

# New protocols for a faster return to continence and quality of life following radical prostatectomy

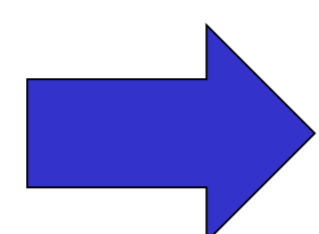
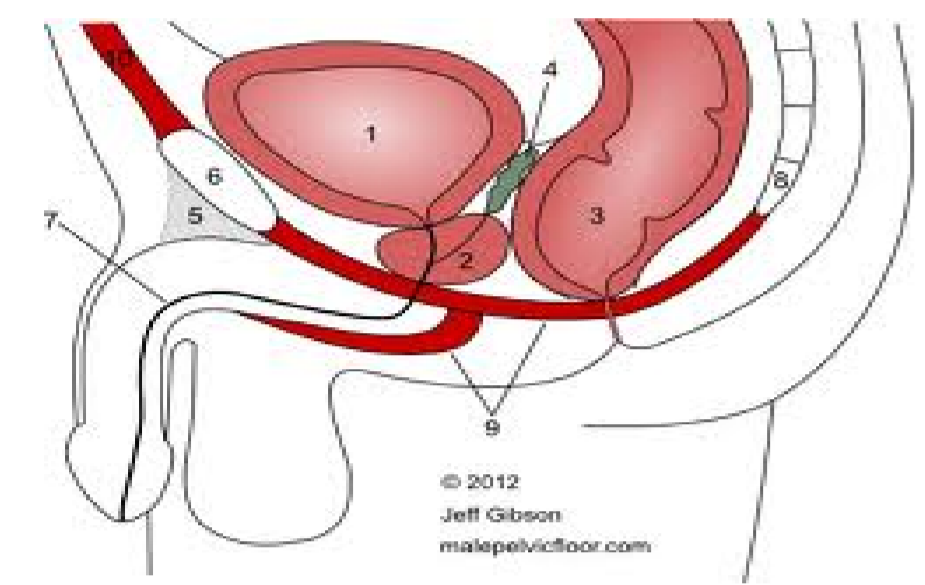
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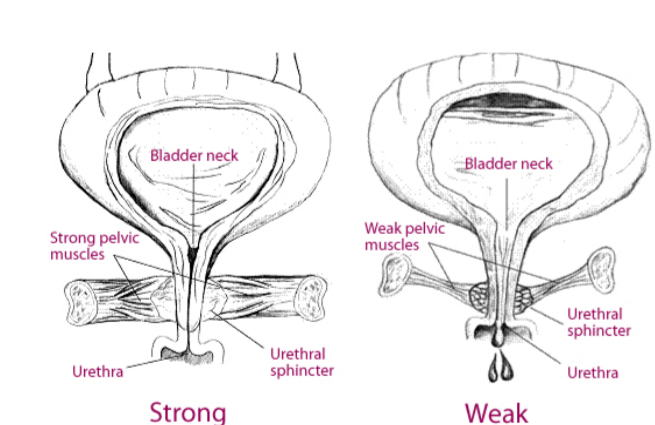
## Introduction:



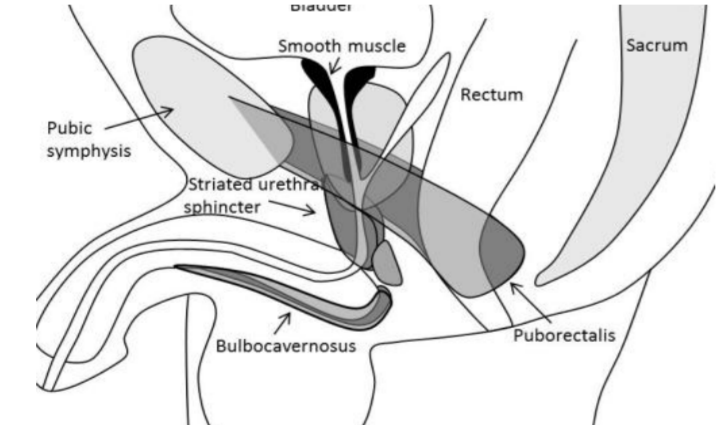
Post-Prostatectomy Incontinence (PPI) is a major quality of life (QoL) issue following Radical Prostatectomy (RP), affecting 69-98% of patients<sup>(1)</sup>. Pelvic floor muscle (PFM) training for PPI is considered a first line approach to rehabilitation but specific protocols for recommendation remain elusive<sup>(2)</sup>. Efficacy may have been compromised by insufficient PFM training methods for men, including incorrect anatomical focus, training position, exercise dosage and the lack of fast twitch muscle fibre recruitment<sup>(3-4)</sup>.

