Painful Intercourse: Causes, Evaluation, Treatment

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An Event-Level Analysis of the Sexual Characteristics and Composition Among Adults Ages 18 to 59: Results from a National Probability Sample in the United States

J Sex Med 2010;7(suppl 5):346–361.

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Introduction. Although studies of specific groups of individuals (e.g., adolescents, "high risk" samples) have examined sexual repertoire, little is known, at the population level, about the sexual behaviors that comprise a given sexual encounter.

Aim. To assess the sexual behaviors that men and women report during their most recent sexual event; the age, partner and situational characteristics related to that event; and their association with participants' evaluation of the sexual event.

Methods. During March–May 2009, data from a United States probability sample related to the most recent partnered sexual event reported by 3990 adults (ages 18–59) were analyzed.

Main Outcome Measures. Measures included sexual behaviors during the most recent partnered sexual event, event characteristics (i.e., event location, alcohol use, marijuana use, and for men, erection medication use), and evaluations of the sexual experience (pleasure, arousal, erection/lubrication difficulty, orgasm).

Results. Great diversity exists in the behaviors that occur during a single sexual event by adults, with a total of 41 combinations of sexual behaviors represented across this sample. Orgasm was positively related to the number of behaviors that occurred and age was related to greater difficulty with erections and lubrication. Men whose most recent event was with a relationship partner indicated greater arousal, greater pleasure, fewer problems with erectile function, orgasm, and less pain during the event compared with men whose last event was with a nonrelationship partner.

Conclusion. Findings demonstrate that adults ages 18 to 59 engage in a diverse range of behaviors during a sexual event and that greater behavior diversity is related to ease of orgasm for both women and men. Although both men and women experience sexual difficulties related to erectile function and lubrication with age, men's orgasm is facilitated by sex with a relationship partner whereas the likelihood of women's orgasm is related to varied sexual behaviors. **Herbenick D, Reece M, Schick V, Sanders SA, Dodge B, and Fortenberry JD. An event-level analysis of the sexual characteristics and composition among adults ages 18 to 59: Results from a national probability sample in the United States. J Sex Med 2010;7(suppl 5):346–361.**

Table 3 Event experience by age and partner status, stratified by gender (weighted)

	Men					
	All respondents	18–24	25–29	30–39	40–49	50–59
Event experience	% Engaged in behavior past year (95% CI)					
Arousal						
Extremely	49.4% (513) (46.4–52.5%)	52.4% (44.6–60.1%)	47.9% (41.0–54.9%)	52.2% (45.9–58.4%)	53.3% (47.3–59.1%)	41.0% (34.7–47.5%)
Quite a bit	34.7% (360) (31.8–37.6%)	30.3% (23.6–38.0%)	43.2% (36.4–50.2%)	30.6% (25.1–36.7%)	33.3% (28.0–39.1%)	36.2% –(30.1–42.7%)
Moderately	14.5% (150) (12.4–16.7%)	14.5% (9.7–21.0%)	8.9% (5.6–13.9%)	14.7% (10.7–19.7%)	12.3% (8.8–16.7%)	21.9% (16.9–27.8%)
A little	1.3% (13) (0.7–2.2%)	2.1% (0.5–6.0%)	0.0% –(0.4–2.3%)	2.2% (0.8–5.0%)	1.1% (0.2–3.4%)	1.0% (0.1–3.5%)
Not at all	0.2% (2) (0.0–0.7%)	— —	— —	— —	— —	— —
Pleasure						
Extremely	46.9% (490) (43.9–49.9%)	51.0% (43.2–58.8%)	46.0% (39.1–53.1%)	48.1% (41.9–54.3%)	48.9% (43.0–54.8%)	41.0% (34.7–47.5%)
Quite a bit	36.1% (377) (33.2–39.0%)	26.2% (19.8–33.7%)	41.3% (34.6–48.3%)	35.6% (29.9–41.8%)	36.7% (31.2–42.6%)	38.1% (31.9–44.7%)
Moderately	12.7% (133) (10.8–14.9%)	12.8% (8.3–19.0%)	11.1% (7.4–16.4%)	10.7% (7.4–15.3%)	11.4% (8.1–15.7%)	18.1% (13.5–23.7%)
A little	3.9% (41) (2.9–5.3%)	9.4% (5.6–15.1%)	1.6% (0.3–4.7%)	4.3% (2.3–7.7%)	3.0% (1.5–5.9%)	2.9% (1.2–6.1%)
Not at all	0.4% (4) (0.1–1.0%)	0.7% –(0.2–4.0%)	0.0% –(0.4–2.3%)	1.3% (0.3–3.8%)	0.0% –(0.3–1.7%)	0.0% –(0.3–2.1%)
Erection difficulty						
Not difficult	83.0% (862) (80.6–85.1%)	88.5% (82.4–92.7%)	91.5% (86.6–94.7%)	83.6% (78.4–87.8%)	83.6% (78.7–87.5%)	69.9% (63.5–75.5%)
Some difficulty	12.2% (127) (10.4–14.4%)	7.4% (4.1–12.8%)	6.9% (4.0–11.5%)	13.8% (10.0–18.7%)	12.6% (9.1–17.1%)	18.2% (13.6–23.8%)
Moderate	3.6% (37) (2.6–4.9%)	3.4% (1.3–7.8%)	1.6% (0.3–4.7%)	1.7% (0.5–4.4%)	3.1% (1.5–5.9%)	8.1% (5.1–12.6%)
Quite	0.6% (6) (0.2–1.3%)	0.0% –(0.5–2.9%)	0.0% –(0.4–2.3%)	0.4% –(0.2–2.6%)	0.4% –(0.1–2.3%)	1.9% (0.6–4.9%)
Very	0.7% (7) (0.3–1.4%)	0.7% –(0.2–4.0%)	0.0% –(0.4–2.3%)	0.4% –(0.2–2.6%)	0.4% –(0.1–2.3%)	1.9% (0.6–4.9%)
Pain						
Not difficult	94.4% (826) (92.7–95.8%)	91.0% (85.3–94.7%)	91.7% (86.8–94.9%)	95.6% (92.1–97.6%)	95.1% (91.8–97.2%)	97.5% (94.3–99.0%)
Some difficulty	4.5% (39) (3.3–6.0%)	5.7% (2.9–10.7%)	7.1% (4.2–11.8%)	4.4% (2.4–7.9%)	3.6% (1.8–6.6%)	1.9% (0.6–4.8%)
Moderate	0.7% (6) (0.3–1.5%)	0.8% –(0.2–4.2%)	0.6% –(0.2–3.3%)	0.0% –(0.3–1.9%)	1.3% (0.4–3.7%)	0.6% –(0.1–3.1%)
Quite	0.5% (4) (0.1–1.2%)	2.5% (0.7–6.5%)	0.6% –(0.2–3.3%)	0.0% –(0.3–1.9%)	0.0% –(0.3–1.7%)	0.0% –(0.3–2.1%)
Very	—	—	—	—	—	—
Participant orgasm						
Orgasm	91.3% (929) (89.4–92.8%)	95.7% (91.0–98.1%)	91.4% (86.6–94.7%)	92.9% (88.8–95.5%)	90.8% (86.8–93.8%)	86.9% (81.8–90.8%)
No orgasm	8.7% (89) (7.2–10.6%)	4.3% (1.9–4.0%)	8.6% (5.3–13.4%)	7.1% (4.5–11.2%)	9.2% (6.2–13.2%)	13.1% (9.2–18.2%)
Partner orgasm						
Orgasm	85.1% (755) (82.6–87.3%)	86.4% (80.0–91.0%)	94.1% (89.8–96.8%)	91.1% (86.7–94.1%)	93.3% (89.7–95.8%)	93.4% (89.3–96.1%)
No orgasm	14.9% (132) (12.7–17.4%)	13.6% (9.0–20.0%)	5.9% (3.2–10.2%)	8.9% (5.9–13.3%)	6.7% (4.2–10.3%)	6.6% (3.9–10.7%)

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Men – 2.5% – 9%

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Table 3 Continued

Event experience	Women: All respondents	18–24	25–29	30–39	40–49	50–59
	% Engaged in behavior past year					
Arousal						
Extremely	34.8% (303) (31.7–38.1%)	45.0% (36.2–54.1%)	29.1% (23.7–35.2%)	42.2% (35.7–49.0%)	32.7% (26.8–39.1%)	28.3% (21.4–36.5%)
Quite a bit	30.6% (266) (27.6–33.7%)	28.4% (21.0–37.3%)	33.5% (27.8–39.7%)	23.1% (17.9–29.3%)	31.3% (25.5–37.7%)	37.8% (30.1–46.2%)
Moderately	20.1% (175) (17.6–22.9%)	15.6% (10.0–23.4%)	22.0% (17.2–27.7%)	16.1% (11.7–21.7%)	24.0% (18.9–30.1%)	20.5% (14.5–28.1%)
A little	10.8% (94) (8.9–13.0%)	7.3% (3.6–13.8%)	12.8% (9.1–17.7%)	11.6% (7.9–16.6%)	9.6% (6.3–14.3%)	11.0% (6.7–17.5%)
Not at all	3.7% (32) (2.6–5.2%)	3.7% (1.19–9.15%)	2.6% (1.11–5.69%)	7.0% (4.21–11.40%)	2.4% (0.91–5.53%)	2.4% (0.55–6.81%)
Pleasure						
Extremely	35.3% (307) (32.2–38.6%)	45.4% (36.6–54.5%)	31.7% (26.1–37.9%)	37.2% (30.9–43.9%)	35.9% (29.8–42.4%)	29.4% (22.3–37.6%)
Quite a bit	31.1% (270) (28.1–34.2%)	25.0% (17.9–33.7%)	31.7% (26.1–37.9%)	31.7% (25.7–38.2%)	27.8% (22.2–34.0%)	39.7% (31.8–48.1%)
Moderately	19.4% (169) (16.9–22.2%)	21.3% (14.7–29.7%)	18.9% (14.4–24.4%)	14.1% (10.0–19.5%)	23.9% (18.7–30.0%)	19.8% (13.9–27.4%)
A little	10.6% (92) (8.7–12.8%)	5.6% (2.4–11.6%)	15.4% (11.3–20.6%)	9.5% (6.2–14.3%)	10.0% (6.7–14.8%)	8.7% (4.9–14.8%)
Not at all	3.6% (31) (2.5–5.0%)	2.8% (0.7–8.0%)	2.2% (0.8–5.1%)	7.5% (4.6–12.0%)	2.4% (0.9–5.5%)	2.4% (0.6–6.8%)
Lubrication difficulty						
Not difficult	65.3% (496) (61.8–68.6%)	64.9% (55.8–73.0%)	71.9% (65.8–77.2%)	68.5% (61.9–74.4%)	63.9% (57.4–70.0%)	51.7% (43.4–60.0%)
Some difficulty	25.4% (193) (22.4–28.6%)	26.6% (19.3–35.4%)	22.1% (17.3–27.8%)	22.6% (17.5–28.8%)	29.0% (23.4–35.3%)	28.4% (21.5–36.6%)
Moderate	6.8% (52) (5.2–8.9%)	7.4% (3.7–13.9%)	5.0% (2.8–8.7%)	7.1% (4.3–11.5%)	6.0% (3.5–10.1%)	10.3% (6.1–16.7%)
Quite	1.6% (12) (0.9–2.8%)	1.1% –(0.2–5.5%)	0.5% –(0.1–2.7%)	0.0% –(0.4–2.2%)	1.1% (0.1–3.7%)	6.9% (3.6–12.6%)
Very	0.9% (7) (0.4–1.9%)	0.0% –(0.7–3.9%)	0.5% –(0.1–2.7%)	1.8% (0.5–4.8%)	0.0% –(0.4–2.1%)	2.6% (0.7–7.1%)
Pain						
Not difficult	69.7% (529) (66.3–72.9%)	66.3% (57.3–74.3%)	67.3% (61.1–73.0%)	72.4% (65.9–78.0%)	75.3% (69.2–80.5%)	63.8% (55.4–71.4%)
Some difficulty	25.7% (195) (22.7–28.9%)	27.4% (20.0–36.2%)	30.1% (24.6–36.2%)	21.8% (16.7–27.8%)	22.5% (17.5–28.5%)	27.6% (20.7–35.7%)
Moderate	2.9% (22) (1.9–4.4%)	2.1% (0.3–7.0%)	1.5% (0.4–4.2%)	4.7% (2.5–8.6%)	2.2% (0.8–5.3%)	4.3% (1.8–9.4%)
Quite	1.4% (11) (0.8–2.6%)	4.2% (1.5–9.9%)	1.0% (0.1–3.5%)	1.2% (0.2–4.0%)	0.0% –(0.4–2.1%)	2.6% (0.7–7.1%)
Very	0.26% (0.01–1.02%)	0.0% (0.00–100.00%)	0.0% (0.00–100.00%)	0.0% (0.00–100.00%)	0.0% (0.00–100.00%)	1.7% (0.00–100.00%)
Participant orgasm						
Orgasm	64.4% (540) (61.1–67.5%)	61.2% (52.0–69.6%)	57.8% (51.5–64.0%)	65.3% (58.6–71.4%)	68.5% (62.1–74.3%)	70.7% (62.5–77.8%)
No orgasm	35.6% (299) (32.5–38.9%)	38.8% (30.4–48.0%)	42.2% (36.0–48.5%)	34.7% (28.6–41.4%)	31.5% (25.7–37.9%)	29.3% (22.2–37.5%)
Partner orgasm						
Orgasm	92.2% (767) (90.2–93.8%)	86.4% (78.9–91.6%)	94.1% (90.3–96.6%)	91.1% (86.4–94.3%)	93.3% (89.2–96.0%)	93.4% (87.8–96.7%)
No orgasm	7.8% (65) (6.2–9.8%)	13.6% (8.4–21.1%)	5.9% (3.4–9.7%)	8.9% (5.7–13.6%)	6.7% (4.0–10.8%)	6.6% (3.3–12.2%)

*$P \leq 0.05$, **$P \leq 0.01$, ***$P \leq 0.005$, ****$P \leq 0.01$.
[†]Adjusted odds ratios are based on a logistic regression age, health, & partner status covariates. Partner status was coded as relationship partner (Ref) and non-relationship partner.
CI = confidence interval.

