

Conservative Management of Post Prostatectomy Urinary Incontinence (PPUI) and Resistant
Overactive Bladder (OAB)

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Description - This 20 minutes lecture will summarize evidence for the conservative treatment of post prostatectomy urinary incontinence including suggestions on protocols for PFM exercises programs. In addition conservative treatment for resistant OAB will be discussed including screening for overactive PFM and possible treatments.

Objectives

- Develop a program of post operative PFM training
- Describe how overactive PFM may be perpetuating OAB
- List 3 screening tests for musculoskeletal dysfunction in urological patients

Conservative management for PPUI

- Pelvic floor muscle (PFM) exercises (Moore 1999, Nahon 2006, Campbell 2012)
- Electrical stimulation – no significant difference when comparing electrical stimulation to PFM exercises alone (Moore 1999, Wille 2003)
- Collection and containment – pads, diapers, penile clamp (Nahon 2006)
- Functional mobility - as needed in patients with physical disability
 - Gait and balance training
 - Removal of environmental barriers

Which patients will benefit most from conservative management of PPUI?

- Some clinicians advocate all men after prostate surgery receive conservative interventions
- Other clinicians select only certain patients
- Minimal research documenting any pre or post-operative conditions associated with better outcome in conservative management
- Increased preoperative thickness of PFM (measured by MRI) is associated with better post-operative continence. (Song 2001, Dubbelman 2012)

Are PFM exercises effective in PPUI?

- Cochrane review - overall benefit from PFM training versus control for reduction of PPUI (1 year after surgery 10% in PFM exercise group still had UI, versus 32% in the control groups). The findings should be treated with caution, as most trials were of poor to moderate quality with wide confidence intervals. (Campbell 2012)
- RCT that show significant benefit of PFM training for PPUI (Ribeiro 2010, Van Kampen 2000, Filocamo 2005, Overgård 2008, Peyromaure 2002)
- Groups support and PFM exercises resulted in significant decrease in PPUI over verbal instruction in PFM exercises alone. (Zhang 2007)
- Biofeedback – no significant difference when comparing biofeedback to PFM exercises alone (Floratos 2002, Mathewson-Chapman 1997, Wille 2003, Goode 2011)

- Post micturition dribbling
 - Significant decrease in UI with PFM training (Chang 1998, Porru 2001, Paterson 1997)
 - Strong post void "squeeze out" PFM contraction to empty the bulbous urethra (Dorey 2004)
 - Bulbar urethral milking - Patient places his fingers behind the scrotum and gently pushes forward and up to empty the bulbous urethra (Stephenson 1977) did provide some added benefit (Paterson 1997, Dorey 2006)
- UI after radiation therapy for prostate cancer – PFM exercises, bladder training and patient education significantly decreased LUTS and increased quality of life. (Faithfull 2011)
- Adverse events – very few adverse events are published, men should delay PFM exercises if bleeding returns or pain occurs

When to start PFM exercises?

- Pre-operatively - one day to one month before surgery (Bales 2000, Sueppel 2001, Centemero 2010, Parekh 2003, Burgio 2006, Tienforti 2012)
 - Pre and post-operative PFM training versus post-operative PFM training only – significant decrease PUI in the group that received pre-operative exercises (Sueppel 2001, Centemero 2010)
- Some professionals allow gentle PFM exercises while the catheter is in (Dorey 2006)
- Immediately after catheter removal (Burgio 2006, Van Kampen 2000, Chang 1998)
- 7 days after catheter removal (Manassero 2007, Mariotti 2009)
- Most studies simply report “after catheter removal”
- 6 weeks after surgery PFM exercises are not effective (Glazener 2011, Franke 2000)
- Intensive conservative management can decrease long standing UI (Moore 2003)

How often and how many - No consensus

- 2 visits per week for 6 weeks (Mariotti 2009)
- 1 visits per week for 4 weeks (Porru 2001)
- Every other week for 8 weeks (Goode 2011)
- 5 visits over 3 months (Parekh 2003)
- 5 visits over 1 year (Sueppel 2001)
- All studies advocate home exercises between clinic visits

