Vulvodynia: a consideration of clinical and methodological research challenges and recommended solutions.
Corsini-Munt S, Rancourt KM, Dubé JP, Rossi MA, Rosen NO.

Vulvodynia, an idiopathic chronic vulvar pain, is a prevalent genital pain condition that results in significant impairment to sexual, relational, and psychological functioning of affected women and their romantic partners. Despite its high prevalence, there remain gaps in knowledge and health care access for women coping with vulvodynia, given its varied clinical presentation and no widely accepted treatment protocol. The past several decades have seen important advancements in understanding vulvodynia and developing effective treatments; however, progress has been impeded due to clinical and methodological challenges in conducting research with this vulnerable population. This review presents a brief overview of vulvodynia correlates, consequences, etiology, and treatment, and then turns its attention to considering the clinical and methodological challenges that hinder vulvodynia research. Identifying these barriers alongside potential mitigating solutions is essential to developing empirically supported treatments for all women affected by vulvodynia, across all age and minority groups. Potential solutions will require researchers to broaden eligibility criteria, examine subgroups of women, and expand definitions of treatment outcomes, and may be best facilitated by more active collaboration among research groups and across relevant disciplines. Engagement in these solutions may contribute to more representative findings and the development and dissemination of empirically based treatment options for this complex pain condition.
Vulvar pain affects up to 20% of women at some point in their lives, and most women with vulvar pain have associated pelvic floor impairments. Pelvic floor dysfunction is associated with significant functional limitations in women by causing painful intercourse and urinary, bowel, and sexual dysfunction. A quick screening of the pelvic floor muscles can be performed in the gynecology office and should be used when patients report symptoms of pelvic pain. It is now known the vulvar pain syndromes are heterogeneous in origin; therefore, successful treatment plans are multimodal and include physical therapy.

Vulvodynia is a common condition that negatively affects sexual health and quality of life for many women. A new classification system has been adopted that divides vulvodynia into subtypes based on pain characteristics. Diagnosis relies on ruling out possible contributing pathologic conditions. A multidisciplinary approach to treatment is likely to achieve the best outcome for all types. Medical therapy with systemic neuromodulators is suggested for generalized vulvodynia. For patients with vestibulodynia, topical therapy may be beneficial. Vestibulectomy has a high success rate and may be a good option if the patient is not responding to treatment.

Vulvodynia, the experience of an idiopathic pain in the form of burning, soreness, or throbbing in the vulval area, affects around 4-16% of the population. The current review used systematic search strategies and meta-ethnography as a means of identifying, analyzing, and synthesizing the existing literature pertaining to women's subjective experiences of living with vulvodynia. Four key concepts were identified: (1) Social Constructions: Sex, Women, and Femininity: Women experienced negative consequences of social narratives around womanhood, sexuality, and femininity, including the prioritization of penetrative sex, the belief that it is the role of women to provide sex for men, and media portrayals of sex as easy and natural. (2) Seeking Help: Women experienced the healthcare system as dismissive, sometimes being prescribed treatments that exacerbated the experience of pain. (3) Psychological and Relational Impact of Vulvodynia: Women experienced feeling shame and guilt, which in turn led to the experience of psychological distress, low mood, anxiety, and low self-esteem. Moreover, women reported feeling silenced which in turn affected their heterosexual relationships and their peer relationships by feeling social isolated. (4) A Way Forward: Women found changing narratives, as well as group and individual multidisciplinary approaches, helpful in managing vulvodynia. The
findings of the review conclude that interventions at the individual level, as well as interventions aimed at equipping women to challenge social narratives, may be helpful for the psychological well-being of women with vulvodynia.

**Vulvodynia and depression - a case study.**

The analysis of the case of vulvodynia coexisting with depression. Remission in terms of pain and affective symptoms was achieved simultaneously after including gabapentin in the treatment at a dose of 900 mg/d. Depressive disorders may constitute a risk factor for vulvodynia and occur as a secondary condition to pain. The frequency of other functional pain syndromes such as fibromyalgia and temporomandibular syndrome is much higher in patients with vulvodynia than in the overall female population. The risk of suicide in vulvodynia, similarly to other chronic pain syndromes, is relatively high, especially with coexisting depressive symptoms.

