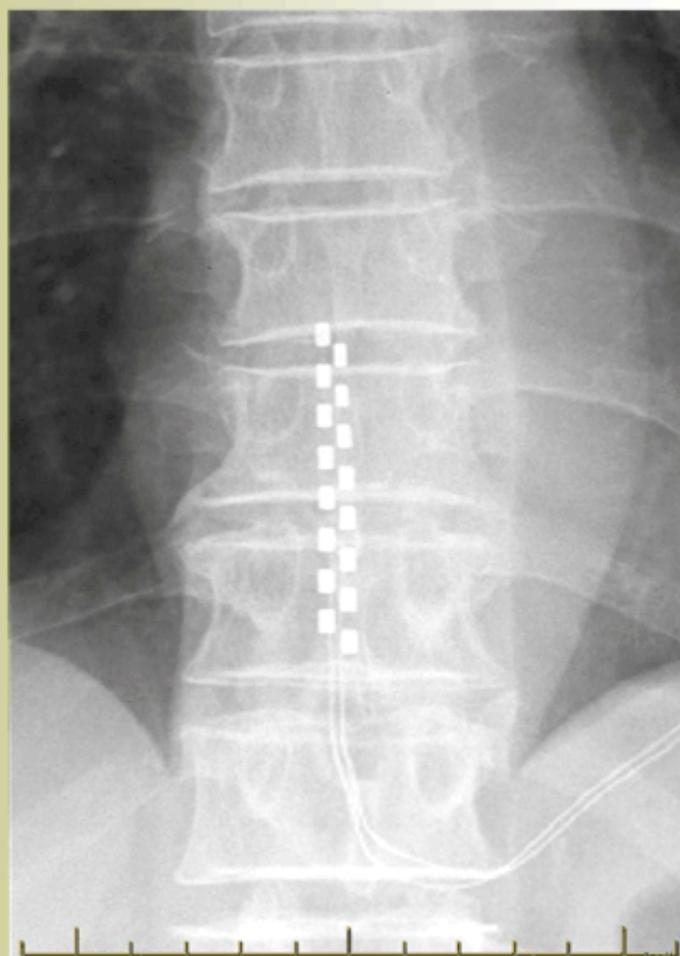


Neuromodulation Treatment with Spinal Cord Stimulators (SCS) for Pain Management



June 2012

This document is an update of the 1999 Guideline

Contents

Introduction	1
Purpose of the guidelines	1
ACC’s responsibilities for treatment of injuries	1
Purpose and use of spinal cord stimulators (SCS)	2
Evidence for Continuing to Purchase SCS.....	3
SCS potential benefits and indications	3
SCS risks and issues.....	4
SCS typical costs.....	4
Clinical Service Requirements	4
SCS quality requirements and credentialing	5
Staffing requirements	5
Patient Selection Criteria for SCS.....	6
Inclusion and exclusion criteria.....	6
The Referral and Decision-Making Process	8
Flowchart: Obtaining ACC approval to implant a Spinal Cord Stimulator	8
Multidisciplinary SCS Screening Assessments and Reports	10
Assessment measurement tools	10
Medical assessment and recommendations	10
Psychological assessment and recommendations	11
Functional assessment and recommendations	11
Multidisciplinary summary report (MDSR)	12
Actions after the MDSR	12
Implantation Procedure.....	13
Pre-trial patient education and consent	13
The ‘temporary lead’ trial for an SCS	13
Proceeding to permanent lead and battery insertion.....	14
Discharge and Follow-up	14
Providing an integrated care plan and applying for follow-up sessions.....	14
Follow-up progress reviews	14
Assessment measurement tools	15
Reporting Outcome Measures	15
Appendices	16
Checklist 1: Receive a Funding Request for a Multidisciplinary Assessment for an SCS....	16
Checklist 2: Receive a Request for a Screening Trial and Implantation of an SCS.....	17
Guideline Development – 2009-2012	18

Guidelines for Neuromodulation Treatment with Spinal Cord Stimulators (SCS) for pain management

Introduction

Purpose of the guidelines

These guidelines:

- outline how to get ACC approval to implant an SCS, or revise implants, in patients who have persistent and disabling limb pain or Complex Regional Pain Syndrome (CRPS) and similar conditions as a result of an ACC-covered injury
- describe conditions that need to be met before approval is given
- ensure that clinical decision-making is well-integrated with all aspects of the client's long-term management, and incorporate a well-planned approach to their rehabilitation
- help providers deliver high quality care to clients
- help ACC determine whether providing a procedure is necessary and appropriate for a client, and is likely to contribute to their recovery or rehabilitation.

