

Beyond the Tibial Nerve: Is Peroneal Neuromodulation the Next Evolution in Overactive Bladder?

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Hypothesis

OAB impairs quality of life; urgency and UUI are among the most bothersome symptoms.

Established peripheral neuromodulation remains limited by treatment burden, repeated clinic-based sessions and suboptimal long-term adherence.

Peroneal neuromodulation has emerged as a novel approach targeting overlapping lumbosacral pathways.

Aim

Evaluate whether peroneal neuromodulation represents a clinically meaningful evolution in peripheral neuromodulation for OAB.

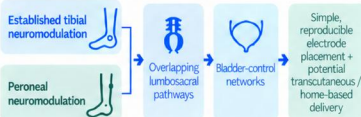
Study design, materials and methods



Domains:

1. Mechanistic plausibility
2. Clinical effectiveness/safety
3. Translational potential

Why peroneal neuromodulation?



Results

	Physiological plausibility	Supported by overlapping lumbosacral pathways and emerging functional neuroimaging evidence.
	Clinical signal	Improvements in frequency, urgency, UUI and quality of life.
	Safety / acceptability	Favourable tolerability, minimal adverse effects and high patient acceptability.
	Delivery potential	Anatomical accessibility enables simple, reproducible electrode placement and supports transcutaneous and home-based delivery.
	Context vs established approaches	PTNS: mature efficacy and long-term data, but repeated clinic-based treatment. TTNS: non-invasive with home-based potential, but heterogeneous protocols and long-term evidence. Peroneal: early-phase evidence with simplified delivery potential.

Interpretation of results

- Integrates mechanistic plausibility with practical delivery advantages.
- May support a shift towards decentralised, patient-driven neuromodulation.
- Early clinical signals and favourable tolerability support further evaluation of its potential to improve accessibility and adherence.

Limitations

- Small sample sizes
- Short follow-up
- Heterogeneous stimulation parameters/protocols
- No direct comparative trials

Conclusion

Peroneal neuromodulation is a promising emerging approach for OAB and may represent a clinically meaningful evolution in peripheral neuromodulation. Its anatomical accessibility may facilitate simpler and more scalable treatment delivery. High-quality comparative studies are required to establish relative efficacy, durability and optimal positioning within the therapeutic pathway.