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Women – 24.7% – 36.8%

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SYMPTOM VERSUS DIAGNOSIS

Therapies for vulvodynia (symptom) should be based on the specific individual's causes of their specific reason for having vulvodynia (diagnoses)

SYMPTOM VERSUS DIAGNOSIS

A KEY principle of vulvodynia management is to obtain precise biopsychosocial diagnostic testing to understand all the individual multidisciplinary primary and secondary causes of the vulvodynia symptoms as they occur in each patient

SYMPTOM VERSUS DIAGNOSIS

ALL patients with vulvodynia should undergo thorough multidisciplinary biopsychosocial assessments:

Detailed sex therapy evaluation

Detailed physical therapy evaluation

Medical evaluation engaging hormonal, neurologic and vulvoscopic assessments

Such a broad and engaging management strategy will determine specific biopsychosocial causes of the vulvodynia in a given patient

This should allow personalized psychologic, physical therapy and medical management plans to maximize treatment efficacy

SYMPTOM VERSUS DIAGNOSIS

PSYCHOLOGIC CAUSES:

Vulvodynia can be due to **primary psychologic causes**, such as aversion disorders

Vulvodynia can be due to associated with **secondary psychologic causes**, such as poor self-esteem, embarrassment, humiliation and frustration from having sex only to please the partner

SYMPTOM VERSUS DIAGNOSIS

PELVIC FLOOR CAUSES:

Vulvodynia can be due to **primary high tone pelvic floor dysfunction**, such as vaginismus

Vulvodynia can be due to **secondary high tone pelvic floor dysfunction** from an underlying medical/biologic condition

Medical or biologic causes vulvodynia:

1. Altered hormone integrity
2. Increased nerve fiber density - genetic susceptibility leading to elevated levels of nerve growth factor substances
3. An injury to, or irritation of, the pudendal nerves that transmit pain and other sensations
4. Abnormal response of tissues to Candida infection, or recognized allergies or non-specific allergies
5. Dermatologic conditions: lichen sclerosus or lichen planus
6. Vulvar granuloma fissuratum
7. Peri-urethral glans pathology
8. Desquamative Inflammatory Vaginitis
9. Bartholin cyst
10. Clitorodynia
11. Pelvic Congestion Syndrome
12. Endometriosis
13. Pelvic Organ Prolapse
14. Interstitial Cystitis
15. Referral from Hip Disease
16. Partner Issues – Peyronie’s disease, piercings
17. High tone pelvic floor dysfunction

Vestibulodynia

The pain is confined to the vestibule: it (generally) stops outside of Hart's line and there is (generally) no pain inside the vagina.

The pain is throughout the entire vestibule. (If the pain is significantly worse in the back part of the vestibule consider a dual diagnosis, and follow the next decision tree the right as well)

Hormonally mediated vestibulodynia

The pain began:

--- While taking hormonal contraceptives or other medications that affect reproductive hormones, such as those for endometriosis, breast cancer, acne, infertility or removal of ovaries.

--- While breastfeeding, perimenopause or postmenopause, or during abnormal or missing menstrual cycles.

Pain is also associated with low calculated free testosterone levels; decreased libido, arousal or energy; or depression

Congenital neuroproliferative vestibulodynia

-- Pain since first tampon insertion or first attempt at intercourse

--- Never completely pain-free sex

--- Sensitivity or pain when pushing in on the belly button but none when pressure on the rest of the abdomen. The pain may radiate towards the vagina.

Acquired neuroproliferative vestibulodynia

The pain began after:

--- A severe allergic reaction to a topical medication

--- A severe yeast infection

More likely in women with a history of very sensitive skin or irritant or allergic reactions. Women may have certain genetic polymorphisms.

The pain is much worse at 4,6, & 8 o'clock position of the vestibule (and there is minimal or no pain on either side of the urethra.)

There may be tenderness when deep pressure is applied to the perineum

Hypertonic pelvic floor dysfunction

The muscles of the pelvic floor are tight and tender when examined by an experienced doctor or physical therapist; also an abnormal EMG of the pelvic floor muscles

The pain is mainly in the vestibule but there is irritation, redness, and (possibly fissures) on the perineum or in the grooves between the labia minora and majora.

Vaginitis

Inflammation that includes the vestibule and vaginal mucosa. The vaginal mucosa typically looks inflamed and there is frequently yellowish discharge.

*Bacterial vaginosis does not cause enough inflammation to cause vestibulodynia

Desquamative inflammation vaginitis (DIV)

Thick, yellowish discharge that dries like glue and ruins underwear. The vaginal pH is >5.0 with numerous white blood cells and parabasal cells on wet mount

Allergic vaginitis

--- Semen allergy: swollen and inflamed vagina and vestibule that only occurs when condom is not used during intercourse

--- Latex or spermicide allergy: swollen and inflamed vagina and vestibule that only occurs when condoms are not used during intercourse

Candidiasis

Positive culture for yeast infections that do not respond to three doses of fluconazole.

Ulcers or erosions that may be confined to the vestibule but may also occur on the labia and perineum .

Lichen planus

Ulceration in the vestibule that can have "fern-like" or violet borders. The erosions can extend into the vagina and can also affect the mouth. Very significant scarring of the vulva and vagina possible.

Lichen Sclerosus

Ulcerations in the vestibule and labia but not in the vagina. Thick, white, itchy skin with very significant scarring.

VESTIBULODYNIA

TENDERNESS THROUGHOUT THE ENTIRE VESTIBULE

PAIN THROUGHOUT ENTIRE VESTIBULE BUT GREATER AT 4,6,8 O'CLOCK → PAIN CONFINED TO THE POSTERIOR VESTIBULE

HORMONALLY MEDIATED
-Gland ostia are erythematous
-High SHBG, low free testosterone
-Associated with hormonal contraceptives, spironolactone, Tamoxifen, Aromitase Inhibitors, oophorectomy, amenorrhea, lactation
TREATMENT: STOP OCPS, TOPICAL ESTRADIOL/TESTOSTERONE

NEUROPROLIFERATIVE

CONGENITAL
-Primary
-Umbilical hypersensitivity in 60%
-coitarche >25 years
TREATMENT: VULVAR VESTIBULECTOMY

ACQUIRED
-allergic reaction
-chronic yeast infection
-polymorphisms in IL1RA, MBL, IL1B
-associated with urticaria, hives, sensitive skin
TREATMENT: INTERFERON (if within 6 months), SINGULAIR, NEOGYN, TOPICAL CROMOLYN, INTERLESIOANAL TRIAMCINOLONE, CAPSAICIN, VULVAR VESTIBULECTOMY IF FAILED CONSERVATIVE TREATMENT

INFLAMMATORY
-leukorrhea
-desquamative inflammatory vaginitis
-vaginal mucosal tenderness
-cervicitis
-Latex allergy/ semen allergy
TREATMENT: INTERFERON (if within 6 months), SINGULAIR, NEOGYN, TOPICAL CROMOLYN, INTERLESIOANAL TRIAMCINOLONE, CAPSAICIN, VULVAR VESTIBULECTOMY IF FAILED CONSERVATIVE TREATMENT

PERSISTENT → ACQUIRED

PAIN CONFINED TO THE POSTERIOR VESTIBULE

PAIN EXTENDS OUTSIDE THE VESTIBULE
(physical exam only, not subjective)

PUDENDAL NEURALGIA
-PN tender at ischial spine
-unilateral or significantly greater on one side
-history of coccyx trauma
-better with lying prone/standing
-pain improved temporarily with PN block
TREATMENT: SERIAL PN BLOCKS, GABAPENTIN, LYRICA

HYPERTONIC PELVIC FLOOR MUSCLE DYSFUNCTION
-Pain at 4,8 o'clock if if hypertonus of pubococcygeus
-Pain at 6 o'clock if hypertonus of puborectalis
-urinary symptoms if it involves coccygeus (frequency, sensation of incomplete emptying, hesitancy)
-constipation, rectal fissures, hemorrhoids if it involved puborectalis
-associated with ANXIETY, low back pain, scoliosis, hip pain, "holding urine", excessive core strengthening exercises
TREATMENT: PELVIC FLOOR PHYSICAL THERAPY, DIAZEPAM SUPPOSITORIES, VAGINAL DILATORS, HOME PELVIC FLOOR EXERCISES, BOTOX INJECTION

PERSISTENT GENITAL AROUSAL DISORDER
-r/o Tarlov cyst, mass, varicosity, EDS
-can try dorsal clitoral nerve block

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A proposed diagnostic and treatment algorithm for vulvodynia, vulvar pain, and dyspareunia. Comments and criticisms are always welcome. It is essential that clinicians and researchers differentiate between different causes of vulvar pain to improve treatment and research.

A diagnostic and treatment algorithm

VESTIBULODYNIA

PAIN EXTENDS OUTSIDE THE VESTIBULE (physical exam only, not subjective)

LICHENIFICATION, ULCERATION, RESORPTION OF THE LABIA MINORA, CLITORAL PHIMOSIS, NARROWING OF THE INTROITUS WITH EVIDENCE OF FISSURING

PUDENDAL NEURALGIA

-PN tender at ischial spine
-unilateral or significantly greater on one side
-history of coccyx trauma
-history of hip pain or labral tear
-better with lying prone/standing, worse with sitting
-pain improved temporarily with PN block
TREATMENT: SERIAL PN BLOCKS, GABAPENTIN, LYRICA, PUDENDAL NERVE NEUROMODULATION

TENDERNESS THROUGHOUT THE ENTIRE VESTIBULE

PAIN THROUGHOUT ENTIRE VESTIBULE BUT GREATER AT 4,6,8 O'CLOCK

PAIN CONFINED TO THE POSTERIOR VESTIBULE

HORMONALLY MEDIATED VESTIBULODYNIA

PE: Gland ostia are erythematous, mucosal pallor with overlying erythema, decreased size of labia minora and clitoris
LABS: High SHBG, low free testosterone
CAUSES: hormonal contraceptives, spironolactone, Tamoxifen, Aromitase Inhibitors, oophorectomy, amenorrhea, lactation
TREATMENT: Stop medications, topical estradiol combined with topical testosterone. Typically, estradiol 0.01%/testosterone 0.1% in a methycellulose base BID. May substitute estriol 0.03% for the estradiol in women with severe atrophy/tenderness/Sjogrens.

