

## Managing Chronic Urinary Incontinence In An Older Woman Using Pelvic Floor Electrostimulation And Exercise

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### Abstract

Urinary incontinence (UI) is defined by “The International Continence Society” (Abrams et al 2002) as the involuntary loss of urine. The aim of this case report is to demonstrate that pelvic floor physiotherapy which consists of gradual, targeted training of pelvic muscles, plays an important role in improving urinary incontinence and the quality of life of affected patients. This method can be used alone or combined with biofeedback, electrical stimulation, or vaginal cones to support rehabilitation and strengthening of pelvic floor muscles. This treatment approach remains poorly recognized in Albania.

### Introduction

Any involuntary leakage of urine is defined as Urinary Incontinence (UI) (Abrams et al, 2002). It is a health issue with a significant social and economic impact. The prevalence of incontinence in a general population of females was reported in different studies, young adult women (20% - 30%), middle age (30%-40%) and elderly (30%-50%) (Sandvik et al, 1993). Women experience UI twice as often as men, (Temml et al, 2000) specifically symptoms of stress incontinence (Reynolds et al, 2011). Stress urinary incontinence generally refers to urine leakage on effort or exertion, likely during events that increase abdominal pressure, such as sneezing, coughing, and exercise (Abrams et al, 2009; Appell et al, 2015). Stress urinary incontinence can be extremely bothersome to patients and can pose a significant burden, often limiting activities of daily living or exercise (Fultz et al, 2003). According to existing studies and literature few women go to consult a therapist who specializes in urinary incontinence in our country. Talking about this kind of problems it is a taboo for most women, especially for women living in small cities or rural area for whom to get help from a therapist is considered a personal problem. In most cases, women blame their self's for these problems. Pelvic floor muscle training, which is recommended as first-line treatment, can help strengthen these muscles to decrease episodes of leakage (NIHCE, 2006).

### History

A 65-year-old woman was referred for physiotherapy, by her family doctor. The patient had been suffering from stress incontinence for the past five years. She experienced up to three episodes of incontinence per day and required the use of sanitary pads. Symptoms of urgency and frequency up to nine times per day were also reported. The patient had a history of three vaginal deliveries (one by forceps) and no other significant medical problems or current medications. She described her quality of life as poor. On examination, the skin in the groin and around the external genitalia was found to be red and she had a perianal rash. Pelvic floor strength graded 1 out of 3 on the Circumvaginal muscle scale as she was totally unable to contract her paravaginal muscles (Worth et al, 1994).

### Therapy procedure

The woman was instructed about pelvic floor anatomy and how to control pelvic muscles voluntarily. Initial treatment consisted of interferential therapy, using an intra-vaginal electrode. A base frequency of 2000Hz was used as it has the best effect on the striated muscle found in the external sphincter of the bladder. Amplitude modulation frequency (AMF) of 50 Hz was used, which has the best circulatory effect (Hogenkamp et al, 1988). A ratio of a 10 to 20 second contraction period and a 50-second rest period was used in order to allow adequate recuperation of the small damaged muscles of the perineum. The treatment time was 15 minutes. The interferential current intensity was maximum, just below the patient's pain threshold and not causing any discomfort. The patient was encouraged to contract her

perineal muscles maximally while the current was surging. During the course of the treatment, progression was aimed at producing a maximal perineal muscle contraction with a progressively lower current intensity. The patient was treated 3 times a week for a four weeks. By the second week of treatment in addition to the interferential therapy, the patient was instructed to do perineal floor muscle exercises

(PFME). She was instructed to practice 3 times every day. The patient was told to maintain the perineal muscle strength by constantly contracting her muscles and by consciously using them in bladder control.

### Outcome

At the completion of treatment, a marked improvement was observed in all recorded urinary symptoms. At baseline (Week 1), the patient reported daytime urinary frequency of five episodes per day and nocturia of three episodes per night, along with the use of three protective pads daily. Following the introduction of pelvic floor muscle training (PFMT) during Week 2, daytime and nighttime urinary frequency decreased to four and two episodes, respectively, while pad usage remained unchanged. The patient reported after the Week 8 of treatment that she had improved dramatically and she had been shopping the previous day. At week 12 treatment the patient reported continence for the whole day. The condition of the skin in the groin and genitalia also demonstrated a dramatic improvement at week 12 treatment.

After 12 weeks of therapy, she was fully continent and that she was once more leading an active and productive life, Table 1.

**Table 1: Changes in urinary symptoms during the treatment period**

Variables	Week 1. Patient education and interferential therapy	Week 2. Exercises added (PFMT 3 times/day)	Week 8 of treatment	Week 12 of treatment
How many times do you urinate during the day?	5	4	1	0
How many times do you urinate during the night?	3	2	0	0
How many pads do you use?	3	3	0	0

### Discussion

Urinary incontinence is a common problem in the elderly and it is associated with staggering social and economic costs. Sufferers give up many aspects of their lives with obvious detriment to their social interactions, inter-personal and sexual relationships, careers and psychosocial wellbeing (Kelleher et al, 1997). Affected women initially change their exercise habits and eventually, after particularly frequent incontinent episodes, their social habits. Such was the case in this patient, who was desperate to be cured of her incontinence. This case study illustrates a woman whose symptoms of stress urinary incontinence resolved with electrostimulation and pelvic floor muscle exercises. The findings of this case align with established clinical guidelines and systematic reviews emphasizing pelvic floor muscle training (PFMT) as a first-line, conservative intervention for urinary symptoms. Cochrane reviews, including those by Hay-Smith et al 2006, consistently report that PFMT significantly reduces urinary frequency, nocturia, and reliance on protective pads, particularly when exercises are structured and sustained over time. The gradual and lasting symptom resolution observed in this case reflects the stepwise approach recommended in the literature, suggesting that combining education, neuromuscular stimulation, and active patient engagement may not only improve clinical outcomes but also support patient confidence and quality of life.

In addition, conservative management of incontinence has been shown to be effective both in improving incontinence and improving patient well - being (Wyman et al, 1990; O'Brien et al, 1991).

Furthermore, the training pelvic floor muscle regime is highly variable. Bø K et al., 2009 found that the increase in pelvic muscle mass and tone occur after specific intense training. While, Miller et al., showed that this simple maneuver could reduce urinary leakage by 98.2% with medium cough, and by 73.3% with a deep cough, after only one week of training. A 10-year follow-up study of women by Cammu et al., 2000 comprising pelvic exercise for stress incontinence concluded that pelvic floor training is initially successful and there is a 66% chance that favorable results will persist for at least 10 years.

### **Conclusions**

Electrostimulation and PFMT have a key role in the conservative treatment of IU and improves the quality of life of persons with IU and is less costly than other methods of treatment. The therapeutic effect is Usually Enhanced When the PFMT program is taught and supervised by a specialist Physiotherapist or Specialized nurse. This treatment is little known in Albania. It would be essential and very helpful the introduction this treatment in all women care centers and hospitals at the primary level, secondary and tertiary healthcare in our country. Health professionals need to find ways to instruct and encourage predisposed women to perform pelvic floor muscle exercises.

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