DERBYSHIRE JOINT AREA PRESCRIBING COMMITTEE (JAPC)

PRESCRIBING GUIDELINE FOR NEUROPATHIC PAIN IN PRIMARY CARE

- This is an updated guideline that includes recommendations from NICE CG173 and presents a treatment plan for use before considering referral.
- Treatment plans should be agreed with patients taking into account their preferences, individual clinical circumstances, previous treatments tried, local treatment pathway choices, treatment reviews and when to stop treatment.
- The Neuropathic Pain Scale is useful to aid diagnosis and for detecting change in pain after treatment.
- If complex regional pain syndrome is suspected, refer early.
- Amitriptyline is considered by JAPC to be the most cost effective first line choice. Duloxetine is a cost effective second line choice.
- Consider the potential for misuse or illicit diversion before prescribing pregabalin, gabapentin or tramadol. Patients should be told about the risk of abuse and dependence.
- Tramadol has limited position for acute use. NICE do NOT advice use of long-term tramadol unless advised by specialist. Tramadol is a centrally acting synthetic opioid, but also has intrinsic serotonergic and noradrenergic effects. Caution should be exercised when using due to its potential interactions, adverse effects and its potential for abuse and dependence.
- 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. Referral to a pain clinic should be carefully considered before starting patients on strong opioids such as morphine. Long- acting preparations are preferred in carefully selected and screened patients. Patients should be reviewed regularly.
- JAPC advise that patients receiving opioid doses of >50mg/day morphine equivalent should be reviewed regularly (at least annually). Clinicians may seek specialist advice for doses >90mg/day morphine equivalent. 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.

- 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 those parts of Derbyshire formerly under North Derbyshire and Hardwick CCGs); for patients with mild to moderate low mood and anxiety associated with their pain- consider referral to Improving Access to Psychological Therapies (IAPT); for moderate to severe mental health and complex co-morbidities associated with pain, , consider referral to Health Psychology Service (covering those parts of Derbyshire formerly under 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. See also MHRA drug safety recommendation on anticonvulsants.

Document control	Date

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, e.g., temperature
- Allodynia – pain created by a stimulus that does not ordinarily produce pain, e.g., 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.

Pharmacological Treatment

Consider co-morbidities, side effects and potential for dependence and abuse before commencing treatments, and agree an achievable pain relief goal (e.g., 30-50% pain relief or ability to undertake global activities).

There is a period of dose titration to response. **If there has been no response to treatment within 2-4 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.

Review treatment 8 weeks after initiation. If the medication is not effective or not tolerated, reduce and stop the medicine. Tapering the dose will minimise the risk of discontinuation symptoms. Assess the need for continued treatment at each review, including the possibility of gradually reducing the dose if sustained improvement is observed. Discontinue treatments that are ineffective even if there is no alternative medication available. If discontinuation is not acceptable, consider reducing dosages.

Be aware of the potential to cause serotonin syndrome in some drugs used to treat neuropathic pain (e.g., amitriptyline, duloxetine, and tramadol). The characteristic symptoms of serotonin syndrome include neuromuscular hyperactivity (such as tremor, hyperreflexia, clonus, myoclonus, rigidity), autonomic dysfunction (tachycardia, blood pressure changes, hyperthermia, diaphoresis, shivering, diarrhoea), and altered mental state (agitation, confusion, mania). For more details see SPS QA What is Serotonin Syndrome and which medicines cause it?

Neuropathic pain treatment pathway

(Adapted from PrescQIPP bulletin 216 Neuropathic pain, 2021) (approx. cost for 6 months, DT Feb2023)

Trigeminal neuralgia		
Use carbamazepine first line		
Dose	**Titration**	**Notes**
Initial dose 100mg once or twice daily. Max. 1600mg daily **(200mg tds - £22.98)**	Increase gradually according to response usual dose 200mg 3-4 times daily	Seek specialist advice or refer if the drug is not appropriate, not tolerated, or doesn't work.

