

Category No. 3

Video
DemonstrationRef. No.
522

Abstract Reproduction Form B-1

Author(s):	SM, Jayaseelan; J, Hanlam; B, Roe; J, Winstanley; JA, Oldham
	Double Spacing
Institution	Centre for Rehabilitation Science, University of Manchester
City	Manchester
Country	England
	Double Spacing
Title (type in CAPITAL LETTERS)	THE EVALUATION OF A NEW PATTERN OF ELECTRICAL MUSCLE STIMULATION AS A TREATMENT FOR GENUINE STRESS INCONTINENCE: A RANDOMISED, DOUBLE-BLIND, CONTROLLED TRIAL.

Background: Patients with stress incontinence experience involuntary urine loss during certain activities such as lifting, coughing and laughing. This is the result of pelvic floor muscle weakness, which impairs the urethral sphincter mechanism causing incompetent urethral closure.

The most commonly used forms of conservative therapy are pelvic floor exercise regimens and electrotherapy. However, the former has two potential problems: 1) if the patient has not fully understood the instructions, then at best no improvement will be seen or the condition may be exacerbated and 2) the degree of compliance is difficult to determine.

There are also problems associated with current patterns of electrical stimulation which are uniform in nature and thus, contain only one component addressing either strength or endurance characteristics of the muscle at the expense of each other. This is unacceptable as pelvic floor skeletal muscle requires both endurance and force generating abilities. A new pattern of electrical muscle stimulation has been developed to address this problem and is evaluated as part of this project.

Aim of study: To evaluate the use of a new form of electrical muscle stimulation as a treatment modality for stress incontinence.

Method: A double-blind, randomized, controlled trial was conducted. Twenty-four patients with urodynamically proven stress incontinence were randomly allocated to one of two groups: sham stimulation or the new pattern of stimulation.

Both types of stimulation were delivered using a PSI stimulator connected to a Periform probe. Patients were required to use a stimulator for one-hour everyday for eight weeks, unless menstruating. Patients were assessed using digital vaginal assessment, perineometry, the ICS recommended 1-hour pad test and quality of life questionnaires (SF-36, IIQ and UDI).

Results: When strength was measured using digital assessment a significant increase in pelvic floor muscle strength was observed. With perineometry, a decrease in endurance was noted in the sham group, whilst the group receiving stimulation improved, although these changes did not reach statistical significance. These improvements in strength and endurance were not assessed with the pad test or SF-36 and IIQ. However, a significant reduction in UDI scores was identified in the group receiving the new pattern of stimulation, thus indicating an improvement in quality of life for this group.

Conclusions: The new pattern of electrical muscle stimulation appears to have produced improvements in both the strength and endurance characteristics of the pelvic floor muscle in patients with genuine stress incontinence. However, due to the large variance in data, differences between groups did not reach statistical significance. Unfortunately, these improvements were not translated into a reduction in symptoms. This may have been due to insufficient stimulation period, (1hour/day for eight weeks), which only allowed changes in muscle enzymes and blood supply and not protein expression.