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PREOPERATIVE PELVIC FLOOR PHYSIOTHERAPY IMPROVES CONTINENCE FOLLOWING RADICAL PROSTATECTOMY.

Hypothesis / aims of study

Urinary incontinence is a predictable sequela of radical retropubic prostatectomy (RRP), and is most severe in the early postoperative phase. This study aimed to evaluate the effect of a physiotherapist-guided pelvic floor muscle training (PG-PFMT) program, commenced preoperatively, on the severity and duration of urinary continence after RRP.

Study design, materials and methods

We conducted a retrospective analysis of a prospectively collected database, of men undergoing RRP by one high-volume surgeon (MIP) (n=284). The intervention group received PG-PFMT from four weeks preoperatively (n=152), whereas the control group were provided with verbal instruction on pelvic floor muscle exercise (PFME) by the surgeon alone (n=132). Postoperatively, all patients received PG-PFMT. The primary outcome measure was 24-hour pad weight at six weeks and three months postoperatively. Secondary outcome measures were the percentage of patients experiencing severe urinary incontinence, and patient-reported time to 1 and 0 pad usage per day.

Results

24-hour pad weight at six weeks postoperatively was significantly lower for the intervention group (9g vs 17g, $p<0.001$). Significantly fewer patients in the intervention group demonstrated severe urinary incontinence (24-hour pad weight > 50 g) at six weeks postoperatively (8/152 patients, 5% vs 33/132 patients, 25%, $p<0.01$). There was no significant between-group difference in 24-hour pad weight at 3 months ($p=0.18$). Patient-reported time to 1 and 0 pad usage was significantly less for the intervention group ($p<0.05$). Multivariate Cox regression showed that preoperative PG-PFMT reduced time to continence (1 pad usage per day) by 28% ($p<0.05$).

Interpretation of results

This study has demonstrated that PG-PFMT commenced 4 weeks prior to RRP has a clear advantage in improving both the severity and duration of PPUI. Our study also found that mean 24 hour pad weights and percentage of patients with severe incontinence improved with time in both the intervention and control groups, but was significantly higher in the control group. Furthermore, this advantage was demonstrated in particular, in the reduction of patients with severe urinary incontinence in the intervention group. In addition, the intervention was associated with a shorter duration of incontinence, with a significantly shorter median duration to 1 and 0 pad usage. Younger age and bilateral nerve sparing were independently associated with superior urinary continence rates. While there was a benefit of PFME in the earlier return of continence within the first 6 weeks, this effect seems to diminish over time. At 3 month follow-up, there was a trend toward lower 24 hour pad weight in the intervention group, but this difference did not reach statistical significance ($p=0.18$). It is likely that PG-PFMT, commenced preoperatively, assists in the early return of urinary continence but may not affect the long term continence outcome.

Concluding message

A PG-PFMT program, commenced 4 weeks preoperatively, significantly reduces the duration and severity of early urinary incontinence after RRP.

Fig 1. A. Mean 24 hour pad weights of men undergoing control or PG-PFMT intervention, measured at 6 weeks and 3 months post-operatively (± SEM). **B**. Percentage of patients with nil (0-1.9g/24hour), mild (2-9g/24hour), moderate (10-49g/24hour), severe (>50g/24hour) incontinence at 6 weeks and 3 months post-operatively

