DYSPAREUNIA: PHYSICAL THERAPY EVALUATION AND MANAGEMENT

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INTRODUCTION



- Dyspareunia (dis-puh-ROO-nee-uh) or painful vaginal/rectal intercourse is a common but neglected female health problem¹
- Can happen to men, but more common in women
- The underlying conditions are often difficult to diagnose and treat
- The etiological factors are complex and poorly understood²
- Sexual pain disorders are often overlooked or badly managed, significantly exacerbating patient distress³

EPIDEMIOLOGY: INCIDENCE AND PREVALENCE

- The population prevalence is estimated to vary from 3 to 18% globally⁴ and lifetime estimates range from 10 to 28%²
- In the United States the prevalence of dyspareunia is approximately 10% to 20%, with the leading causes varying by age group
- A comprehensive review has shown that vulvodynia has an estimated prevalence range of 10% to 28% in reproductive-aged women in the general population⁵



TERMINOLOGY AND CLASSIFICATION

- Entry/superficial dyspareunia: pain localized to the vulva or vaginal entrance, pain experienced with initial or attempted penetration of the vagina
- Deep dyspareunia: pain perceived inside the vagina or lower pelvis and associated with deep vaginal penetration
- Primary dyspareunia: occurs at initial intercourse
- Secondary dyspareunia: occurs after some time of pain-free intercourse

ENTRY/SUPERFICIAL DYSPAREUNIA CAUSES

- Vulvodynia: chronic pain and irritation around the vaginal opening
- Vulvar vestibulitis: a subset of vulvodynia that involves pain and redness of the vulvar vestibule
 Vaginismus: the superficial pelvic floor muscles
- Vaginismus: the superficial pelvic floor muscles around the vaginal opening involuntarily contract and make penetration difficult or impossible
- Previous injury such as episiotomy (cut made during childbirth to enlarge birth canal)
 Skin problem in the genital area such as lichen
- planus or lichen sclerosis

DEEP DYSPAREUNIA CAUSES

- Endometriosis
- Pelvic inflammatory disease
- Uterine fibroids
- Pelvic adhesions, as a result of previous surgery

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- Retroverted uterus
- Vaginal dryness and vaginal infections can cause both entry and deep vaginal pain



DYSPAREUNIA VERSUS VULVODYNIA TERMINOLOGY

- Dyspareunia and vulvodynia are often used interchangeably, but the terms have different meanings
- Dyspareunia is a descriptive term for the symptom of pelvic or vaginal pain associated with
 intercourse/describes pain that always occurs with provoking touch such as intercourse
- Vulvodynia, however, may occur with or without provocation, i.e., spontaneously
- Dyspareunia can occur at the entrance of the vagina, deep in the vaginal canal, or in the pelvis
- Vulvodynia is localized to the vulva and vaginal introitus
- Dyspareunia may be acute or chronic
- Vulvodynia is a term used specifically for the classification of chronic pain/pain lasting longer than 3 months
- Both terms can be used to describe pain that coexists with other comorbidities such as endometriosis, interstitial cystitis, pelvic floor myalgias, and vulvar dermatoses

ETIOLOGY^{5,8}

- Dyspareunia is a specific pain disorder with interdependent psychological and biological etiologies
- Like vulvodynia, superficial dyspareunia is associated with vaginitis, dermatosis, and vulvovaginitis
- In contrast, deep dyspareunia results from visceral disorders such as interstitial cystitis, pelvic inflammatory disease, endometriosis, adhesions, pelvic congestion, and fibroids
- Pain syndromes can overlap and be associated with dyspareunia and vulvodynia, including irritable bowel syndrome, fibromyalgia, and musculoskeletal dysfunction

DYSPAREUNIA ETIOLOGY: COMMON CAUSES



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EPIDEMIOLOGY: RISK FACTORS⁵

Neoplasms

- Inflammation
- Vulvar/vaginal infection
- Genetic factors Allergy
- latrogenic or hormonal deficiencies
- Trauma Myofascial Neuropathic pain
- Poor vaginal lubrication Pelvic floor muscle dysfunction
- Vaginal atrophy
 Childbirth
- Structural defects
- Psychological dysfunction, mental and sexual disorders

• Neurologic proliferation and sensitization

RISK FACTORS FOR POSTPARTUM DYSPAREUNIA⁶

- Perineal or genital trauma
 - Episiotomy
 - Breastfeeding
 - Fatigue
 - Stress
 - Depression

