



Multidisciplinary Association of Spinal Cord Injury Professionals

Guidelines for the Management of Neuropathic Pain in Adults following Spinal Cord Injury

Second Edition – Replaces November 2006

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Contents

	page
1.0 Introduction	3
2.0 Executive summary	5
3.0 Principles of interdisciplinary working	6
4.0 Assessment of spinal cord injury pain	7
5.0 Measuring outcome	8
6.0 Formulation	10
7.0 Intervention	11
8.0 References	17
9.0 The working party	21
 Appendices	
1 IASP spinal cord injury pain classification	22
2 Widerström-Noga SCI Pain History template	23
3 Substance addiction screening questionnaires	30

1.0 Introduction

- Pain after SCI is common and is remarkable for its chronicity, interference with functioning, resistance to medical treatment and is one of the most significant factors contributing to a reduced quality of life [1].
- Pain prevalence rates in a small study of Spinal Centres in the UK varied from 1- 70% [2]. Published pain prevalence rates vary according to diagnostic criteria, although there is convergence amongst the larger trials with rates of 60-65% being agreed. Severe pain is estimated to occur in 20-30% of the SCI population [3].
- Pain is a complex, multidimensional, subjective experience which is defined as 'an unpleasant sensory and emotional experience' (International Association for the Study of Pain 1979). It is never simply one or the other. The sensory experience of pain is affected by many psychological and social factors which contribute to and often amplify its negative impact [4]. A biopsychosocial perspective on pain is widely considered to be the most useful approach to pain as it incorporates a dynamic interaction between physical, psychological and social factors that evolve over time. This model of pain provides a theoretical foundation which can guide both the assessment of pain and treatment interventions.
- People with spinal cord injury present with many types of pain, including musculoskeletal, visceral and neuropathic and it is common to have several different types of pain simultaneously. These guidelines focus on neuropathic pain which is defined as 'pain arising as a direct consequence of a lesion or disease affecting the somatosensory system' [5].
- There is an acknowledgement that for many, chronic pain will remain an intractable problem. However, even when SCI pain cannot be eliminated it can be managed more effectively thereby alleviating considerable distress and contributing to an enhanced quality of life for patients and their families.
- The original MASCIP Guidelines for the Management of Neuropathic Pain following Spinal Cord Injury were produced in 2006 by a working group chaired by Dr Jonathan Berman. At the 2002 MASCIP conference 'Pain: Everybody's Problem' it was identified that there was limited consensus on management and no guidelines to promote consistency in the management and treatment of pain after spinal cord injury in the UK. A consistent and structured approach to the identification and management of SCI pain is not only possible but essential.

- The guidelines have been updated in 2008 to incorporate recent advances in classification [6, see appendix 1], consensus on management [7], medical treatment [8] & consensus agreement on measuring outcome [9, 10]. Professionals working in SCI & pain management are urged to reference these documents to ensure consistency for clinical and research work between centres.
- The focus of this document therefore is to present a structured assessment intervention template for clinicians using a multidisciplinary approach by which pain can be comprehensively assessed, interventions considered and treatment monitored and reviewed. It will often involve re-assessment, revised formulations and renewed approaches to treatment while the monitoring of interventions will take place throughout.

2.0 Executive Summary

- Pain after SCI is common and is remarkable for its chronicity, interference with functioning and resistance to medical treatment
- The use of the simple and robust classification of SCI pain proposed by the International Association for the Study of Pain is recommended
- There is a paucity of high quality evidence on successful treatment of spinal cord injury pain. This document outlines an evidence based approach to pain management while advocating a logical and empirical approach where the evidence is weak
- Multidisciplinary teamwork is necessary to allow a comprehensive biopsychosocial assessment and a holistic treatment plan.
- Patient-centred care is the cornerstone of effective management. All treatments should be discussed with and agreed to by the patient. All treatments that are tried should be given an adequate trial and withdrawn appropriately if ineffective. Where there are gaps in the evidence base, a variety of treatment approaches are possible. The guiding principle for pharmacological treatment is to use first those treatments that are simply administered and less likely to cause harm
- A wide range of assessment tools exist to measure pain including psychosocial aspects, functional ability & quality of life. Few are specifically developed for a spinal cord injured population. Recent published work guides clinicians and researchers on the selection of appropriate pain-related instruments.
- It is imperative that the field of SCI pain moves forward with novel treatment strategies that are supported by high quality scientific evidence. Consensus on an SCI pain classification scheme and collection of standardised pain outcome measures will facilitate these research efforts. Controlled trials of novel pharmacological agents and non-pharmacological therapies (e.g. psychological treatment, pain management techniques, exercise) are recommended.