All other types of neuropathic pain: follow treatment pathway below		
Amitriptyline		
Dose	**Titration**	**Notes**
Initial dose 10-25mg once daily Max. 75mg at night (50mg at night - £ 6.06)	see appendix 1 Increase by 10 to 25 mg weekly (or according to response and tolerability). An adequate trial should last for 6-8 weeks, with at least 2 weeks at the maximum tolerated dose	Amitriptyline is the 1st line effective treatment choice and especially when sedation is preferred. 2nd line choice of TCA should be based on cost - which is currently nortriptyline. If treatment effective but not tolerated consider nortriptyline 10mg-75mg at night (use 3x25mg tabs for 75mg dose)

If not tolerated or inadequate response, **replace with**		
Duloxetine		
Dose	**Titration**	**Notes**
60mg daily (60mg od- £ 18.84)	Although licensing allows dosing up to 120mg, this has not shown consistently better efficacy and is associated with more unwanted effects and therefore not recommended by JAPC.	Duloxetine is only licensed for diabetic peripheral neuropathic pain thus use for other conditions is off-label. In diabetic neuropathy, discontinue if inadequate response after 2 months; review treatment at least every 3 months

If not tolerated or inadequate response, **replace with**		
Pregabalin or Gabapentin (note 1) Switch to the one which was not used first (gabapentin or pregabalin) if not tolerated		
Dose	**Titration**	**Notes**
Pregabalin Initially 150mg in 2-3 divided doses. Max. 600mg daily Aim for twice a day dosing with pregabalin (benefit cost and compliance). (150mg bd - £12.12)	see appendix 1 Based on response and tolerability ↑ 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	Caution should be exercised in patients with a history of substance abuse; Blood concentrations of pregabalin increase in proportion to an increasing dose. MHRA February 2021- Reports of severe respiratory depression. (note 2) MHRA April 2022- findings of safety study on risks during pregnancy (note 3)
Gabapentin capsules Starting at 300mg day one, titrate up according to response Max. 3600mg daily (300mg tds - £15.72; 600mg (2x300mg) tds - £31.44)	see appendix 1 Based on response and tolerability dose can be further ↑ in 300mg/day increments every 2-3 days. Minimum 1 week to reach 1800mg/day; 2 weeks to reach 2400mg/day; 3 weeks to reach 3,600mg/day	MHRA October 2017- risk of severe respiratory depression (note 4)

If not tolerated or inadequate response	
Consider combination therapy with two agents from different classes where some response was seen (note 5). **OR** Consider topical treatment (capsaicin 0.075% cream applied sparingly) for localised neuropathic pain and for patients who wish to avoid or cannot tolerate oral medicines.	
Dose	**Notes**
Capsaicin cream 0.075% Apply small amount (pea size) 3-4 times daily; Not more than 4 hourly. (45g £14.58)	**GREY** after cons/spec recommendation Avoid hot shower or bath just before or after application. Capsaicin cream is licensed for the symptomatic relief of post-herpetic neuralgia only. Use for other indications are off-label.
Lidocaine medicated plaster 5% Apply up to three plasters for up-to 12 hours within a 24-hour period (Ralvo £61.54 for 30 patches)	**GREY** – PHN only, after capsaicin **DNP** – all other indications 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.

If not tolerated or inadequate response: **STOP and consider referral**	
Consider referral to pain clinic for specialist assessment if there is inadequate response to treatment or treatments not tolerated. Whilst patient is awaiting assessment by specialist, consider short term treatment with tramadol ***for acute rescue therapy only.***	
Dose	**Notes**
Tramadol capsules 50-100mg every 4 -6 hours up to maximum of 400mg/24 hours (100mg tds - £ 28.22)	Consider tramadol **only if acute rescue therapy is needed** as NICE advice do NOT use long-term unless advised by specialist.
Morphine modified release (Zomorph) Long-acting preparation 5-10mg twice daily Titrate according to response. *Risk of harm from oral morphine increases substantially at doses exceeding 120mg/day with no increase in benefit.* The use of immediate release morphine (oramorph) has a very limited role in chronic pain; its use is in small doses for treating breakthrough pain.	**Opioids carry the potential risk of dependency: -** • Should only be started after careful assessment • Carefully consider referral before starting. Long term opioid use is associated with numerous adverse reactions. See JAPC Pain- Deprescribing and safer prescribing of strong opioids in non-malignant pain guidance. JAPC advise that patients receiving opioid doses of >50mg/day morphine equivalent should be reviewed regularly (at least annually). Clinicians may seek specialist advice for doses >90mg/day morphine equivalent.

Note 1-**Gabapentin and pregabalin are reclassified as Schedule 3 controlled drugs from 1 April 2019.**
See NHS England advice for prescribers on the risk of misuse.
Follow the MHRA safety advice on antiepileptic drugs in pregnancy.
See SPS switching between gabapentin and pregabalin for neuropathic pain
Do not offer for managing sciatica- see JAPC Management of Low back pain and Sciatica in primary care

Note 2- Pregabalin has been associated with infrequent reports of severe respiratory depression, including some cases without the presence of concomitant opioid medicines. Patients with compromised respiratory function, respiratory or neurological disease, renal impairment; those using concomitant CNS depressants; and people older than 65 years might be at higher risk of experiencing these events and adjustments in dose or dosing regimen may be necessary.