DYSPAREUNIA CYCLES



CLINICAL MANIFESTATION^{5,8}

- Pain/discomfort: persistent or recurrent, acute or chronic
- Occurs with attempted or complete vaginal penetration • Entrance of vagina, deep in vaginal canal, or pelvis
- Pain with insertion of tampon, or digit, or with gynecological exam
- Patients express general disinterest in and dissatisfaction with intercourse



DIAGNOSTIC PHYSICAL THERAPY EVALUATION: SUBJECTIVE EXAMINATION

Pain characteristics: location, duration, timing, quality, provoked or unprovoked, exacerbating factors⁵

Sexual

- Frequency, desire, arousal, satisfaction, relationship⁵
- Relationship distress lowering the QOL, relationship satisfaction, are pain symptoms present with
 other sexual partners
- Additional gynecologic and medical issues
 - Urologic
 - Urethral disorders, cystitis, interstitial cystitis¹⁰

DIAGNOSTIC PHYSICAL THERAPY EVALUATION: SUBJECTIVE EXAMINATION

Gastrointestinal

- Constipation, diarrhea, IBS⁵, inflammatory bowel disease¹⁰
- Musculoskeletal
 - Pelvic floor surgery, trauma, obstetrics⁵

Dermatologic

- Vulvar dystrophies, lichen sclerosus, lichen planus, psoriasis, sensitivities to lotions or other topical agents8
- Vascular
 - Pelvic congestion (pelvic varicosities)^{9,10}, peripheral atherosclerosis or anemia⁸

DIAGNOSTIC PHYSICAL THERAPY EVALUATION: SUBJECTIVE EXAMINATION

Cultural Factors

- Cultural or religious attitudes towards sexuality
- Medication and OTC products⁹
- Can cause decreased arousal and inadequate lubrication

Psychosocial impact⁹

- Low physical and emotional satisfaction, as well as decreased general happiness
- · Depression and phobic anxiety
- More negative attitude toward sexuality, with more sexual function impairment and with lower levels of relationship adjustment
- Marital discord has been suggested as a major cause of dyspareunia

PHYSICAL THERAPY EVALUATION: PHYSICAL EXAMINATION⁹

Patient comfort

- Patient education on examination and her anatomy
- For the constant of the constant state in the state of th Physical examination may be deferred initially, providing the opportunity to establish rapport with the patient
 and allowing for a more focused examination later

External genitalia

- mucosal surfaces inspected for erythema or discoloration: indicate infection or dermatologic disease • i.e. lichen sclerosis or lichen planus
 - Abrasions or other trauma indicates inadequate lubrication or forceful entry
- Overall dryness of the vaginal mucosa suggests atrophy or chronic vaginal dryness
- Abnormal discharge may suggest infection
 Localized pain: a cotton swab should be used to precisely identify the source of the pain

PHYSICAL THERAPY EVALUATION: PHYSICAL EXAMINATION⁹

• External genitalia

- · Vulvar examination is performed systematically by inspecting the external genitalia, perineum, perianal areas, and mons pubis, and assessing for the presence of infection, trauma, atrophy, fissure, and dermatosis
- Carefully examine the vestibular area and Bartholin's ducts, Skeene's ducts, urethra and meatus, using a moistened cotton-tipped applicator
- · Cotton swab test: can help determine the location of pain as well as distinguish between mechanical allodynia and hyperalgesia
- Cotton-tipped applicator technique to conduct a sensory exam of the vulva and the six anatomical sites on the vestibule

PHYSICAL THERAPY EVALUATION: PHYSICAL EXAMINATION⁹

• Vaginal

- Single digit internal examination performed to maximize the patient's comfort
- Using the index finger, the examiner can palpate the lateral, anterior, and posterior walls of the vagina, the urethra, and pelvic floor muscles (levator ani, coccygeus, piriformis, and obturator internus)
- Access the specific areas for tone, proprioception, tenderness, or involuntary spasms of the muscles of the introitus and pelvic floor



PHYSICAL THERAPY EVALUATION: PHYSICAL EXAMINATION⁹

 Vagir 	nal			
• 5	Squeeze or contract around the single digit to a	sess muscle strength		
	 Muscular tightness, tenderness, or difficult suggests pelvic floor muscle dysfunction 	y with voluntary contr	acting and relaxing	
• 1	dentify any scars from previous surgeries, episi	otomy, or trauma		
• 1	Physical Therapists do not perform the bi	manual or specului	n exam	
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PHYSICAL THERAPY EVALUATION: PHYSICAL EXAMINATION⁹