ACC's responsibilities for treatment of injuries

The Accident Compensation Corporation (ACC) is a Crown entity that administers New Zealand's accident compensation scheme. The scheme provides 24-hour, no-fault cover and entitlements for all New Zealand citizens, residents, and temporary visitors who suffer personal injury in New Zealand. The service scope of ACC includes injury prevention, case management, medical and other care, and rehabilitation.

Under the Accident Compensation Act 2001, ACC is liable to pay the cost of the client's treatment if the treatment is for the purpose of restoring the client's health to the maximum extent practicable, and the treatment (among other things) is necessary, appropriate, and of the quality required, for that purpose.

The Accident Compensation Act 2001, [Schedule 1, cl 2\(2\)\(d\)](#) instructs that in deciding to purchase treatment services, ACC must take into account a range of matters including "the cost in New Zealand of the generally accepted means of treatment and of the other options, compared with the benefit that the claimant is likely to receive from the treatment".

ACC has made a decision to purchase SCS services from centres of excellence at Auckland District Health Board and Canterbury District Health Board,

Purpose and use of spinal cord stimulators

Implanting a spinal cord stimulator (SCS) is a carefully chosen intervention for a person and should be part of a comprehensive pain management strategy. The selection process, implantation, and regular follow-up reviews of a person with an SCS needs a multidisciplinary approach and should be sited at centres of expertise.

The neuromodulation technique of an SCS for pain relief involves an operation to insert an electrode array¹ into the spinal extradural space so that it overlies an appropriate level of the spinal cord. By stimulating a pulse generator the patient's pain can be reduced or even abolished.

The pulse generator supplies a current which can be modified in terms of strength, frequency, timing, and amplitude of pulses to the electrodes. The energy transmits across the dura and cerebrospinal fluid to the underlying spinal cord. The region of the spinal cord influenced by this stimulation is the posterior/dorsal aspect which gives the patient a tingling sensation. The aim is to position the electrode array so that the tingling sensation is superimposed over the painful area(s). The impulses are thought to activate pain-inhibiting neuronal circuits within the dorsal horns and thereby suppress the transmission of impulses along the pain nerve/pathways.

A typical SCS system therefore has three components.

- An implantable pulse generator (IPG).
This is surgically implanted in a subcutaneous pocket under the skin (often the abdomen) connected by a lead, also hidden under the skin, to an electrode array.
- An extradural electrode array.
The array may be narrow and small with 4 or 8 electrodes spaced along a 2cm to 4cm length so it can be inserted through a 14g needle by percutaneous insertion. Or it may be a plate electrode with between 4 to 20 electrodes requiring insertion by a laminotomy.
- A patient programmer/remote controller.
The patient uses this to control the IPG. They can turn the IPG on/off by either a magnet or the programmer. The programmer can also be used to set up different programs in the IPG so that a variety of stimulation effects are available for use by the patient, eg to allow for postural changes, different activities. etc.

¹ An **electrode array** is a configuration of [electrodes](#) used for measuring either an [electric current](#) or [voltage](#). Some electrode arrays can operate in a bidirectional fashion, in that they can also be used to provide a stimulating pattern of [electric current](#) or [voltage](#). See also, http://en.wikipedia.org/wiki/Electrode_array.

Evidence for Continuing to Purchase SCS

According to the evidence available, SCS may be effective in carefully selected patients.² As such, ACC will continue to purchase, on a case-by-case basis, SCS for treating neuropathic pain related to FBSS and CRPS.

Service providers are required to record outcomes and costing data to monitor evidence of effectiveness in the New Zealand setting. Data collection and [outcome reporting](#) is a mandatory requirement of SCS services.

SCS potential benefits and indications

Potential benefits

The potential benefits of SCS treatment for neuropathic pain include improved:

- quality of life
- ability to participate in daily living activities including work
- psychological well-being.

While the neuromodulation technique of SCS involves surgery and relatively expensive upfront costs, the potential benefits to the patient can be immense both in regard to long-term pain relief with a reduction or cessation of analgesic medications, and being able to improve their quality of life and ideally resume normal, or near normal, activities.

Indications

The indications for using SCS neuromodulation should include the following.