## Aims:

Commencing 4-6 weeks pre-operatively, and utilising both fast and slow twitch fibre training performed in standing, new protocols were developed to address clinical presentations with aims to reduce PPI severity, duration and QoL<sup>(5)</sup>. Comparisons to 'usual care' PFMT pre and post-rehabilitation were assessed utilising both subjective and objective outcome measures.



FAST TWITCH MUSCLE FIBRES IN COUGHING, SNEEZING, BENDING, LIFTING, ORGASM, CLIMACTURIA  
**30% PFM**



SLOW TWITCH MUSCLE FIBRES IN WALKING, ENDURANCE TASKS OR 'holding on' in BLADDER CONTROL & SEXUAL FUNCTION, ED, PE,  
**70% PFM**

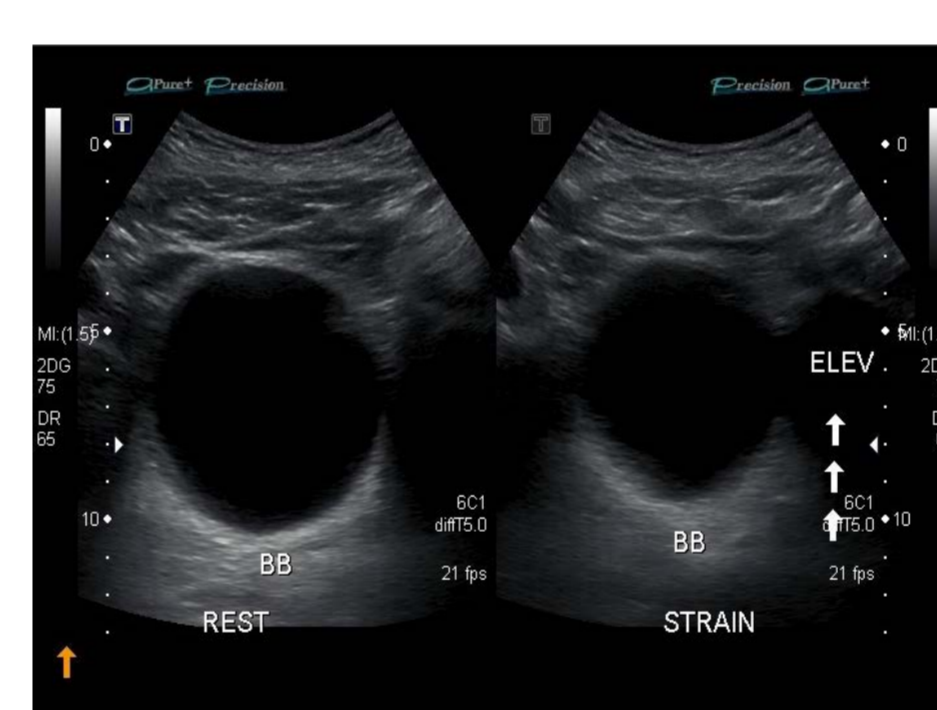
## Methods:

97 PARTICIPANTS  
ALL 5 WEEKS Pre- RP PFM TRAINING  
12 weeks post-RP PFM TRAINING

**CONTROL:**  
3 sets/ PFM day  
1 each in supine, sit, stand  
Each set = 10s lift, 10s rest  
SLOW TWITCH  
n=30 PFMs/day  
47 men