- Postural assessment
 Standing and sitting posture
 Cranial, thoracic, pelvic and hip symmetries
- Gait Assessment
- Abdominal
 Scar tissue assessment, vascular changes, respiratory patterns
 Palpate for areas of masses, tension or pain
 Distention or bloating
- Additional sites
- Adductors, hip flexors, gluteals, deep external rotators of the hip, hamstrings
- Pain mapping Superficial pelvic floor muscles, perineum, and levator ani based on the pelvic clock Range of motion
- Hips, back, lower extremities



PHYSICAL THERAPY EVALUATION: PHYSICAL EXAMINATION¹¹

• Abdominal and pelvic musculature

- Carnett's sign
- Abdominal wall assessment: Diastasis Recti

Soft tissue assessment

 Myofascial restrictions Connective tissue assessment

• Trigger points Active or latent

Peripheral nerves

Femoral, sciatic, pudendal, iliohypogastric, ilioinguinal

DIAGNOSTIC EVALUATION: IMAGING STUDIES³¹



COEXISTING PAIN SYNDROMES/ DIFFERENTIAL DIAGNOSIS⁷

- Although the differential diagnosis of dyspareunia is large, several features of the history and physical examination can help narrow the possibilities (type of pain, patient age, additional testing)
- For example: vulvodynia is typically most painful with entry dyspareunia, vaginal atrophy typically occurs in postmenopausal women
- Pain that can be localized to the vagina and supporting structures may indicate vulvodynia or vaginitis
- Pain that localizes to the bladder, ovaries, or colon points to pathology within those structures which can refer pain to the pelvic floor muscles

DYSPAREUNIA MEDICAL DIFFERENTIAL DIAGNOSES VULVAR PAIN SYNDROMES: VULVODYNIA

vulvodynia is not just a 'depressed **vagina**'

VULVODYNIA

- Severe pain with vestibular touch or attempted vaginal penetration
- Tenderness in response to pressure within the vulvar vestibule
- Physical findings of erythema of varying degrees and confined to the vestibule may be present although erythema no longer seems to be a diagnostic criteria¹²
- Treatment: Amitriptyline or lidocaine ointment, local surgical excision in refractory cases, pelvic floor physical therapy

VULVODYNIA CLASSIFICATION

- Generalized Vulvodynia (GVD)¹³
- Involves the entire vulva
- Previously known as dysesthetic vulvodynia
- May be provoked, unprovoked or mixed
- <u>Provoked:</u> triggered by physical contact whether sexual, non-sexual or both
- <u>Unprovoked:</u> occurs spontaneously without a specific trigger, always present
- <u>Mixed:</u> provoked and unprovoked

VULVODYNIA CLASSIFICATION

- Localized Vulvodynia (LV)¹³
- Involves a portion of the vulva
- Also known as vestibulodynia, clitorodynia, hemivulvodynia
- May also be provoked, unprovoked or mixed
- <u>Provoked</u>: triggered by physical contact whether sexual, non-sexual or both
- <u>Unprovoked:</u> occurs spontaneously without a specific trigger, always present
- <u>Mixed:</u> provoked and unprovoked vestibulodynia



LOCAL PROVOKED VESTIBULODYNIA (LPV)

- Previously known as vulvar vestibulitis
- Triggered by physical contact
- SUB CLASSIFICATION OF LPV^{14,15}
- <u>Primary vestibulodynia:</u> pain experienced at first introital touch, whether tampon insertion or sexual
- Secondary vestibulodynia: pain experienced after an interval of painless
 intercourse or tampon insertion

PUDENDAL NEURALGIA

- Sharp shooting stabbing burning shocking pain that follows the path of the Pudendal nerve and is due to irritation or damage to the nerve¹⁷
- \bullet Symptoms begin in the 4^{th} to 7^{th} decade of life
- Unknown prevalence affecting both men and women
- Diagnosis often delayed or misdiagnosed
- Pudendal Nerve Entrapment(PNE) is the most frequent etiology and is also established on the basis of elements of clinical suspicion
- Pain experienced predominantly in sitting due to compression and relieved with sitting on the toilet
- Treatment: pelvic floor physical therapy, lifestyle changes, medications

GENITOURINARY SYNDROME OF MENOPAUSE (GSM)¹⁸

- Previously known as atrophic vaginitis or vulvovaginal atrophy
- Affects more than half of postmenopausal women
- Caused by low estrogen levels after menopause
- Results in bothersome symptoms including vaginal dryness, itching, dyspareunia, urinary urgency and increased frequency, and urinary tract infections

GENITOURINARY SYNDROME OF MENOPAUSE (GSM)



