Terlikowski et al, 2013 Abstract

Surface-EMG Biofeedback In Managing SUI In Women

Objective
The study evaluated the results of conservative treatment of urodynamic stress urinary incontinence (SUI) using **transvaginal electrical stimulation** (**TVES**) with **surface-electromyography-assisted biofeedback** (**TVES+sEMG**) in women of premenopausal age.

Results
The study demonstrated that **TVES** with **sEMG** increased muscle strength most during the first two months of treatment and was well preserved at month Four. It found that the intervention is of great importance if used at the beginning of therapy and in the follow-up period and it is highly reproducible. It makes it easier for the physiotherapist to teach isolated pelvic floor muscles contraction, facilitates goal setting, and helps keep the patient highly motivated. It showed that TVES with sEMG is a trustworthy method for treating premenopausal women with SUI.

Participants and Researchers
One hundred and two women with urodynamic SUI who underwent treatment from January 2008 to April 2012 were enrolled in the study.

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Methods
The patients with SUI were divided into two groups: the active group consisted of 68 women and the placebo group 34 participants. In group 1 TVES, was provided with the addition of **sEMG biofeedback** using a **NeuroTrac ETS** unit (Verity Medical). A vaginal electrode, **VeriProbe** (Verity Medical), was applied according to the manufacturer's instructions and stimulation parameters and patient-acceptable sensitivity thresholds were determined.

Participants in group 2 were provided with a placebo set to parameters proven to have no physiological effect. The same type of electrode and hand-held unit as described for TVES with sEMG biofeedback was used in the clinic and for home application. As with group 1, the introduction took place in the clinic, and patients

used issued devices at home, with a gradual increase to a daily maximum of 40 minutes. Treatment for both groups continued until participants had completed eight weeks with the assigned device. The regimen included a warmup of five contractions and five relaxations, followed by a contraction/relaxation assessment. Participants were encouraged to selectively contract and relax their pelvic floor muscles with the assistance of visual and auditory feedback.

At each weekly visit, compliance was monitored by means of a concealed button on the **NeuroTrac ETS** unit, and the unit was reprogrammed weekly, as appropriate.

The full abstract can be found at https://pubmed.ncbi.nlm.nih.gov/23443345/.