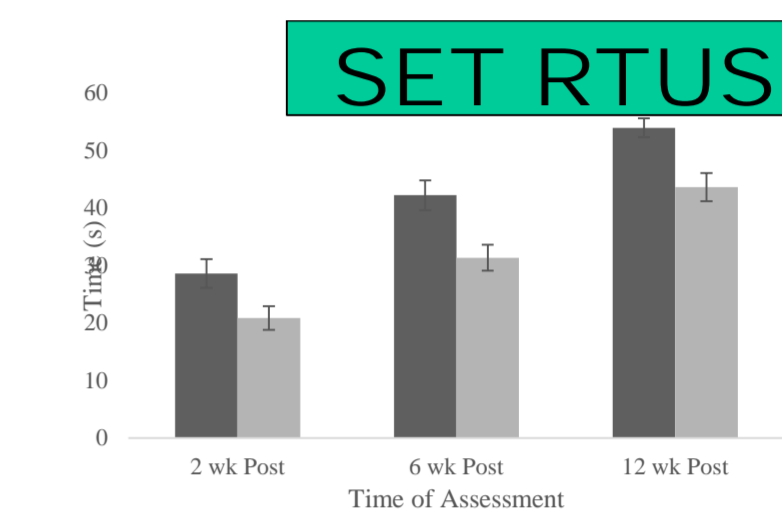
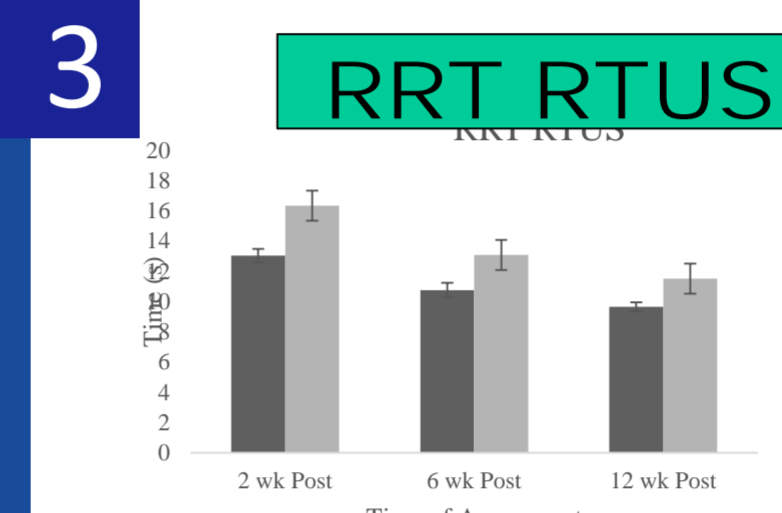
**INTERVENTION:**  
6 sets PFM/ day  
ALL STANDING  
Each set = 10 FAST(1sec)  
10 SLOW (10sec)  
FAST & SLOW TWITCH  
n=120 PFMs/day  
50 men

ASSESSED PRE-OP & POST-OP  
2 WEEKS, 6 WEEKS, 12 WEEKS  
24 hour pad weight, PFM function tests  
IPPS and EPIC-CP questionnaires,



## Results: Pelvic Floor Muscle Tests via RTUS

3



• RRT – Rapid Response Test- measures speed of 10 PFM contractions (fast twitch fibers) & urethral sphincter closure time<sup>(6-9)</sup>.  
• Control group had HIGHER RRT scores at all time points i.e.= slower , more PPI

• SET –Sustained Endurance Test- measures PFM holding time (slow twitch fibers) and PFM fatigue up to 60s<sup>(6-9)</sup>.  
• Control group had LOWER SET scores at all time points= weaker, more PPI