INFLAMMATORY VESTIBULODYNIA

HX: chronic infections, allergic reactions, copious yellowish discharge.
PE: erythema,leukorrhea, induration, vaginal mucosal tenderness, cervicitis/ectropion
CAUSES: desquamative inflammatory vaginitis, chronic candidiasis (see below), Latex allergy/ semen allergy
TREATMENT: Interferon 1.5 million units SQ TIW for 12 doses (if within 6 months), Singulair, Neogyn, Topical Cromolyn, SQ Triamcinolone, Capsaicin 0.025% 20 minutes QHS for 12 weeks. gabapentin 4% cream. Vulvar vestibulectomy if failed conservative treatment

DESQUAMATIVE INFLAMMATORY VAGINITIS

HX: Copious yellow vaginal discharge that ruins underwear or requires a pantyliner, vulvar pruritus where discharge dries
PE: Copious leukorrhea, vaginal mucosa erythema, cervicitis, cervical ectropion
CAUSES: Unknown but current hypotheses infection of unknown pathogen, erosive lichen planus, vulvaginal atrophy, cervical ectropion
TREATMENT: estradiol/hydrocortisone/clindamycin cream, cryotherapy if significant ectropion

PERSISTENT GENITAL AROUSAL DISORDER

Causes: Pudendal neuralgia, Tarlov cyst, pelvic varicosities, mass along dorsal nerve of clitoris, change in psychotropic medicine, EDS
Dx: tendernss at ischial spine, MRI, pudendal nerve block, dorsal clitoral nerve block

LICHEN SCLEROSUS

Anogenital in a "figure 8" distrubution but does not go inside the vagina.
AFFECTS 1:60 WOMEN
3-5% MALIGNANT TRANSFORMATION (VULVOSCOPY NECESSARY)
BIOPSY BEFORE TREATMENT
TREATMENT: CLOBETASOL OINTMENT, SQ TRIAMCINOLONE. SURGERY FOR PHIMOSIS OR RECURRENT TEARING (VULVAR GRANULOMA FISSURATUM)

NEUROPROLIFERATION

PERSISTENT

HYPERTONIC PELVIC FLOOR MUSCLE DYSFUNCTION

-Pain at 4,8 o'clock if if hypertonus of pubococcygeus
-Pain at 6 o'clock if hypertonus of puborectalis
-urinary symptoms if it involves coccygeus (frequency, sensation of incomplete emptying, hesitancy)
-constipation, rectal fissures, hemorrhoids if it involved puborectalis
-associated with ANXIETY, low back pain, scoliosis, hip pain, "holding urine", excessive core strengthening exercises
TREATMENT: PELVIC FLOOR PHYSICAL THERAPY, DIAZEPAM SUPPOSITORIES, VAGINAL DILATORS, HOME PELVIC FLOOR EXERCISES, BOTOX INJECTION

CONGENITAL NEUROPROLIFERATIVE VESTIBULODYNIA

HX: Pain since first tampon use, speculum insertion, and coitarche. No pain free sex. Late coitarche > 25 years old.
PE: tenderness of the entire vestibule from Hart's line to the hymen, often with erythema that worsens after touch with cotten swab. Umbilical hypersensitivity in approximately 60% of women.
LABS: increased density of c-afferent nociceptors if using S-100 of PGP 9.5
TREATMENT: VULVAR VESTIBULECTOMY

ACQUIRED NEUROPROLIFERATIVE VESTIBULODYNIA

HX-allergic reaction
-chronic yeast infection
-polymorphisms in IL1RA, MBL, IL1B
-associated with urticaria, hives, sensitive skin
TREATMENT: Interferon 1.5 million units SQ TIW for 12 doses (if within 6 months), Singulair, Neogyn, Topical Cromolyn, SQ Triamcinolone, Capsaicin 0.025% 20 minutes QHS for 12 weeks. gabapentin 4% cream. Vulvar vestibulectomy if failed conservative treatment

RECURRENT CANDIDIASIS

PE: erythema, induration, thin fissures, perianal erythema. Discharge is often thin and yellow, not "white cottage cheese"
LABS: Hyphae and increased WBCs on wet mount. Postitive cultures
CAUSES: Diet high in simple sugars, antibiotics, OCPs
TREATMENT: Decrease diertary sugars and take probiotics (Probaclac), Oral Nystatin 500,000 units TID for three months + fluconazole 150mg Q3 days x 4 doses the Qweek for 3 months.

LICHEN PLANUS

Affects the squamous epithelium of the vulva and causes ulceration in the vestibule (Wickham's stria)
Affects mucous membrane of the mouth and vagina. Can cause synechiae/scarring of the vagina.
PREMALIGNANT
TREATMENT: CLOBETASOL, ELIDEL, PROTOPIC, NEED TO TREAT VAGINA- USE MEDS ON VAGINAL DILATORS. SYSTEMIC STEROIDS OR OTHER IMMUNOSUPPRESSANTS MAY BE NEEDED

SYMPTOM VERSUS DIAGNOSIS

A KEY principle of vulvodynia management is to undergo magnified assessment of the genital region via vulvoscopy, ideally with the subject visualizing genital anatomy simultaneously with the health care provider

Vulvoscopy is mandatory to precisely localize the "*symptom*" locations, hormone integrity

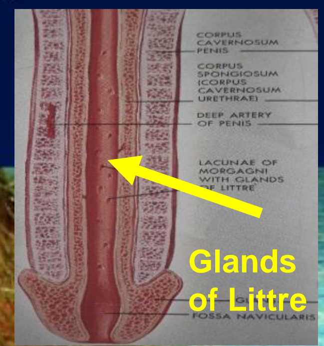
VULVODYNIA – ANATOMY OF VULVA, VESTIBULE , VAGINA

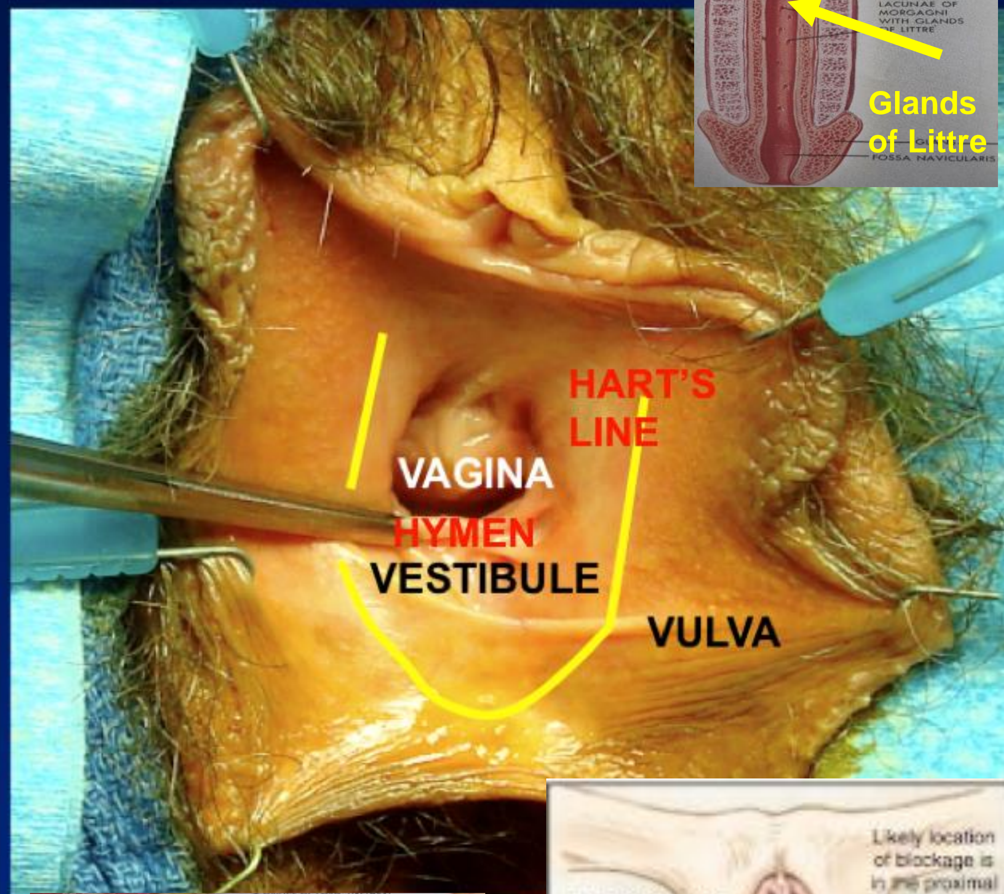
Embryology:

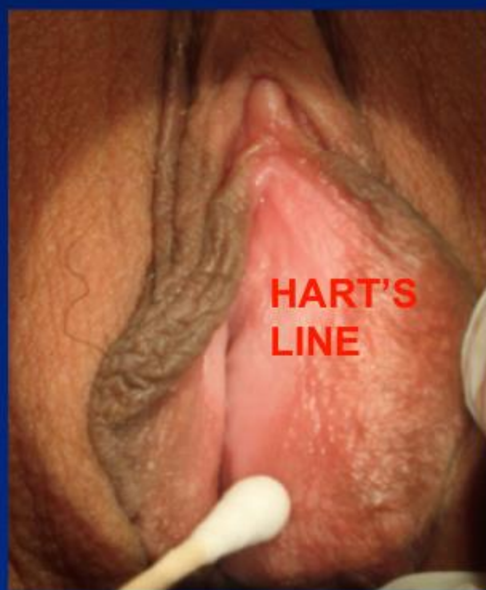
Mesoderm (vagina)

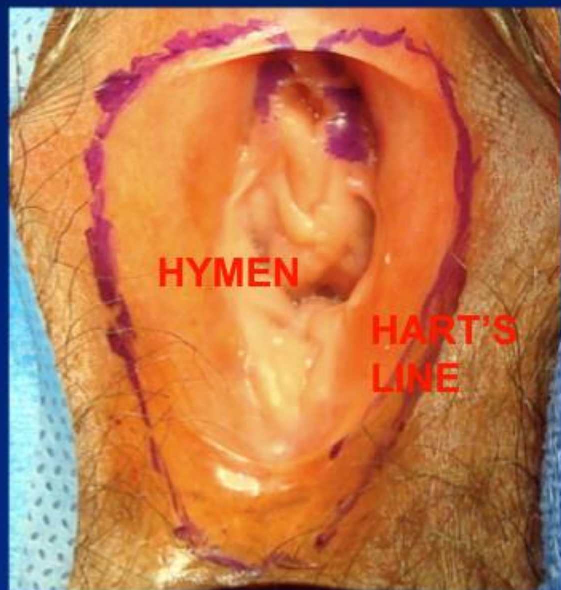
Endoderm (vestibule)

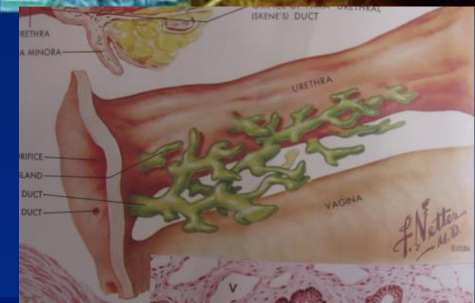
Ectoderm (vulva)

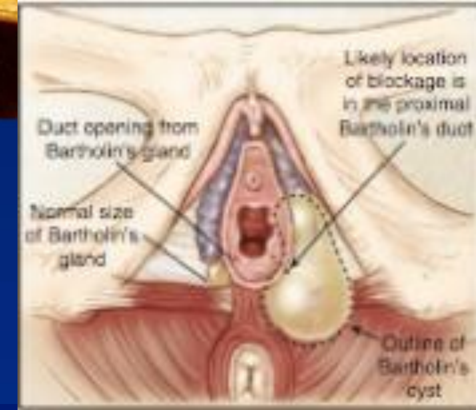












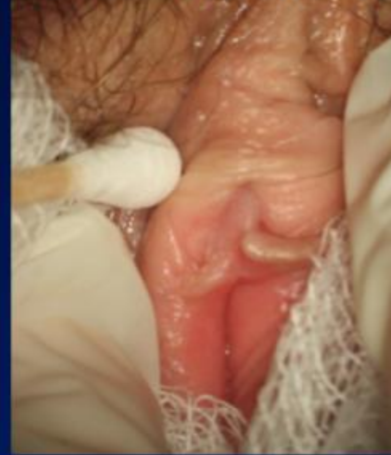
Three Testosterone-Dependent Organs in the Vestibule

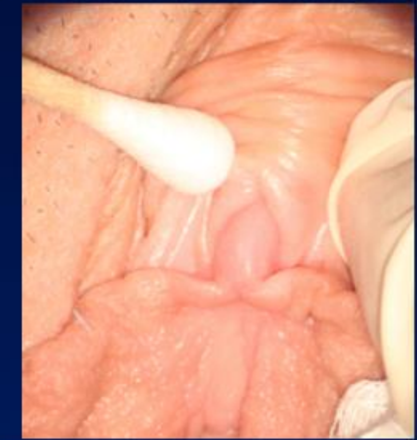
Glans clitoris
Minor Vestibular Glands
Peri-urethral tissue – G-spot

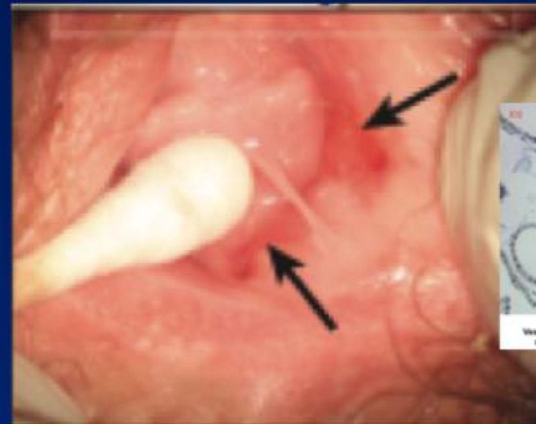
A
Live output to patient monitor
Additional light source
B
Zoom setting
Focus adjustment
C
Vulvoscopy scope with camera
Live output to patient monitor
Vulvoscopy light source and bulb
Vulvoscopy diagnostic examination
Q-tip indicating Hart's line
Epidermal cyst
Fibroma pendulans