3.0 Principles of Interdisciplinary Working

- The complexity of pain and its consequences for the patient necessitates a team approach
- The needs of those with spinal cord injury are best addressed by specialist regional Spinal Cord Injury Centres. However, current service limitations often mean that specialist pain management clinicians are accessed separately. Close liaison should exist and be maintained between such services and spinal clinicians. It is likely that other consequences of injury influence perception of, and response to pain and that specialist SCI pain management programmes may be more appropriate.
- A team approach will take into account clinical, psychosocial and functional dimensions and could include any combination of the following professions: medical, nursing, physiotherapist, occupational therapist, psychologist, psychiatrist, social worker, counsellor, pharmacist, and dietician.
- In practice the approach to pain within any Centre will depend on clinical priorities, resources and the individual expertise of clinicians. Advocating a team approach indicates a guiding philosophy or approach to pain and not necessarily a team which meets on a regular basis. It will not always be practical for a team to meet in relation to each patient with chronic pain. Clear lines of communication and a shared understanding of pain will guide treatment and reduce contradictory messages among team members and between the team and patient.

4.0 Assessment of Neuropathic Pain after Spinal Cord Injury

- A thorough biopsychosocial assessment is the first step towards effective formulation and treatment of pain and involves consideration of the aetiology of pain and also the factors which sustain and aggravate it. In SCI there is often poor correlation between pathology, symptoms and the consequences on function, hence the need for comprehensive assessment measures. A possible format for taking a taking a pain history is included in Appendix 2 [11].

A comprehensive pain assessment protocol will include an investigation of the following:

- Source of pain (e.g. neuropathic, nociceptive, visceral) which will be determined by a comprehensive medical and pain history and physical examination, including detailed neurological assessment.
- Location, quality, intensity, frequency and temporal pattern of pain.
- History of treatment and outcome
- Causative, sustaining, aggravating and relieving factors
- Functional assessment (e.g. ADL skills)
- Effects of pain on function, mood, interpersonal relationships, sexual function, vocational, recreational and social activities.
- The patients subjective understanding of the cause of pain
- Lifestyle information, general well-being, quality of life, social support
- Coping strategies
- Expectation from treatment and motivation
- Responses of significant others and recent stressors

5.0 Measuring Outcome

- At the very least, some quantitative assessment at the beginning and completion of intervention is recommended in order to assess positive or negative change resulting from treatment.
- Numerical rating scales are simple effective measures of aspects of the pain experience. They can be used to measure levels of distress and interference with everyday life as well as pain intensity. Multi dimensional measures attempt to assess a broad range of sensory, behavioural, affective and psychosocial factors associated with pain.
- In the published literature a lack of uniformity precludes comparison across SCI pain studies and clinical practice.
- Recent work has been undertaken by groups of international experts [9, 10] to introduce uniformity in use of outcome measures to allow for clinical comparison, multi-centre audit and collaborative research. For the purposes of this document these outcomes are divided in to measures of pain proper and multidimensional measures/ measure of pain interference.
- A patient specific selection from the list below may be the most useful way of assessing the totality of the pain experience. Measures should be appropriate, meaningful & useful.