- Even though women with GSM can have sexual dysfunction that interferes with partner relationships, women are often embarrassed to seek treatment
 Health care professionals do not always actively screen
- really care professionals do not always actively screen for GSM
 As a result, GSM remains underdiagnosed and
- undertreated¹⁸
- Treatment: hormonal local and systemic, non hormonal: moisturizers and lubricants, lifestyle changes

HYPOESTROGENIC STATE

- Vaginal atrophy results from the menopause-associated hypoestrogenic state and causes anatomic and physiologic changes in the genitourinary tract
- Symptoms include vaginal or vulvar dryness, discharge, itching, and dyspareunia
- \bullet Hypoestrogenism influences skeletal and cardiovascular systems as well as fertility and mental health $^{\rm 20}$
 - Lower levels of estrogen are typical and physiological in postmenopausal
 women

HYPOESTROGENIC STATE

 In young women hypoestrogenism is related to pathological causes:

1. Endocrine factors such as gonadal, adrenal and pituitary hormones are responsible for regulation of estrogen levels: postpartum, breastfeeding

2. Hypothalamic-pituitary insufficiency (functional hypothalamic amenorrhea, anorexia nervosa, Kallmann syndrome, hyperprolactinemia) 3. Ovarian failure (gonadal dysgenesis, premature ovarian failure)

Type1 Diabetes Mellitus
 latrogenic treatment (surgery, chemotherapy, radiotherapy)

6. Congenital hypoestrogenism

THE ENDOCRINE CHANGES OF BREASTFEEDING⁷

 Postpartum generally is a hypoestrogenic state resulting in changes to the vaginal epithelium, vaginal lubrication, and delay healing from childbirth

 The treatment of breastfeeding-related postpartum dyspareunia is similar to that used in postmenopausal women experiencing atrophy-related dyspareunia with vaginal lubricators, moisturizers, and local estrogen replacement

VAGINISMUS

- Sexual dysfunction/sexual pain disorder²⁰
- Recurrent or persistent involuntary spasm of the outer third of the vagina that interferes with intercourse
- Causes marked distress of interpersonal difficulty
- Restricted or impossible vaginal penetration
- Associated clinical features include pain, anticipation of pain, fear, general anxiety, phobic avoidance, and defensive/protective behaviors

VAGINISMUS

- Dyspareunia and vaginismus are separate entities even though they have many clinical overlapping characteristics¹⁹
- Significant comorbidity with LPV as well as behavioral avoidance, distress, dermatologic and musculoskeletal dysfunctions^{19,21}
- Classification: Total Vaginismus (TV) and Partial Vaginismus (PaV), primary versus secondary PaV^{19,23,24}
- Overlap of clinical diagnoses and terminology with LPV
- Treatment: treat any underlying disorder, pelvic floor physical therapy, cognitive therapy
- Psychophysiological problem: multidisciplinary approach is necessary^{23,24}

URINARY TRACT DISEASE: PAINFUL BLADDER SYNDROME/ INTERSTITIAL CYSTITIS

- Definition by International Continence Society: Complaint of suprapubic pain related to bladder filling, and accompanied by other symptoms, such as increased daytime and nighttime frequency, in the absence of proven urinary infection or other obvious pathology
- Pathogenesis: Genetic component²⁴
- Prolonged inflammatory or noxious stimuli resulting in a self-perpetuating chronic pain syndrome²⁴
- The glycosaminoglycan (GAG) layer is defective and bladder transitional epithelium/urothelium is abnormally permeable
- Mast cell involvement/can stimulate inflammation²⁴
- Autoimmunity deficiency can cause inflammation²⁴

PAINFUL BLADDER SYNDROME/ INTERSTITIAL CYSTITIS (IC) PATHOGENESIS

- All of the pelvic organs and the pelvic floor muscles share a common innervation and the same neurologic reflexes. Dysfunction of one pelvic organ may affect others through the reflex mechanism
- Viscero-muscular reflex: pathologic reflex results in muscular instability and overactive pelvic floor muscles:
- 1. Decrease in muscle function: atypical urine loss, voiding dysfunction
- 2. Development of myofascial trigger points, myofascial pain
- Overactive pelvic floor muscles function and myofascial pain are present in 85% of patients with IC25

PAINFUL BLADDER SYNDROME/ INTERSTITIAL CYSTITIS PATHOGENESIS

Viscero-visceral hyperalgesia: "cross-talk" of pelvic viscera with shared innervation, explains the association of one chronic pelvic pain syndrome with another pain syndrome (IC and Irritable Bowel Syndrome (IBS), endometriosis and IBS, endometriosis and IC)²⁷

• Neurogenic inflammation: nerves secrete inflammatory mediators with resultant local inflammation/hyperalgesia²⁷ (Gr 11)