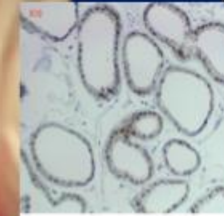
J Sex Med 2012;9:2990–2993

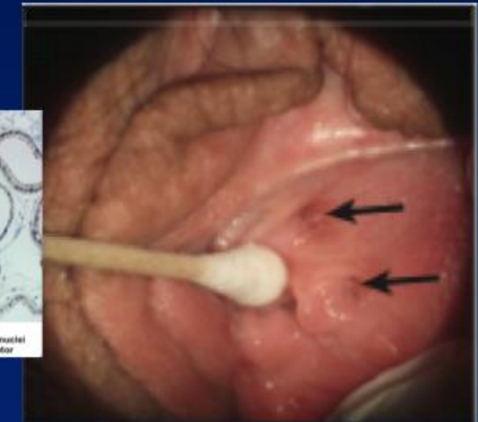
Pre-Testosterone Treatment | **Post-Testosterone Treatment**

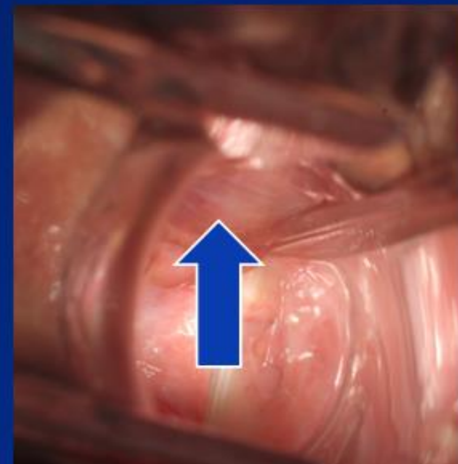


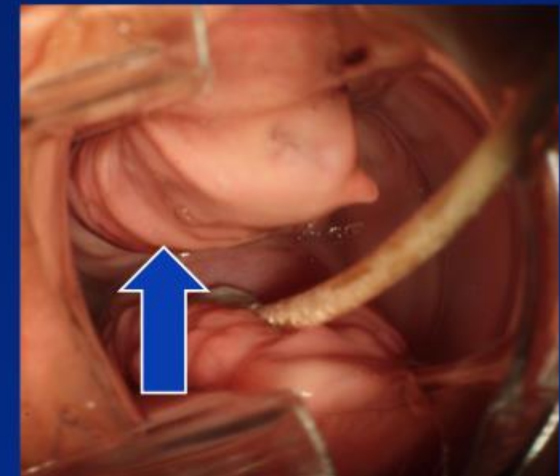





Vestibular glands –Positive cellular nuclei staining with anti-androgen receptor







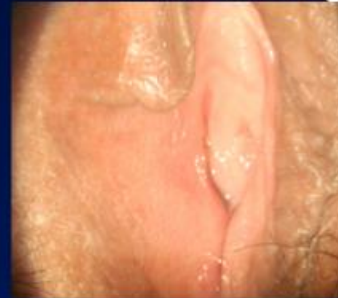
Two Estradiol-Dependent Organs – During Vulvoscopy

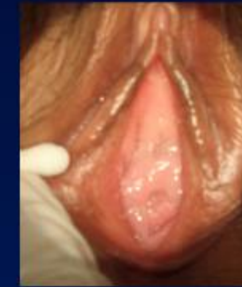
Labia minora
Vagina

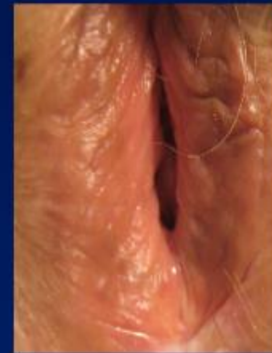
A
Live output to patient monitor
Additional light source
B
Zoom setting
Focus adjustment
C
Vulvoscopy scope with camera
Live output to patient monitor
Vulvoscopy light source and bulb
Vulvoscopy diagnostic examination
Q-tip indicating Hart's line
Epidermal cyst
Fibroma pendulans

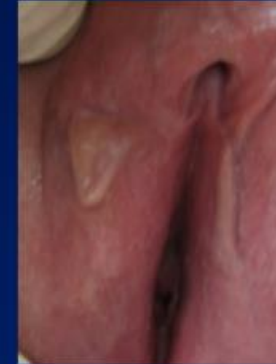
J Sex Med 2012;9:2990–2993

Low Estrogen State

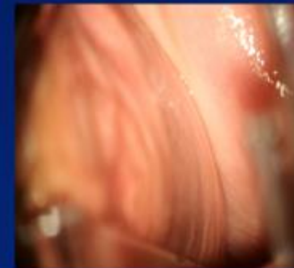


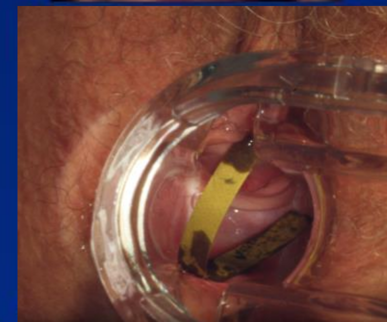






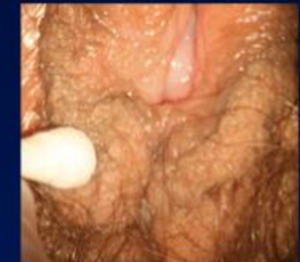
Resorption of Labia Minora

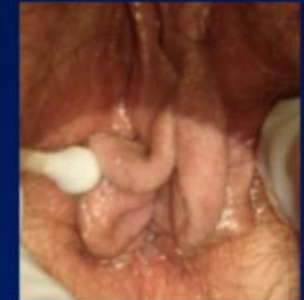




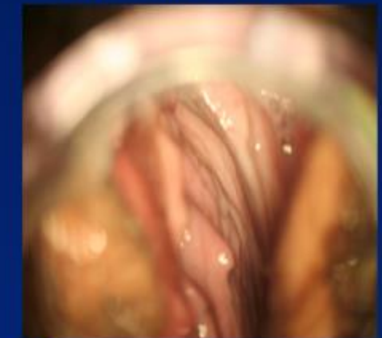
Reduced vaginal rugae, pH >5

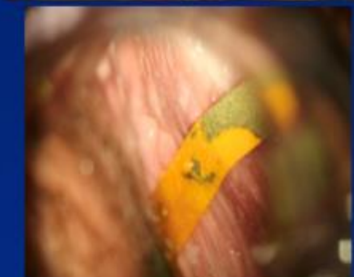
Robust Estrogen State





Labia Minora Normally Meet at Posterior Fourchette





Robust vaginal rugae, pH 4

Medical or biologic causes vulvodynia:

1. Altered hormone integrity
2. Increased nerve fiber density - genetic susceptibility leading to elevated levels of nerve growth factor substances
3. An injury to, or irritation of, the pudendal nerves that transmit pain and other sensations
4. Abnormal response of tissues to Candida infection, or recognized allergies or non-specific allergies
5. Dermatologic conditions: lichen sclerosus or lichen planus
6. Vulvar granuloma fissuratum
7. Peri-urethral glans pathology
8. Desquamative Inflammatory Vaginitis
9. Bartholin cyst
10. Clitorodynia
11. Pelvic Congestion Syndrome
12. Endometriosis
13. Pelvic Organ Prolapse
14. Interstitial Cystitis
15. Referral from Hip Disease
16. Partner Issues – Peyronie's disease, piercings
17. High tone pelvic floor dysfunction

Sagittal view of the nerves of the perineum

S2
S3
S4

Pudendal nerve
Inferior hemorrhoidal nerve
Dorsal nerve of clitoris
Perineal nerve

Cerebral cortex
Brain
Limbic system
Supraspinal centers
Spinal cord

Sacral nerves
S2
S3
S4
Sacrospinous ligament
Sacrotuberous ligament
Ischial spine
Pudendal nerve
Dorsal nerve of clitoris
Inferior hemorrhoidal nerve
Perineal nerve

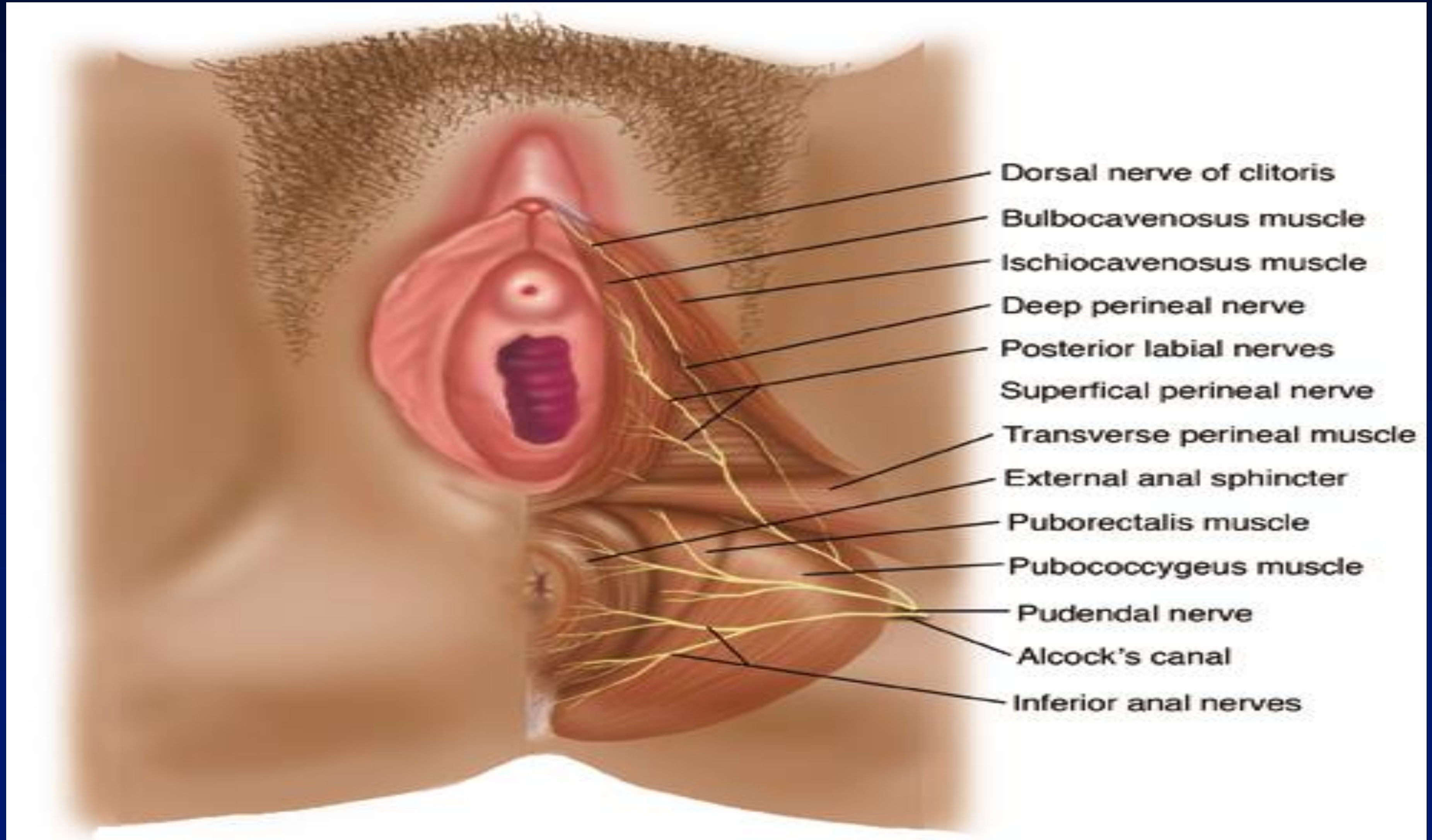
S2
S3
S4

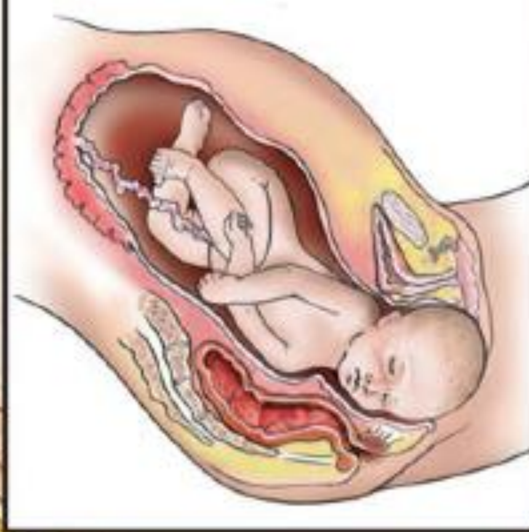
Persistent genital arousal disorder (PGAD)

Pudendal Nerve Associated Clinical Conditions:
Pelvic pudendal sexual pain disorder,
Interstitial cystitis, Urinary urgency

Arousal/orgasmic disorder

Pudendal nerve





J Sex Med 2010;7:1716–1719

Techniques of Pudendal Nerve Block

Lauri Romanzi, MD

Weill Cornell Medical Center, New York Presbyterian Hospital, New York, NY, USA

Pharmacologic Agents That Decrease Neurotransmission – (Local Anesthesia, Tricyclic Antidepressants, Calcium Channel Blocking Agents, Sodium Channel Blocking Agents, Anticonvulsant Agents)

Lidocaine – topical 1-5%
TCA – Amitriptyline – 25 – 150 mg
TCA – Nortriptyline – 25 – 100 mg
TCA – Desipramine – 25 – 300 mg
Ca+ - Gabapentin – 100 – 2400 mg
Ca+ - Pregabalin – 25 – 300 mg
Na+ - Carbemazepine – 100 – 400 mg
Na+ - Oxcarbazepine – 150 – 2400 mg
Lamotrigine – 25 – 200 mg

Opioid Agonist

Tramadol 25 – 200 mg
Tapentadol 25 – 400 mg
Hydrocodone bitartrate and acetominophen – 5/500
Oxycodone and Acetaminophen – 2.5/325 – 10/325

Serotonin and Norepinephrine Reuptake Inhibitor Serotonin Reuptake Inhibitor and 5 HT1A Receptor Partial Agonist

SNRI - Duloxetine - 20 – 120 mg
SNRI – Venlafaxine – 75 – 225 mg
SNRI – Desvenlafaxine – 50 – 100 mg
SRISRPA - Vilazodone – 10 – 40 mg

Non-Pharmacologic Strategies That Decrease Neurotransmission

TENS/Inferential Stimulation
Sacral Neuromodulation – Interstim
Pudendal Neuromodulation – Interstim
Pudendal Nerve Block – local anesthesia and steroid
Electroconvulsive Therapy (ECT)

"TENS" - Transcutaneous Electrical Nerve Stimulation.