Table 1 Recommended measures of pain proper [9]:

Construct	Recommended measures
Pain intensity	0-10 Numerical rating scale
Global improvement of pain	7 Point Patient Global Impression of Change
Neuropathic and nociceptive pain discrimination	Leeds Assessment of Neuropathic Symptoms & Signs
Change in neuropathic pain	Neuropathic Pain Scale
Classification	IASP taxonomy
Mechanical allodynia	Brush or cotton wool and at least one high-threshold von Frey filament
Thermal allodynia/ hyperalgesia	Peltier- type thermotester

Table 2 Recommended pain interference/ multidimensional measures [10]:

Construct	Recommended measures
Pain interference	SF-36 single question and MPI or BPI pain interference items
Interference in ADLs	Graded Chronic Pain Disability Scale Wheelchair Users Pain Index
Multidimensional pain measure	McGill Pain Questionnaire
Multiple construct: severity, impact, adaptation, interference	Multidimensional Pain Inventory- SCI Medical Outcomes Survey (SF-12)

ADL- activities of daily living, MPI- multidimensional pain inventory, BPI- brief pain inventory

6.0 Formulation

- Formulation is based on the integration of objective data, subjective data, and refinement based on feedback from the patients which represents a shared understanding of the nature of the pain problem. This will include not only sensory aspects of the pain, but also functional consequences, affective reactions and cognitions including beliefs about the cause and nature of the pain, expectations of treatment outcome, and personal perceptions.
- Clear communication of this formulation must be conveyed to the patient in a way that will ensure trust and provide the patient with a framework for understanding chronic pain. Failure to do so can lead to increased distress, poorer functional outcomes, and breakdown in the patient/ clinician relationship. It is usually helpful for the patient to have some sense that the condition is at least recognised by clinicians even if the symptoms cannot be effectively relieved.

On the basis of the assessment and formulation the clinical team should:

- Present their findings and agree a treatment proposal with the patient. This may involve advice or specific interventions and should be discussed with the patient, in order that they make an informed decision.
- Be aware of the patient's expectation of intervention. For example, where there is a high expectation of pain relief, patients may be resistant to interventions that involve reappraisal of lifestyle or psychological pain management.

7.0 Intervention

For the purpose of this document interventions are defined as something someone does to enable understanding, or alleviation of pain. The clinical team should:

- Adequately trial any intervention and only make changes to treatment following adequate review
- Where possible change only one active treatment at a time.
- Appropriately withdraw treatments that are ineffective.

7.1 Pharmacological interventions

- The treatment of non-neuropathic pain is outside the scope of this document.
- There is only limited evidence for the efficacy of any particular drug group in neuropathic spinal cord injury pain. Treatment should be based on this evidence, but should also take into account drugs known to be effective in other neuropathic pain conditions, particularly those involving central pain. A variety of pain generating mechanisms may be present and be responsive to specific drug groups. There is some evidence that drug response is different in incomplete injuries (evidence of which is the presence of allodynia)[12].
- Figure 1 summarises the assessment and treatment of the management of neuropathic pain following SCI [Adapted from reference 7]. Given the weak evidence base (see table 3) this should not be considered proscriptive.
- For any drug, give an adequate trial of both dose and duration before making a final assessment of efficacy. Do not start a medication only to leave it on a sub-therapeutic dose. Drug titration requires frequent review of medication.
- If a drug is not effective it should be withdrawn in an appropriate manner.
- Ensure adequate documentation of the analgesic treatment plan.
- Consider the use of drug combinations; note there has been little work in this area and therefore evidence either to support or contradict such use is lacking.

- If Lidocaine infusion produces a temporary response, consider oral agents with sodium channel blocking properties such as carbamazepine or phenytoin. Other agents such as other anticonvulsants (e.g. ketamine), and cannabinoids can also be considered at this stage.
- If strong opiates are being considered please refer to the guidelines of the British Pain Society [13]. An addiction risk assessment should be undertaken but clinicians should not withhold potentially useful treatment without justification. See Appendix 3 for examples of substance addiction screening questionnaires [14].
- The use of intrathecal drugs should only be considered if oral drugs show some benefit but have unacceptable side effects. Please refer to appropriate guidelines [15].

