

## PELVIC FLOOR TRAINING ASSOCIATED OR NOT WITH ELECTRICAL STIMULATION AND URINARY INCONTINENCE IN POST PROSTATECTOMY: A SYSTEMATIC REVIEW

### Hypothesis / aims of study

This systematic review aims to determine the effectiveness of the pelvic floor training associated or not with electrical stimulation to decrease the UI in post prostatectomy.

### Study design, materials and methods

This systematic review was written recommendations from the PRISMA Statement, duly registered in PROSPERO, International Prospective Register of Systematic Reviews, under CRD42013006171 number.

Only randomized controlled trials ( RCTs ) that used the exercises as treatment of pelvic floor muscles and / or electrical stimulation were included. We conducted a search in August 2013, the databases U.S. National Library of Medicine ( MEDLINE ), Scientific Electronic Library Online ( SciELO ), Physiotherapy Evidence Database ( PEDro ) and Virtual Health Library ( VHL ), for RCTs published between the years 1999 and 2013, and were used as keywords contained in the Health Sciences Descriptors Headings ( DeCS ) the title words: urinary incontinence, pelvic diaphragm, prostatectomy, pelvic floor exercise and electrical stimulation. Title words were used as keywords contained in the Medical Subject Headings ( MeSH ): electrical stimulation, pelvic floor, urinary incontinence, prostatectomy, physiotherapy, pelvic floor training and exercise therapy. Was used for the selection of the PEDro scale studies, we selected those who had at least a score of 5.0, because this is one of scores of greater frequency of RCTs with methodological quality evaluated (1). A review of the studies was done by the base itself PEDro.

### Results

Of the 59 RCTs retrieved, 26 were excluded because they were duplicates, 28 were excluded because they did not obtain the minimum score of 5.0 on the PEDro scale, leaving 5 RCTs. Filocamo et al, with a sample of 300 patients randomized into two groups, one group performed pelvic floor training supervised by a physiotherapist and the other received no treatment. The authors evaluated the UI of these patients by 1 hour and 24 hour pad test and amount of disposable pads used per day and have resulted in significant recovery of continence of those who performed the pelvic floor training supervised by a physiotherapist after a month of treatment (  $P = 0.006$  ). Overgard et al, with a sample of 80 patients randomized into two groups, one group performed pelvic floor training supervised by a physiotherapist and the other received only oral and written directions. The UI of these patients was evaluated by 1 hour and 24 hour pad test and amount of disposable pads used per day and have resulted in significant recovery of continence of those who performed the pelvic floor training supervised by a physiotherapist after 12 months of treatment (  $P = 0.028$  ). Dubbelman et al, with a sample of 66 patients randomized into two groups, one group performed pelvic floor training supervised by a physiotherapist and other household received guidance. The UI of these patients was evaluated by 1 hour and 24 hour pad test. There was no significant difference between groups (  $P = 0.36$  ). Moore KN, Griffiths D and A Hughton, with a sample of 58 patients randomized into three groups where one group received only verbal instructions and written pelvic floor training, the second group performed pelvic floor training supervised by a physiotherapist and the third group performed the same pelvic floor training supervised by a physiotherapist in the second group more electrical stimulation. The UI of these patients was assessed by 24hour pad test. There was no significant difference between groups (  $P = 0.80$  ). Finally, Kakiyama CT, Sens YAS and Ferreira U, with a sample of 20 patients randomized into two groups, one group received guidelines for the training of the pelvic floor at home and the other group performed electrical stimulation under the supervision of a physiotherapist and also received the same guidelines for the training of the pelvic floor at home. The UI of these patients was evaluated at 1 hour pad test and the amount of disposable pads used per day. There was no significant difference between groups assessed by pad test (  $P = 0.47$  ) and the amount of disposable pads used per day (  $P = 0.68$  ).

### Interpretation of results

The literature fair amount of studies with strong strength of evidence on the effect of pelvic floor training associated or not with electrical stimulation on the UI after radical prostatectomy. However, to meet those who have methodological homogeneity of patients, intervention, comparison, answers and study types ( PICOS ) and / or select those best methodological quality, this quantity decreases considerably. In this review, 33 RCTs were recovered, but only 05 were eligible. Filocamo et al found a consistent improvement or complete healing of these patients after 1 and 6 months of physiotherapy intervention in 19% of cases and 94.6% in the intervention group versus 8% and 65% of control, respectively. This study concluded that pelvic physiotherapy after surgery should be considered a good and safe method for the treatment of urinary incontinence after radical prostatectomy and thus improve the quality of life of these patients. Overgard et al found that after 12 months urinary continence, measured by the number of disposable pads used per day was achieved by 92% of patients in the group that performed the pelvic floor training and 72% in the control group (  $P = 0.028$  ). The authors reported that during the following period up to one year after surgery, the regular training of MAPs supervised by a specialist physiotherapist in rehabilitation of the pelvic floor, the UI decreased significantly when compared with those patients who trained on their own. Dubbelman et al have considered that an exercise program of pelvic floor training is time consuming and expensive and therefore, intensive guidance by a physiotherapist, does not seem necessary. However, they said they were unable to recruit the planned sample size, and thus, the results should be viewed with caution because the study of this weakened and therefore may have resulted in a high risk of finding no difference where in fact could exist ( type II error ).

Some methodological aspects that may have contributed to the results found in studies by Moore et al Kakiyama et al should be emphasized. These studies showed different protocols, but a parameter of 50 Hz was used for electrical stimulation. The literature shows that to treat UI by muscle weakness, the most commonly used frequencies are 65 Hz or 70 Hz, which stimulate fast twitch fibers, and 50 Hz more used to perform the proprioception of MAPs or contraction of the muscles in preparation to receive a frequency more elevada (2, 3). Moreover, in both studies the initial values of urine lost are very different between the

groups and the standard deviations are very high , sometimes higher than the average own group , featuring samples must have been very heterogeneous . This may have affected the results of these studies .

#### Concluding message

The pelvic floor training may be effective in the treatment of incontinence after radical prostatectomy UI , particularly if started early. The association of electrical stimulation with pelvic floor training appears to enhance urinary continence . However , the selected studies had some methodological weaknesses that may have compromised their internal validity .

#### References

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