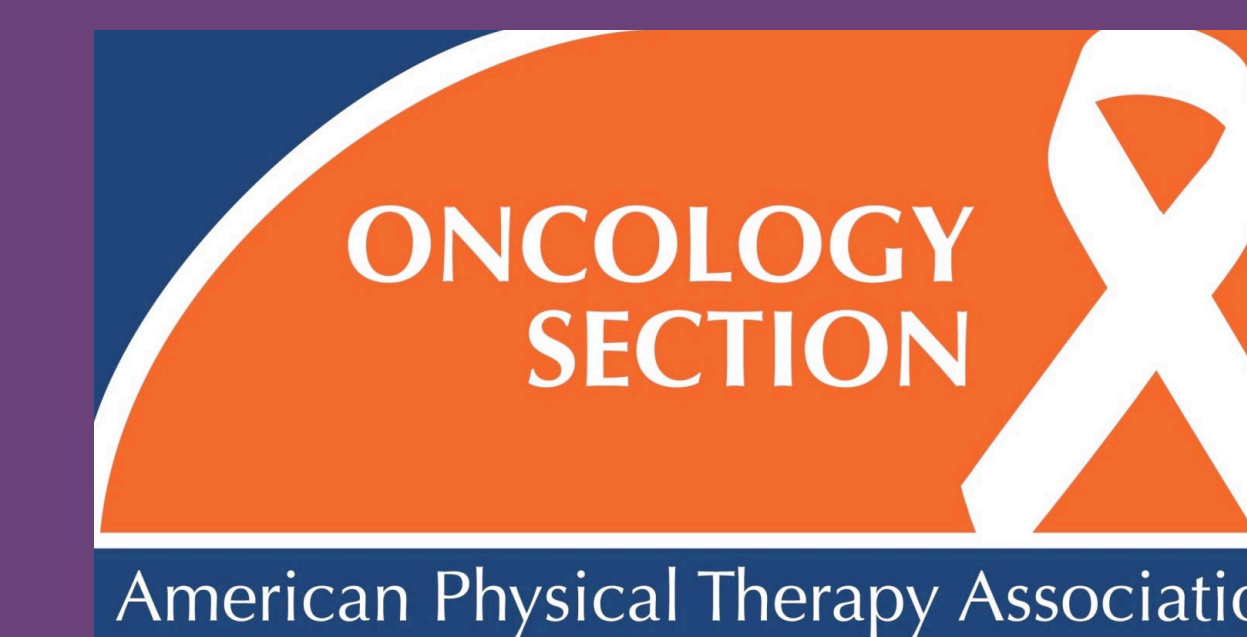




Does urinary incontinence associated with prostatectomy improve when treated with pelvic floor physical therapy when compared to no physical therapy intervention?

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Introduction/Purpose

Prostate cancer is a common form of cancer affecting men. Prostate cancer generally responds well to treatment although many men suffer undesirable side effects following cancer treatment. The purpose of this systematic review was to examine how pelvic floor physical therapy interventions affected urinary incontinence in men undergoing treatment for prostate cancer.

Methods

A systematic review was performed on current peer reviewed literature using EBSCOhost. Studies that addressed prostate cancer, urinary incontinence and pelvic floor muscle exercise training were included in this review.

Procedures

The original search returned 76 articles. After duplicates were removed and a simple title screen was performed 23 articles remained for full text assessment. Full text assessment disqualified nine articles leaving 12 articles for qualitative assessment. Systematic review tools PEDro and AACPDM were utilized to establish levels of evidence and conduct ratings by four separate researchers.

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Acknowledgement

We would like to thank Angela Jones for her assistance with this project.



