

**A Critical Appraisal of “Efficacy of an Assisted Low-Intensity  
Programme of Perioperative Pelvic Floor Muscle Training in  
Improving the Recovery of Continence after Radical Prostatectomy:  
A Randomized Controlled Trial”**

**By:**

**Samantha Mott, SPT**

**In partial fulfillment of the  
requirements for the course:**

**PT 7240 Evidence-Based Practice in Physical Therapy**

**Department of Physical Therapy**

**Angelo State University**

**Member, Texas Tech University System**

**November, 2018**

## **Abstract**

For radical prostatectomy patients, urinary incontinence is a common occurrence after surgery. This appraisal analyzes the strengths and weaknesses of the introduction, methods, results, and discussion of a research article that evaluated the efficacy of a pelvic floor muscle training and biofeedback program on the recovery of continence. The article clearly defines the aim of the study and the need for research in this field. The authors successfully described the results of the study with appropriate outcomes measures. That being said, the authors failed to establish some of the basic terms analyzed in the study and lacked detail in the methods section. There is no mention of who is leading the monthly postoperative sessions nor what exactly occurs during them. Overall, the research study was well done, but the article lacks the detail needed for this intervention to be used by others and be generalized to other populations.

## **Key words**

Urinary Incontinence, Radical Prostatectomy, Biofeedback

## **Introduction**

Urinary incontinence, the involuntary leakage of urine, is a common negative side effect of radical prostatectomy surgery for prostate cancer patients. The use of pelvic floor muscle training to counter this side effect has been researched, but the necessity for guided therapy has presented conflicting results. Pelvic floor rehabilitation has the potential to aid these patients, but evidence is needed prove its benefit. As such, this is a critical appraisal of a research study that analyzed the efficacy of one session of preoperative biofeedback and a low-intensity postoperative program on the return to continence in the effort to answer the following question: does perioperative pelvic floor rehabilitation decrease the recovery time for urinary incontinence resulting from radical prostatectomy surgery?

## **Methods**

The Pub Med database was used to find a research article to answer that question. The keywords “prostatectomy pelvic floor rehab incontinence” began the search. Three limits were placed on the search: “10 Year” to help ensure the articles were not outdated, “Human Trial” to ensure the studies involved human participants, and “Randomized Controlled Trial” to prevent review articles from being included. Before analyzing the articles, about 20 results were generated. From there, articles were included if they answered the clinical question and provided the full text online for ease of access. Articles were excluded if they were not written by the researchers who performed the study (secondary sources) and/or did not refer to physical therapy interventions.

The final article chosen is from the 2012 *British Journal of Urology International*. It was written by Daniele Tienforti, Emilio Sacco, Francesco Marangi, Alessandro D’Addressi, Marco

Racioppi, Gaetano Gulino, Francesco Pinto, Angelo Totaro, Daniele D'Agostino, and Pierfrancesco Bassi from the Department of Urology at Catholic University Medical School at Agostino Gemelli Hospital in Rome, Italy. It was chosen because it dealt with the effectiveness of guided therapy in post-operative prostatectomy patients, and presented a recent clinical study that was completed with human participants.

## **Results**

### Summary of the study

This study examined the effectiveness of guided therapy interventions for the recovery of continence after a radical prostatectomy in prostate cancer patients. Thirty-two radical prostatectomy patients of similar age were divided into two groups. The control group received oral and written instructions of pelvic floor exercises to do at home. The intervention group received preoperative and postoperative monthly guided sessions with biofeedback, in addition to education and guidance through the pelvic floor exercises to be done at home. Outcome measure questionnaires about incontinence and quality of life were assessed at one, three, and six months. These self-assessments revealed that guided interventions reduced the average time it took to return to continence and showed a trend towards a better quality of life in these patients.

### Appraisal of the study introduction

The introduction is fairly comprehensive in that it clearly states the background, necessity, and aim of the study. It gives statistics about postoperative urinary incontinence and factors contributing to its incidence. It also includes information about previous research that has been done in this field and cites sources from the credible *Journal of Urology*.

That being said, it could have better explained the subjective concept of low-intensity exercise programs and their need for these patients. All that was mentioned was that previous studies used “time consuming” programs and did not explain what that meant. Since a low-intensity program was a main highlight of the study, it should have been clarified in the introduction. Also, the authors failed to provide clear definitions of the factors to be addressed by the study. The methods clarify some of these topics, but definitions of urinary incontinence, biofeedback, radical prostatectomy, and pelvic floor muscle training are not clearly given.

#### Appraisal of the study methods

The methods are written concisely with distinct sections describing the patients, study design, intervention, outcome measures, and statistical analysis. The patients and the inclusion criteria were described in good detail, especially with the accompanying table of characteristics and the study flow chart. The authors mentioned the participants who were lost to attrition and the reasoning for their departure. This section clearly states the method of randomization for the groups. The authors managed both the control group and the intervention group in the same manner. The biofeedback system was clearly described. Both groups were assessed at the same postoperative times with the same outcome measures and the desired results for those measures are stated.