• Central sensitization/chronic pain

PAINFUL BLADDER SYNDROME/ INTERSTITIAL CYSTITIS PATHOGENESIS

- All of the pelvic muscles are regulated via the 52–4
 nerves
 The parasympathetic motor nuclei in S3 and S4
 provide the principle motor input to the bladder, which
 is modulated by inputs from other dorsal roots and
 descending supraspinal pathways
 Chronic pelvic floor dysfunction is often combined
 with lower uninary tract dysfunction.
 Boch can end up thing maintained by up-regulated
 sacral reflex arcs²⁷²



PAINFUL BLADDER SYNDROME/ INTERSTITIAL CYSTITIS: CLINICAL PRESENTATION^{27,28}

Progressive disorder ^{27,28}

 Episodic exacerbations/"flares" with physical activity, consumption of acidic foods or during luteal phase of the menstrual cycle

- Pain worsens when bladder is full and improves with voiding
- · Bladder pain experienced suprapubically, in the urethra, vulva, vagina, and rectum
- · Bladder or urethral spasm, awakening at night with pain
- Bladder urgency, frequency, dysuria
- Pelvic pain, pressure aggravated by menstruation and dyspareunia that persists for many days after intercourse
- Treatment: antispasmodics, bladder installation, immune modulators, tricyclic antidepressants, pelvic floor physical therapy

URINARY TRACT DISEASE: CYSTITIS

- Common lower urinary tract infection caused by a bacterial infection
- Refers specifically to an inflammation of the bladder wall
- More common among females than males because women have shorter urethras
- Symptoms include:²⁹
- 1. Traces of blood in the urine
- 2. Dark, cloudy, or strong-smelling urine
- 3. Pain just above the pubic bone, in the lower back, or in the abdomen
- 4. Burning sensation when urinating
- Urinating frequently or feeling the need to urinate frequently
 Treatment: antibiotics

VULVOVAGINITIS

- Most common gynecological problem in premenarchal girls
- Several factors contribute to inflammation of the genital area including:
- · Relatively less protective covering of the introitus by the labia majora
- Low estrogen concentrations leaving the vaginal mucosa susceptible to irritation and infection
- Exposure to irritants (bubble bath)
- Poor hygiene
- Infection by specific pathogens
- Treatment: antifungal, antibiotic and hormonal medications

VULVOVAGINITIS : VULVOVAGINAL CANDIDIASIS

- The main symptom is intense vulvar pruritus/itching
- A vaginal discharge (thick "curd-like") is often present
- The vulva may be erythematous, edematous, and contain satellite lesions
- Burning, particularly with urination, is a common symptom
- Concomitant vaginal candidiasis
- Treatment: antifungal medications

VULVOVAGINAL CANDIDIASIS

- Pregnant women are at high risk for vulvovaginal candidiasis, especially during the third trimester
- The increased hormone levels affect the glycogen content and normal flora of the vagina, thus making the environment more conducive to yeast growth
- Vulvovaginitis has several possible causes, the typical presenting symptoms are similar regardless of the cause: itching, burning, and vaginal discharge
- Physical examination often reveals atrophy, redness, excoriations, and fissures in the vulvovaginal and perianal areas

RECURRENT VULVOVAGINAL CANDIDIASIS: PREDISPOSING FACTORS

- Uncontrolled diabetes mellitus
- Steroid use
- Tight-fitting clothing
- Synthetic underwear
- Antibiotic use
- Increased frequency of coitus
- Intrauterine device use
- Immune system alterations such as AIDS
- Chronic systemic illness (lupus, diabetes, and thyroid dysfunction)

HYPERTONICITY OF LOCAL PELVIC FLOOR MUSCULATURE

- The pelvic floor consists of bones, muscles, and connective tissues
- Together, these structures provide support to the pelvic organs, spine, and pelvic girdle and assist with urinary, defecatory, and sexual function
- The above functions require relaxation and coordination of pelvic floor muscles, urinary and anal sphincters
- The impaired relaxation or paradoxical contraction can result in various symptoms such as impaired voiding or defecation, pelvic pain, and sexual dysfunction¹⁸

HYPERTONICITY OF LOCAL PELVIC FLOOR MUSCULATURE

- Several terms such as *pelvic floor tension myalgia, piriformis syndrome*, and *levator ani syndrome* have been used to describe this entity
- The term nonrelaxing pelvic floor dysfunction may be preferable because it will help the clinician identify a recognizable pattern of symptoms
- Symptoms vary and often are not attributed to the pelvic floor, making these disorders less widely recognized ^{18,27}
- Treatment: multidisciplinary approach, pelvic floor physical therapy including downtraining, biofeedback, manual therapy