- The area of pain (typically limb pain) can be covered with stimulation by one of the varieties of electrodes inserted into the spinal extradural space at an appropriate level.
- There is no underlying cause of pain which could benefit from surgery or other treatment. For spinal and limb pain, this means the patient has a recent MRI scan.
- The pain is functionally disabling and inadequately controlled by conventional pain treatments such as medications and active participation in multidisciplinary pain management programmes and approaches.
- The patient is psychologically, physically, and cognitively able to understand and use the technology involved in SCS.
- The patient is committed to participating in the procedure including attending long-term follow-up appointments.

² The SCS evidence review (ACC 2009) concludes on balance that SCS will provide greater than 50% pain relief in more patients than would be obtained with continued standard treatment for carefully selected:

- patients with persistent and disabling radicular pain following failed back spinal surgery (FBSS) who have not responded to conventional medical management (CMM), eg medication, physical therapy, and surgery, after at least six months, and
- inpatients with complex regional pain syndrome (CRPS) who have not responded to CMM including physical therapy after at least six months.

The evidence suggests that this balance in favourable outcomes is only assured over intermediate timeframes (three years) and in the case of CRPS may not apply at five years. A reasonable conclusion is that ACC should continue to purchase SCS on a case-by-case basis for treating neuropathic pain related to FBSS and CRPS, but that monitoring outcomes and costs to establish evidence of effectiveness in the New Zealand setting should be a contractual obligation.

SCS risks and issues

- SCS complications include dural puncture, cerebrospinal fluid leak, epidural haemorrhage, epidural infection, disturbance of spinal cord function, lead migration, lead fracture, and individual intolerance.
- The National Institute for Health and Clinical Excellence (NICE) maintain that across 403 implanted patients, including those for ischaemia, in 10 trials the percentage of patients requiring repeat surgery to resolve complications ranged from 0% to 38%.
- Studies indicate that technical complications occur in 27.2% of cases, biological complications in 4%, and other complications in 5%. Eighty-two percent of the technical complications were due to issues with leads.
- Although very unlikely, the procedure could cause paralysis and there is a risk of epidural haematoma and nerve root damage.
- Diathermy, therapeutic ultrasound, pacemaker, and MRI are usually not compatible with the device.
- Patients should also be aware that batteries need to be surgically replaced and that airport and other security systems are activated by the device.

SCS typical costs

SCS is an expensive procedure. The minimum cost of the clinical services including equipment costs, multidisciplinary assessment, implantation procedure, device, and follow-up services will exceed \$45,000 during the first year of the implant alone.

Note: Accommodation, travel, and managing complications are additional costs.

Clinical Service Requirements

People with persisting pain invariably experience significant impact on their quality of life including changes in activity level, participation in work, and other behavioural changes. Therefore, outcome goals for SCS must include modulation of pain and improvements in the level of function and quality of life.

When individuals undergo SCS they are committing to a long-term treatment extending for many years or perhaps even for their lifetime. Therefore, the person must be motivated to actively participate in follow-up treatment.

Because SCS involves multiple outcome goals and long-term care, it is imperative that the SCS procedure is integrated with the individual rehabilitation plan (IRP) developed between the patient/client and their ACC case manager.

SCS suppliers must:

- provide comprehensive assessments by an inter-disciplinary team, and a plan for optimising the patient's functional activity
- select candidates based on inclusion and exclusion criteria
- demonstrate integration with the patient/client's IRP, and include the case manager

- provide treatment goals that show how the patient can improve function and activity levels, and reduce reliance on healthcare and ACC
- provide long-term maintenance of equipment
- be committed to long-term management and follow-up of patients
- measure the outcomes of implantation and post-insertion at specified intervals (see [Reporting Outcome Measures](#), p 15)
- integrate their service into the pain management services of the facility.

SCS quality requirements and credentialing

ACC only approves implantation of SCS devices by named providers at:

- Canterbury District Health Board and
- Auckland District Health Board facilities.

Any additional sites and medical providers must be credentialed and approved by ACC.

Credentialing SCS units

To meet criteria for credentialing, a unit must:

- be DHB centred
- have a holistic team approach to considering SCS that includes physical, psychological, biomedical, and social functions
- demonstrate planning for long-term service
- demonstrate a commitment to excellence in assessment, communication, and management of the SCS device
- have a team committed to a collaborative relationship with ACC – communication with ACC's Clinical Services Directorate is expected
- demonstrate high quality functional relationships with Pain Management Services
- be committed to approaching SCS within a shared guideline
- have the capacity to provide long-term follow-up, and the commitment to supporting patients with SCS.

