Management of Chronic Pain in military patients with injuries sustained during active duty. Comparison of spinal cord stimulation and comprehensive medical management.

Main Inclusion Criteria

1. Subject is a veteran or active duty service member injured while on active military duty receiving care for pain related to the injury(ies) in the Department of Defense health care system or through the Department of Veteran's Affairs.

2. Subject is 18 years of age or older.

3. The elapsed time since the active duty injury leading to chronic pain is not less than 3 months.

4. Subject reports constant or daily episodes of injury-related pain of at least moderate severity, graded 4 or higher on an 11-point NPRS (point estimate by subject and Investigator at time of enrolment). Pain may be nociceptive, neuropathic, or mixed. Phantom pain associated with amputation of an extremity or extremities is allowed.

5. Attempts to control pain with systemic analgesics have not provided adequate relief, in the judgment of the managing physician and subject.

6. Subject is able to localize site(s) of pain. At least one site of daily pain contributing to moderate severity (Inclusion Criterion 4) and intractability (Inclusion Criterion 5) must be in an extremity, or phantom pain at the site of an amputated extremity. If the extremity site of pain is not an amputated limb, then the pain must have a neuropathic component. This site is identified as the site of Target Pain (TP) for efficacy evaluations during the trial

Exclusion Criteria

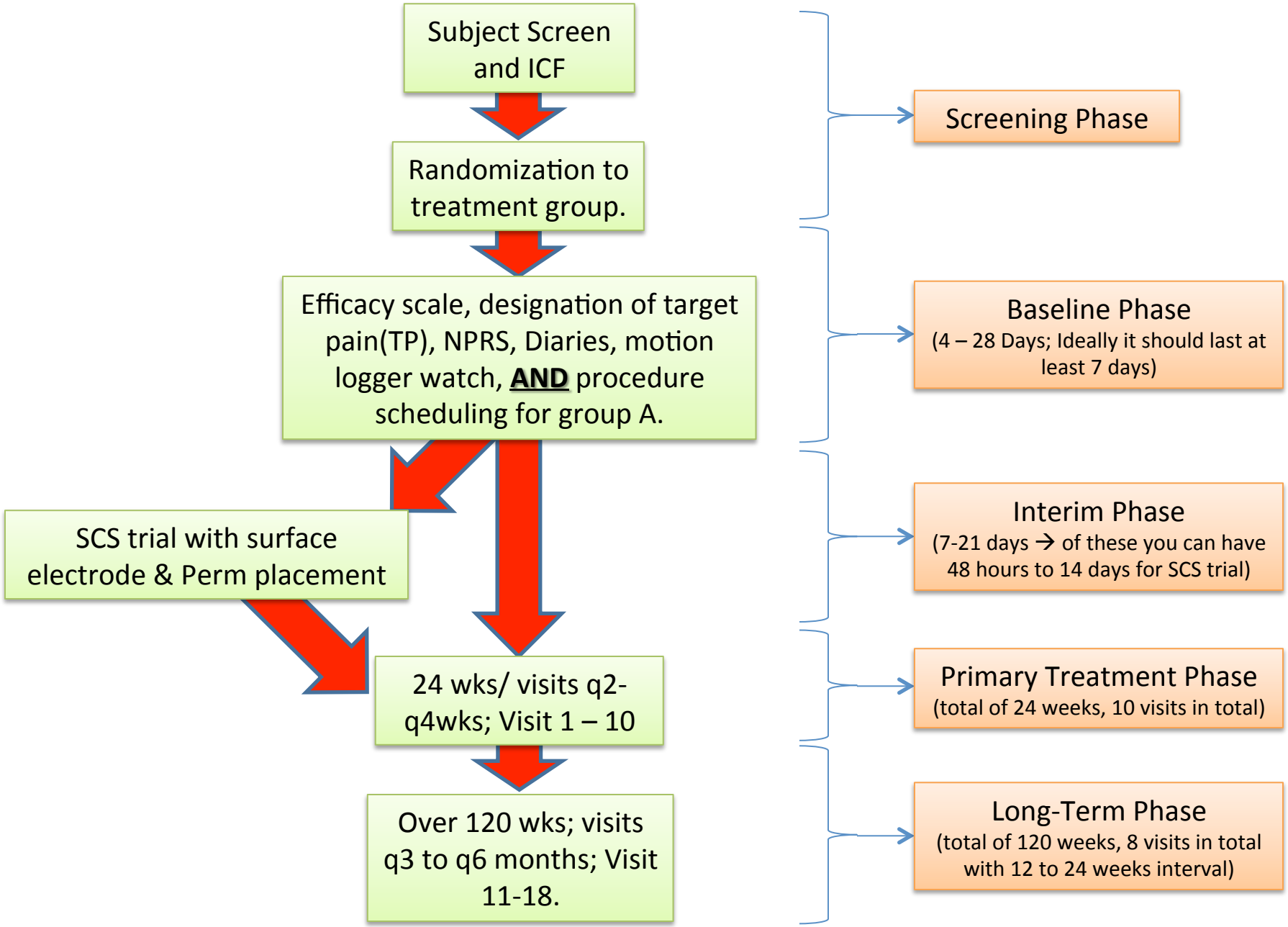
- Phantom pain associated with amputation of both an upper and lower extremity.
- Headache or visceral truncal pain or other non-musculoskeletal pain as the only pain that results in constant or daily scores of ≥4 on the 11-point NPRS.
- Spinal disease that would, in the judgment of the investigator, preclude placement of a spinal cord stimulator.
- Ongoing chronic infection or a medical condition associated with an unacceptably increased risk of infection related to device implantation.
- Current diagnosis or history of psychosis, cognitive impairment, hallucinations, or unexplained loss of consciousness, whether or not related to a combat injury that, in the opinion of the investigator, would exclude the patient from participating in the trial.
- Cardiac pacemaker.
- Significant medical or psychiatric condition that would interfere with the conduct of the study or with the outcome measures.
- Pregnant or is breast feeding.
- Participated in any drug or device trial in the past 30 days.
- Any planned elective or semi-elective surgery during the 6 months of the Primary Treatment Phase, including stump revisions or grafting.
- A psychological condition of great enough severity that it would unacceptably increase the medical risks associated with implantation and care of the devices required for the treatment on the CMM + SCS arm, or would likely interfere with the subject's ability to sustain participation in a research study of long duration. Investigators are encouraged to include the medical monitor and the coordinating investigator in discussions about individual candidate subjects who have psychological diagnoses as part of the polytrauma syndrome before enrollment or treatment on this protocol.