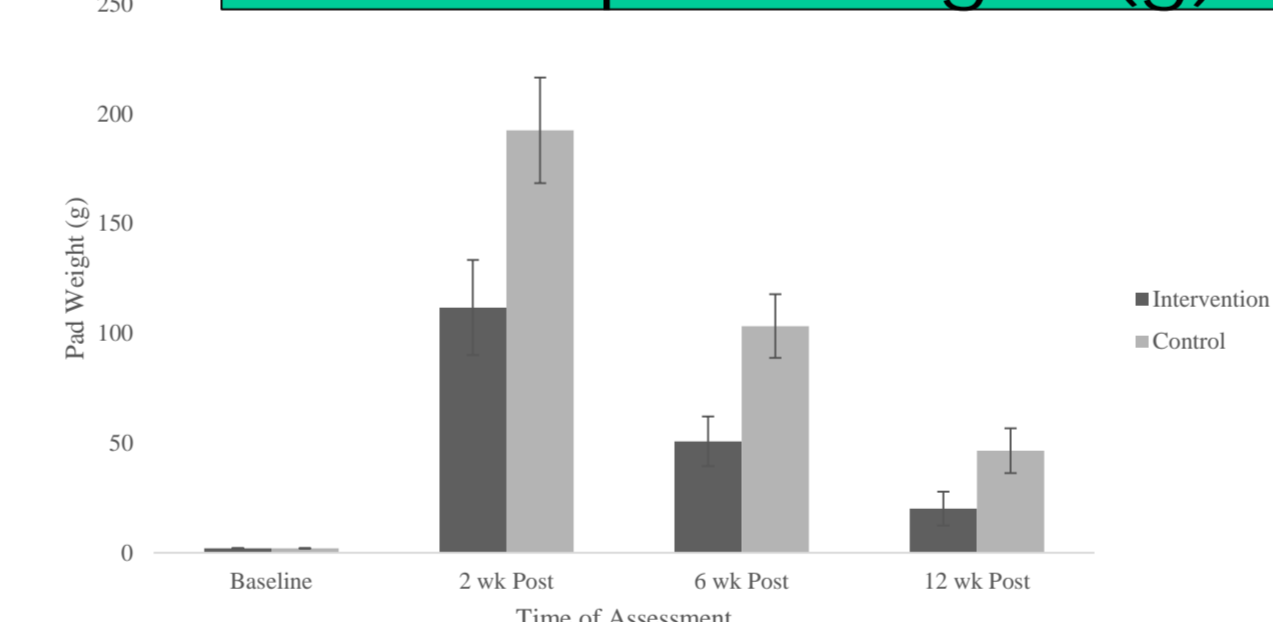
## Conclusions:

Utilising a HIGH intensity pelvic floor muscle exercise intervention protocol commencing 6 weeks PRIOR to RP and performed in standing postures, PPI can be REDUCED in TIME and SEVERITY with LESS leakage from the outset, IMPROVED QoL outcomes & FASTER integration of PENILE REHABILITATION. Patients, their medical team & caregivers all benefit.

## Results:

1

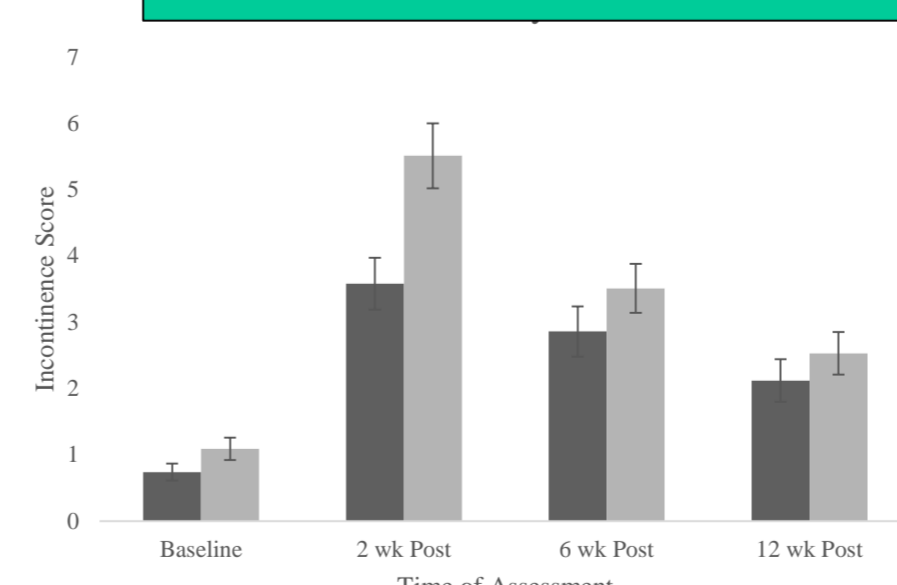
24 hour pad weight (g)