Figure 1: Assessment and treatment of the management of neuropathic pain following SCI [Adapted with permission from reference 7]:

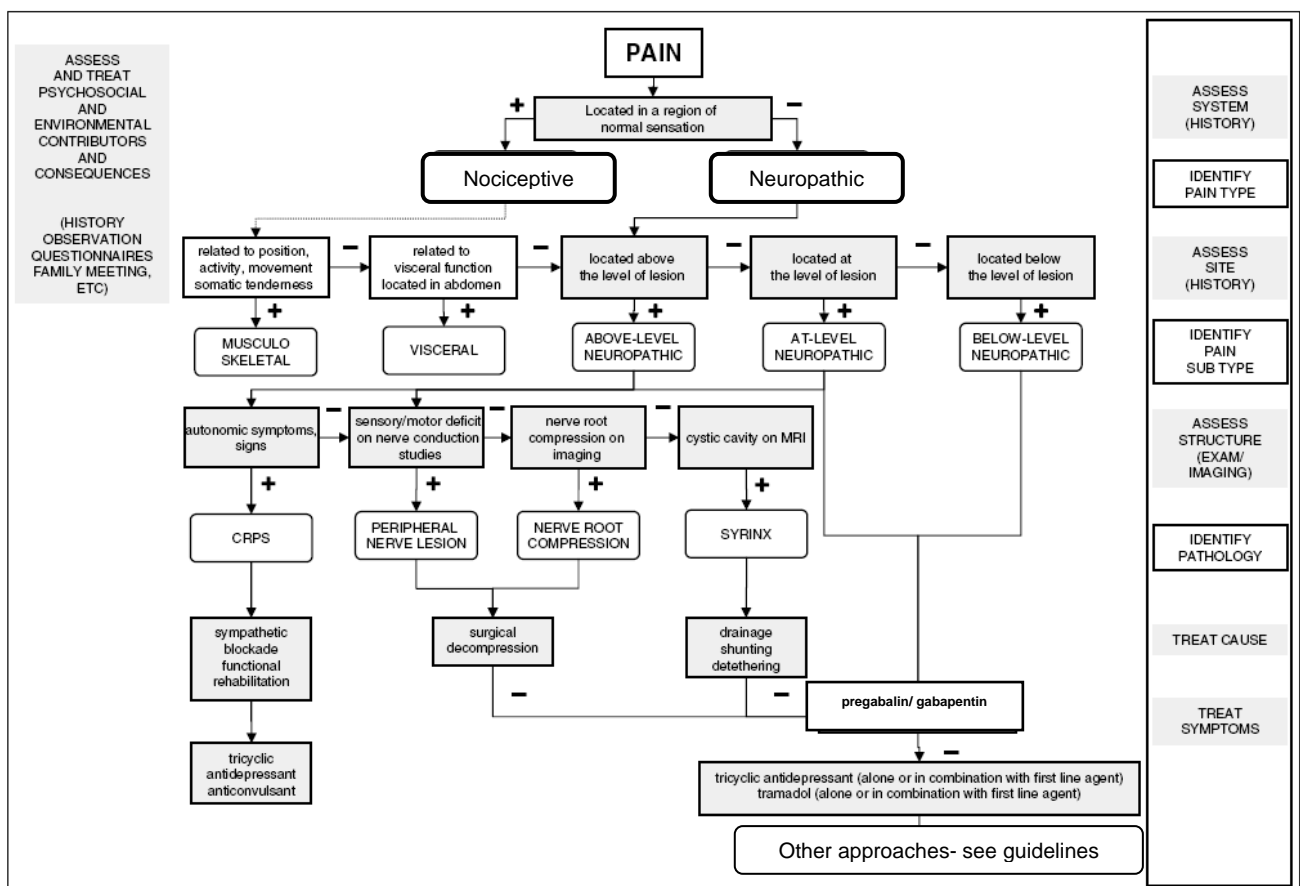


Table 3: Evidence of analgesic efficacy

Treatment	Level of evidence
pregabalin[8]	+RCT
lamotrigine (allodynia) [12]	+RCT
gabapentin [16]	+RCT
lidocaine (IT) [17]	+RCT
lidocaine (IV) [18]	+RCT
ketamine [23]	+RCT
alfentanil [23]	+RCT
amitryptiline [25]	+RCT
clonidine (IT, EPI) [24]	+RCT
amitriptyline [19]	-RCT
trazodone [20]	-RCT
lamotrigine (spontaneous pain) [12]	-RCT
mexilitine [21]	-RCT
valproate [22]	-RCT
gabapentin [25]	-RCT
gabapentin [26] [27]	Case series
topiramate [28]	Case reports

