Physical Therapy Treatment of Genito-Pelvic Pain/Penetration disorder
Dr Beth Shelly PT, DPT, WCS, BCB PMD

Outline
- Treatments to decrease sensitive nervous system
- Treatment to achieve sexual positions easily and relaxed
- Treatment for psychosocial aspects
- Treatment to decrease PFM tone
- Soft tissue mobilization / myofascial release (MFR)
- Treatment of women with sever anxiety of penetration
- Vaginal dilators

Treatment to decreased sensitive nervous system
Exercise and teaching
- Therapeutic Neuroscience Education (Louw 2014, Hilton 2011)
- Cognitive Behavioral Therapy (CBT)
- Affirmations and positive thinking, joy and laughter (Fowler 2010)
- Diaphragm Breathing - increases parasympathetic activation and overall relaxation
- Relaxation training (Carrico 2008)
    - Visualization
    - Imagery
    - Body scanning
- Yoga (Hatha)
- Aerobic exercise - release of endorphins (Goldsmith 2000, Hoffman 2004)

Manual therapy / modalities
- Massage for relaxation
    - RCT of women with Painful Bladder Syndrome – 26% reported moderate to marked improvement with general massage (FitzGerald 2012)
- Heat for persistent pain
    - Heated rice sock on coccyx / rectal area or warm bath
- Generalized relaxation biofeedback - EMG or thermal
- Transcutaneous electrical nerve stimulation (TENS)
    - RCT - Chronic Pelvic Pain (CPP) suprapubic TENS 100 Hz 5 days per week 4 weeks significant decreased pain (Sikiru 2008)
    - Chronic Pelvic Pain 48% had a positive result after 12 weeks of TENS (Schneider 2013)

Treatment to achieve sexual positions easily and relaxed
- Goal is to reduce hip and trunk pain and anxiety in sexual positions - making it more likely she will relax the PFM
- Soft tissue mobilization / myofascial release on trunk and leg muscles
- Joint mobilization to loosen hips
- Stretches to restore length and mobility of the pelvic girdle muscles - happy baby

Treatment for psychosocial aspects

- Mindful of terms, words, instructions
- Support groups, resources, individual or partner counseling
- Importance of development of desire and arousal (Berman 2001)

Treatments to decrease PFM tone

- Standard PT treatment of musculoskeletal dysfunction in the pelvis (sacroiliac, pubic symphysis, lumbar dysfunction, tightness of adductors, piriformis, obturator internus)
    - Persistent overactive PFM may be related to pelvic joint dysfunction – expert opinion (Doggweiler-Wiygul 2004, Lee 2011, Gurian 2012, Chaitow 2012, Tu 2005)
- EMG biofeedback relaxation training (with and without vaginal dilators) (McGuire 2009)
- Contract relax to decrease PFM tension (Naess 2013)
- Soft tissue mobilization / myofascial release (MFR)
- "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 in the treatment of Chronic Pelvic Pain (Loving 2012)

Soft tissue mobilization / myofascial release (MFR)

Indications

- Manual stretching of adherent scars - surgical, obstetrical, or radiation
- Increased PFM tone in one area of the vaginal canal for example unilateral tension myalgia
- Increased tone in all areas of the PFM use MFR along with vaginal dilators or to facilitate advancement of dilator
- Improving normal circumferential length of PFM and fascia

Research on soft tissue massage

- Trigger point release is effective in treating muscle and referred pain, but there is no preferred method (grade 1a) European Association of Urologists guidelines for CPP (Engeler 2010)
- Manual therapy (including myofascial release) was found to be effective to improve sexual function in women with pelvic floor disorders (Rogers 2018)
- "Distension" of pelvic structures in women with CPP (Heyman 2006)
    - RCT of PFM stretching compared to counseling
    - Significant decreased pain intensity and pain during intercourse in the PFM stretching group.
- Self-internal rectal / vaginal massage of patients with CPP (Anderson 2011)
    - Curved tool used to massage internal PFM trigger points
    - 95% of patient felt wand was at least moderately effective in decreasing pain

MFR Techniques

- Still techniques are used for acute or severe pain
  - Ischemic pressure
    - Press parallel to the muscle
    - Slight discomfort not pain
    - Hold 1 to 2 minutes or until release is felt
    - Lessen pressure if tissue is not releasing
  - Contract relax
    - Ask the patient to contract the PFM then relax fully
    - During the relaxation, gently press into the muscle increasing the relaxation and inhibiting contraction
    - Ask the patient to partially contract again but do not allow the muscle to fully contract (keep pressure); with the second relaxation increase the pressure resulting in more relaxation

- Moving techniques are more aggressive
  - Thiele's massage (Oyama 2004)
    - This is officially only performed in the rectum but can be modified for vaginal tissue
    - Firm sweep from 3 o'clock to 9 o'clock, Repeat 10 to 15 times
    - Amount of pressure determined by patient tolerance
    - Bearing down during massage may help relaxation
  - Friction massage/strumming
    - Apply pressure into the tissue
    - A back and forth scrubbing motion is used to break deep myofascial restrictions
    - Move a small distance right to left or in and out