- CONTROL group experienced significantly ( $p<0.05$ ) more leakage at all time points vs INTERVENTION group in 24 hour pad weights.
- A 2 weeks post-RP CONTROL leaked 200g/24 hours, INTERVENTION 100g
- INTERVENTION group had a FASTER rate of recovery (i.e. nil pads) vs CONTROL group.

2

EPIC-CP QoL PPI domain



- Pre-surgery EPIC-CP QoL scores were similar between groups, however the INTERVENTION group scored significantly ( $p<0.05$ ) better QoL scores at 2 weeks post-RP due to 50% less leakage from outset vs CONTROL group

## Methods:

A randomised controlled trial of 97 men undergoing radical prostatectomy (RP) were allocated to either a control group (n=47) performing 'usual care' of 3sets/day PFMT, or an intervention group (n=50), performing 6 sets/day in standing, commencing 5 weeks prior to RP and continuing for 12 weeks following catheter removal. Participants were assessed pre-operatively and at 2, 6 and 12 weeks post-RP using 24 hour pad weights, IPSS, EPIC-CP and recently validated real time ultrasound (RTUS) measurements of PFM function<sup>(6-9)</sup>.

## References:

- 1.Ficarra V, Novara G, Artibani W, et al. Retropubic, Laparoscopic, and Robot-Assisted Radical Prostatectomy: A Systematic Review and Cumulative Analysis of Comparative Studies. *European Urology*. 2009;55(5):1037-1063.
- 2.Dorey G. Pelvic floor exercises after radical prostatectomy. *British journal of nursing*. 2013;22(9):S4-6, S8-9.
- 3.Anderson CA, Omar MI, Campbell SE, Hunter KF, Cody JD, Glazener CM. Conservative management for post-prostatectomy urinary incontinence. *The Cochrane Database of Systematic Reviews* (Internet), January 2015.
4. Glazener C, Boachie C, Buckley B, et al. Urinary incontinence in men after formal one-to-one pelvic floor muscle training following radical prostatectomy or transurethral resection of the prostate (MAPS) :two parallel randomized controlled trials. *The Lancet*. 2011;378(9788):328-337.
- 5.Shikanov SA. A prospective report of changes in prostate cancer related quality of life after robotic prostatectomy. *J Psych Oncol*. 2011;29:1157-1167.
- 6.Stafford RE, Ashton-Miller JA, Constantinou CE, Hodges PW. Novel insight into the dynamics of male pelvic floor contractions through transperineal ultrasound imaging. *J Urol*. 2012;188(4):1200-24
- 7.Nahon I, Waddington G, Adams R, Dorey G. Assessing muscle function of the male pelvic floor using real time ultrasound. *NeuroUrol Urodyn*. 2011;30(7):1329-1332.
- 8.Milios JE, Atkinson CL, Naylor LN, et al. Pelvic floor muscle assessment in men's health: Comparing traditional and novel approaches in radical prostatectomy patients *Australia & New Zealand Continence Journal (Approved for publication)*. July 2018.
- 9.Milios JE, Atkinson CL, Naylor LH, et al. Application of novel pelvic floor muscle function tests in men following radical prostatectomy. *Australia & New Zealand Continence Journal (Approved for publication)*. July 2018.

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