



Spinal Cord Injury Rehabilitation Should Stop Treating Compensation as the Finish Line

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Opinion

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Abstract

I take a clear position in this article: spinal cord injury rehabilitation should stop organizing itself around compensation as though that was the main goal. Compensation matters. Of course it does. People need to dress, transfer, work, parent, travel, and live now, not in some imagined future. But if rehabilitation begins and ends with teaching people how to adapt, we quietly lower the ceiling on recovery. That is the wrong ambition. The stronger position is this: compensation should support life while rehabilitation relentlessly tests and trains for neurological and functional restoration wherever that remains possible. Recent work in SCI recovery, including activity-based interventions and neuromodulation, shows that the injured nervous system is not always a closed door. Some patients with chronic motor complete injury have regained voluntary movement and even over-ground stepping after intensive training and stimulation-based approaches. The field should build around that reality rather than around resignation. SCI rehabilitation ought to be more demanding, more hopeful, and less satisfied with “independence” that comes only from adaptation.

Keywords: Spinal Cord Injury; Rehabilitation; Neurorecovery; Compensation; Neuromodulation; Physiotherapy; Occupational Therapy

Introduction

I have lost patience with rehabilitation programmes that teach people with spinal cord injury to become excellent at living around their injury before we have asked enough of the nervous system itself. My position is simple: compensation should be a tool, not the philosophy.

That may sound blunt. Good. The old habit of treating wheelchair skills, transfer training, and environmental adaptation as the natural end point of rehabilitation has been comfortable for clinicians, but comfort is not a scientific argument. Spinal cord injury is not a fixed event with a single destination. It is a dynamic condition, with plasticity, residual pathways, secondary changes, and a long tail of

recovery potential that we still underestimate too often [1]. If rehabilitation acts as though that window is already closed, patients will feel it immediately. They may never say so in those words, but they know when the programme has stopped reaching for more.

Restoration Should Be the Default Ambition

There is now enough serious evidence to make complacency look lazy. Activity-based approaches, task-specific practice, and neuromodulator strategies have shown that the spinal cord can still respond, sometimes in striking ways. In chronic motor complete injury, over-ground walking has been recovered after intensive epidural stimulation and training in selected participants [2]. In other work,

stimulation of the lumbosacral cord has enabled voluntary movement, standing, and assisted stepping in people long thought to have no meaningful motor recovery left to chase [3]. These are not laboratory curiosities to admire and file. They are a warning shot.

The lesson is not that every person with SCI will walk again. That would be foolish. The lesson is that we cannot assume irreversibility just because the injury is severe or chronic. Too many rehabilitation services still behave as if the main job is to sort people into “recovered enough” and “adapted enough.” That is a very small vision. A better model asks a harder question: what if this person still has enough residual capacity to justify a restorative attempt?

That question changes everything. It changes how early we load the system. It changes how long we persist. It changes whether we tolerate weak effort because the patient “can function anyway.” And yes, it changes how physiotherapists and occupational therapists justify the use of intensive, high-repetition, goal-directed rehabilitation when the nervous system is still plastic.

Compensation Has its Place, but it Must not Run the Show

I am not arguing against compensation. That would be absurd. For many people with SCI, compensation is what gets the day moving. It is how a person gets out of bed, into a chair, into work, into the community. OT has always understood this well, perhaps better than many of us in physiotherapy: environmental modification, assistive technology, pressure management, upper-limb preservation, hand function strategies, home and workplace adaptation. These are not side issues. They are survival skills.

But there is a danger when compensation becomes the organizing logic of care. Once that happens, the clinical team starts rewarding efficiency over possibility. A person learns a transfer method, a seating solution, a shower routine, and then rehab quietly settles. The patient is functioning, so the system relaxes. The problem is that function achieved through adaptation can coexist with preventable under-recovery. The person may look “independent” while remaining far below their true potential.

That is a poor bargain. It may feel pragmatic in a busy unit. It is still a poor bargain.

If we are serious, compensation should be sequenced alongside restorative work, not instead of it. Teach wheelchair skills. Train self-care adaptations. Fit the devices. But keep returning to the question of recovery. Keep re-testing function. Keep progressing loading, standing, stepping,

trunk control, upper-limb capacity, and task-specific practice where appropriate. Do not let the patient's competence at coping become an excuse for the team to stop pushing for change.

The Field Needs Better Outcomes, not Just Better Hope

One reason this debate matters are that our outcome measures are still too polite. We celebrate discharge milestones and forget long-term participation. We count whether someone can transfer, not whether they can sustain a career. We record equipment use, not whether a person is gaining physical capacity or simply getting better at working around a deficit. That is not good enough.

Rehabilitation after SCI should be judged by whether it expands what a person can do without limiting what they might still recover. That means prioritising objective motor testing, activity tolerance, quality of movement, participation goals, and long-term health. It also means acknowledging that upper-limb overload, pain, fatigue, cardiometabolic risk, and loss of confidence can follow a compensatory pathway that looks functional on paper but costs too much over time.

This is where the professions need to work together rather than operate in their usual silos. Physiotherapists should not be content with mobility that is merely efficient. Occupational therapists should not be positioned as the team that tidies up after failed recovery. Both professions should be driving a dual agenda: immediate participation through compensation, and relentless pursuit of restoration where the biology still allows it.

Acknowledgment

The strongest argument against my position is straightforward: most people with SCI will not regain normal neurological function and telling them to invest heavily in recovery can sound like false hope. That concern is real. I would not dismiss it. Patients do not need grand promises. They need honesty.

But honesty cuts both ways. It is just as misleading to imply that neurological recovery is exhausted early and that the best we can do is adaptation. The better response is not to choose hope over realism. It is to make recovery-oriented rehabilitation honest, graded, and selective. We can say, without drama, that not everyone will recover walking, hand function, or continence. We can also say that the nervous system may still respond to the right intensity, the right task, and the right technology. That is not fantasy. It is good science, carefully applied [1-4].

Conclusion

Spinal cord injury rehabilitation should stop acting as though compensation is the destination. It is not. It is the bridge. Necessary, valuable, sometimes lifesaving, but still a bridge. The destination must remain restoration wherever restoration remains possible, and adaptation only where it truly is not. My call is simple. Build rehabilitation pathways that refuse to settle too early. Measure more than independence. Train for recovery, not just accommodation. Give people with SCI a programme that is ambitious enough to deserve their trust. If we are going to ask them to rebuild their lives, we owe them more than a well-fitted chair and a polished discharge plan.

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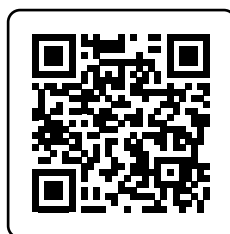
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