RCT- randomised controlled trial

7.2 Functional Intervention

- Functional intervention is an all encompassing title that includes the traditional therapies (e.g. physiotherapy, occupational therapy), paramedical personnel (e.g. dietetics, rehabilitation engineer, orthotics) and practitioners of complementary & alternative therapies.
- Functional interventions can be broadly divided into two groups: physical “hands on” interventions & self management strategies.

7.2.1 Physical Intervention

- The role of physical therapy is largely in the promotion of exercise to improve fitness, mobility & posture, and counteract the effects of disuse atrophy [29, 30].
- Physical interventions include the core physiotherapeutic skills of manual therapy/ manipulation techniques, movement analysis and restoration of normal movement patterns, therapeutic exercise and use of electrophysical modalities.
- Occupational therapists and orthotists assess and provide resting/ dynamic splints and orthoses to support the upper limbs to reduce pain. Orthotists and physiotherapists undertake joint assessments for lower limb orthoses and walking aids.
- Other, appropriately qualified members of the team, may be able to provide treatments as part of the holistic approach to SCI pain e.g. therapy assistants, massage therapists, aromatherapists, nurses trained in acupuncture for pain relief, chiropractors.

7.2.2 Self management strategies

- Paced fitness/ activity programmes developed in collaboration with patients. The patient should be able to carry out this programme with little or no assistance, and should be equipped with a plan for dealing with flare-ups and set-backs, thus empowering them to self manage their pain through controlled activity.
- Individual/ home exercise programmes consisting of core stability muscle recruitment, specific muscle strengthening & stretches, and general/ functional paced activity to increase fitness levels.
- The promotion and encouragement of sports & leisure activities. Patients may need referral to local gym/ pool facilities where staff may need advice/ education in SCI management.

- Developing strategies for diverting frustration into activity to relieve stress, and for stress reduction and relaxation

7.3 Pain management/ coping strategies

- A comprehensive approach to chronic pain and neuropathic pain following SCI will always include full consideration of the psychosocial factors associated with each case. Evidence is accumulating for the efficacy of cognitive behavioural approaches to treatment [31].
- There is a wide body of pain management literature (non- SCI) that indicates the benefits of a range of intervention strategies (e.g. behavioural, cognitive and psychophysiological- including biofeedback). There is emerging evidence to support the role of comprehensive pain management programmes in SCI & pain associated with chronic disability [32, 33].

There are a number of intervention strategies available for the support of patients with chronic pain including:

- Cognitive- behavioural interventions for the self- management of pain e.g. pacing, goal-setting, dealing with flare-ups, coping strategies, assertiveness, anger management
- Cognitive behavioural treatment of abnormal posture (e.g. slumped posture) and aberrant muscle patterning (e.g. muscle clenching)
- Hypnosis & biofeedback for relaxation training
- Brief, structured psychotherapy to address depression, anxiety, somatisation, and other emotional, cognitive, and behavioural variables that maintain pain levels
- Intervention with the patient's family and home or work environment
- Health promotion and education for patient & family
- Coordination of meetings between patient, family and treatment team to ensure optimal benefit, address concerns about compliance, motivation, secondary gain, litigation-related issues, or poor comprehension of treatment plan

7.4 Surgical Intervention

- A variety of procedures have been tried and there are some very specific indications in the case of particular types of injury. No treatments have been established as effective in the case of complete cord injuries. Neurosurgical referral should only be considered after other treatments have failed.

