

Implantable pulse generator migration after rapid GLP-1 receptor agonist weight loss in a spinal cord stimulator patient

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Background

Implantable pulse generator (IPG) site pain affects ~17% of spinal cord stimulator (SCS) patients.[1] A stable IPG depends on a stable subcutaneous pocket. GLP-1 receptor agonists now produce bariatric-scale weight loss, but their effect on pocket integrity has not been described.

The case

Aug 2024
Permanent SCS: 2 percutaneous leads. IPG in upper gluteal pocket, sutured to fascia. 104.3 kg (BMI 32.1).

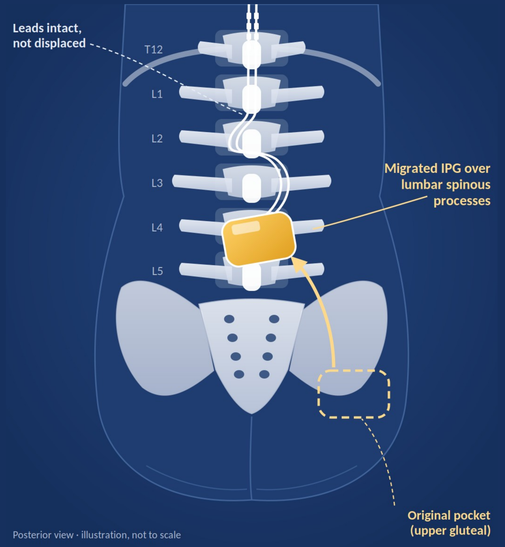
2025
GLP-1 RA started (semaglutide → tirzepatide). Lost 20.4 kg over 14 months.

Mid-2026
Severe battery-site pain. X-ray: IPG migrated medially onto the lumbar spinous processes.

Jul 2026
Revision: IPG moved to a new, more lateral pocket and sutured to the pocket wall. Leads intact — not repositioned.

2 weeks
80% pain relief. No complications.

A fascia-anchored spinal cord stimulator battery migrated onto the lumbar spine after 20% GLP-1 weight loss.



Posterior view · illustration, not to scale

Proposed mechanism

1. Rapid loss of subcutaneous fat
2. Pocket becomes too large for the device
3. IPG drifts medially despite fascial sutures
4. IPG rests on bony spinous processes
5. Severe site pain → revision

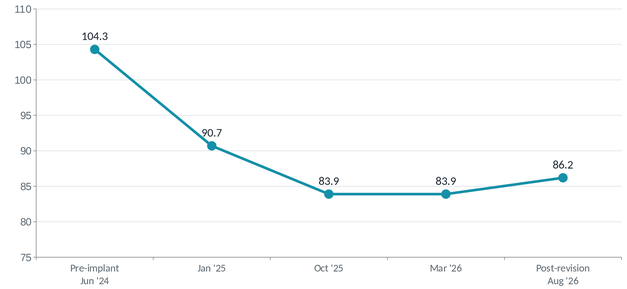
19.6%
total body weight lost after implant

20.4 kg
lost in 14 months

23 mo
implant to revision

80%
pain relief after revision

Weight after SCS implant (kg)



Take-home for implanters

- Fascial fixation alone may not hold when pocket volume shrinks.
- Ask every SCS patient about GLP-1 therapy, including screening, trial phase, at implant and at follow-up.
- Consider lateral pocket placement and warn patients revision may be needed.
- Other pocketed implants, such as intrathecal drug delivery pumps, may share this vulnerability.

References
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Patient informed consent for publication was obtained.