POSTPARTUM⁸

- Common and underreported
- Vaginal deliveries: 41% at 3 months and 22% at 6 months
- Causes:
 - perineal stretching and lacerations
 - operative vaginal delivery and episiotomy resulting in sclerotic healing
 - Decrease in circulating estrogen leading to vaginal dryness
 - Psychosocial issues of postpartum lead to decreased arousal and lubrication
- Pain location: entry or deep dyspareunia
- Treatment: vaginal lubricants, scar tissue massage, revision perineoplasty for severe cases

ENDOMETRIOSIS

- Presents as deep pain^{8,9}
- Cyclical pain with menses^{8,9}
- Complaint of "something being bumped into" with deep thrusting^{8,9}
- Masses or nodularity of pelvic structures may be found⁸
- Treatment: oral contraceptives, IUD, surgical cautery or excision³²



PELVIC ORGAN PROLAPSE

- Responsible for some degree of dyspareunia³²
- Can cause decreased lubrication, sensation or arousal³³
- Dominant clinical symptom: loss of urinary control rather than discomfort during sex³²
- Surgical correction for pelvic support can cause new or increased dyspareunia³²



POSTOPERATIVE DYSPAREUNIA

- Occurs after abdominal or genitourinary surgery⁹
- Pain from vulvar and vaginal surgery, and total hysterectomy³²
- Causes post surgical changes:9
 - vaginal stricture or shortening
 - Trauma to structures
- Healing involves scar formation that may cause pain³²

PELVIC ADHESIONS⁸

- Deep dyspareunia
- History of pelvic surgery or pelvic infection
- Lack of mobility of pelvic structures
 may be noted on examination findings
- Treatment: surgical lysis of adhesions may be considered



PSYCHOGENIC DYSPAREUNIA

- Anxiety and marital adjustment shown to be independent predictors of dyspareunic pain^{9,32}
- Marital distress is higher in women without organic pathology of dyspareunia³²
- Weak association of sexual abuse with dyspareunia and pelvic pain³²
- Treatment: cognitive behavioral therapy shown to be effective in reducing the anxiety and fear related to dyspareunia
 - Focuses on patterns of thinking and helps identify behaviors associated with negative thoughts and feelings $^{\rm 5}$

LICHEN PLANUS

- Presents with white irregular lines and deep red areas of painful erosions³⁴
- Disorder of the mucous membranes that may affect the gingiva and vagina³²
 3 varieties: erosive, papulosquamous, and hypertrophic
 - · Erosive variety is the most disabling affecting the vagina
 - Marked by diffused inflammation and shedding of vaginal epithelium
- \bullet Treatment: vaginal steroids, use of vaginal dilators and internal soft tissue $\mathsf{massage^{32}}$

LICHEN SCLEROSIS^{32,34}

- Whitening of the vulvar epithelium with loss of vulvar architecture
 Atrophy of labia minora and loss of elasticity
- Itching is the predominant symptom
- Scarring
- Fragile skin that tears and bruises easily if rubbed
- Clitoral phimosis: abnormal adherence of the clitoral prepuce or hood onto the glans
- Very mild lichen sclerosis appears as faint white spots and may cause pain
- Treatment: high potency steroid, vaginal dilators, internal soft tissue massage

DYSPAREUNIA OUTCOME TOOLS

- Validated Self-Report Questionnaires
- Female Sexual Function Index
- McGill Pain Questionnaire
- Patient Reported Outcomes Measurement Information
 System (PROMIS)

DIAGNOSTIC EVALUATION

LABORATORY EVALUATION



PHYSICAL THERAPY TREATMENT OF **DYSPAREUNIA: EVIDENCE**

- Exercise
- Connective tissue manipulation
- Vaginal dilation
- Trigger point injections



PHYSICAL THERAPY TREATMENT OF **DYSPAREUNIA**

• CONTRIBUTING FACTOR: Lack of awareness of pelvic floor muscles

 Assess the patient's ability to connect with their pelvic floor muscles through their ability to correctly contract and relax their pelvic floor muscles

• If the patient is unable to correctly recruit these muscles, whether it be due to lack of strength or neuromotor connection, this should be addressed