The issue with the methods section was that it was not detailed enough that this study could be easily duplicated. There is no mention of who enrolled the patients and whether or not they were privy to the group assignments. There is also no explanation of who administered the intervention. It states that the training session was “supervised”, but does not say by whom. It explains the biofeedback system, but again does not state the administrator. It states that monthly

sessions included “motivation to maintain adherence”, but does not explain what that means. The outcome measure questionnaires are listed as “validated”, but there is no statistical analysis to prove that. Also, it would have been helpful to include the actual questionnaires for the reader to reference.

### Appraisal of the study results

The results are presented in a clear and organized manner. The data obtained from the outcome measures is presented in individual paragraphs that are in the same order as the measures are listed in the methods section. The aim of the study was clearly addressed via data on the patient’s measure of continence and quality of life. The results of the outcome measures were listed in this section with figures/tables for further clarification. The data for the control group and intervention group are easy to distinguish in the figures/tables and the significance is clearly stated. Lastly, the authors did calculate the minimal clinically important difference and the number needed to treat, and included that data in this section.

The results section one of the stronger sections of the article. The only weakness for this section is the layout of the material, which is likely the decision of the journal, not the authors. The tables and figures are spread throughout the entire latter half of the article, but it would be easier to compare the written results with the figures if they were placed near each other.

### Appraisal of the study discussion

In this section, the authors further clarified the meaning of the results by comparing to other studies, stating their limitations, and highlighting the significance this study has on potential clinical adaptations. The authors also gave explanations for the results achieved from

the control group, as well as the intervention group. The authors compared the findings with multiple previous studies and included explanations for results obtained, as well as their own assumptions for differences between those studies and this study. The authors highlighted important changes this study made in procedure that improved their findings. The conclusions are brief, yet reflective of the results, and state that this program is significantly effective in improving recovery of continence, but does not greatly affect quality of life.

A weakness of this section is that the authors included three editorial comments in the citations, which decrease the strength of those resources, and thus those statements. Also, the authors do not mention any suggestion for future studies. There is an editor's note at the end of the article suggesting that research still needs to be done regarding the intensity of therapy necessary, but the authors do not add to that.

## **Discussion**

This study directly correlates to my question about the helpfulness of pelvic floor rehabilitation in incontinence patients after prostatectomy procedures. The study, although small and specific, supports its effectiveness since the time to return to continence was shortened for the participants who received the intervention. This topic is especially important to the expanding field of pelvic floor rehabilitation and its necessity for both women and men. Incontinence, like many other inhibitors to quality of life is not gender-specific. For patients that have already had to endure the treatment of prostate cancer, incontinence after the fact, is an unfortunate side effect that can greatly impede quality of life. A better understanding of physical therapy effectors that can mitigate and even counter this side effect may help reduce its negative impact and expand this field of therapy.

This intervention is potentially beneficial for treatment of postoperative prostatectomy incontinence because it enhances the work of the patient during recovery and supports the necessity for guided intervention. Therapists can prescribe a pelvic floor exercise program and use the monthly biofeedback sessions to see the patient's progress and ensure the patients are activating their muscles properly. A positive aspect of using this intervention in the clinic is that it highlights the abilities of the patients and gives visual feedback via the biofeedback system. A negative aspect and potential risk of using this intervention in the clinic is that it has long intervals (monthly) between the sessions, so it requires a lot of independence by the patients. The fact that this intervention gave significant results is clinically meaningful, but other studies have given conflicting results. Additionally, although not as quickly, many of the control group members achieved continence, and other studies show that over longer periods of time the control group and the intervention group converge. With this small sample size, this calls into question the ability to generalize the results.

In the future, I would feel confident implementing aspects of the intervention used in this research. I believe it supplements the known idea that pelvic floor muscle training is an effective treatment for incontinence, but more research needs to be done about the effectiveness of the monthly guided sessions. This article is good evidence in support of these sessions, but the lack of detail about the individuals guiding the sessions and what exactly occurs during them decreases its strength. I could attempt to implement this intervention in my clinic, but I would need to rely on my own knowledge of pelvic floor rehabilitation to guide the patient because it is not clearly stated here.

Overall, this research article is a good analysis of guided pelvic floor rehabilitation and the time it takes to return to continence for radical prostatectomy patients. The authors and the



journal acknowledged the limitations of the study, but more importantly highlighted the fact that more research is needed in this field. This study is a good start as it gives evidence in support of guided sessions (even at long intervals) in addition to pelvic floor muscle training for a quicker return to continence and maybe even an improved quality of life.

### **Article Citation**

Tienforti D, Sacco E, Marangi F, et al. Efficacy of an assisted low-intensity programme of perioperative pelvic floor muscle training in improving the recovery of continence after radical prostatectomy: a randomized controlled trial. *BJU International*. 2012;110(7):1004-1010.