**Provoked Vestibulodynia**

**Low-Level Laser Therapy for the Treatment of Provoked Vestibulodynia-A Randomized, Placebo-Controlled Pilot Trial.**

**BACKGROUND:** Low-level laser therapy (LLLT) is an emerging medical technology in which non-thermal laser irradiation is applied to treat pain. Because LLLT has been found effective in treating various pain syndromes without known side effects, we conducted a study evaluating the effect of LLLT on provoked vestibulodynia (PVD), a complex sexual pain disorder characterized by pain confined to the vulvar vestibule in response to contact or pressure. **AIM:** To investigate the effectiveness of LLLT for PVD in a randomized, placebo-controlled, double-blinded trial. **METHODS:** Patients with PVD were randomly assigned to receive treatment with LLLT or sham treatment. Patients were treated twice weekly for 6 weeks, for a total of 12 LLLT or placebo sessions. Patients who showed improvement after LLLT were followed for 1 year by clinical pain report and Q-tip examination. **OUTCOMES:** Change in pain scores obtained in response to the Q-tip test, clinical pain report, visual analog scale score, pain with tampon insertion, daily pain intensity, intercourse pain intensity, frequency of intercourse, and a battery of quality-of-life measures. **RESULTS:** Thirty-four patients with PVD participated, 18 received LLLT and 16 received placebo. In the clinical pain report at study completion, 14 of 18 patients (78%) receiving LLLT reported improvement compared with 7 of 16 (44%) in the placebo group (P = .042). This effect was not apparent in other outcome measurements. None of the patients reported side effects during the study. At 1-year follow-up, eight patients (57%) reported lasting improvement. **CLINICAL IMPLICATIONS:** Larger studies with various treatment protocols are needed to define which patients can benefit from LLLT therapy. **STRENGTHS AND LIMITATIONS:** Strengths include a placebo-controlled, double-blinded design, measurement of a large number of multidimensional end points, and a follow-up period of 1 year. Limitations include the small number of patients recruited, no improvement in measurable
parameters, a high improvement rate in the placebo group, the absence of use of validated questionnaires, and the lack of evaluation of psychological and interpersonal factors that might have influenced the results. **CONCLUSIONS:** Given the results of this pilot study, LLLT cannot currently be recommended as a treatment for PVD. Further studies with a larger population, various treatment protocols, and evaluation of LLLT in different subgroups of PVD are needed to define which patients can benefit from this therapy. Lev-Sagie A, Kopitman A, Brzezinski A. Low-Level Laser Therapy for the Treatment of Provoked Vestibulodynia-A Randomized, Placebo-Controlled Pilot Trial.

**Brain responses to vestibular pain and its anticipation in women with Genito-Pelvic Pain/Penetration Disorder.**


**OBJECTIVE:** In DSM-5, pain-related fear during anticipation of vaginal penetration is a diagnostic criterion of Genito-Pelvic Pain/Penetration Disorder (GPPPD). We aimed to investigate subjective and brain responses during anticipatory fear and subsequent induction of vestibular pain in women with GPPPD. **METHODS:** Women with GPPPD (n = 18) and age-matched healthy controls (HC) (n = 15) underwent fMRI scanning during vestibular pain induction at individually titrated pain threshold after a cued anticipation period. (Pain-related) fear and anxiety traits were measured with questionnaires prior to scanning, and anticipatory fear and pain intensity were rated during scanning using visual analog scales. **RESULTS:** Women with GPPPD reported significantly higher levels of anticipatory fear and pain intensity. During anticipation and pain induction they had stronger and more extensive brain responses in regions involved in cognitive and affective aspects of pain perception, but the group difference did not reach significance for the anticipation condition. Pain-related fear and anxiety traits as well as anticipatory fear ratings were positively associated with pain ratings in GPPPD, but not in HC. Further, in HC, a negative association was found between anticipatory fear ratings and brain responses in regions involved in cognitive and affective aspects of pain perception, but not in women with GPPPD. **CONCLUSIONS:** Women with GPPPD are characterized by increased subjective and brain responses to vestibular pain and, to a lesser extent, its anticipation, with fear and anxiety associated with responses to pain, supporting the introduction of anticipatory fear as a criterion of GPPPD in DSM-5.