- A systematic review concluded that there is weak evidence for the use of dorsal root entry zone (DREZ) lesioning in treating below level SCI pain [34, 35]. DREZ may have a specific role in treating refractory pain from brachial or lumbar plexus avulsion injury [36].
- Spinal cord stimulation (SCS) may be considered for refractory pain from peripheral nerve injury (e.g. cauda equina injury) - see British Pain Society Guidelines [37]. There is weak evidence for use of SCS in incomplete SCI. It is not helpful in complete SCI. The National Institute for Health and Clinical Excellence (NICE) recently produced guidance on spinal cord stimulation for chronic pain of neuropathic origin, but it did not consider any research specifically on SCI [38].
- The role of deep brain stimulation, cordotomy or cordectomy is not established.

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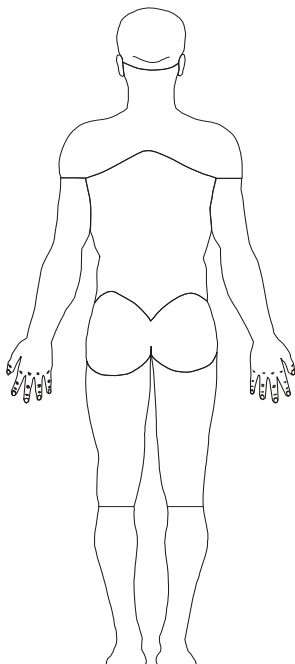
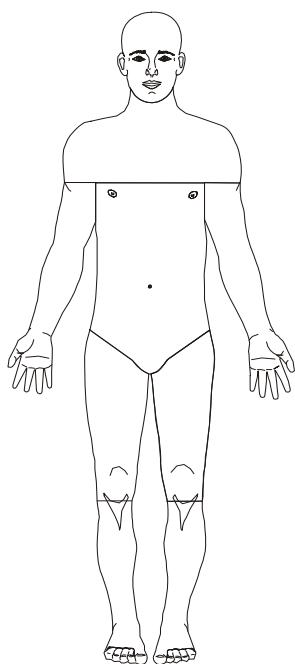
Appendix 1 - IASP SCI Pain Classification [6]

Broad type (Tier 1)	Broad system (Tier 2)	Specific structures/pathology (Tier 3)
Nociceptive	Musculoskeletal	Bone, joint, muscle trauma or inflammation Mechanical instability, Muscle spasm Secondary overuse syndromes
	Visceral	Renal calculus, bowel, sphincter dysfunction, etc. Dysreflexic headache
Neuropathic	Above level	Compressive mononeuropathies Complex regional pain syndromes
	At level	Nerve root compression (including cauda equina) Syringomyelia, Spinal cord trauma/ischaemia (transitional zone, etc.) Dual level cord and root trauma (double lesion syndrome)
	Below level	Spinal cord trauma/ischaemia

Appendix 2 – Widerström-Noga SCI Pain History

Pain History (interview format SCI)

(1) A person may have pain in one or several places. Where do you have pain? Please mark the area(s) in the figures that show the location of your pain.



H head
NS neck and shoulder
AH arms and hands
FG front and genitals
BA back
BU buttocks
T thighs
LF legs and feet

(2) Listed below are words used to describe pain. Please write the letters corresponding to the painful area(s) in front of the words that best describe your pain. You can also use your word(s).

___ sharp ___ shooting ___ stinging ___ electric
 ___ stabbing ___ flashing ___ shocking ___ lacerating
 ___ crushing ___ pinching ___ penetrating ___ lacerating
 ___ burning ___ pricking ___ cramping ___ cutting
 ___ aching ___ throbbing ___ pressing ___ pulsating
 ___ radiating ___ dull ___ cold ___ biting

(3) The following question concern: (a) how intense your pain is on average; and (b) how unpleasant your pain is on average. Please rate your pain(s) by circling the numbers and link each pain rating (if the various areas differ) with the letters corresponding to a particular area.

How intense is the pain on average?

no pain 0 1 2 3 4 5 6 7 8 9 10 most intense
 pain imaginable

H NS AH FG BA BU T LF

How unpleasant is the pain on average?

no pain 0 1 2 3 4 5 6 7 8 9 10 most unpleasant

pain imaginable

H NS AH FG BA BU T LF

(4) How often is it difficult to go to sleep because of pain? Indicate using the letters for each area if different.