Staffing requirements

The SCS Unit will ensure that each member of the SCS team is suitably qualified, experienced in the particular part of the assessment and procedure they undertake, and practice within their scope of practise and competency.

Patient Selection Criteria for SCS

- When considering SCS for persisting pain the focus must be on the level of function or disability, not just the report of pain, and take account of the specific and general [inclusion and exclusion criteria](#) set out below.
- The patient selection must be determined by a multidisciplinary assessment team including a psychologist/psychiatrist, pain management specialist, and occupational therapist/physiotherapist working as a team. It should be evident that the findings from all disciplines have been integrated into a final recommendation.
- Patients presenting for SCS consideration must have had a comprehensive pain assessment within the previous two years. Evidence must show that the client has optimised the recommended medications and self-management strategies.
- The proceduralist must be part of the team making the recommendation for implantation and will carry final responsibility for the procedure.

Inclusion and exclusion criteria

General inclusion criteria

- Severe and disabling pain suitable for treatment with SCS with a clear diagnosis and the absence of reversible organic pathology.
- The patient has participated in rehabilitation programmes where medication, psychological, and behavioural strategies have been integrated and optimised.
- Psychological screening has not elicited any contraindications.
- The patient has a full understanding of the assessment, implantation, follow-up processes, and the risk of complications.
- The patient has guaranteed their cooperation with all these processes, including full participation in post-implant management and other appropriate rehabilitation activities in order to augment the SCS benefits such as physical reactivation.
- The patient has realistic expectations of the procedure and likely outcome.
- The patient has expressed a desire to improve their function and reduce their disability.
- There is evidence that the patient's General Practitioner (GP) has been engaged throughout the process.

Relative general exclusion criteria

- The presence of another clinically significant or disabling persisting pain condition.
- A coagulation disorder, immunosuppression, or other conditions associated with an unacceptable surgical risk.
- An expected inability to receive or operate the SCS system.
- The patient's life expectancy of less than one year.
- An expected or planned pregnancy.
- Expected or planned surgery.
- Lack of adherence to, integration with, and optimisation of recommended pain management.

- Lack of evidence that the patient has optimised the integrated medication, psychological, and behavioural rehabilitation strategies (inclusion criteria).
- Lack of evidence for ongoing commitment to engage in rehabilitation that would increase function across life domains and reduce disability.