**Provoked vestibulodynia: current perspectives.**


Provoked vestibulodynia (PVD) refers to vulvar pain of at least 3 months duration, localized to the vestibule, provoked by touch and sexual activity and occurring in the absence of a clear identifiable cause. The clinical spectrum ranges from mild with distressing discomfort through to severe and disabling pain. Current understanding is that PVD is one of many chronic pain conditions characterized by sensitization of peripheral and central nociceptive pathways, with pain arising due to dysfunctional neuronal activity in the absence of painful stimuli. Pathophysiology is not well understood but is likely a complex interplay of environmental, genetic, psychological and immune factors. Care is multidisciplinary and follows general principles of chronic pain management with the addition of specific therapy tailored
to address pelvic floor overactivity, and sexual and relationship difficulties. More recently, the therapeutic use of placebo is gaining traction in chronic pain research and is a very promising adjunctive therapy. The majority of women with PVD are managed outside of tertiary clinic settings, and care depends on availability and affordability of specialized services; however, much can be done by the primary health provider. PVD is common, and highly treatable, especially with early intervention, but unfortunately, many clinicians are unaware of this condition, and the biggest hurdle for women accessing treatment is obtaining a diagnosis. With treatment, most women can expect significant improvement, often with fairly simple interventions, although some women will benefit from referral to specialized centers. The aims of this article are twofold: firstly, to summarize current literature concerning PVD pathophysiology and management; secondly, to provide a framework for clinicians unfamiliar with vulvar medicine to understand and manage PVD.

A Comparison of Approach and Avoidance Sexual Goals in Couples With Vulvodynia and Community Controls.
Dubé JP, Bergeron S, Muise A, Impett EA, Rosen NO.

BACKGROUND: Provoked vestibulodynia (PVD) is a prevalent form of vulvodynia that interferes with the sexual and relational functioning of affected couples. Approach and avoidance sexual goals are associated with the sexual and relationship well-being of women with PVD and their partners. However, whether sexual goals differ in couples coping with PVD compared with community couples is unknown.
AIMS: To compare the approach and avoidance sexual goals of women with PVD and their partners with a control sample of community women and their partners to build on an established motivational model and to compare the sexual goals of women with PVD with those of their partners.
METHODS: Women diagnosed with PVD and their partners (n = 161) and control couples (n = 172) completed measures of approach and avoidance sexual goals. OUTCOME: Approach and Avoidance Sexual Goals Questionnaire.
RESULTS: Women with PVD reported lower approach and higher avoidance sexual goals than control women, whereas partners of women with PVD did not differ from control partners in their sexual goals. Women with PVD also reported lower approach and higher avoidance sexual goals compared with their partners, whereas there were no differences between partners in the control sample.
CLINICAL IMPLICATIONS: Given that avoidance sexual goals have been linked to negative sexual and relational outcomes, clinicians could strive to help couples with PVD become aware of their sexual motives, with the aim of weakening avoidance sexual goals and bolstering approach sexual goals.
STRENGTHS AND LIMITATIONS: This is the first study to empirically document differences in sexual goals between couples affected by PVD and community couples. Limitations include the study’s correlational design, differences in demographic characteristics between samples, and the homogeneity of participants' sexual orientation.
CONCLUSIONS: Findings suggest that the sexual goals of women affected by PVD differ from those of community women and from their partners and support sexual goals as targets for psychological interventions to help couples coping with PVD. Dubé JP, Bergeron S, Muise A, et al. A Comparison of Approach and Avoidance Sexual Goals in Couples With Vulvodynia and Community Controls.
Chronic non-malignant pain perceived in the pelvic region commonly presents as a diagnostic challenge and is often difficult to manage. Treatment options are delayed as well as limited. The prevalence in the United States and the United Kingdom has been estimated to range from 14.7% to 24% respectively (1, 2). Common chronic pelvic pain syndromes include interstitial cystitis, chronic prostatitis, coccygodynia, vulvodynia, chronic proctalgia, and pudendal neuralgia. This article is protected by copyright. All rights reserved.

Female sexual dysfunction (FSD) is characterized as chronic sexual symptoms that manifest with personal distress in the domains of desire, arousal, orgasm, and pain. Extensive epidemiologic evidence estimates that almost 50% of perimenopausal and postmenopausal women experience FSD. Screening for FSD is not readily conducted and patient-physician discussion of sexuality is limited by the lack of physician training on the topic and by the patient-held belief that sexual issues are not medical in nature. The purpose of this commentary is to provide clinicians with a framework to approach the discussion of FSD, to clinically identify FSD through patient symptoms and physical signs, and to manage FSD in perimenopausal and postmenopausal patients with the available U.S. Food and Drug Administration-approved and off-label treatments. Particular attention will be paid to FSD with common midlife onset including vulvovaginal atrophy, vulvodynia, and hypoactive sexual desire disorder. Although evaluating FSD can be a challenge, triaging symptoms by addressing pain before desire and arousal will improve patient outcomes and greatly simplify FSD management.

