

Transcutaneous Tibial Nerve Stimulation (TTNS)

Patient Information & Home Use Guide

What is TTNS?

TTNS involves stimulating the posterior tibial nerve, which shares the same nerve root (S2–S4) as the nerve supply to the bladder. Stimulating this nerve can help calm an overactive bladder — reducing urgency, frequency and leakage — and has been shown to increase bladder capacity.

TTNS is delivered using a TENS (Transcutaneous Electrical Nerve Stimulation) machine — a small, portable device that sends a gentle electrical current through electrodes placed on the skin near the ankle. Research shows TTNS to be an effective and safe treatment for Overactive Bladder (OAB) symptoms, including urgency, frequency and urgency incontinence.¹

Important — this sheet is a reminder, not a substitute for training

- Your first TTNS session — including electrode placement and machine settings — must be set up and taught by your physiotherapist in person.
- Please do not attempt to start TTNS at home for the first time using this document alone.
- This guide is designed to help you remember your physiotherapist's instructions after you've been shown how to do it — it is an outline, not a full training resource.

How TTNS is used at home — general outline

Once your physiotherapist has trained you, a typical home session looks like this. This is a general outline only — always follow your physiotherapist's specific instructions and the electrode positions they have marked or shown you.

1. Prepare the skin — clean and free from creams or lotions (e.g. sunscreen, moisturiser), and hair-free. You may need to shave a small area on the inside of the ankle and about 10cm above it.
2. Place the electrodes as shown by your physiotherapist — typically one electrode behind the bony prominence on the inside of the ankle, and the second electrode approximately 10cm above this.
3. Connect the leads — black lead to the lower electrode, red lead to the higher electrode.
4. Turn on and slowly increase the intensity dial until you see your toes gently move or twitch, then reduce slightly to a comfortable, tolerable level. If you don't see a toe response, turn the machine off, recheck the electrode placement, and try again. There should be no pain or burning sensation at any point.
5. Run the session for 30 minutes.
6. Turn the TENS machine off before removing the electrodes.

Treatment schedule

A typical taper schedule is below — your physiotherapist will confirm the schedule that is right for you.

Period	Frequency
Weeks 1–6	Daily, 30 minutes

Period	Frequency
Weeks 6–8	Every second day (3x per week), 30 minutes
Weeks 8–12	Twice weekly, 30 minutes
After 12 weeks	Weekly (maintenance), or as advised by your physiotherapist

If your urinary symptoms return, or you feel the treatment isn't working as well as it was, please book a review with your physiotherapist rather than adjusting the program yourself.

Do NOT use TTNS / TENS if you:

- are pregnant
- have a cardiac pacemaker or implanted defibrillator (**unless your cardiologist says it's safe**)
- have epilepsy
- have cancer or active malignancy near the treatment site
- have a metal implant at the ankle (e.g. joint replacement)
- have an open wound, cut, or active infection at the electrode site
- have poor sensation or circulation in the leg or foot — discuss with your physiotherapist first

Always make sure the skin is clean and free from creams and hair before applying electrodes, and never place electrodes over cuts or open wounds. TTNS should not cause pain or a burning sensation — if this occurs, stop, reduce the intensity, or contact your physiotherapist.

TTNS is often combined with other treatment options such as pelvic floor muscle training, behavioural bladder retraining, lifestyle changes and medication. Talk to your physiotherapist about building a combined treatment plan.

Purchasing a TENS machine

Please purchase your TENS machine online, from a reputable Australian supplier. Suitable machines typically cost in the range of approximately \$50–\$60. Your physiotherapist can help confirm whether a specific device is appropriate for TTNS before you buy — it should have adjustable intensity, pulse width and frequency controls, and a timer.

- Pelvic Floor Exercise — N602 Accurate TENS — <https://www.pelvicfloorexercise.com.au/accurate-tens.html>
- PhysioWorks — NeuroTrac TENS Machine — <https://physioworks.com.au/product/neurotrac-tens-machine/>

Disclaimer: These links are provided for convenience only. This clinic does not receive any commission or other benefit from these retailers, and does not endorse one product or supplier over another. Please confirm the specific make and model with your physiotherapist before purchasing, as suitability, pricing and availability may change and may vary between individuals. This document does not constitute a product recommendation or medical advice.

Reference

1. Booth, J., Connelly, L., Dickson, S., Duncan, F., Lawrence, M. (2018). *The effectiveness of transcutaneous tibial nerve stimulation (TTNS) for adults with overactive bladder syndrome: A systematic review. Neurourology and Urodynamics*, 37, 528–541.