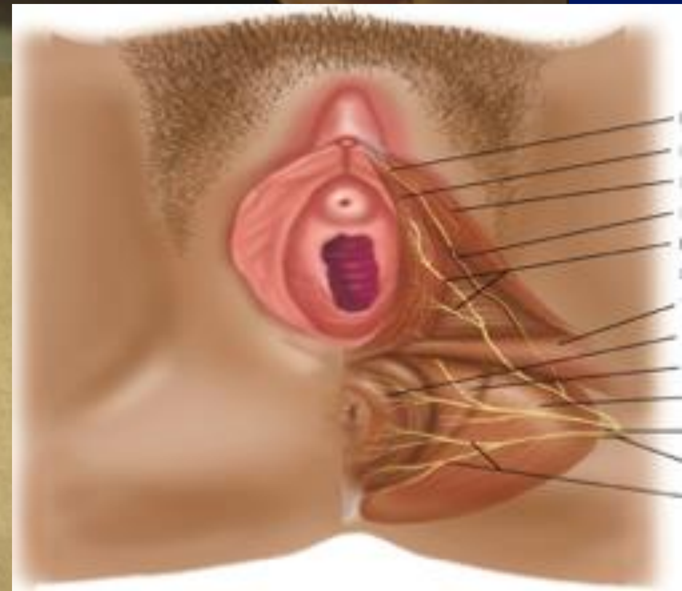
TENS units should only be used under the direction of a physical therapist

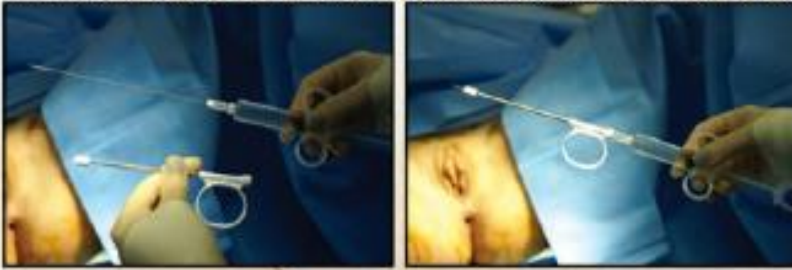
Electrodes are attached to the surface of the skin over or near a specific area

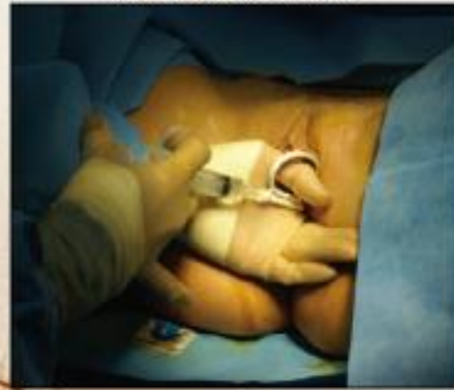
Correct electrode placement.

Operate the unit

Settings: frequency and voltage duration and intensity of the stimulation







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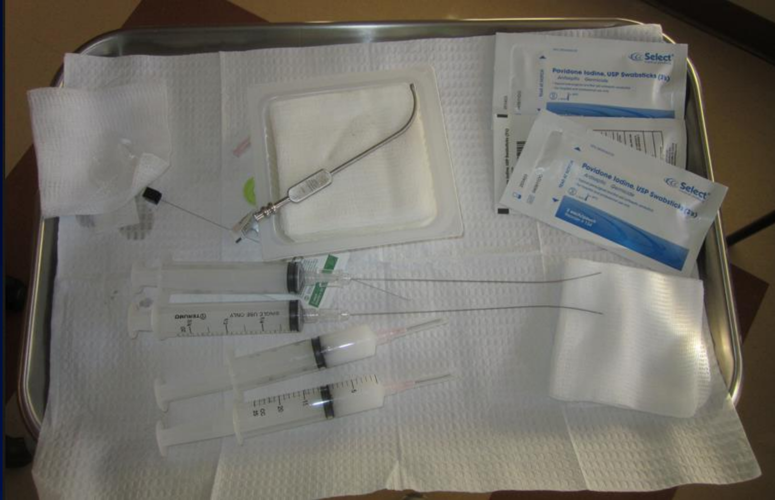
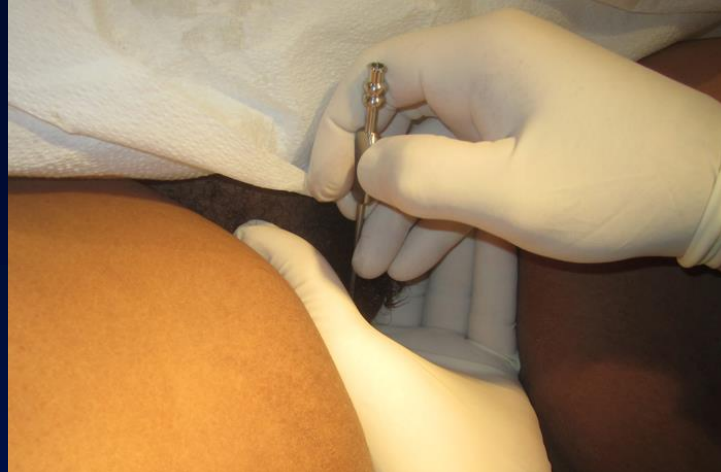
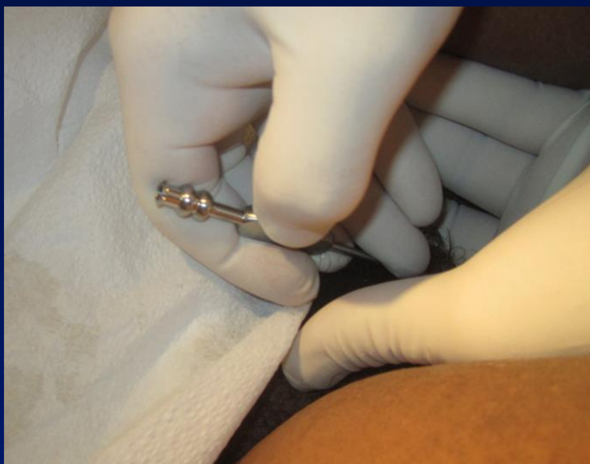
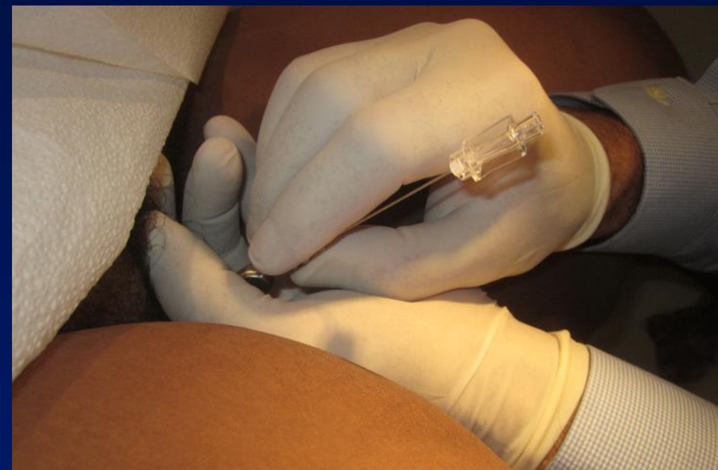
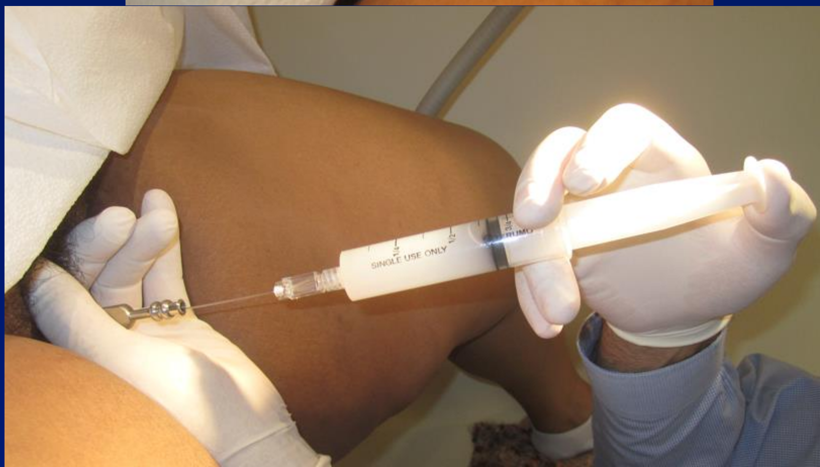

Select
Povidone Iodine, USP Swabsticks
Select
Povidone Iodine, USP Swabsticks





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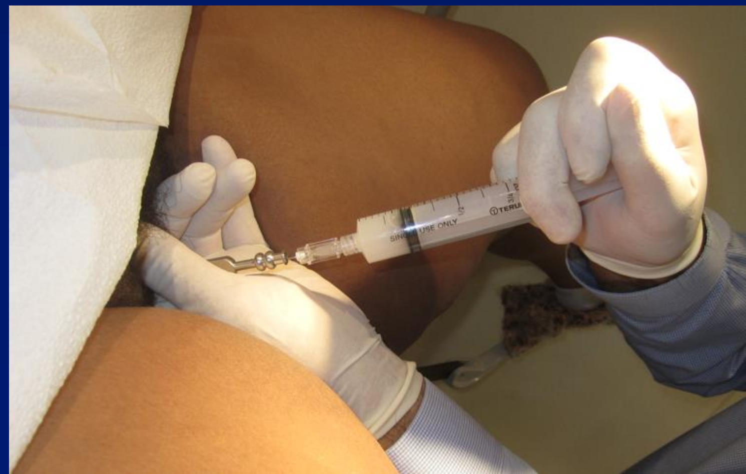
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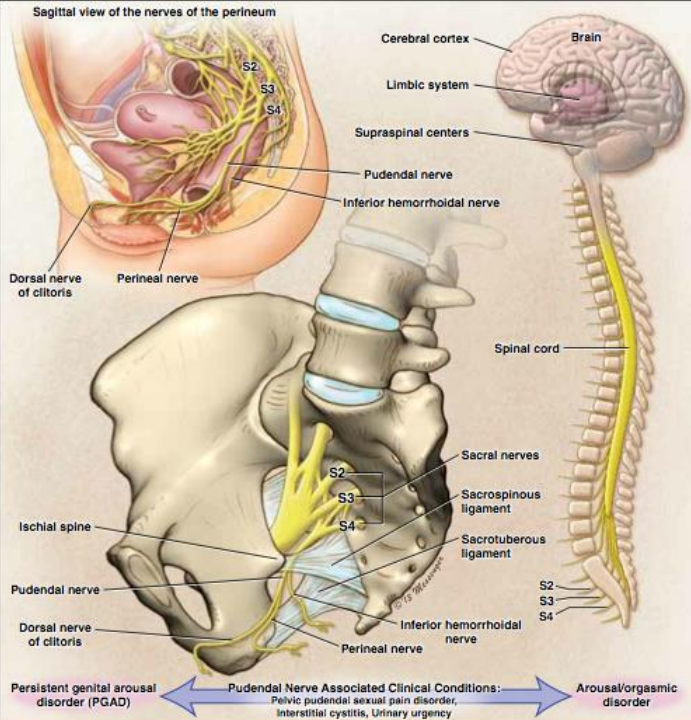

