



Incidence and Etiology of Impediments to Spinal Cord Stimulator Trial Progression

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Introduction

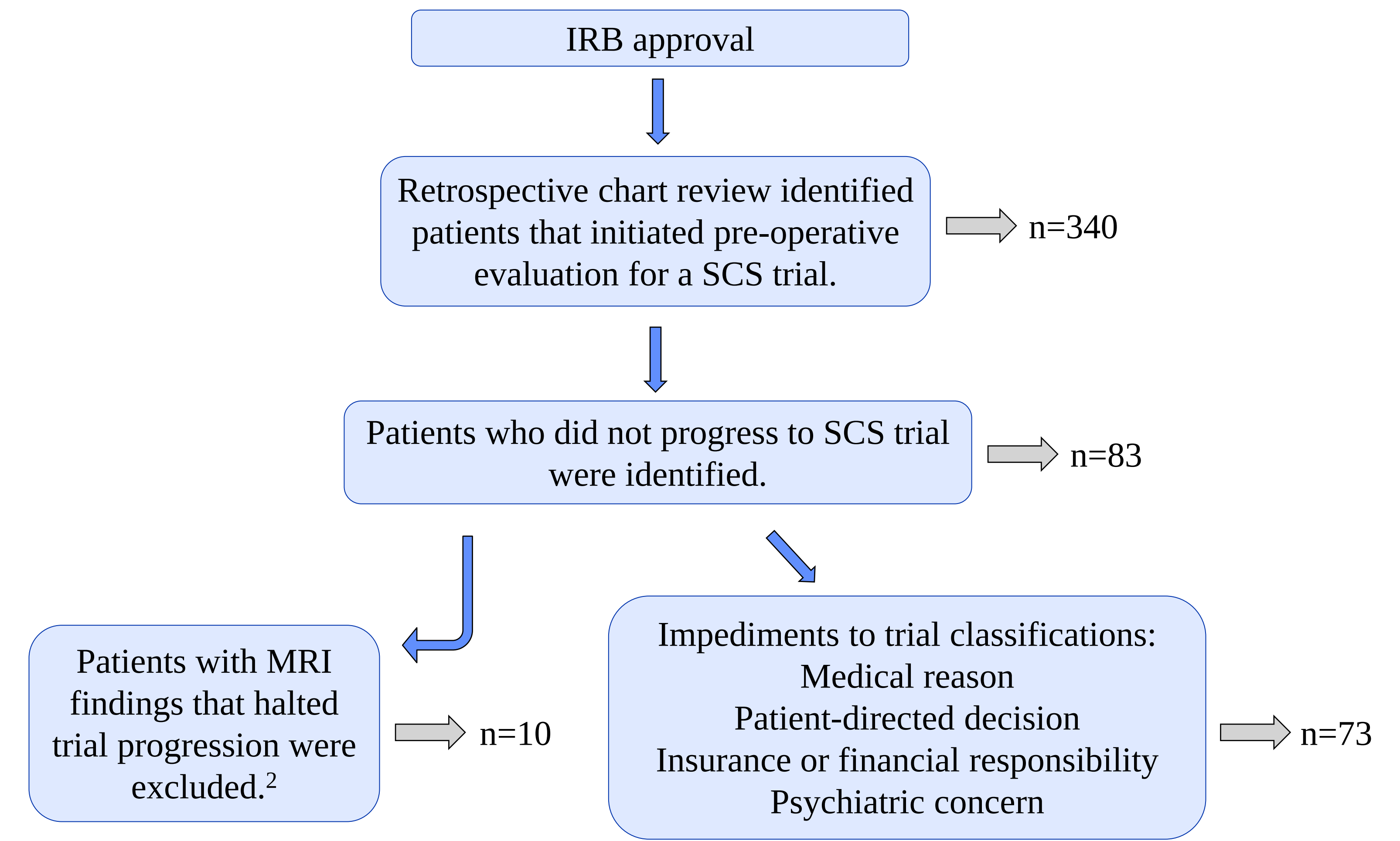
Prior to permanent implant of a spinal cord stimulator (SCS), clinical guidelines recommend a trial.¹ Despite initial candidacy for SCS, not all patients progress to trial.

