

# Physical Therapy and Sexual Health Care Before and After Cancer

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## Objectives

- Discuss how general exercise impacts sexual function
- Learn how pelvic floor muscle strengthening can improve sexual functioning in men with erectile dysfunction
- Review the treatment of vaginal pain and pelvic floor muscle spasm with a multimodal technique including vaginal dilators

## Act 1 - Exercise for everyone - about 8 min

- Strength training, balance and coordination, stretching to achieve sexual positions in patients with disabilities (Kaufman 2003)
- Benefits of aerobic exercise in patients before, during and after treatment for cancer have been well studied but conflicts remain (Brown 2012, Courneya 2003)  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4122430/>
  - Reduced fatigue, Increased energy
  - Decreased depression and anxiety, enhanced feeling of well being
  - Exercise in a group contributed to acceptance of sexual changes through affirming strength based aspects of masculinity and peer support in men undergoing androgen deprivation therapy for prostate cancer (Hamilton 2015)
  - Emerging evidence indicates that exercise has a positive effect on sexual desire and sexual activity in men with prostate cancer (Cormie 2013) although some do not agree
  - And other benefits
- Less depression - more sexual activity
- More energy - more sexual activity
- Physical activity - walking around the house or work, housework / yard work
- Aerobic exercise - at least 10 continuous minutes of movement that increases heart rate and breathing rate, moderate to vigorous intensity.
- US Department of Health and Human Services 2008 Physical Activity Guidelines for Cancer survivors - at least 150 min/week of moderate-intensity activity or 75 min/week of vigorous-intensity activity (or an equivalent combination). (Wolkin 2012)  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3543866/>
- RCT of home based walking on anxiety, depression and cancer related symptoms (lung cancer) (Chen 2015) anxiety and depression significantly decreased in intervention group
  - 12 weeks, 40 min, 3 times per week, moderate intensity walking
  - Weekly exercise counseling
- Oncologists exercise recommendation with an exercise motivational package is better than only oncologist recommendation or only exercise package to motivating patients to complete exercises. (Parks 2015)

## Act 2 - Kegels are not for men - about 6 min

### Review of male pelvic floor muscle (PFM) anatomy

- Levators ani: coccyx to pubic bone
  - Pubococcygeus (pubovisceral)
  - Iliococcygeus
  - Coccygeus (ishiococcygeus)
  - Puborectalis
- Perineal membrane - primarily for continence
  - Compressor urethrae
  - Sphincter urethrae or rhabdosphincter:
- Superficial perineal muscles - continence and sexual function
  - Ischiocavernosus muscle: over the corpus cavernosus base (crus of the penis), assists with erection by compressing the venous return from the penis
  - Bulbospongiosus muscle: over the proximal corpus spongiosum (bulb of the penis) medial and ventral penis; empties the bulb of the penis of residual urine and/or semen, assist with erection

### Pelvic Floor Muscle exercises for men

- Must include focused contraction of the anterior PFM for continence and sexual function
- Best verbal instruction for activation of the bulbospongiosus muscle "tighten around the anus" followed by ""shorten the penis" (Stanford 2015)
- The same exercises are used in men for both UI and ED according to a survey of Pelvic PT experts around the world
- Pre and post-operative PFM training versus post-operative PFM training only – significant decrease post prostate UI in the group that received pre-operative exercises (Sueppel 2001, Centemero 2010) - no research on effect on ED
- When to start PFM exercises after surgery - PFM exercises begun as soon as the catheter resulted in statically significant better return to sexual function compared to a 3 month delay in starting PFM exercises (Lin 2012)
- Recovered potency 12 months after prostatectomy (Prota 2012)
  - 47.1% in PFM exercise group (12 weeks with EMG)
  - 12.5% in the control group (PFM exercises instructed by urologist)
- Based on the evidence PFMT should be the first line treatment for ED (Dorey 2015)

## Act 3 - Vaginal pain, a tale of two (types of) structures - this section takes about 30 min as is

### Dyspareunia after surgery and or radiation (White 2006)

- 67% of gynecological cancer survivors treated with radiation therapy reported dyspareunia
- 55% reported superficial pain
- 40% reported deep pain
- 36% reported both superficial and deep