Sagittal view of the nerves of the perineum
S2
S3
S4
Cerebral cortex
Brain
Limbic system
Supraspinal centers
Pudendal nerve
Inferior hemorrhoidal nerve
Dorsal nerve of clitoris
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S2
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Sacrotuberous ligament
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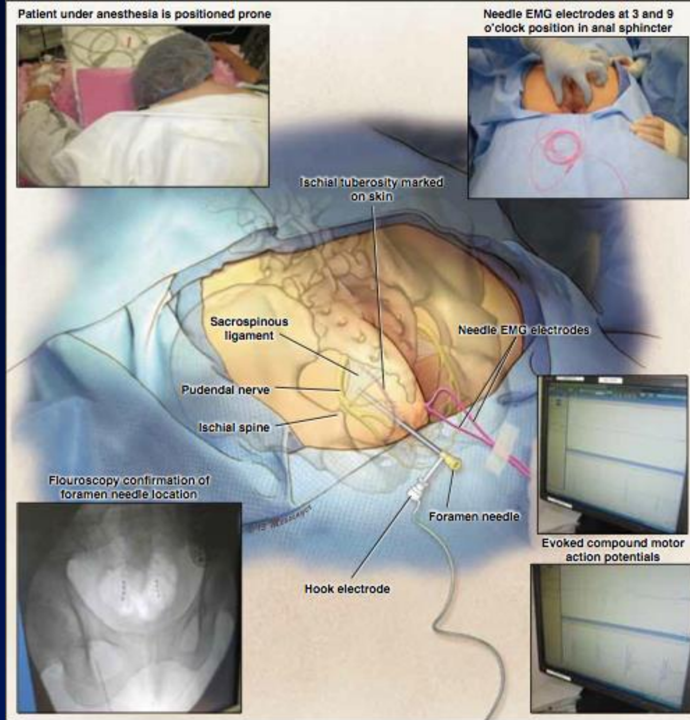
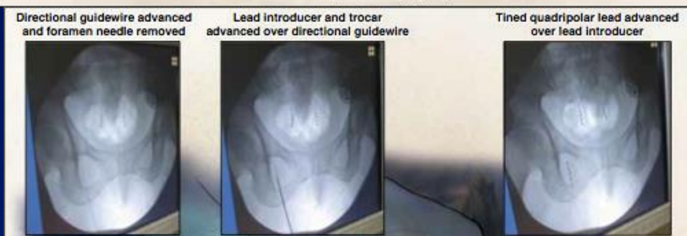
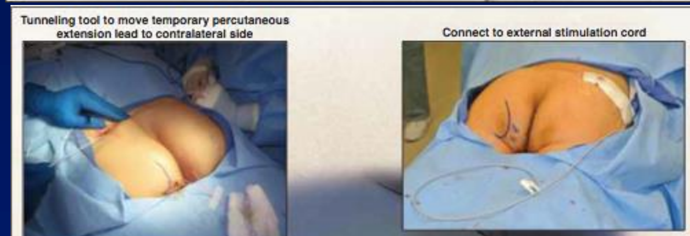
Persistent genital arousal disorder (PGAD)
Pudendal Nerve Associated Clinical Conditions:
Pelvic pudendal sexual pain disorder,
Interstitial cystitis, Urinary urgency
Arousal/orgasmic disorder



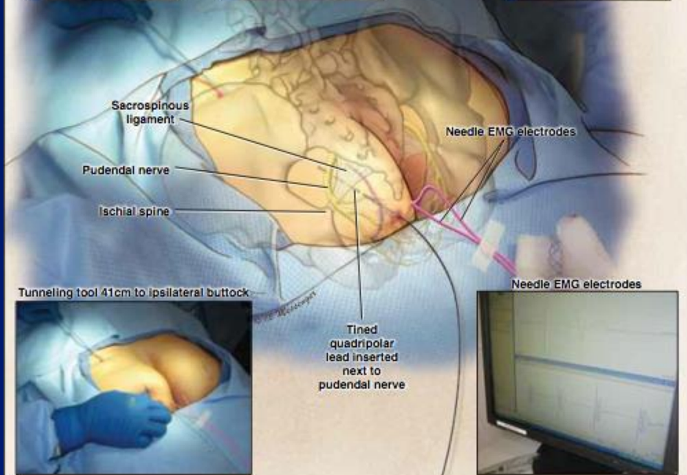
Patient under anesthesia is positioned prone
Needle EMG electrodes at 3 and 9 o'clock position in anal sphincter
Ischial tuberosity marked on skin
Sacrospinous ligament
Needle EMG electrodes
Pudendal nerve
Ischial spine
Flouroscopy confirmation of foramen needle location
Foramen needle
Evoked compound motor action potentials
Hook electrode



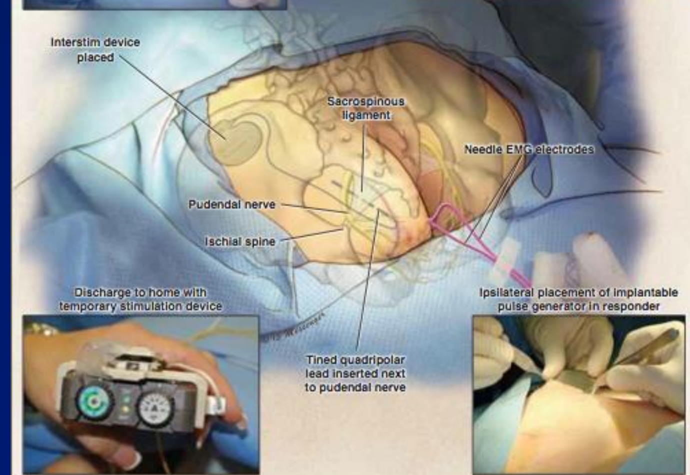
Directional guidewire advanced and foramen needle removed
Lead introducer and trocar advanced over directional guidewire
Tined quadripolar lead advanced over lead introducer



Tunneling tool to move temporary percutaneous extension lead to contralateral side
Connect to external stimulation cord



Sacrospinous ligament
Needle EMG electrodes
Pudendal nerve
Ischial spine
Tunneling tool 41cm to ipsilateral buttock
Needle EMG electrodes
Tined quadripolar lead inserted next to pudendal nerve



Interstim device placed
Sacrospinous ligament
Needle EMG electrodes
Pudendal nerve
Ischial spine
Discharge to home with temporary stimulation device
Ipsilateral placement of implantable pulse generator in responder
Tined quadripolar lead inserted next to pudendal nerve

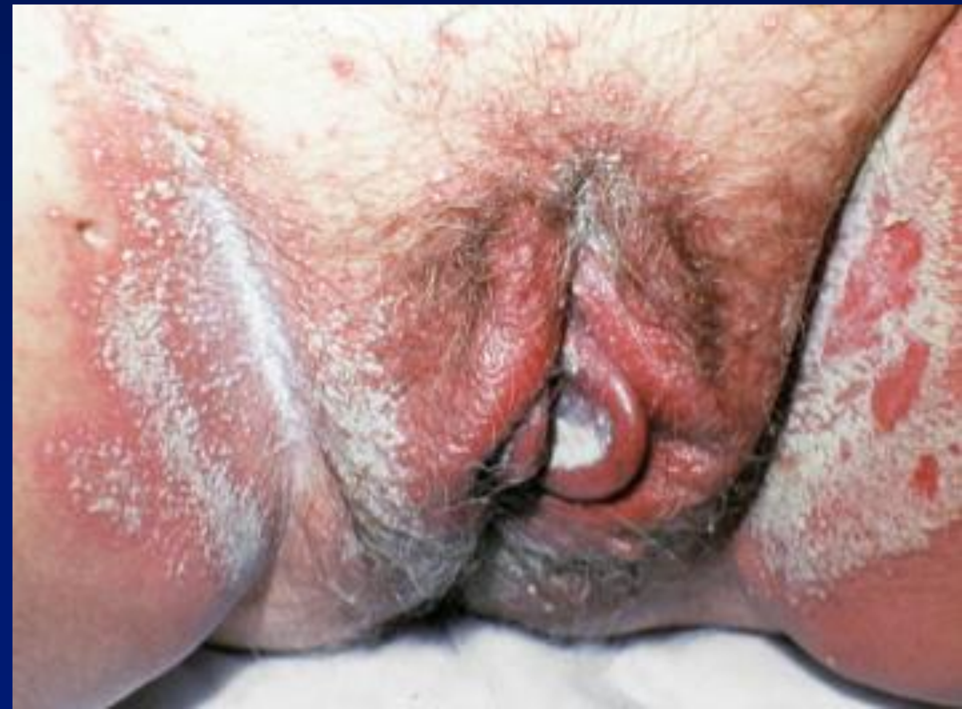
Medical or biologic causes vulvodynia:

1. Altered hormone integrity
2. Increased nerve fiber density - genetic susceptibility leading to elevated levels of nerve growth factor substances
3. An injury to, or irritation of, the pudendal nerves that transmit pain and other sensations
4. Abnormal response of tissues to Candida infection, or recognized allergies or non-specific allergies
5. Dermatologic conditions: lichen sclerosus or lichen planus
6. Vulvar granuloma fissuratum
7. Peri-urethral glans pathology
8. Desquamative Inflammatory Vaginitis
9. Bartholin cyst
10. Clitorodynia
11. Pelvic Congestion Syndrome
12. Endometriosis
13. Pelvic Organ Prolapse
14. Interstitial Cystitis
15. Referral from Hip Disease
16. Partner Issues – Peyronie’s disease, piercings
17. High tone pelvic floor dysfunction

Chronic Candidiasis

- Culture for speciation and sensitivity are very important. Send patients home with culturette tubes. Treat orally instead of topically as topical medications contain potential allergens.
- C. Albican responds very well with fluconazole 150mg weekly for 6 months + Nystatin 500,000 units orally three time daily for 3-6 months + probiotics + dietary changes.
- T. Glabrata responds to Boric acid 600mg daily for 3 weeksor flucytosine 17% cream for three weeks.
- BV does not cause chronic dyspareunia!

Candida Infection



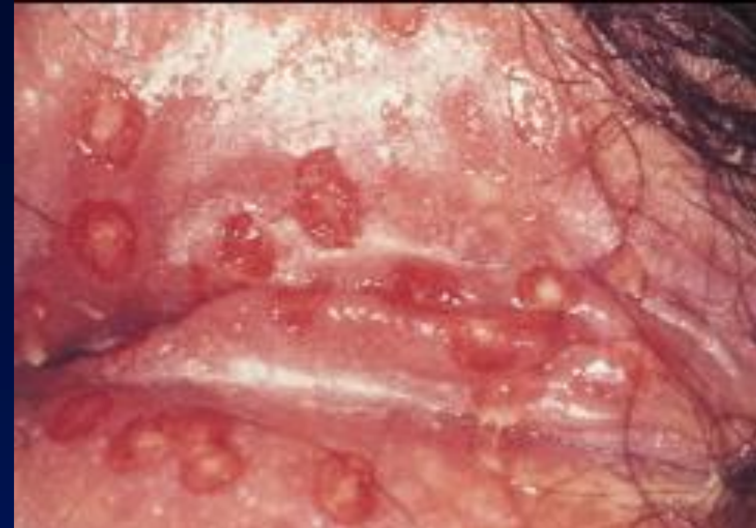
Genital herpes is a sexually transmitted disease caused by a herpes virus.

The disease is characterized by the formation of fluid-filled, painful blisters in the genital area.

Herpes may be spread by vaginal, anal, and oral sexual activity. It is not spread by objects (such as a toilet seat or doorknob), swimming pools, hot tubs, or through the air.

Genital herpes is a disease resulting from an infection by a herpes simplex virus.