Spinal Cord Stimulation (SCS)

- Subjects assigned to Arm A, CMM + SCS, will be treated with Precision Spectra.
- Once device is active the subject enters the 24-week Primary Treatment Phase.
- During the early weeks of the Primary Treatment Phase, the subject and Investigator will make adjustments to the strength and targeting of the electrical stimulations, with the goal of achieving the best analgesic control.
- The pre-surgery stimulation trial, surgical implantation procedure and follow-up will be according to the standard practices at the study site, in compliance with the manufacturer's recommendations and product labeling.

Comprehensive Medical Management (CMM)

- Comprehensive Medical Management will be part of BOTH treatment arms; it will include analgesic management in accordance with guidelines and practices at the site.
- Managing Investigators are encouraged to modify the management program for subjects in Arms A and B to achieve the best possible control of pain.
- Permitted interventions include, for example, pharmacologic treatments (conventional drugs such as opiates, NSAIDs, anti-epileptics, tramadol, tapentadol, and complementary drugs if judged appropriate and safe by the Investigator), behavior counseling directed at pain control, pain-directed cognitive behavioral therapy, yoga (including mindfulness and relaxation training), acupuncture or accupressure, physical therapy targeting techniques of pain control, heat and/or cold therapy, and superficial/topical treatments such as topical NSAIDs, lidocaine, and capsaicin. Please review the wording.


Subject Screen and ICF
Randomization to treatment group.
Efficacy scale, designation of target pain(TP), NPRS, Diaries, motion logger watch, AND procedure scheduling for group A.
SCS trial with surface electrode & Perm placement
24 wks/ visits q2-q4wks; Visit 1 – 10
Over 120 wks; visits q3 to q6 months; Visit 11-18.
Screening Phase
Baseline Phase
(4 – 28 Days; Ideally it should last at least 7 days)
Interim Phase
(7-21 days → of these you can have 48 hours to 14 days for SCS trial)
Primary Treatment Phase
(total of 24 weeks, 10 visits in total)
Long-Term Phase
(total of 120 weeks, 8 visits in total with 12 to 24 weeks interval)

	Screening Phase	Base-line Phase	Interim Phase[a]	Primary Treatment Phase									
				V1 (Wk0)	V2 (Wk2)	V3 (Wk4)	V4 (Wk6)	V5 (Wk8)	V6 (Wk10)	V7 (Wk12)	V8 (Wk16)	V9 (Wk20)	V10[c] (Wk24)
Inclusion/Exclusion[b]	X	X											
Informed Consent	X												
Physical examination		X											X
Combat Exposure Scale (CES), Demographics and Medical History (including history of injury)		X											
Efficacy scales (MPQ, POMS, POQ-VA, BDI-II, SF-36, Modified Oswestry Pain Questionnaire, NPS, IES-R, PCL), CPSI		X											X
NPRS (average) on home diaries, at least 3 days		X	X		X	X		X		X	X	X	X
Download data from 3-D accelerometer				X									X
Stimulation trial and device placement (Group A)			X										
AE recording		X	X	X	X	X	X	X	X	X	X	X	X
Review of concurrent medications, duty or employment status, count of hospital days		X	X	X	X	X	X	X	X	X	X	X	X
Intervention checklist[d]				X	X	X	X	X	X	X	X	X	X
Urine Drug Test		X					X			X			X
Serum pregnancy test	x												
Urine pregnancy test		x											
GIC-I, GIC-S, Pain relief score													X

