

Evaluation of Gabapentin Initiation Time for Neuropathic Pain in Spinal Cord Injury

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Background

- Neuropathic pain is fairly common in spinal cord injury (SCI) with a prevalence of approximately 53%¹
- It has a significant negative effect on several measures of quality of life such as sleep, physical function, and mood
- Gabapentin has often been utilized and studied as a treatment for neuropathic pain
- Shortly following acute SCI, some providers may elect to initiate gabapentin promptly for prevention of neuropathic pain
- Other providers may consider delaying initiation until symptoms develop
- Despite these variations in practice, the timing of the drug's initiation has not been well studied

Objective

- To evaluate the prevalence of neuropathic pain in acute SCI patients following early (less than 1 week post-injury) initiation of gabapentin.

Methods

- **Design:** Prospective, observational, cohort, single-center study
- **Setting:** Acute SCI unit of an academic rehabilitation institution
- **Inclusion Criteria:** Diagnosis of acute SCI, Age 18 or older
- **Exclusion Criteria:** Pre-existing neuropathic pain and patients utilizing gabapentin for neuropathic pain unrelated to acute SCI
- **Participants:** N = 27
- **Outcome Measures:** Prevalence of neuropathic pain, determined by the Douleur Neuropathique 4 (DN4) and Neuropathic Pain Scale (NPS) which were collected on admission and on discharge

Prevalence of Neuropathic Pain

Initiation Time of Gabapentin		% of Patients with NP on Admission	P-value	Odds Ratio (CI)	% of Patients with NP on Discharge	P-value	Odds Ratio (CI)
Within 24 Hours (post-injury)	Early	77.8%	1.00	1.0 (0.1-6.9)	61.1%	1.00	1.3 (0.2-6.4)
After 24 Hours (post-injury)	Late	77.8%			55.6%		
Within 1 st Week (post-injury)	Early	73.7%	0.63	0.4 (0.0-4.1)	63.2%	0.67	1.7 (0.3-9.1)
After 1 st Week (post-injury)	Late	87.5%			50.0%		

Table 1: This table illustrates that there is no significant difference in prevalence of neuropathic pain on admission and discharge in SCI patients who received gabapentin “early” or “late” in relation to their injuries.

Results

- Overall, neuropathic pain was observed in greater than 80% of patients.
- There was no significant difference at the time of discharge on the prevalence of neuropathic pain, regardless of when gabapentin was initiated.
- There was no significant difference in severity of neuropathic pain between the early and delayed initiation groups.

Conclusions

- Neuropathic pain is a common and major issue in patients with SCI.
- This study does not support early initiation of gabapentin over symptom-based initiation for prevention or reducing the severity of neuropathic pain in acute SCI.

References

1. Burke D, Fullen BM, Stokes D, Lennon O. Neuropathic pain prevalence following spinal cord injury: A systematic review and meta-analysis. *Eur J Pain.* 2017 Jan;21(1):29-44. doi: 10.1002/ejp.905. Epub 2016 Jun 24. PMID: 27341614.