PHYSICAL THERAPY TREATMENT OF **DYSPAREUNIA**





- CONTRIBUTING FACTOR:
 Aclaxation exercises/down training for the pelvic floor muscles:
 Yoga positions, such as a supported extended child's, happy baby
 pose or garland pose
 - Diaphragmatic breathing techniques: used to draw awareness to tension held in the pelvic floor muscles and actively allowing the tension to decrease
 - Vaginal dilators: teach the patient to move the dilator or insert past the entrance of the vaginal canal in conjunction with relaxing/down training the pelvic floor muscles and releasing the trigger points
 - Manual therapy: trigger point and myofascial release external and internal pelvic floor muscles
 - sEMG Biofeedback: in conjunction with diaphragmatic breathing and imagery for PFM relaxation

PHYSICAL THERAPY TREATMENT OF DYSPAREUNIA

• CONTRIBUTING FACTOR:



- If has been a chronic issue, addressing principles of centralized pain and explaining this to the patient can be helpful and informative
- Pain at the entrance or through the vaginal canal can elicit a spasm or hypertonic response by the pelvic floor muscles

PHYSICAL THERAPY TREATMENT OF DYSPAREUNIA

Contributing factor:

- Postural Dysfunction
- Pelvic, ribs cage, cranial asymmetry resulting in increasing pelvic floor muscle tension
- · Physical Therapy Treatment: Manual Therapy, postural retraining

DYSPAREUNIA MANAGEMENT: MULTIDISCIPLINARY APPROACH

- The use of a multidisciplinary approach with the inclusion of a physician and a counseling therapist could be beneficial, depending on the reason for experiencing dyspareunia
- Issues such as fatigue, depression/anxiety, stress or history of abuse can contribute to the tension of the pelvic floor muscles, and this may be addressed through counseling
- Ensure that the patient has been screened by a physician to rule out any differential diagnoses or address co-existing diagnoses that are out of the physiotherapy scope of practice
- Ob/Gyn and Uro/Gyn to perform trigger point injection or dry needling in areas of overactive pelvic floor muscles



WHEN TO REFER

Interstitial Cystitis

Endometriosis

Gastrointestinal distress

Idiopathic

Neurologic history or findings

PATIENT RESOURCES

American Physical Therapy Association (APTA)- Section on Women's Health

• The National Vulvodynia Association (NVA)

International Pelvic Pain Society (IPPS)

• Endometriosis Association- International Member Association (EA-IMA)





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RESOURCES: PATIENT SUPPORT GROUPS



PHYSICAL THERAPY FOR DYSPAREUNIA: RESEARCH EVIDENCE STUDIES Wurn BF, Wurn LJ, Patterson K, King CR, Scharf ES. Decreasing dyspareunia and dysmenorrhea in women with endometriosis via a manual physical therapy: results from two independent studies. *J Endometr.* 2011;3(4): 188–96

METHOD/DESIGN: Female subjects, all surgically diagnosed with endometricisis, were enrolled in each of the studies post informed consent. Each subject underwent 20 hours of site-specific manual physical therapy designed to address adhesions and restrictions in soft tissue mobility in the abdomen and the peivic floor. Post-test was completed 6 weeks after treatment

OUTCOME MEASURES: Female Sexual Function Index (FSFI) for analyzing the effect on dyspareunia and sexual function (n=14) and quantitative differences in ratings of average pain during menstrual cycle and intercourse based on the Mankoski Pain Scale for analyzing the effect on dysmerorrhea and dyspareunia (n=18)

RESULTS: FSFI Full Scale score showed overall statistically significant improvements (P=.001) for all domains of sexual function, inclusive of dyspareunia (P&It;.001) in the retrospective analyses. Mankoski Pain Scale exhibited statistically significant improvements in menstrual cycle (P&It;.014), dysmenorrhea (P=.008) and dyspareunia (P=.001) in the prospective analyses

CONCLUSION: Site-specific manual physiotherapy offers a non-pharmacologic and non-surgical alternative in the treatment of dyspareunia and dysmenorrhea in endometriosis patients

Eftekhar T, Sohrabi M, Haghollahi F, Shariat M, Miri E. Comparison effect of physiotherapy with surgery on sexual function in patients with pelvic floor disorder: A randomized clinical trial. *Iran J Reprod Med.* 2014; 12(1): 7–14

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METHOD/DESIGN: Randomized controlled trial performed in Urogynecology clinic for 2.5 years on 90 patients aged from 25-55 years with previous delivery, positive history of sexual dysfunction with stage 3 of pelvic organ prolapse and divided in two groups: Group A (n=45) received standard rectocele repair and perineorhaphy, Group B (n=45) received physiotherapy for eight weeks twice a week (electrical stimulation, Kegel exercises)

OUTCOME MEASURES: The female sexual function index (FSFI) used to evaluate the sexual function in cases before and after intervention. Frequency of variable scores (libido, orgam, dyspareunia) included without disorder, frequently good, sometimes good, very much and extreme were compared between two groups

RESULTS: Libido and arousal were improved in both groups (p=0.007, p=0.001 respectively). Orgasm and dyspareunia were improved in group B (p=0.001). Dyspareunia was more painful in group A. There was significant difference between two groups (improvement of orgasm and dyspareunia in group B) (p=0.001).