Psychological exclusion factors

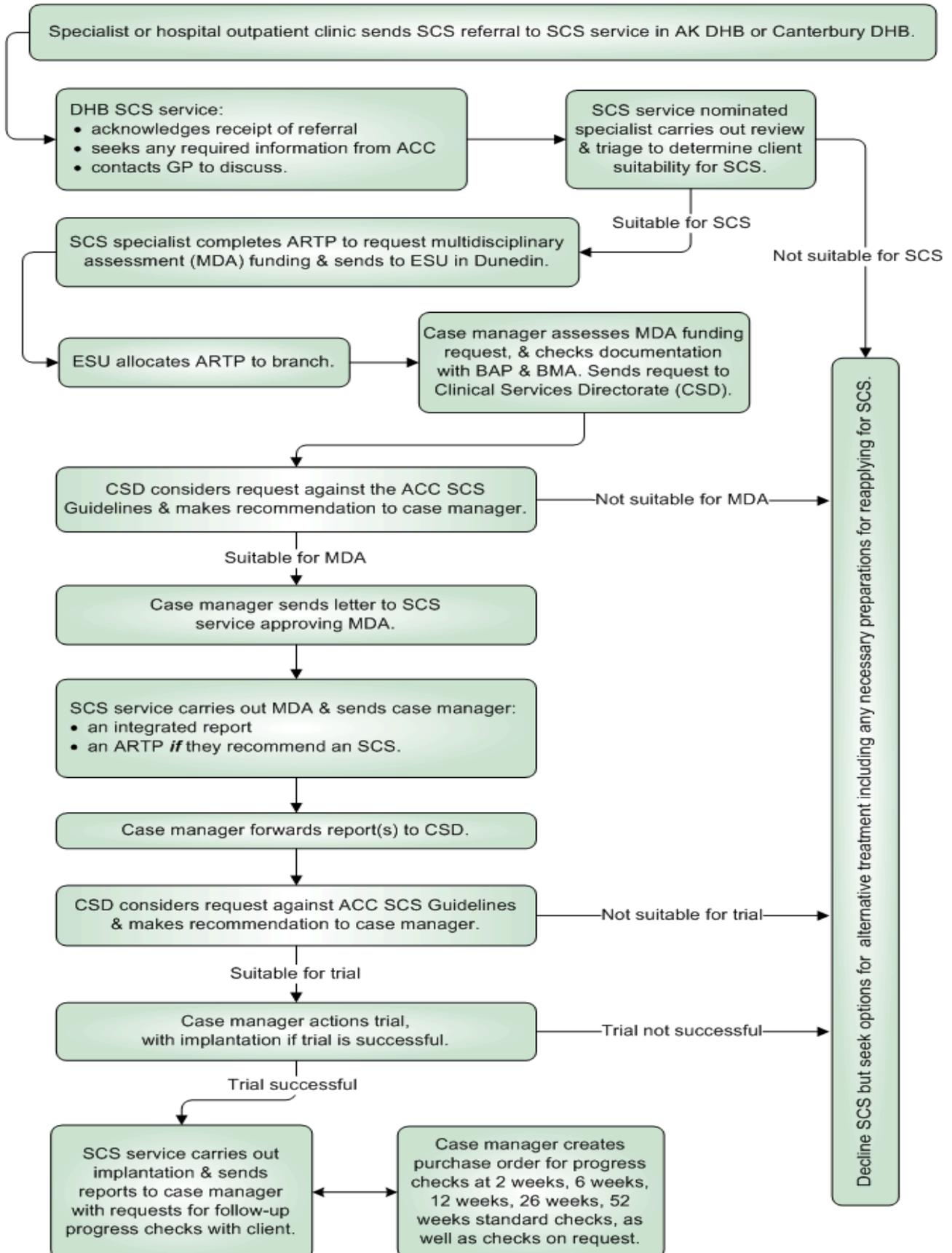
- History of escalating medication reliance.
- Objective signs on the psychometric tests (eg the DASS-21).
- Poorly controlled psychosis.
- Impulsivity, poor mood regulation, poor anxiety management.
- Major uncontrolled depression or anxiety.
- Active suicidal behaviour, untreated self-harm behaviour.
- Alcohol or drug dependence or abuse.
- Personality disorders with functional effect.
- Serious cognitive deficits.
- Overt secondary gain issues.

Other relative contraindications

- Abnormal or inconsistent pain ratings.
- Inconsistency among the history, pain description, physical examination, and diagnostic studies.
- Occupational driving (private and occupational driving needs to be assessed by a qualified occupational therapist).
- Local or systemic infection.
- Presence of a pacemaker or defibrillator.
- Foreseeable need for an MRI.
- Anticoagulant or antiplatelet therapy at the time of implantation.

The Referral and Decision-Making Process

Flowchart: Obtaining ACC approval to implant a Spinal Cord Stimulator



Referrals for SCS will be received by either the Auckland or Canterbury specialist services and must originate from specialists in secondary or tertiary care centres. In every case the service should acknowledge the referral.

The SCS service will contact the patient's:

- GP to obtain any other supportive information, inform them of the process and gain their support
- case manager to discuss the potential place of SCS in wider rehabilitation goals, and collect all necessary information held on the client/patient's file.

Information obtained from GPs and ACC may include but is not limited to:

- pain management reports
- neurophysiological reports
- psychological/psychiatric reports
- medical specialist reports, eg neurologist, internal medicine specialist, radiologist.
- outpatient reports.

A nominated Medical Specialist in the team will review the background information and undertake an initial triage to determine if the patient is likely to be a good SCS candidate. If appropriate, the Specialist will complete an Assessment Report and Treatment Plan (ARTP) requesting funding for a full multidisciplinary assessment (MDA). The ARTP should comment on the suitability of the patient regarding the SCS 'absolute and relative inclusion and exclusion criteria'.

The ARTP is sent to the Elective Surgery Unit (ESU) and forwarded to an appropriate case manager who ensures there is integration with the individual rehabilitation plan (IRP).

The case manager will assess the application against [Checklist 1 \(see Appendix 1, p 16\)](#) and, if complete, refer the request to the ACC Clinical Services Directorate for consideration.

When considering SCS MDA approval, the Clinical Services Directorate will refer to the SCS Guideline 2012. Approval will be considered in two phases:

1. Multidisciplinary Assessment phase.
2. Implantation trial phase.

Multidisciplinary SCS Screening Assessments and Reports

The multidisciplinary assessment includes three standalone assessments from medical, psychological, and functional perspectives. Each assessment provides an integrated recommendations report and must use mutually agreed measurement tools.