OBJECTIVE: Development of an electronic patient-reported outcome measure (PROM) specifically designed for vulval disorders. Psychometric testing of the components of the questionnaire, which assess vulval symptoms, sexual function, and quality of life (QoL).

MATERIALS AND METHOD: Development and programming of the instrument (ePAQ-Vulva) was informed by national guidelines for the assessment of vulval disorders, an expert panel, and a survey of 61 vulval clinic patients. The PROM assesses frequency and impact of vulval symptoms, sexual function, and QoL. It also records conditions
and behaviors related to vulval disorders and patient concerns/goals. Scale generation and psychometric testing were undertaken for the vulval symptoms, sexual function, and QoL components of the PROM with 91 participants; descriptive statistics, factor analysis and internal reliability of identified domains, and agreement between free-text and multiple-choice items to assess convergent validity and interrater reliability of picture items were assessed. **RESULTS:** Descriptive statistics showed high floor effects for seven questionnaire items. Factor analysis identified 5 principal components. These were reviewed and amended to provide a putative domain structure of 6 domains. Internal reliability of these domains was assessed using Cronbach α, producing values of 0.715 to 0.917. Interrater reliability of the picture items produced a κ statistic of 0.405. Spearman rank showed moderate correlation between multiple-choice answers and free-text concerns ($r = 0.364-0.462$) in 3 of the 6 domains (pain, sex, and dyspareunia). **CONCLUSIONS:** ePAQ-Vulva offers the first patient-reported outcome tool, specifically designed for vulval disorders. The instrument requires further validation and testing, including evaluation of the stability, responsiveness, and reliability.

### Dermatological Conditions

**A survey on the use of topical steroids in patients treated for lichen sclerosus-associated vulval squamous cell carcinoma.**

Evidence suggests that lichen sclerosus (LS) is the primary aetiological factor for local vulval recurrence (LVR) in vulval squamous cell carcinoma (VSCC). The long-term application of topical corticosteroids is believed to prevent LVR. Patients treated for LS-associated VSCC at a gynaecological cancer centre were invited to complete a questionnaire to evaluate whether they are receiving corticosteroids. 55 of the 95 eligible patients (58%) completed the questionnaire; LS was treated in 69%, with steroids given to 84.2%. Most received steroids $>3$ months, but discontinued treatment once asymptomatic. An online survey was distributed to 313 British Gynaecological Cancer Society members to determine whether gynaecological oncologists prescribe corticosteroids for LS following VSCC surgery. 41 consultants (13.1%) completed the survey; 70.7% prescribe topical corticosteroids (potent/very potent in 79.3%), and 58.6% treat $>1$ year. Our findings demonstrate that patients are more likely to be given topical corticosteroids if symptomatic of LS. Furthermore, although treatment regimens vary, the majority of respondents advocate the use of very potent steroids and would support a tertiary chemopreventative trial. Impact statement What is already known on this subject: Local vulval recurrence (LVR) affects approximately one in four women who have received surgery for vulval squamous cell carcinoma (VSCC). What the results of this study add: Lichen sclerosus (LS), an inflammatory dermatosis, is recognised as the likely primary aetiological factor for LVR. Although there is evidence to suggest that long-term topical corticosteroid use in patients with residual LS may prevent LVR, the extent to which women were given topical steroids following surgery remains unclear. Our patient questionnaire evaluates if these patients are already receiving topical steroids, along with the strength of such steroids and duration of treatment. The consultant survey determines whether clinicians currently prescribe topical steroids following VSCC surgery, as well as the strength and duration of steroid therapy. What the implications are of these findings for clinical practice and/or further research: We aim to establish whether the gynaecological oncology community believe that long-term steroids may prevent LVR in women with LS-associated VSCC and whether they would support and recruit to a multicentre tertiary
chemopreventative trial. These findings could influence a future clinical trial and may alter the ongoing management of these women. **KEYWORDS:** Vulval squamous cell carcinoma; lichen sclerosus; topical corticosteroid