There are eight different kinds of human herpes viruses. Only two of these, herpes simplex types 1 and 2, can cause genital herpes



Medical or biologic causes vulvodynia:

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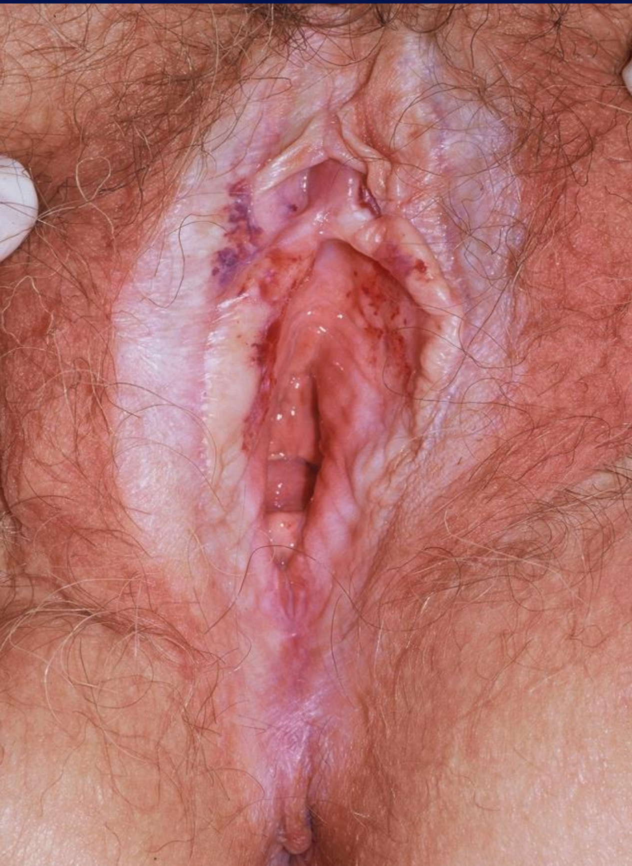
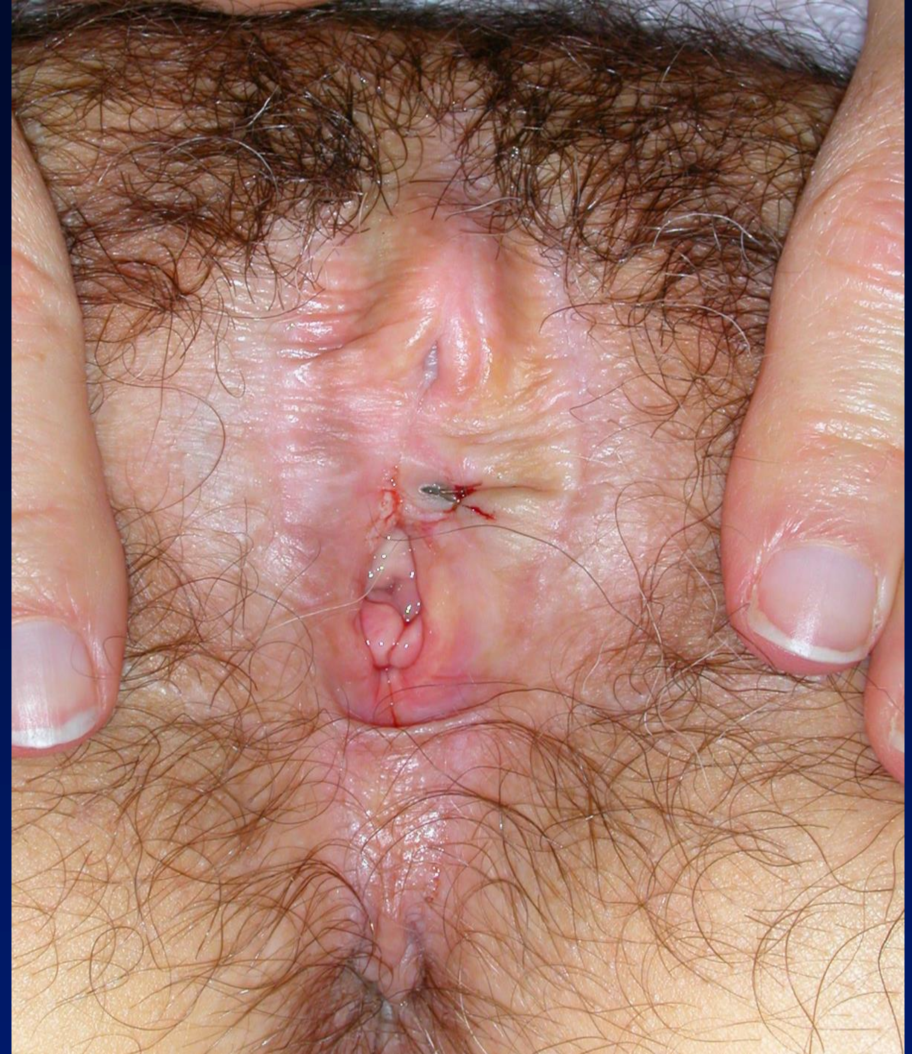
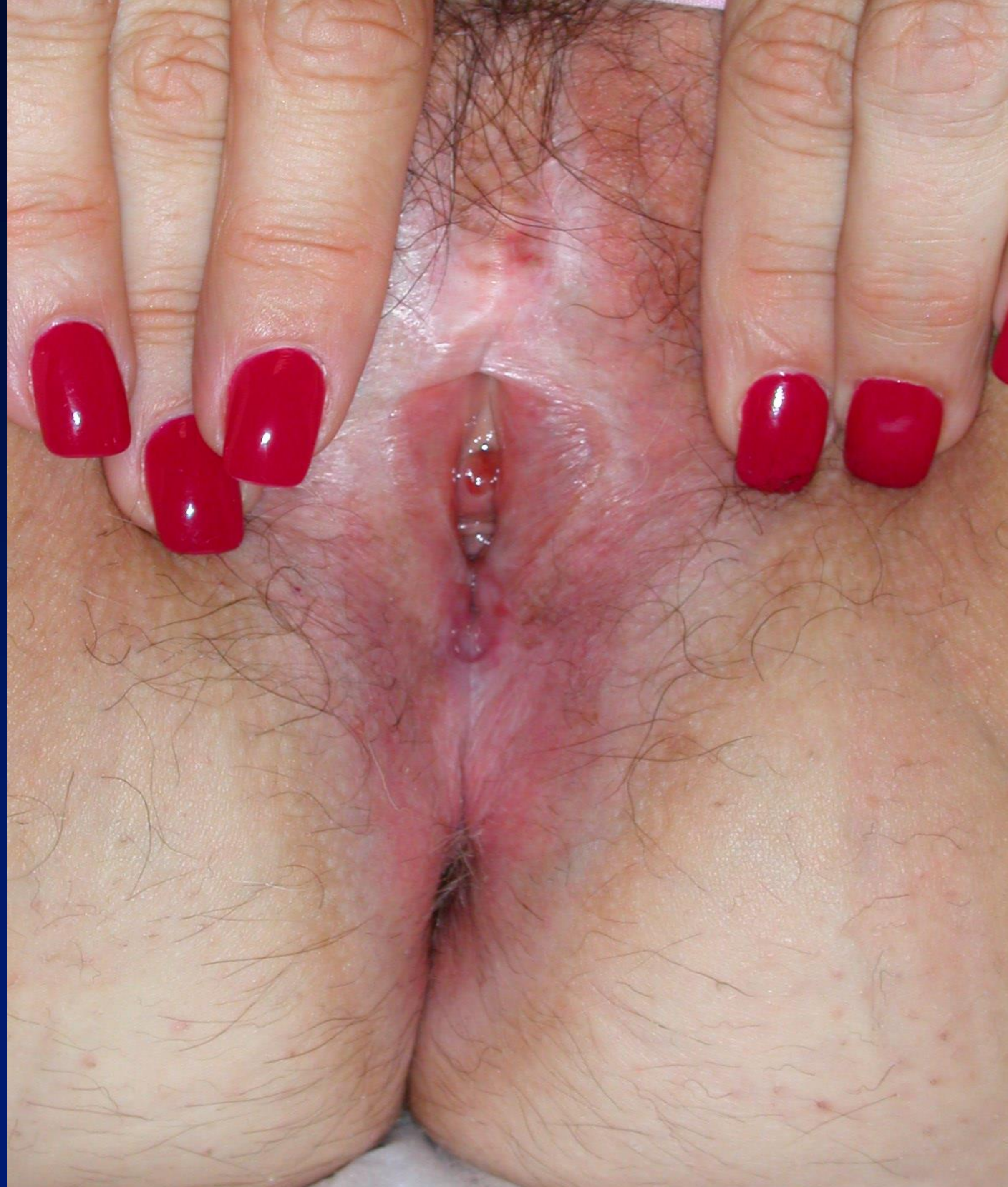
Lichen Sclerosus (LS)



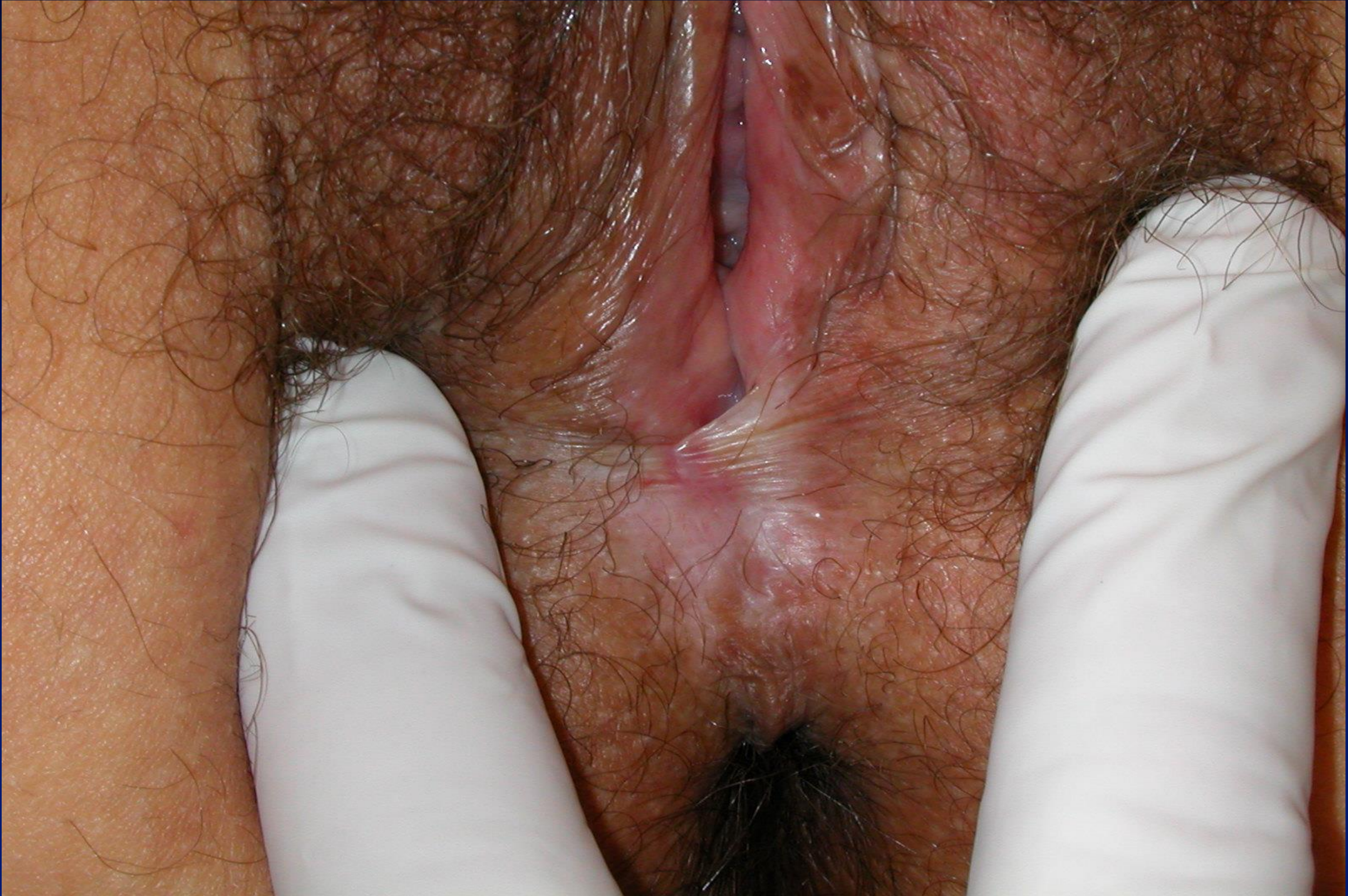


LS can be identified by the loss pigmentation, texture changes, echymosis, alterations in labial architecture, and fissuring