Conservative management for residual or resistant OAB

- Bladder training for residual overactive bladder (OAB)
 - Bladder training compared to no treatment – favors bladder training but no statistically significant difference where found in outcomes (Wallace 2009)
 - Combined bladder training with PFM exercises – statically significant improvement in quality of life (Burgio 2011)
- Lifestyle interventions
 - Fluid modifications for residual OAB
 - Inconsistent results of the relationship of caffeine to OAB, but it does appear decreasing caffeine can decrease UI in some (Milne 2008, Wyman 2009)
 - Decreasing fluid intake by 25% significantly decreases frequency, urgency, and UI in patients with OAB (Milne 2008) – even more than decreasing caffeine

- Obesity - associated with OAB (Milne 2008, Wyman 2009) and weight loss significant decreased urge urinary incontinence (Subak 2005)
- Constipation (Wyman 2009)
 - Higher rates of constipation in men with OAB
 - Resolution of constipation significantly improves urgency and frequency in older patients (Charach 2001)
- Smoking (Wyman 2009)
 - Increase intra-abdominal pressure with coughing contributes to stress UI
 - Nicotine has been shown to induce increased detrusor activity in cats
 - Smoking cessation can decrease lower urinary tract symptoms (LUTS) in men

Overactive PFM

- Muscle is unable to relax and may contract during functions such as defecation or micturition (Messelink 2005)
- Resulting in obstructive voiding or defecation, dyspareunia, pelvic pain
- Also called hypertonus PFM, PFM spasm, high-tone PFM
- Can be related to (Lukban 2002)
 - Voiding dysfunction
 - Urgency
 - Frequency
 - Pelvic pain
- Overactive PFM in patients with IC/BPS (Nickel 2004)
 - 87% (Peters 2007)
 - Approximately 70% (Moldwin 1994)
 - 81% (Lilius 1973)
- Overactive PFM in patients with OAB (Messelink 1999)
- Viscero-muscular reflex - irritated bladder signals increase irritation of the PFM and vice versa

Pain causes overactive PFM or vice versa (Zolnoun 2006)

- Most theories assume muscle dysfunction is secondary to chronic inflammation of the mucosa and, thus, reactive in nature
- Some experts have postulated that skin disturbance (i.e. in vestibulitis) destabilizes the PFM, resulting in high resting tone and poor voluntary control. (Travel)
- Neurosensory research support both - muscle contraction as either an initiator or a consequence of skin inflammation or an ongoing component of sustained dysfunction

Screening for overactive PFM

- No simple inclusive test
- Therapists use: palpation, EMG, and imaging ultrasound
- Firmness and pain on palpation of the muscle should be further investigated

Screening for patients who may benefit from treatment of musculoskeletal dysfunction (Fitzgerald 2011)

- Patient with positive findings should be referred for further PT evaluation
- Three tests
 - Forced Faber
 - P4 - posterior thrust
 - Tenderness on palpation of the PFM

Possible treatment for overactive PFM in patients with OAB

- Manual therapy (Weiss 2001, Oyama 2004, Montenegro 2010, Fitzgerald 2011)
 - Internal rectal massage of the PFM
 - Treatment of sacroiliac or pubic symphysis joint dysfunction
- Modalities
 - Heat / ice
 - Electrical stimulation - TENS, intrarectal
 - Ultrasound
- Biofeedback for relaxation training and down training of the PFM
- Patient education
 - Posture
 - Skin care
 - Relaxation and stress management

- Internal vaginal or rectal MFR – Interstitial cystitis (IC) (Weiss 2001)
 - 1 to 2 times per week for 8 to 12 weeks
 - Combined with EMG training for the PFM, relaxation training and external PFM MFR and injections when indicated
 - 65% improvement in resting PFM tone on EMG
 - 70% of had moderate to marked improvement of symptoms

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