**Lichen planus affecting the female genitalia: A retrospective review of patients at Mayo Clinic.**
Fahy CMR, Torgerson RR, Davis MDP

**BACKGROUND:** Genital or vulval lichen planus (VLP) may have a disabling effect on a patient's quality of life. Evidence-based management guidelines are lacking for VLP. **OBJECTIVE:** We sought to review clinical presentation and treatment of patients who received a diagnosis of VLP. **METHODS:** The 100 consecutive patients who received a diagnosis of VLP at Mayo Clinic between January 1, 1997, and December 31, 2015, were reviewed retrospectively. Descriptive statistics were used for data analysis. Fisher's exact test and the Wilcoxon rank sum test were used for analysis of categorical and continuous variables, respectively. All statistical tests were 2 sided, with the α level set at .05 for statistical significance. **RESULTS:** The time to diagnosis for 49% of patients was more than 1 year. Three patients (3%) had vulval dysplasia, including invasive squamous cell carcinoma. Sixty-eight patients (68%) had multisite lichen planus disease. Eleven patients (11%) had disease remission. Dermatology was the lead specialty for 9 of these cases of remission. **LIMITATIONS:** This was a retrospective, small-cohort study. **CONCLUSION:** A low frequency of disease remission was seen in patients with VLP. Patients with lichen planus benefit considerably from dermatology consultation. Further research is warranted to establish high-quality, evidence-based guidelines for multidisciplinary management of this challenging disease.

**Genital lichen sclerosus in childhood and adolescence-a retrospective case series of 15 patients: early diagnosis is crucial to avoid long-term sequelae.**
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Lichen sclerosus is a chronic skin disease, mainly localised at the introitus and perineum. When the condition remains untreated, gradual atrophy of skin structures leads to permanent scarring, making early diagnosis and treatment crucial. We reviewed all patients diagnosed with lichen sclerosus presenting to a tertiary referral centre for paediatric and adolescent gynaecology between January 2011 and December 2015 to assess disease presentation and response to treatment. We identified 15 cases, with a mean age at diagnosis of 8.8 years. Their main presenting symptoms were vulvar pruritus and vulvar soreness. Seven girls had already atrophic changes, and in four girls, this amounted to clitoral phimosis, labial resorption or labial adhesion formation. The median delay in diagnosis was 7 months. Thirteen patients received local treatment with potent corticosteroids, responding well to treatment. However, 4 girls relapsed within 2 to 36 months. Two adolescents required surgical treatment, one because of urinary retention and the second because of dyspareunia caused by clitoral entrapment. **CONCLUSIONS:** There was a delay in diagnosis in most patients and this resulted in irreversible genital skin changes, which would have been preventable, had treatment been instituted promptly. The response to treatment with local corticosteroids was usually effective, leading to both symptom alleviation and prevention of disease progression. Atrophic changes
and skin complications however were not reversed. What is Known: • Lichen sclerosus affects women of all ages, including girls, particularly prior to adolescence. • Lichen sclerosus responds well to local corticosteroid treatment. What is New: • In the majority of patients with lichen sclerosus there was a long delay between onset of symptoms and diagnosis. • Nearly half of the children diagnosed with lichen sclerosus had irreversible atrophic genital skin changes at the time of first presentation. These changes may have been prevented by a timely diagnosis and intervention.

Vulvar lichen planus pemphigoides.
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https://www.ncbi.nlm.nih.gov/pubmed/29234717

Lichen planus pemphigoides (LPP) is a rare blistering disease with features of both lichen planus and bullous pemphigoid. LPP typically appears on the extremities and occasionally involves the oral mucosa. Herein, we describe a case of LPP of the vulva of an 80-year-old woman, an uncommon location for this disease process. This clinical scenario can be confused with a number of similarly appearing entities such as erosive vulvar lichen planus, mucous membrane pemphigoid, and erosive lichen sclerosus et atrophicus. In fact, our patient carried a diagnosis of lichen sclerosus by an outside physician for 2 years prior to being properly diagnosed and treated. A detailed discussion of the epidemiology, clinical, and pathogenesis as well as the histologic and immunofluorescence characteristics of this uncommon diagnosis is presented. Our case emphasizes the necessity of microscopic analysis to differentiate lookalike disease states when making a diagnosis and choosing the correct therapeutics.

Candida Vulvovaginitis and Vulvodynia: The Mystery Continues.
Reed BD.