Note 3- A new study has suggested pregabalin may slightly increase the risk of major congenital malformations if used in pregnancy. Patients should continue to use effective contraception during treatment and avoid use in pregnancy unless clearly necessary.

Note 4- 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 CNS depressants, and elderly people might be at higher risk of experiencing severe respiratory depression.

Note 5- 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.

Prescribing Notes

- 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.

Hyponatraemia

It is important to consider the risk of hyponatraemia when antidepressants are prescribed – any antidepressant may be associated with this. Recommendation is for baseline serum sodium and repeat within first month. Risk is greater in older adults or those taking concurrent natriuretic medicines e.g. diuretics or with low body weight or in warm weather. See JAPC antidepressants guidance

Hyponatraemia occurs in 20% of people taking carbamazepine. It is usually mild but in rare cases can lead to water intoxication accompanied by lethargy, vomiting, headache, and confusion.

- Consider hyponatraemia if the person develops dizziness, drowsiness, confusion, nausea, muscle cramps, or seizures.
- If hyponatraemia is suspected, reduce the dose or stop carbamazepine and manage according to severity of symptoms, duration, and state of hydration. (CKS)

Tramadol

- Tramadol is neither more effective nor better tolerated than other weak opioid analgesics for moderate to severe pain and its safety profile is problematic. An audit of Adverse Drug Reactions (ADRs) at Chesterfield Royal Hospital highlighted an increase in admissions related to Tramadol ADRs in parallel with increasing use.
- Whilst a patient is awaiting assessment by a specialist, consider adding short term treatment with tramadol (50-100mg every 4 to 6 hours up to a maximum of 400mg/24 hours) for acute rescue therapy only.
- **Co-prescribing of high doses of tramadol and amitriptyline should be avoided due to the increased risk of CNS toxicity with this combination**.
- Tramadol can induce convulsions and increase the potential for SSRIs, SNRIs, TCAs, anti-psychotics and other seizure threshold lowering medicinal products to cause convulsions.
- Tramadol MR Tablets (classified as **GREY**): this can be very expensive please contact the Medicine Management Team for advice on most cost-effective alternative.
- Tramacet (classified as Do Not Prescribe (DNP)) is a fixed dose combination of Tramadol 37.5mg and a sub therapeutic dose of paracetamol 325mg. Prescribing of this product is not recommended as it offers little advantage in terms of efficacy, adverse effects or convenience over standard analgesics.
- See educational resources including patient information leaflet

Referral

Consider specialist referral for people with neuropathic pain (urgency depending on clinical judgment) if:

- No significant improvement after a maximum of 3 months of treatment
- The patient is responding but suffering unacceptable side-effects
- The patient does not want drug therapy
- Need further advice or diagnosis on the particular clinical symptom set

Referral for associated low mood, anxiety and psychological approaches to pain management

Any health professional can refer to Improving Access to Psychological Therapies (IAPT) for patients with mild to moderate low mood and anxiety associated with their pain. Patients can also self-refer. https://joinedupcarederbyshire.co.uk/your-services/improving-access-to-psychological-therapies-iapt/

Referrals for moderate to severe mental health and complex co-morbidities associated with pain can be referred for more specialist help, to the **Health Psychology Service** (for people registered with GP practices in the area formerly covered by North Derbyshire and Hardwick CCGs)
General Practice or other health professionals can refer directly to the Health Psychology service for patients with chronic pain presentations that would not be suitable for the IAPT long term conditions pathway, where patients 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 moderate to severe low mood, anxiety and stress associated with their pain and/or treatment

Inclusion criteria are 1) adults (17+), 2) 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) 3) where IAPT intervention as part of a stepped care pathway is not considered appropriate (even via the long term conditions pathway), and 4) where any substance misuse has been recognised and been appropriately treated and managed.

Patient referrals can be emailed to health.psychology@nhs.net

Criteria for referral to Pain Management Programme (area formerly covered by 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, supporting patients to make 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 Clay Cross. Patients can be referred to the Pain Management Programme, Peter McCarthy Suite, Walton Hospital or emailed to dchst.painmanagementcned@nhs.net.

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.

