sharp</td>
<td>The sharpest sensation imaginable (‘like a knife’)</td>
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3. Please use the scale below to tell us how hot your pain feels. Words used to describe very hot pain include “burning” and “on fire.”

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<tbody>
<tr>
<td>Not hot</td>
<td>The hottest sensation imaginable (‘on fire’)</td>
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4. Please use the scale below to tell us how dull your pain feels. Words used to describe very dull pain include “like a dull toothache,” “dull pain,” and “like a bruise.”

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<tbody>
<tr>
<td>Not dull</td>
<td>The most dull sensation imaginable</td>
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5. Please use the scale below to tell us how cold your pain feels. Words used to describe very cold pain include “like ice” and “freezing.”

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<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not cold</td>
<td>The most cold sensation imaginable (‘freezing’)</td>
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</tbody>
</table>

6. Please use the scale below to tell us how sensitive your skin is to light touch or clothing. Words used to describe sensitive skin include “like sunburned skin” and “raw skin.”

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not sensitive</td>
<td>The most sensitive sensation imaginable (‘raw skin’)</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

7. Please use the scale below to tell us how itchy your pain feels. Words used to describe itchy pain include “like poison oak” and “like a mosquito bite.”

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not itchy</td>
<td>The itchiest sensation imaginable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>
8. Which of the following best describes the time quality of your pain? Please tick only one answer.

( ) I feel a background pain all of the time and occasional flare-ups (break-through pain) some of the time.
   Describe the background pain: ____________________________________________________________
   Describe the flare-up (break-through) pain: ________________________________________________

( ) I feel a single type of pain all the time. Describe this pain: ________________________________

( ) I feel a single type of pain only sometimes. Other times, I am pain-free.
   Describe this occasional pain: __________________________________________________________

9. Now that you have told us the different physical aspects of your pain, the different types of sensations, we want you to tell us overall how unpleasant your pain is to you. Works used to describe very unpleasant pain include “miserable” and “intolerable.” Remember, pain can have a low intensity, but still feel extremely unpleasant, and some kinds of pain can have a high intensity but be very tolerable. With this scale, please tell us how unpleasant your pain feels.

   0  1  2  3  4  5  6  7  8  9  10
   Not unpleasant  The most unpleasant sensation imaginable ('intolerable')

10. Lastly, we want you to give us an estimate the severity of your deep versus surface pain. We want you to rate each location of pain separately. We realise that it can be difficult to make these estimates, and most likely it will be a “best guess,” but please give us your best estimate.

HOW INTENSIVE IS YOUR DEEP PAIN?

   0  1  2  3  4  5  6  7  8  9  10
   No deep pain  The most intense deep pain sensation imaginable

HOW INTENSIVE IS YOUR SURFACE PAIN?

   0  1  2  3  4  5  6  7  8  9  10
   No surface pain  The most intense surface pain sensation imaginable
Appendix 3

Complex regional pain syndrome (CRPS)

The key symptom of CRPS is continuous, intense pain out of proportion to the severity of the injury (if an injury has occurred), which gets worse rather than better over time. CRPS most often affects one of the extremities (arms, legs, hands, or feet) and is also often accompanied by:

- "burning" pain
- increased skin sensitivity
- changes in skin temperature: warmer or cooler compared to the opposite extremity
- changes in skin colour: often blotchy, purple, pale, or red
- changes in skin texture: shiny and thin, and sometimes excessively sweaty
- changes in nail and hair growth patterns
- swelling and stiffness in affected joints
- motor disability, with decreased ability to move the affected body part

Often the pain spreads to include the entire arm or leg, even though the initiating injury might have been only to a finger or toe. Pain can sometimes even travel to the opposite extremity. It may be heightened by emotional stress.

Beyond the initial stages of CRPS when a cure is possible, there is no cure for established CRPS. Therefore, treatment is aimed at relieving painful symptoms so that people can resume their normal lives. The following therapies have been used: physical therapy, psychotherapy, sympathetic nerve block, medications.