Patients undergo preoperative evaluation before SCS trial, which may include:

- Preprocedural MRIs
- Physical examination
- Laboratory workup
- Medical clearance
- Psychological assessment

To date, a comprehensive study on impediments to trial progression during the preoperative process has not been conducted. Comprehending the obstacles that hinder advancement could offer strategies to enhance patient access.

Methods



Results and Discussion

Table 1: Classifications of impediments in spinal cord stimulator trial progression.

Impediment Classification	Impediment Subclassification	Impediments (N=33, 41.8%)
Medical reason, n (%)	Medical condition	23 (69.7%)
	Medically unoptimized	10 (30.3%)
	Patient-directed decision	Impediments (N=24, 30.4%)
Insurance or financial responsibility, n (%)	Commercial insurance coverage/denial	8 (53.3%)
	Workers' compensation denial	5 (33.3%)
	Patient financial responsibility†	2 (13.3%)
Psychiatric concern*		Impediments (N=7, 8.9%)

Note: Some percentages may be slightly off from 100% due to rounding error. Among the 73 patients that did not progress to SCS trial unrelated to pre-operative MRI, 6 patients were classified into two impediment categories. Therefore, there is a total of 79 impediments.

†For patient financial responsibility, patient was unable to afford deductible associated with procedure.

Medical Reason

Table 2: Medical condition information for relevant impediment classification.

Impediment Classification	Impediments (N=23)
Medical condition, n (%)	
Infection concerns	7 (30.4%)
Orthopedic or spine condition requiring surgery	6 (26.1%)
Hematological	5 (21.7%)
Cardiac	3 (13.0%)
Neurological	1 (4.4%)
Cancer	1 (4.4%)

Patient need for medical optimization included: elevated glucose (n=5, 50.0%), tobacco use (n=4, 40.0%), and elevated BMI (n=1, 10.0%).

Nearly one-third of the medical reasons were related to patient need for medical optimization. This finding underscores the importance of medical counseling.

Patient-Directed Decision

Table 3: Patient-directed decision information for relevant impediment classification.

Impediment Classification	Impediments (N=24)
Patient-directed decision, n (%)	
Decided not to progress, reason not specified*	17 (70.8%)
Lost to follow up during pre-operative workup	4 (16.7%)
Occupational concerns	2 (8.3%)
Transportation issues	1 (4.2%)

*These individuals cancelled their SCS trial pre-operative appointment (n=9) or SCS trial (n=8). An average of 18.7 days passed between the patients' last appointment and cancellation.

37.5% (n=9) of the 24 patients in the patient-directed decision classification completed all pre-operative testing requirements.

Efforts should be made to identify reasons for patient-initiated cancellations of SCS trials. This data can then be used to develop mitigative strategies, such as patient education or logistical support, when appropriate.

Insurance or Financial Responsibility

Impediments related to health-care coverage comprised 18.9% (n=15) of all impediments. **Efforts by providers and policy makers are warranted to alleviate financial obstacles and advocate for improvements in insurance coverage for SCS therapy.**

Psychiatric Concern

Psychiatric concern included: not cleared from formal psychological assessment (n=2), alcohol abuse (n=1), concerns for opioid misuse (n=3), and other untreated psychiatric condition (n=1).

Of all patients that initiated pre-operative evaluation for SCS trial, 89.4% (n=304/340) completed a formal psychological assessment. 0.66% (n=2/304) did not obtain clearance from the assessment. **This finding casts doubt on the necessity of this requirement.**

This study offers an understanding of the factors associated with failure to progress to SCS trial, which can be leveraged to devise strategies for reducing barriers to treatment.

References

1. Shanthanna H., et al. Evidence-Based Consensus Guidelines on Patient Selection and Trial Stimulation for Spinal Cord Stimulation Therapy for Chronic Non-Cancer Pain. RAPM. 2023 Jun;48(6):273-287. doi: 10.1136/rapm-2022-104097.
2. Vaidya E., et al. Preoperative Magnetic Resonance Imaging Does Modify Spinal Cord Stimulator Trial Progression and Planning. ASRA PM Fall Meeting 2023.