### Non contractile structures - skin, organs, and the influence of hypersensitive nerves

- Skin (often superficial pain but can be both)
  - Working with medical treatments that thicken skin and heal infection
  - Manual stretching of adherent scars - surgical, obstetrical, or radiation
  - Desensitizing hypersensitive vaginal skin with vaginal dilators
- Organs (deep pain) - Techniques for less deep penetration

- Position - spoon or doggie
  - Pillow at the pubic bone of the women or thigh of the male
- Influence of hypersensitive nerves
  - General relaxation and meditation
  - General aerobic exercise
  - Diaphragm breathing
  - Positive self talk and empowering through knowledge (Louw 2014)

#### Contractile structures - spasm of the PFM

- Massage of PFM spasm (Thiele 1963)
- Biofeedback combined with vaginal dilators (McGuire 2009)
- Contract relax to decrease PFM tension (Naess 2013)
- Treatment of musculoskeletal dysfunction in the pelvis (sacroiliac, pubic symphysis, lumbar dysfunction, tightness of adductors, piriformis, obturator internus) (Lee 2011)
  - Musculoskeletal screen for patients with pelvic pain - three tests that can be used to determine if a patient could benefit from Pelvic PT assessment for pelvic pain <http://www.bethshelly.com/online-and-distance-learning.html#Screening>
- “Management of pelvic pain is most effective when a multidisciplinary team of physician, physical therapist, and psychologist is concurrently involved in patient treatment from the outset.” RCT (Peters 1991)
- Evidence to support the effect of multi-disciplinary interventions (Loving 2012)

#### Indications for vaginal dilators

- Increased PFM tone in all areas of the vagina – contractile and non contractile components - firm tight tissue, small vaginal canal
- Paradoxical contraction in response to vaginal penetration
- Skin sensitive to sliding and thick enough for penetration without infection
- Patient expresses fear or anxiety about possible negative experience during penetration – gives women a chance to “practice” intercourse

#### Method - this is the part I expect to decrease.

- External peri anal EMG sensors, record resting base line, practice PFM relaxation
- Patient picks a trainer to start with - one that will not cause pain
- Patient inserts dilator - being careful of the angle
- Keep the pelvic floor muscle relaxed and slowly insert the dilator – watch EMG screen.
- If unable to insert the dilator fully, hold it at the depth that can be tolerate with slight to moderate pain (usually less than 4/10)
- Allow the dilator to stay in place for up to 10 minutes; remove before 10 minutes if the pain is increasing
- Desensitize skin to sliding - Movement can also be introduced; hold onto the end of the dilator and move it slowly and gently in and out

#### Research

- 77.8% “successful” (Idama 2000), “good results” 98% of dilator group (Fuchs K 1980)
- PFM relaxation (2 sessions with PT) and vaginal moisturizer significantly improved dyspareunia and sexual function in patients with breast cancer (Juraskoval 2013)
- A comprehensive review and clinical guide - "Pelvic floor physical therapy can be an additional tool to address dyspareunia." (Huffman 2016)

- Followed dilator recommendations 44.4% in psychoeducation and dilators group, 5.6% in control group, treatment group also reported less fear about sex after cancer treatment (Robinson 1999)

### References

Brown JC, Winters-Stone K, Lee A, Schmitz KH. Cancer, Physical Activity, and Exercise. *Compr Physiol*. 2012 October ; 2(4): 2775–2809

Centemero A, et al. Preoperative pelvic floor muscle exercises for early continence after radical prostatectomy: a randomized controlled study. *European Assoc Urol*. 2010;57:1039-1044.

Chen HM, Tsai CM, Wu YC, Lin KC, Lin CC. Randomized controlled trial on the effectiveness of home based walking exercise on anxiety, depression and cancer related symptoms in patients with lung cancer. *Br J Cancer* 2015, 112(3):438-445.

Cormie P, et al. Exercise therapy for sexual dysfunction after prostate cancer. *Nat Rev Urol* 2013;10(12):731-736.

Courneya KS. Exercise in cancer survivors: an overview of research. *Med Sci Sports Exerc* 2003;35(11):1846-1852.