Assessment measurement tools:

Pre-'temporary lead' trial baseline function instruments

Standard validated instruments must be included in the initial assessment and mutually agreed by both units undertaking SCS trials. As a minimum, they must include:

- a unidimensional scale of pain experience
- scales measuring the intrusion of pain on participation in daily activities and self-care
- measures of psychological function, ie thought behaviours, attitudes, and symptoms congruent with mood or anxiety disorder.³

Medical assessment and recommendations

Assessment

The medical assessment must include a:

- history of general health, other medical/surgical conditions
- history of the pain condition
- review of reports, tests, and documents
- response to previous medical approaches and pain management interventions
- detailed physical examination of the affected region and a general physical examination of other systems.

Recommendations

The medical assessment must provide a diagnostic summary of the pain condition and other conditions, and make recommendations that:

- identify and give rationale for further investigations and treatments
- identify factors that should be addressed to maximise current pain modulation/perception.

3 Example of suggested SCS baseline assessment instruments:

■ Unidimensional Pain Rating Scales (**VAS** (Visual analogue scale), **NRS** (Numerical rating scale), **VRS** (Verbal rating scale)) ■ **PDI** (Pain Disability Index) ■ **PSEQ** (Pain Self-Efficacy Questionnaire) ■ Kessler K10 ■ **ObsRQ** (Obstacles to Return to Work Questionnaire) ■ **SF-MPQ** (Short-Form McGill Pain Questionnaire) ■ Occupational performance.

Psychological assessment and recommendations

Assessment

The psychological assessment must include a clinical evaluation of the patient's:

- history of psychological function
- history of psychological/psychiatric diagnoses
- perception of their pain problem
- past pain management strategies and how they responded
- current pain management strategies
- thought content, and symptoms including mood, anxiety, cognitive function, and memory
- response to their pain condition in the context of their domestic and social environment
- current level of activity and function, quality of life, level of spousal, family, or social support, and participation (in work and society)
- approach to previous and current medication
- use of drugs, alcohol, tobacco, and caffeine
- behavioural habits including sleep and hygiene
- motivational factors, goals, and influencing factors such as a perceived locus of control
- attitude to therapeutic interventions and the perceived risks and benefits of long-term association with the SCS and pain services.

Psychometric tests must have well-recognised reliability and validity, and be suitable for repeated measurements including symptom reporting.

Recommendations

The psychological assessment must provide a diagnostic summary and make recommendations that address:

- factors to maximise current pain modulation/perception
- the patient's ability to participate in further rehabilitation
- interventions for identified issues to be aware of when implementing an SCS trial.

Example: an escalating analgesic dose, unresolved compensation status, unrealistic expectations, inadequate support from spouse, family or others, a history of compliance problems, or a history of substance abuse.

Functional assessment and recommendations

Assessment

The functional assessment must clinically address the patient's:

- general health history from a functional perspective
- abilities in areas of activity including:
 - mobility ■ strength ■ endurance ■ flexibility ■ balance
- function at home, community, and work or social participation
- specific barriers to activity including personal, behavioural, physical, and support

factors.

Objective functional tests must have well-recognised reliability and validity, and be suitable for repeated measurements.

Recommendations

The functional assessment must provide a diagnostic summary of:

- all factors contributing to reduced activity and participation
- areas where functional activity and participation has not been maximised.

It must include recommendations that address:

- factors to maximise current pain management and function
- interventions or activities which will help increase the patient's participation in daily living.

Multidisciplinary summary report (MDSR)

The multidisciplinary summary report should be a succinct document with copies of the medical, psychological, and functional reports attached. The summary report should include:

- evidence of discussion between the three assessors of their experience with the patient and their clinical findings
- evidence of consultation with, and inclusion of, the patient's ACC case manager
- comment on any discrepancies in the patient's presentation as identified by the assessors
- specific comment on the inclusion/exclusion criteria
- integrated diagnoses and a summary of the important pain and rehabilitation issues
- integrated recommendations to maximise function and optimise pain modulation, pain perception, and pain behaviours
- a surgical ARTP completed by the proceduralist - *if* SCS is recommended
- a clear statement that the patient holds realistic expectations of the SCS procedure and provides informed consent.