Reference

- SIGN - Management of Chronic Pain https://www.sign.ac.uk/sign-136-management-of-chronic-pain.html updated Aug 2019
- Neuropathic pain - pharmacological management of neuropathic pain in adults in non-specialist settings. NICE CG 173 November 2013 last updated Sept 2020
- Faculty of pain medicines Opioids Aware: A resource for patients and healthcare professionals to support prescribing of opioid medicines for pain (link)
- An update on the drug treatment of neuropathic pain. Part 2: antiepileptic and other drugs. DTB Vol 50 No11. November 2012
- PrescQIPP bulletin 216 Neuropathic pain (2021)

Appendix 1- dose titration

(Info taken from PrescQIPP bulletin 216 Neuropathic pain (2021)- neuropathic pain treatment pathway)

Table 1. Amitriptyline dose titration

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6
10mg	20mg	30mg	40mg	50mg	75mg

Table 2. Pregabalin dose titration

	Day 1 until tolerated	Day 3-7 until tolerated	Day 14
Morning	75mg	150mg	300mg
Night	75mg	150mg	300mg

Table 3. Gabapentin dose titration

	Day 1	Day 2	Day 3	Day 4	Day 5	Increasing every 2-3 days until tolerated*	Increasing every 2-3 days until tolerated*
Morning		300mg	300mg	300mg	300mg	600mg	600mg
Midday			300mg	300mg	300mg	300mg	600mg
Night	300mg	300mg	300mg	300mg	600mg	600mg	600mg

* Usually, 2-3 days but may take up to a week in some patients

Once a patient is on a 900mg daily dose, the dose can be increased in 300mg increments every two to three days until tolerated. The dose should be increased to either the dose that provides sufficient pain relief or the maximum tolerated dose. The maximum daily dose is 3600mg.

The minimum time to reach a dose of 1800 mg/day is one week, to reach 2400 mg/day is a total of two weeks, and to reach 3600 mg/day is a total of three weeks.

Table 4 Treatment review and deprescribing

Drug	Treatment review	Withdrawal period	Potential discontinuation symptoms
Amitriptyline	After 6 to 8 weeks, with at least 2 weeks at the max. tolerated dose	Further advice on deprescribing can be found in the JAPC antidepressant guidance - stopping antidepressant medication (p5)	Dizziness, nausea, paraesthesiae, anxiety, diarrhoea, flu-like symptoms and headaches
Duloxetine	Initial response: Up to 8 weeks; Review every 3 months	Further advice on deprescribing can be found in the JAPC antidepressant guidance - stopping antidepressant medication (p5)	Nausea, vomiting, headache, anxiety, dizziness, paraesthesia, sleep disturbances and tremor
Pregabalin	4 weeks	Gradually reduce over a min. of 1 week. A more gradual reduction of a max. of 50-100mg/week allows observation of emergent symptoms that may have been controlled by the drug.	Insomnia, headache, nausea, anxiety, diarrhoea, flu syndrome, nervousness, depression, pain, convulsion, hyperhidrosis and dizziness
Gabapentin	After 3 to 8 weeks with at least 2 weeks at the maximum tolerated dose	Gradually reduce over a minimum of 1 week. A more gradual reduction of a maximum of 300mg every four days allows observation of emergent symptoms that may have been controlled by the drug.	Anxiety, insomnia, nausea, pains, sweating
Capsaicin 0.075% cream	After 8 weeks	Can be withdrawn immediately	
Tramadol	For acute rescue therapy only e.g. 4 weeks	Withdraw gradually to avoid abstinence symptoms	Agitation, anxiety, nervousness, insomnia, hyperkinesia, tremor and gastrointestinal symptoms

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.

0	1	2	3	4	5	6	7	8	9	10

No pain — **The *most intense* pain sensation imaginable**

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."

0	1	2	3	4	5	6	7	8	9	10

Not sharp — **The *sharpest* sensation imaginable ('like a knife')**

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."

0	1	2	3	4	5	6	7	8	9	10

Not hot — **The *hottest* sensation imaginable ('on fire')**

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."

0	1	2	3	4	5	6	7	8	9	10

Not dull — **The most *dull* sensation imaginable**

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."

0	1	2	3	4	5	6	7	8	9	10

Not cold — **The most *cold* sensation imaginable ('freezing')**

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."

0	1	2	3	4	5	6	7	8	9	10

Not sensitive — **The most *sensitive* sensation Imaginable ('raw skin')**

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."

0	1	2	3	4	5	6	7	8	9	10

Not itchy — **The *itchiest* sensation imaginable**

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 use overall how *unpleasant* your pain is to you. Words 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 used: physical therapy, psychotherapy, sympathetic nerve block, medications.