Treatment of women with sever anxiety of penetration (Rosenbaum 2011)

- At each step the patient is asked to rate their anxiety on a scale of 0 (none) to 5 (sever).
- Then she is asked what needs to happen to get her anxiety to a 0 or 1 (possibly reverting to an earlier stage or using "anxiety lowering" tools such as breathing).
- She can always go back to a stage where she feels safe. Progress when anxiety is 0 to 1.
- Progression
  - Step one – lying on the table with cloths on covered with a sheet
  - Step two – as above with legs bent and knees apart
  - Step three – as above without sheet
  - Step four – as above with shorts on first with sheet and then without sheet
  - Step five – as above with underwear only, with and without sheet
  - Step six – as above without underwear, with and without sheet
- Progress in a similar manor to self touch – legs, groin, genitals, vulvar vestibule, vaginal finger insertion
- Graduated dilator use – also can be called "trainers" to decrease fear
  - Self insertion of dilator
  - Self insertions with partner also holding dilator
  - Partner inserting dilator with patient's hand also on dilator
  - Partner inserting dilator

- Goal is for the female to be both physically and emotionally present during the examination and treatment.
- Patients should be encouraged to perceive the exact moment that she begins to feel anxiety.
- To pay attention to her feeling (and her thoughts).
- And to be aware of when she can feel relaxation.

Indications for use of vaginal dilators

- Increased tension of PFM in all quadrants – firm, tight tissue, small vaginal canal
    - Tension in just one area is better treated with manual stretching / MFR
- Paradoxical contraction in response to vaginal penetration
- Sensitive skin that is painful on sliding
- Patient expresses fear or anxiety about possible negative experience during penetration – gives women a chance to "practice" intercourse

Common Diagnosis

- Primary dyspareunia - pain on first attempt at intercourse
- Secondary dyspareunia / pelvic pain
- During and after vaginal radiation (Matos 2019 Sau Paulo)
- Age related vaginal atrophy (Kagan 2019)

Purpose

- Stretch the contractile and non contractile vaginal tissue - spits
- Learn pelvic muscle relaxation during insertion
- Desensitize sensitive skin - hot sand
- Practice intercourse without (or with minimal) pain
- Increasing confidence and decreasing the activation of the pain symphony in centralized conditions

Patient position

- Patient in the hooklying position, knees slightly apart
- At home
    - Recline in a tub of warm water with both knees bent and legs supported
    - Reclined on the bed with knees bent

Method of vaginal dilator training with EMG biofeedback

- External EMG sensors are placed at 3:00 and 9:00 on peri-anal external anal sphincter tissue
- Record resting base line - practice relaxing PFM
- Patient chooses the dilator she feels she can insert without pain - want her to have success first
- Place a sufficient amount of non irritating water-soluble lubricant on the tip and sides of the dilator
- Patient separates the labia with one hand and insert the dilator with the other
    - Do not let a part of the labia fold in on the dilator (this is for intercourse also)

- Angle of the dilator
    - Slightly down toward the table
    - Angled up with significant PFM tension
    - Try angles to the side - use the opposite hand
    - Therapist may need to hold the dilator and assist the patient but never force.
- "Invite the dilator in"
- Keep the PFM relaxed and slowly insert the dilator – watch EMG screen. Remember movement artifact may cause signal to increase during movement of dilator .
- Pause if there is significant pain or resistance; allow the muscle time to relax
- Continue to insert until the dilator has passed the deep PFM
- If the patient are unable to insert the dilator fully, hold it at the depth she is able to tolerate with slight to moderate pain
- Allow the dilator to stay in place for up to 10 minutes; remove before if pain increases
- Keep the PFM relaxed
- It may also be helpful to perform sub maximal PFM contractions to enhance relaxation
- Removing the dilator by slightly turning it while sliding out slowly

Advancing dilators
- In the first session you may be able to advance several sizes
- In subsequent weeks the patient may advance one size per week or slower
- The patient is in control

Moving trainers
- Movement can also be introduced; hold onto the end of the dilator and move it slowly and gently in and out
- Usually done with a size the patient can insert easily
- Desensitizing hyper sensitive vaginal skin, increases tolerance of skin to rubbing

Partner involvement
- Suggest patient and partner work on increasing desire at the start of therapy
- The patient may also visualize partner and intercourse during dilator use
- Withs good communication and a feeling of safety, the partner insert dilator or help her insert
- It is often helpful to use dilator before intercourse

Restarting sexual intercourse
- Ask the patient to estimate the circumference of her partner and encourage her to work toward insertion of that size (or slightly bigger)
- Some women find they can have intercourse on insertion of the second largest dilators because desire and arousal enhance insertion
- The patient will know when she is ready
- In some cases the patient can insert the largest dilator but still have emotional or relationship issues limiting intercourse - in this case make sure she continues to use the dilators on her own to keep the vaginal canal open while she is working with councilor.
- Consider starting with lidocane jell
- Usually begin intercourse with a "female in control" position