- never
- every night
- three to six nights per week
- one or two nights per week
- one or three nights per month

(5) How often do you wake up because of pain? Indicate using the letters for each area if different.

- never
- every night
- three to six nights per week
- one or two nights per week
- one to three nights per month

(6) How much does pain interfere with your exercise habits? Indicate using the letters for each area if different.

- I do not normally exercise
- pain never interferes with my exercise
- pain sometimes interferes with my exercise
- pain often interferes with my exercise
- pain always interferes with my exercise

(7) How much does pain interfere with you doing household chores? Indicate using the letters for each area if different.

- I do not normally do household chores
- pain never interferes with my household chores
- pain sometimes interferes with my household chores
- pain often interferes with my household chores
- pain always interferes with my household chores

(8) How much does pain interfere with your work? Indicate using the letters for each area if different.

- I am not working because of reasons other than pain
- pain never interferes with my work
- pain sometimes interferes with my work
- pain often interferes with my work
- pain always interferes with my work

(9) How much does pain interfere with other daily activities?

- pain never interferes with other daily activities
- pain sometimes interferes with other daily activities
- pain often interferes with other daily activities
- pain always interferes with other daily activities

(10) Did you have pain that lasted more than 6 months before you got injured?

- No**
 Yes. If yes, circle the letters corresponding to the area below.

H NS AH FG BA BU T LF

(11) After your SCI, when did your pain(s) start? Indicate using the letters for each area if different.

- ___ immediately following injury
___ within the first month following injury
___ 1-3 months following injury
___ 3-6 months following injury
___ 6 months to a year following injury
___ 1-2 years after injury
___ more than two years following injury

(12) Does your pain(s) vary in how much it hurts? Indicate using the letters for each area if different.

- No**
 Yes. If yes:

(A) When does it usually hurt the least:

- ___ in the morning
___ around noon
___ in the afternoon
___ at night
___ no predictable pattern

(B) When does it usually hurt the most:

- ___ in the morning
___ around noon
___ in the afternoon
___ at night
___ no predictable pattern

(13) How often do you have pain? Indicate using the letters for each area if different.

- ___ everyday
___ 3-6 days per week
___ 1-2 days per week
___ 1-3 days per month
___ no predictable pattern

(14) Do you have breaks from this pain? Indicate using the letters for each area if different.

- ___ I have no breaks from the pain
___ I have short breaks (less than five minutes)
___ I have breaks of 5 minutes and up to one hour
___ I have breaks of several hours
___ I have breaks of one day to several hours
___ I have weeklong breaks
___ no predictable pattern

(15) Do you have "attacks" (less than five minutes) of pain?

- No**
- Yes. If yes, how frequent are these attacks?**
 - _____ More than 5 times/day
 - _____ 1-5 times/day
 - _____ 3-6 times per week
 - _____ 1-2 times per week
 - _____ 1-3 times per month
 - _____ no predictable pattern

(16) Has your pain(s) changed significantly since it started? Indicate using the letters for each area if different. Please note that several alternatives can be selected.

- _____ No
- _____ Yes, it is more intense now than at the time it started
- _____ Yes, it is less intense now than at the time it started
- _____ Yes, the painful area has become smaller
- _____ Yes, the painful area has become larger
- _____ Yes, the pain has moved from one location to another
- _____ Yes, the pain has changed from painful sensation to non-painful

(17) If your pain has changed significantly since it started, can you explain why? Indicate using the letters for each area if different.

- _____ My pain has not changed a lot
- _____ I have received an effective treatment
- _____ I don't know
- _____ Other

reason: _____

(18) If you have pain in several areas, which one is the most disturbing?

- No area is more disturbing than another is
- I have pain in one area only
- Yes.** If yes, circle the area that is most disturbing?
H NS AH FG BA BU T LF

(19) The following list contains factors and situations that may affect your pain.
Please mark with the letters corresponding to the area how these factors affect your pain. If there are factors/situations that affect your pain which are not listed please add these below.