CONCLUSION: physiotherapy is an appropriate method for treatment of sexual disorder in pelvic floor disorder

Morin M, Carroll M-S, Bergeron S. Systematic review of the effectiveness of physical therapy modalities in women with provoked vestibulodynia. *Sex Med Rev.* 2017; 5(3): 295-322

METHOD/DESIGN: A systematic literature search using PubMed, Scopus, CINAHL, and PEDro was conducted until October 2016 evaluating the effect of isolated or combined physical therapy modalities in women with PVD OUTCOME MEASURES: pain durine intercourse, sewal function, and patient's perceived intervement.

RESULTS: The literature search resulted in 43 eligible studies including 7 randomized controlled trials, 20 prospective studies, 5 retrospective studies, 6 case reports, and 6 study protocols. The vast majority of studies showed that physical therapy modalities such as biodeedback, dilators, electrical stimulation, education, multimodal physical herapy, and multidisciplinary approaches were effective for decreasing pain during intercourse and improving sexual function. Most studies had a high risk of bias mainly associated with the lack of a comparison group. Another common bias was related to implificient sample size, non-validated outcomes, non-standardized intervention, and use of other ongoing treatment.

CONCLUSION: The positive findings for the effectiveness of physical therapy modalities in women with PVD should be investigated further in well-designed randomized controlled trials Goldfinger C, Pukall CF, Thibault-Gagnon S, McLean L, Chamberlain S. Effectiveness of cognitive-behavioral therapy and physical therapy for provoked vestibulodynia: a randomized pilot study. J Sex Med. 2016;13(1):88-94

METHODS: In a clinical trial, 20 women with provoked vestibulodynia were randomly assigned to receive CBT or comprehensive PT. Participants were assessed before treatment, after treatment, and at 6-month follow-up by gynecologic examination, structured interviews, and standardized questionnaires measuring pain, psychological, and sexual variables

OUTCOME MEASURES: primary outcome was change in intercourse pain intensity. Secondary outcomes included pain during the cotton swab test, pain with various sexual and non-sexual activities, and sexual functioning and negative pain cognitions

RESULTS: The 2 treatment groups demonstrated significant decreases in vulvar pain during sexual intercourse, with 70% and 80% of participants in the CBT and PT groups demonstrating a moderate clinically important decrease in pain (230%) after treatment. Participants in the two groups also had significant improvements in pain during the groups clique commission, the greentage of painful intercourse attempts, the percentage of activities resulting in pain, and the ability to continue intercourse without stopping because of pain. Psychological outcomes, including pain catastrophizing and perceived control over pain, also showed improvement in the two groups. Significant improvements in sexual functioning were observed only in participants who completed CBT. Fee between-group differences were identified other than the PT group showing earlier improvements in some outcomes. Almost all improvements were maintained at the 6-month follow-up CONCULSION: CBT and PT can lead to clinically meaningful improvements in pain and areas of psychosexual functioning

Dionisi B, Senatori R. Effect of transcutaneous electrical nerve stimulation on the postpartum dyspareunia treatment. J Obstet Gynaecol Res. 2011 37, (7):750–3

Methods: January 2007 to January 2009, 45 women presenting with postpartum dyspareunia related to perineal trauma after a vaginal delivery were educated on the importance of the pelvic floor and its part in continuing dyspareunia. The treatment consisted of weekly applications of intravaginal TENS in an outpatient setting and daily home therapy with myofascial stretching and exercises of the pelvic floor musculature.

Outcome Measures: the cotton swab test, the Marinoff Dyspareunia Scale and the Visual Analog Scale, and the anovulvar distance was assessed prior to and at the end of the treatment period.

Results: Of the women included in the study, 84.5% reported an improvement of dyspareunia after only five applications of TENS, with a total remission of symptoms (in 95% of patients) at the end of the protocol. At follow-up, 8 months after the end of treatment, all patients were pain free

Conclusions: Therapy with intravaginal transcutaneous nerve stimulation and pelvic floor relaxation exercises is safe and effective in the improvement of vulvar pain and dyspareunia in women with postpartum perineal trauma due to episiorrhaphy, after spontaneous delivery

QUESTIONS, COMMENTS, DISCUSSION



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