Doery G. Evidence for the role of physical therapy in the treatment of male sexual dysfunction. chapter in *Evidenced based physical therapy for the pelvic floor second edition*, eds Bo K, Berghmans B, Morkved S, Van Kampen M. Churchill Livingstone Elsevier 2015.

Fuchs K. Therapy of vaginismus by hypnotic desensitization. *Am J Obstet Gynecol* 1980;137(1):1-7.

Hamilton K, et al. Sexuality and exercise in men undergoing androgen deprivation therapy for prostate cancer. *Support Care Cancer* 2015;23(1):133-142.

Huffman LB, et al. Maintaining sexual health throughout gynecologic cancer survivorship: A comprehensive review and clinical guide. *Gynecol Oncol*. 2016 Feb;140(2):359-68.

Idama TO, Pring DW. Vaginal dilator therapy-an outpatient gynecological option in the management of dyspareunia. *J Obstet Gynecol* 2000;20(3):303-305.

Juraskova I, et al. The acceptability, feasibility, and efficacy (phase I/II study) of the OVERcome (Olive Oil, Vaginal Exercise, and MoisturizeR) intervention to improve dyspareunia and alleviate sexual problems in women with breast cancer. *J Sex Med* 2013;10(10):2549-2558.

Kaufman M , Silverberg C , Odette F. *The Ultimate Guide to Sex and Disability: For All of Us Who Live with Disabilities, Chronic Pain, and Illness* (2007) by , 2003 AbeBooks.

Lee D, *The Pelvic Girdle An integration of clinical expertise and research*. Churchill Livingstone Elsevier Edinburgh. 2011

Lin YH, et al. Effects of early pelvic floor muscle exercises for sexual dysfunction in radical prostatectomy recipients. *Caner Nurs* 2012;35(2):106-114.

Lorenz TA, Meston CM. Exercise improves sexual function in women taking antidepressants: results from a randomized crossover trial. *Depress Anxiety* 2014;31(3):188-195.

Louw A, Hilton S, Vandyken C. Why pelvic pain hurts. *OPTP* 2014.

Loving S, Nordling J, Jaszczak P, Thomsen T. Does evidence support physiotherapy management of adult female chronic pelvic pain? A systematic review. *Scand J of Pain* 2012;3:70-81.

McGuire H, Hawton KKE. Interventions for vaginismus. *Cochrane Database of systematic reviews* 2009.

Naess I, Bo K. Can PFM contraction reduce vaginal resting pressure and resting EMG activity? *Neurourol and Urodynam* 2013;32(6):666.

Park JH, et al. The effect of oncologists' exercise recommendations on the level of exercise and quality of life in survivors of breast and colorectal cancer: A randomized controlled trial. *Cancer* 2015 Aug 15;121(16):2740-8

Peters AA, et al. A randomized clinical trial to compare two different approaches in women with chronic pelvic pain. *Obstet Gynecol.* 1991;77:740-744.

Prota , et al. Early postoperative pelvic-floor biofeedback improves erectile function in men undergoing radical prostatectomy: a prospective, randomized, controlled trial. *Int J Imot Res* 2012 Sep;24(5):174-8.

Robinson JW, Faris PD, Scott CB. Psychoeducational group increases vaginal dilation for younger women and reduces sexual fears for women of all ages with gynecological carcinoma treated with radiotherapy. *Int J Radiat Oncol Bio Phys.* 1999 Jun 1;44(3):497-506.

Sueppel C, Kreder K, See W. Improved continence outcomes with preoperative pelvic floor muscle strengthening exercises. *UrolNurs.* 2001;21:201–210

Stafford R, et al. Pattern of Activation of Pelvic Floor Muscles in Men Differs With Verbal Instructions. *Neurourol Urodyn.* 2015 March 1. Doi: 10.1002/nau.22745.

Thiele GH. Coccygodynia: cause and treatment. *Dis Colon Rectum* 1963;11:422–436.

White ID, Faithfull S. Vaginal dilation associated with pelvic radiotherapy: a UK survey of current practice. *Int J Gynecol Cancer.* 2006 May-Jun;16(3):1140-6.

Wolin K, et al. Implementing the exercise guidelines for cancer survivors. *J Support Oncol .* 2012 Sep-Oct;10(5):171-7.