Actions after the MDSR

If the MDSR recommends...	then...
an SCS implant trial	the multidisciplinary summary and surgical non-core ARTP, including estimated costs, should be forwarded to the ESU (cnr Princes St and Moray Pl, Dunedin). Staff there will action and forward it to the case manager.
other interventions and reconsideration of trial at a later date	refer back to the case manager to initiate the other interventions.
no SCS trial	refer back to the case manager and recommend further pain management.

Implantation Procedure

Pre-trial patient education and consent

To familiarise the patient with the practical aspects of the trial implantation so they can give informed consent for the 'temporary lead' trial, providers must give them:

- a clear understanding of the procedure, its the risks and benefits, possible complications, and treatment alternatives.
- make available educational information such as pamphlets, videos, and demonstrations of the implantable hardware.
- clear written instructions about self-care and the patient's responsibility to report various functions and experiences over the trial period
- descriptions of reasonable restrictions and what to expect over the trial period including appropriate use of medications, and the importance of slowly building activity tolerance.

The proceduralist must confirm that the patient is a suitable candidate for SCS, has willingly agreed to the long-term therapeutic relationship with the SCS team, and has a commitment to undertaking the rehabilitation necessary to maximise function with the SCS device.

Further monitoring of the patient's expectations should be considered. Issues that were submerged by severe persisting pain may surface. These may involve adaptation to life with less pain including the impact on families and relationships.

The 'temporary lead' trial for an SCS

The trial consists of inserting trial leads to cover the spinal cord area matching the distribution of pain. It must be performed for at least seven days during which time different levels of stimulation, including no stimulation, are compared with the level of pain reduction achieved.

Appropriate assessments should be completed during this time. Function (physical, cognitive and social) enabled by reduced pain, and psychological function must be measured and reported. To ensure objectivity, the assessment of pain levels and function must be conducted by a clinical person who is independent of the immediate implantation team.

The results are reviewed by the implantation team to determine the success or otherwise of the trial. The clinical leader then decides whether to complete the required procedures for a permanent SCS placement.

Successful screening criteria	Unsuccessful screening criteria
<ul style="list-style-type: none"> • A minimum of 50% reduction in pain severity. • Improved function within the trial period.⁴ • Paraesthesia, or 'adequate coverage' should be almost 100%. 	<ul style="list-style-type: none"> • Inadequate pain relief, less than 50% pain reduction, or poor cover of area. • Patient is unable to tolerate the device. • Patient is unable to operate the system.

⁴ Improvements must be documented in five key function areas in self-care or participation that were identified pre-operatively.

Proceeding to permanent lead and battery insertion

The SCS proceduralist makes the final decision to proceed to permanent lead and battery insertion. ACC relies on the SCS team to determine the success or failure of the trial and the appropriateness of final insertion of the device. No further approval for the implant surgical procedure is required from ACC at this stage since the approval covers the trial and insertion.

Discharge and Follow-up

Providing an integrated care plan and applying for follow-up sessions

The SCS team must provide ACC with:

- a surgical operation record
- a detailed follow-up plan
- an application for follow-up clinical costs.

For the client and GP

The SCS team must provide clear written documentation about the implant for patients to take with them to any future consultation with a health professional. This should include explicit details about investigations or procedures that are contraindicated, such as ultrasound or MRI scans.

Patients need to be made aware that:

- exposure to external defibrillators, diathermy, ultrasonic equipment, electrocautery, and radiation therapy may be contraindicated
- the SCS system may be affected by magnets from a wide range of sources: theft detectors (as found in libraries, airports etc), store and airport security devices, aircraft communications systems, large stereo speakers with magnets, electric arc welding equipment, power lines, electric substations and power generators.

Patients should be given a written outline of these issues, printed on a durable medium such as laminated card. This needs to be taken to every appointment with a health professional, and should include the contact details for at least two of the team members who undertook the implantation process.

Follow-up progress reviews

Regular reviews of progress should be conducted by the implantation team at a minimum two weeks, six weeks, three months, six months and annually following implantation. These reviews should consider a wide range of outcomes which must be recorded. Suitable outcome measures for persisting pain problems are:

- reported pain
- consumption of analgesics, or other medications
- enhanced activities in daily living and social participation
- return to productive activity (full- or part-time paid work, studying or training,

voluntary work. or work trial).

Assessment measurement tools:

Standard validated instruments must be included in the follow-up assessment and mutually agreed by both units undertaking SCS trials. As a minimum, they must include:

- a unidimensional scale of pain experience
- scales measuring the intrusion of pain on participation in daily activities and self-care
- measures of psychological function, ie thought behaviours, attitudes, and symptoms congruent with mood or anxiety disorder.⁵

Reporting Outcome Measures

To ensure appropriate outcomes are achieved it is important that clinicians report on the clinical outcomes from SCS.