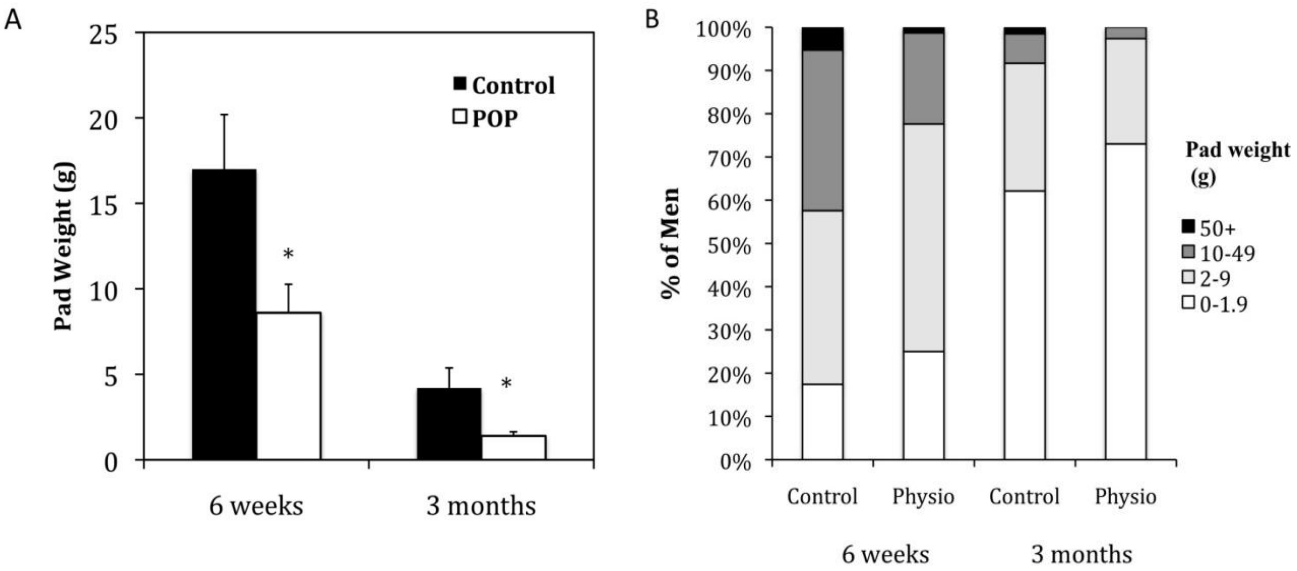
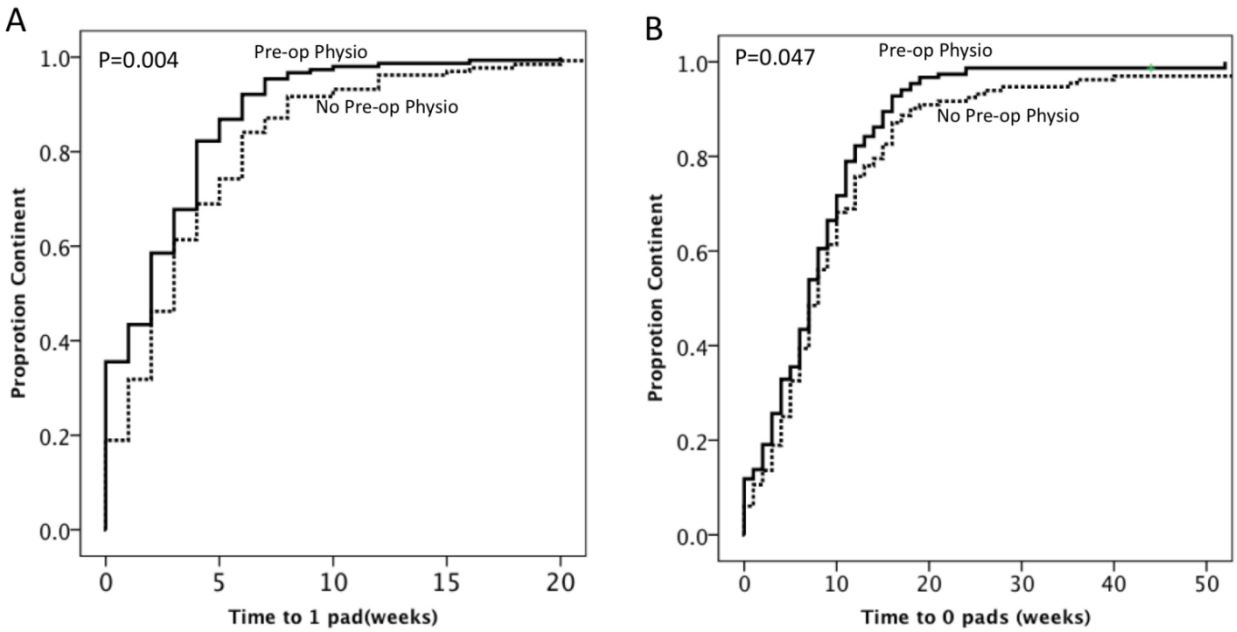


Fig 2. Kaplan-Meier curve of proportion of patients achieving continence as defined by **A.** time to 1 pad usage and **B.** time to 0 pad usage.



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