Sexual positioning education

- Learn which positions decrease strain on painful pelvic joints and muscles
- "Female in control" positions
    - He is still and she moves
    - Female on top
    - Hands and knees (if she is moving into him)
- Less penetrative positions
    - Deep pain and / or short vaginal canal
    - Side lying with man in back
    - Female on top with a pillow on the partner's thighs
    - Penile spacer

Retraining sensory awareness (Harish 2012)

- Use mirror to visualize the perineum to increase awareness and ownership of the area
- Self palpation inside and outside perineum restore tactile awareness and ownership

Points to remember

- The patient is in control of the dilator
- Let the patient go at her own pace when she is ready
- Use adequate lubrication, may need to try different lubrication if sensitive
- Experiment with different leg and trunk positions as well as angles of insertion to find the best combination
- Slow movement is usually best
- Home practice is necessary – patient should buy a set of dilators
- Also consider use of lidocane with dilators for very painful conditions (10 minutes before)
- Excessive lubrication after several dilator insertions may bridge electrodes making EMG signal unreliable

Qualitative interview study on women experience of vaginal dilator treatment (Macey 2015)

- Lack of knowledge – professional's and patient's
- Invalidation of suffering by professionals – impersonal procedure, "allow the dilator in"
- Difficult journey – asking for help, tolerating procedures, and negotiating the system
- Making the journey easier – partner support, network, support groups for patients, communication

Research in the use of vaginal dilators

Vaginal dilators. McCullagh WMH, April 23, 1949 BMJ, pg 723.

- Describes new metal vaginal dilator with small groove for urethra and handles.
- References previously used glass dilators.

Therapy of vaginismus by hypnotic desensitization. (Fuchs 1980)

- Avoidance of anxiety producing situation
- Start – insertion of patient's finger – end intercourse in the female superior position
- 71 women (no control) 18 = hypnosis, 54 = dilators
- "good results" 88% in hypnosis group, 98% of dilator group
- Follow up 2 to 5 years with no relapse reported

Vaginal dilator therapy-an outpatient gynecological option in the management of dyspareunia. (Idama 2000).

- 18 women received instruction with glass dilators
- 77.8% "successful"
- 16.7% (3 women) required additional treatment – psychotherapy or surgery

The use of Amielle vaginal trainers as adjuvant in the treatment of vestibulodynia: an observational multicentric study. (Murina 2008).

- No single treatment is right for all and it may take many months to determine correct treatment
- 15 patients used vaginal dilators by specific protocol (http://www.vaginismus.com)
- Dyspareunia scale of 0-3 – initial 2.2, end 1.1, statically significant decrease
- FSFI – initial 16.3, end 25.3 statically significant improvement (26.5 cut off for differentiating sexual dysfunction)

Treatments rated as most helpful (Reissing 2011)

- Educational gynecological examination
- Talking about the meaning of the penetration problem
- Vaginal dilation
- Sex education
- Gynecologist was rated as helpful and PT was rated as most helpful (although few patients have seen a PT)

PT for lifelong vaginismus (Reissing 2013)

- Internal manual techniques were found most helpful
- Followed by - patient education, dilation, "home exercises"
- Average of 29 sessions
- Continued - sexual dysfunction on outcome measure

Multimodal treatment of vaginismus including Botox (Pacik 2014)

Internet based treatment for “vaginal penetration difficulties” (Zarski 2017)

- Randomized controlled pilot
- 10 sessions of psychoeducation, relaxation, sensate focus, gradual exposure to dilators
- No statically significant difference in intercourse occurrence
- Better non-intercourse penetration (finger, dilator)
- Less fear and better coping, overall satisfaction with treatment

Interventions for vaginismus. Cochrane systematic review McGuire H, Hawton KKE. 2009.

- Treatment approaches
    - Systemic desensitization – Imagined / hypnosis and / or graded dilators
    - Sex therapy – couple and individual
    - Cognitive therapy
    - Education
    - Relaxation therapy
    - Flooding – pt watches in mirror as therapist inserts a finger into vagina, then repeated as the patient inserts her finger and watches
    - Pharmacotherapy – benzodiazepines
    - Botox injection
- Successful outcome = ability to complete sexual intercourse and have a speculum examination
- 3 studies “eligible”
    - One with no published data
    - One not randomized – success 89.7% (desensitization) and 100% (hypnosis)
    - One compared doctor inserted dilator to verbal instruction only
        - No statistical difference
        - Therapy every 2 weeks
        - Home program – 10 to 15 minutes of dilator use 5 times per week
        - No intercourse till end of program
- Conclusion – not enough data
- Melnik 2012 Cochrane systematic review - 5 studies still not enough data to draw any conclusions

Papers that review PT treatment of dyspareunia, painful penetration disorders and CPP

- Frawley 2007
- Gentilcore-Saulnier 2010
- Hilton 2011
- Holland 2003
- Jarrell 2005
- Loving 2012
- Vandyken 2012
- Yunker 2012

"Without deviation from the norm, progress is not possible" Frank Zappa

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