ACC will require outcome measures and written progress reports to be completed at six months (corresponding with the six-month follow-up), two years, and five years, relative to the pre-implantation baseline. The information will cover the patient's clinical progress, functionality, self-care, use of medication, participation, daily living activities, and return to work (as listed above in the follow-up sessions), and any complications including revisions.

5 Example of suggested SCS baseline assessment instruments:

■ Unidimensional Pain Rating Scales (**VAS** (Visual analogue scale), **NRS** (Numerical rating scale), **VRS** (Verbal rating scale)) ■ **PDI** (Pain Disability Index) ■ **PSEQ** (Pain Self-Efficacy Questionnaire) ■ Kessler K10 ■ **ObsRQ** (Obstacles to Return to Work Questionnaire) ■ **SF-MPQ** (Short-Form McGill Pain Questionnaire) ■ Occupational performance.

APPENDICES

Appendix 1

Checklist 1: Receive a Funding Request for a Multidisciplinary Assessment for a Spinal Cord Stimulator

The ACC case manager completes this form and sends it to the Branch Medical Advisor and Branch Psychology Advisor for comment. They then set up a task in Eos for the "Clinical Services Directorate – Workwise" in Wellington.

Client's name: _____ Date of birth: ___/___/_____

ACC claim number: _____

Ensure that:	Yes	No
<ul style="list-style-type: none"> All medical documents have been found and attached 		
<ul style="list-style-type: none"> A full summary of the case has been completed by the case manager with the help of clinical advisor, and is attached 		
<ul style="list-style-type: none"> There is evidence of integrated pain management within the last 12 months 		
<ul style="list-style-type: none"> The BMA and BAP have reviewed and commented on the case with regard to SCS guidelines 		
Forward to Clinical Services Directorate – Workwise, in Wellington.		

Signed: _____ Date: ___/___/_____

Your name (please print): _____

Appendix 2

Checklist 2: Receive a Request for a Screening Trial and Implantation of a Spinal Cord Stimulator

The ACC case manager completes this form referring to the SCS Guideline 2012 in consultation with the Branch Medical Advisor, and then sends to the "Clinical Services Directorate – Workwise" in Wellington.

Client's name: _____ **Date of birth:** ___/___/_____

ACC claim number: _____

	Yes	No
Has copy of the report from the SCS independent Multidisciplinary Assessment including all three discipline reports been provided?		
Are there any barriers to further rehabilitation including RTW if the SCS is inserted and modifies pain experience?		
Has the patient provided explicit acknowledgement of what to expect from this procedure		
Were you consulted as part of the Multidisciplinary Assessment Team work up?		

Signed: _____ **Date:** ___/___/_____

Your name (please print):

Guideline Development – 2009-2012

The Guideline was updated by ACC with the input of:

Providers:

- Dr Rick Acland, Anaesthetist, Spinal Injuries Unit & Pain Management Centre, Burwood Hospital, Christchurch.
- Professor Alan Merry, Anaesthetist, The Auckland Regional Pain Service, Auckland Hospital.
- Dr Bob Large, Psychiatrist, The Auckland Regional Pain Service, Auckland Hospital.
- Dr Kieran Davis, Pain Specialist, The Auckland Regional Pain Service, Auckland Hospital.
- Mike McKinney, Clinical Psychologist, Burwood Pain Management Centre, Christchurch.
- Professor Ted Shipton, Pain Specialist, Burwood Pain Management Centre, Christchurch.
- Mr Martin McFarlane, Neurosurgeon, Christchurch Hospital, Christchurch.
- Sarah Johnstone NZROT, Burwood Pain Management Centre, Christchurch
- Bronny Trewin, Clinical Psychologist Burwood Pain Management Centre, Christchurch
- Rose Hurst, Physiotherapist, Burwood Pain Management Centre, Christchurch
- Andrew Fairbairn, Physiotherapist Burwood Pain Management Centre, Christchurch

ACC:

- Dr Alastair Wilson, ACC Corporate Medical Advisor, Wellington.
- Dr Margaret Macky, ACC Workwise Director, Wellington.
- Mary Davidson-Smith, ACC Provider and Relationship Manager, Christchurch.
- Peter Larking, Team Leader Evidence Based Healthcare.

Date of review – 2014