Results

Intervention Schedule	Year & Lead Author	Research Type	Participants	Total n	Ages	Intervention	Control Intervention	Outcome Measurement Tool(s)	Results/Findings
Pre-Operative Training	2015 Dijkstra-Eshuis	RCT	Men with organ-confined prostate cancer and scheduled for a LARP	248	<75 y/o	30 min/wk PFMT for 4 wks. Anatomical education – Pre-op toilet behavior, Biofeedback guided exercises (BFB)	Anatomical education and written PFMT exercises immediately after removal of catheter	Primary: 24 hr pad test KHQ IPSS PeLFIs Bladder diary	No significant difference found between the two groups.
	2014 Ocampo-Trujillo	RCT	Men with diagnosis of prostate cancer and radical prostatectomy	16	>40 y/o	PFMT 3x/wk for 4 wks. PFMT with audible and visual signals through biofeedback	Standard pre-op management (diet and general health education)	24 hr pad test Health-Related Quality of Life assessed with the Prostate Cancer Index Health Questionnaire	No significant difference found between the two groups for continence rates but the intervention group scored higher in the health questionnaire implying an increased quality of life.
Post-Operative Training	2012 Dubbleman	RCT	Males that had undergone a radical retropubic prostatectomy (RRP) due to localized prostate cancer	66	60-67 y/o	UPP assessed pre-op and 26 weeks post-op. Experimental intervention: PG-PFMT (physical therapy guided)	Control intervention: information folder only F-PFMT	UPP (urethral pressure profilometry) MUCP (maximum urethral closure pressure)	No significant changes in UPP compared between F-PFME (control) and PG-PFME (intervention) More intensive physical therapy seems to have no additional effect on the post-operative urethral sphincter function measured by UPP.
	2012 Nilssen	RCT	Men with prostate cancer who underwent radical prostatectomy	80	Treatment: 48-68 y/o Control: 49-72 y/o	PFMT 45 min 1/wk with a PT and HEP	Oral and written instructions from nurse in Department of Urology (standard care) 3x10 PFM contractions/day.	HRQOL: UCLA-PCI SF-12 (PCS & MCS) Urinary incontinence; Internal Continence Society guidelines Urinary continence: 0 pads	No significant difference in HRQOL at 6wk, 3, 6, or 12mo. However, at 12 mo, Treatment group was 92% continent and Control group was 72% continent
	2014 Rajkowska-Labon	RCT	Men with urinary incontinence after prostatectomy for prostatic cancer	Sub-groups 1A: 81 1B: 26 2: 32	53-82 y/o	1A) PFMT with biofeedback, PFMT according to spinal segmental stabilization principles, HEP 1B) PFMT without biofeedback to principles of segmental spinal stabilization training, HEP	2) No therapy	Surface electromyography (sEMG), 1 hr and 24 hr pad test	Significant superior continence seen in Group 1 over Group 2.
	2013 Terzoni	Quasi experimental study	Post RRP patients with prostate cancer stage ranging T1 to pT2(prostate limiting cancer) nerve sparing surgery, indwelling catheter for maximum of 8 days, regular flow exam after catheter removal (all groups) and the ability to learn and perform contractions (PFME groups). Excluded patients with radiotherapy (all groups) and fixed prostheses sensitive or magnetic fields (ExMI groups)	132	N/A	ExMI: preset 50Hz frequency, 10 minutes of treatment during the first session and 20 minutes in the following session. Urge incontinence: 5 Hz frequency, 5 sec on/5 off, 10 min treatment time. 2 sessions per week.	No intervention	IPSS	PFMT is useful up to the 3rd month after surgery, ExMI reduces leakages faster than PFMT exercises.
Pre-Operative and Post-Operative Training	2012 Tienforti	RCT	Patients post RRP who could maintain a regular ambulation schedule.	32	Intervention: 52-74 y/o Control: 60-74 y/o	One preoperative PFMT session with BFB and education. Post-surgery, oral and written instructions for PFMT with monthly visits for BFB and motivation to sustain adherence.	Standard care. Oral and written instructions from urologist for at home PFMT. No formal education on PFMT.	Measurements at 1, 3, and 6 months post-catheter removal. ICIQ-UI, ICIQ-Overactive Bladder, ULCA	The intervention was found to be effective when reducing incontinence after radical prostatectomy. HRQOL was not significantly improved but trending toward significant.

Discussion

According to the research presented in this systematic review, there does not appear to be sufficient evidence to generate a statistically significant correlation between pelvic floor muscle training (PFMT), improved incontinence or quality of life in patients undergoing treatment for prostate cancer. Although statistical significance is not evident, there is a notable trend toward PFMT positively impacting patients' incontinence and quality of life.

Conclusion

Urinary incontinence is a common finding among men who have undergone radical prostatectomy as a treatment for prostate cancer. Physical therapy intervention has been shown to have positive effects on patients experiencing urinary incontinence due to prostate cancer treatment. Physical therapists' expertise in exercise training allows patients to receive higher quality instruction in PFMT, therefore gaining more effective and efficient results in achieving urinary continence and improved quality of life. There is still a need for more studies to determine the optimal timing and long term benefits of pelvic floor physical therapy intervention. Future research is needed to establish a consistent definition of urinary incontinence as well as develop a consistent PFMT treatment protocol to allow for a more refined application of study findings.

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