Factor or situation	Do not know	Makes pain disappear	Makes pain considerably better	Makes pain slightly better	No effect on pain	Makes pain worse	Makes pain considerably worse
Lying down							
Getting out of bed							
Going outside							
Sudden movements							
Muscle spasms							
Coughing or sneezing							
Exercise							
Sexual activity							
Anger							
Anxiety							
Feeling sad							
Fatigue							
Touch							
Noise							
Listening to music							
Alcohol							
Cigarettes							
Caffeine							
Recreational drugs							
Infections							
hot climate							
cold climate							
wet climate							
full bladder							
Constipation							
Prolonged sitting							
Change of position							

(20) Have you received treatments for your pain the last twelve months or since last evaluation?

no If **No**, go to the next question **yes** If **Yes**, please continue

In the table below different treatments are listed. Please mark with an **X** the effect the treatments(s) has/had on your pain. If you have tried a treatment which is not listed, please add this treatment to the list at the bottom. **Indicate using the letters for each area if different.**

Treatment	Makes pain worse	No effect on pain	Makes pain slightly better	Makes pain considerably better	Makes pain disappear
heat therapy					
ice therapy					
Massage therapy					
Ultrasound					
TENS					
Acupuncture					
Other physical therapy					
Occupational therapy					
Nerve blocks					
Surgery					
Trigger point injections					
Chiropractic					
Psychotherapy					
Hypnosis					
Meditation					
bio-feedback					
Herbal medicine					

(21) Please choose from the table below the medication you are presently taking or add your medication on the empty lines at the bottom of the table:

(1) Describe how much you take each day of this medication.

(2) Mark the effect this medication has on pain.

Example: You are presently taking amitriptyline and this medication makes pain slightly better.

Mark as shown below. Indicate using the letters for each area if different.

Medication	Average dosage (mg) per day	Makes pain worse	No effect on pain	Makes pain slightly better	Makes pain considerably better	Makes pain disappear
Example: amitriptyline				X		
Ibuprofen (nurofen, brufen)						
Aspirin						
Baclofen						
Oxycodone (oxycontin, oxynorm)						
amitriptyline						
Ibuprofen						
tizanidine						
Morphine (MST, oramorph, sevredol)						
Gabapentin (neurontin)						
Oxybutynin						
fluoxetine (Prozac)						
Tegretol (carbamazepine)						
paracetamol						
diazepam						
Pregabalin (lyrica)						

Appendix 3

Substance addiction screening questionnaires prior to opioid prescribing

The Canadian Pain Society consensus statement (2002) [14] on the use of opioid analgesics in chronic non-cancer pain outlines a simple and rapid screening schedule. It recommends:

- 1.) Screening assessment for substance abuse potential (SISASP) [39]:
 - 1.) If you drink alcohol, how many drinks do you have on an average day?
 - 2.) How many drinks do you have in a typical week?
 - 3.) Have you used cannabis in the past year
 - 4.) Have you ever smoked cigarettes?
 - 5.) What is your age?

- 2.) CAGE-AID questions [40]:

In the past have you ever:

 - a.) felt that you wanted or needed to **C**ut down on your drinking or drug use?
 - b.) been **A**nnoyed by others complaining about your drinking or drug use?
 - c.) felt **G**uilty about the consequences of your drinking or drug use?
 - d.) had a drink or a drug in the morning (**E**ye-opener) to decrease hangover or withdrawal symptoms?

- 3.) The Two-item conjoint screening test (TICS) covers both drug and alcohol problems in just two questions [41]:
 - a.) In the last year have you ever drunk or used drugs more than you meant to?
 - b.) Have you felt you wanted or needed to cut down on your drinking or drug use in the last year?

The following areas from the patient history are also relevant [14]:

- Previous history of substance abuse
- Family history of substance abuse or significant psychiatric history
- Previous history of physical, sexual or emotional abuse
- Personality disorder
- High-risk environment
- Previous diagnosis of social phobia, bipolar affective disorder, psychotic disorder, attention deficit hyperactivity disorder