[a] Subjects assigned to Arm A (SCS)
[b]Screening will include an interview with a clinical psychologist or psychiatrist and formal psychological testing if judged appropriate to confirm the psychological suitability of the candidate subject for both treatment interventions.
[c]V10 (Week 24) evaluations to be completed by all subjects who withdraw prematurely prior to Week 24.
[d]Expanded version at Visit 1, abbreviated, category version at subsequent visits

Table 1 Time and Events Schedule, Screening, Baseline, Interim, and Primary Treatment Phases

	Long-term Treatment Phase									
	V11 (Wk36)	V12 (Wk48)	V13 (Wk60)	V14 (Wk72)	V15 (Wk84)	V16 (Wk96)	V17 (Wk120)	V18[a] (Wk144)	End of Treatment / Follow-Up	
Physical examination								X		
Efficacy scales (MPQ, POMS, POQ-VA[b], BDI-II, SF-36, Modified Oswestry Pain Questionnaire, NPS, IES-R, PCL, 3-D accelerometer evaluation[b]), CPSI		X				X		X		
NPRS (average) on home diaries, at least 3 consecutive days	X	X		X		X	X	X		
Download data from 3-D accelerometer								X		
AE recording	X	X	X	X	X	X	X	X		
Review of concurrent medications, duty or employment status, count of hospital days	X	X	X	X	X	X	X	X		
Intervention checklist[c]	X	X	X	X	X	X	X	X		
GIC-I, GIC-S, Pain relief score								X		
Urine pregnancy test									x	

[a]Evaluations to be completed at time of early withdrawal for any subject withdrawing prematurely between Visit 10 and Visit 18 (Week 144)
[b]POQ-VA, discharge version performed at Visit 18 (Week 144) only.
[c]Abbreviated, category version

Table 2 Time and Events Schedule, Long Term Treatment Phases

MANAGEMENT OF CHRONIC PAIN IN MILITARY PATIENTS WITH INJURIES SUSTAINED DURING ACTIVE DUTY: VISIT TABLE

Screening Phase

1 Visit
Up to 2 hours

At this visit the subject will:

Review his/her medical history and status to determine if eligible for this study.

Receive an explanation of the study, including risks and potential benefits.

Complete a written informed consent form.

Have blood taken for a pregnancy test (females only).

After this visit the subject will be notified of their eligibility for the study and schedule a follow-up appointment.

Baseline Phase

1 Visit
Up to 2 hours

At this visit the subject will:

Complete a detailed medical history, including a physical exam, psychological interview, and review of medications.

Map target pain site (TP) on an anatomical drawing.

Complete the Combat Exposure Scale (CES).

Complete 10 pain assessment surveys to determine the current frequency and severity of his/her pain.

Provide urine for a drug test (all subjects) and a pregnancy test (females only).

Learn to use the daily pain diary and Motionlogger Watch device required for study completion.

All eligible subjects will be randomly assigned to one of the two study arms. All subjects will complete 7 consecutive days of home diary entries and 3-14 days of Motionlogger watch wear before the next visit.

Interim Phase

Arm A
(Intervention Arm Only)
2 visits
Up to 4 hours

At this visit the subject will:

Have trial implant to check for pain relief response: if effective:

Have surgery to implant the Spinal Cord Stimulation Device (SCS) in his/her lower back.

After this visit the subject will return 1-3 times for adjusting device for the best pain relief. Will report any problems with the device to authorized study personnel as soon as possible . The time and amount of visits will vary per individual. Will continue to make daily diary entries and wear Motionlogger watch throughout the remainder of the study.

Arm B
(Control Arm Only)
No visit in this phase

All subjects will continue to make daily diaryentries

Primary Treatment Phase

Visits 1-7
Every 2 weeks
(Up to 2 hours)

At these visits the subject will:

Review adverse events, medications, duty or employment status, hospital days and diary entries with study staff.

Visits 2-3, 5 and 7 include completion of NPRS questionnaire

Visits 4, 7 include urine drug test

Visit 7 includes download of Motionlogger watch data.

Visits 8-10
Every 4 weeks
(Up to 2 hours)

At these visits the subject will:

Review adverse events, medications, duty or employment status, hospital days and diary entries with study staff. And complete NPRS questionnaire.

Visit 10 includes a physical exam, urine drug test, assessment of pain relief and download of Motionlogger Watch data.

Long-term Treatment Phase

Visits 11-16
Every 12 weeks
(Up to 2 hours)

At these visits the subject will:

Review adverse events, medications, duty or employment status, hospital days and diary entries with study staff. And complete NPRS questionnaire.

Visits 12, 13 and 16 will include Efficacy questionnaires.

Visit 13 will NOT include NPRS questionnaire.

Visits 17-18
Every 24 weeks
(Up to 2 hours)

At these visits the subject will:

Review adverse events, medications, duty or employment status, hospital days and diary entries with study staff. And complete NPRS questionnaire.

Visit 18 will include a physical exam, Efficacy questionnaire, assessment of pain relief, download of Motionlogger watch data and urine pregnancy test (females only).

End of study visits.