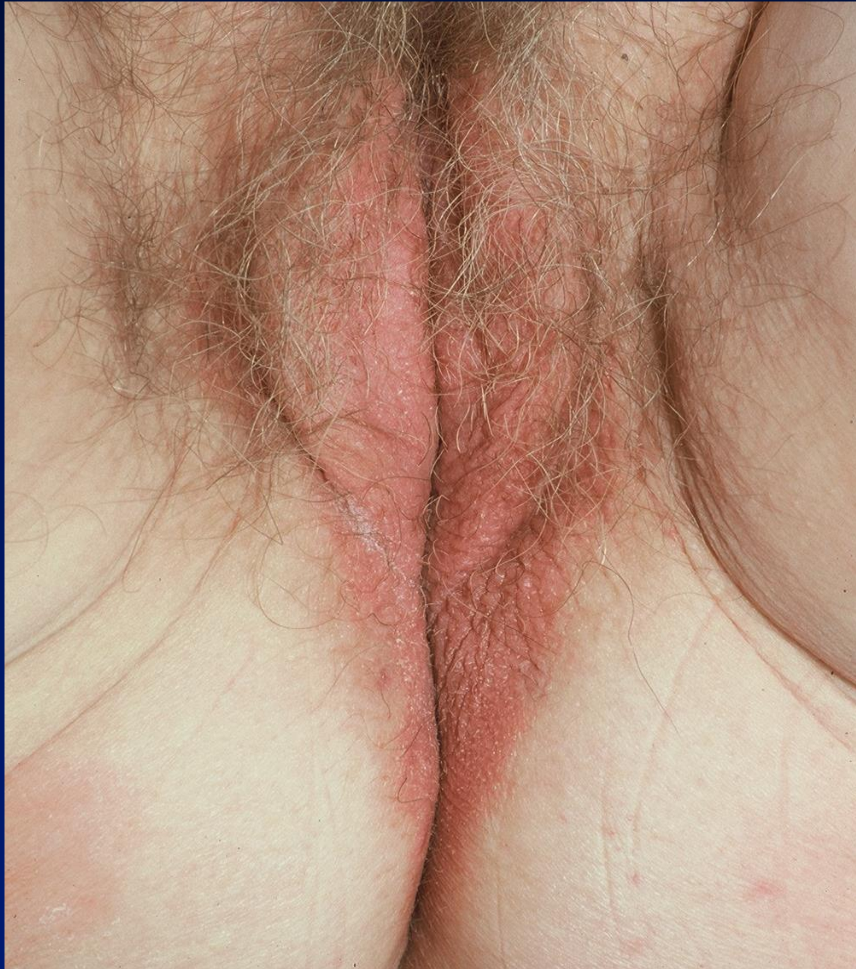
Lichen Sclerosus (LS)



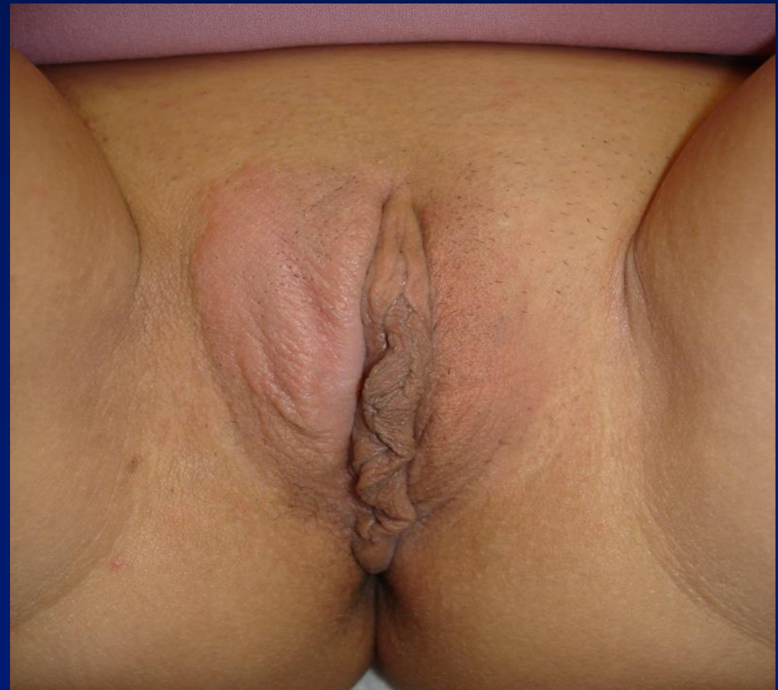
Lichen Sclerosus Confined to the Perineum



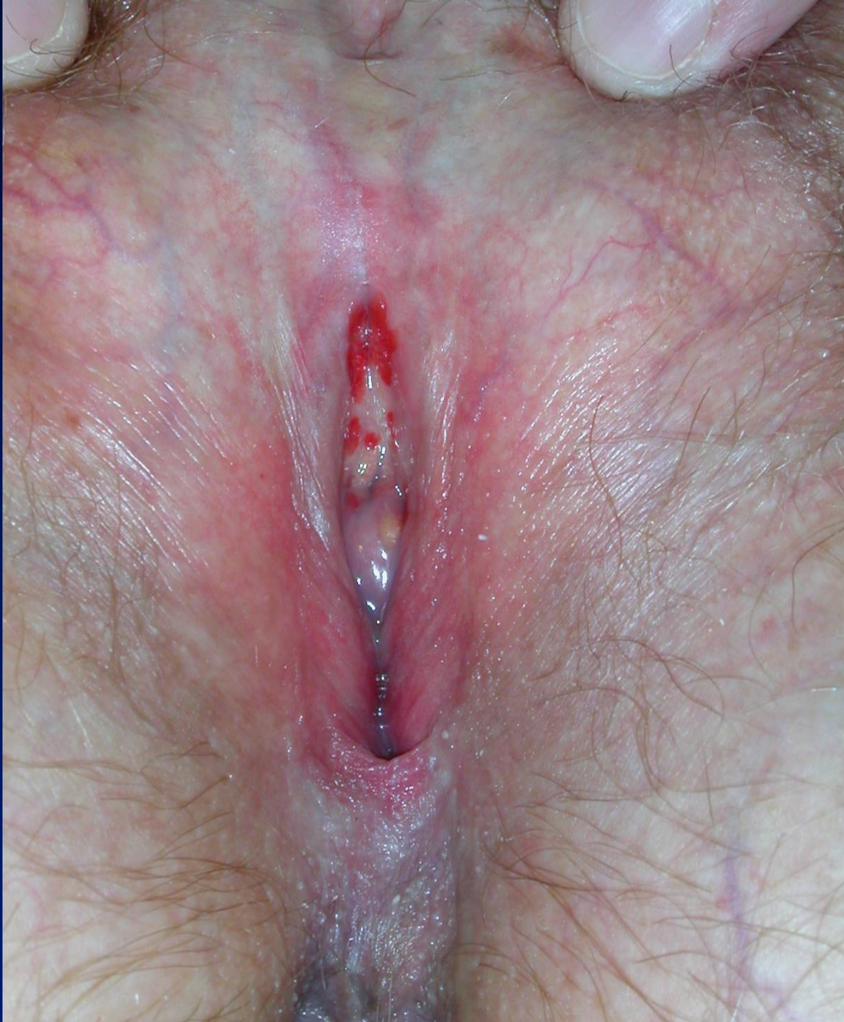
Lichen Sclerosus Chronicus – Classic Presentation - UNILATERAL

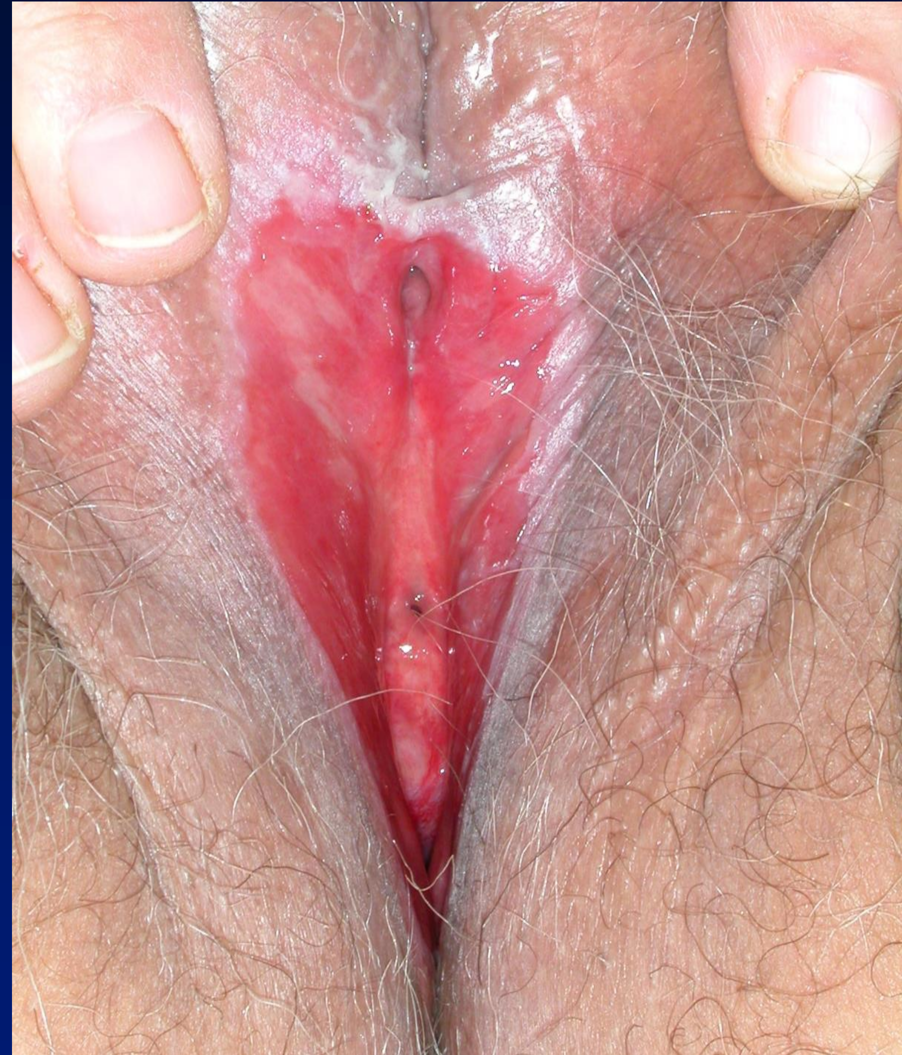


Symptoms of LSC are caused by chronic rubbing or scratching (erythema, thickening, alopecia.)

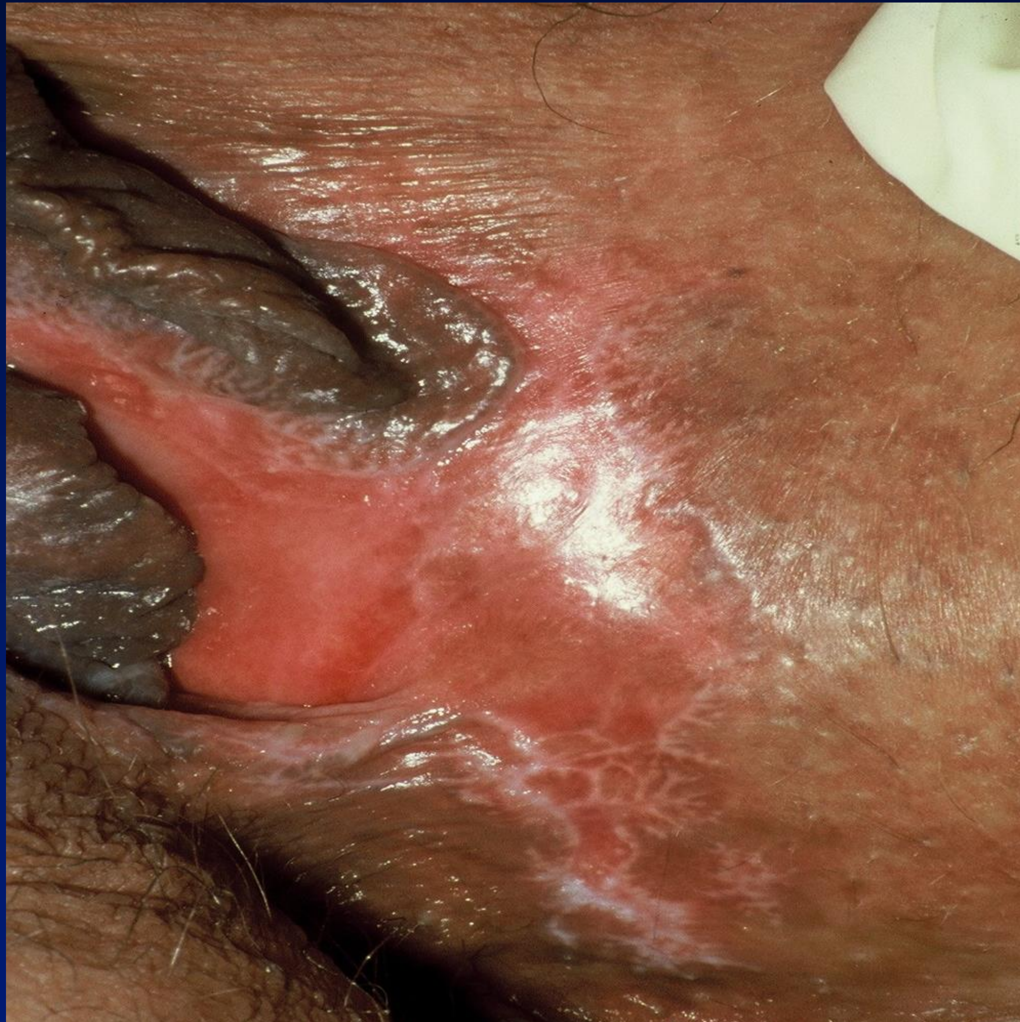


Erosive Lichen Planus



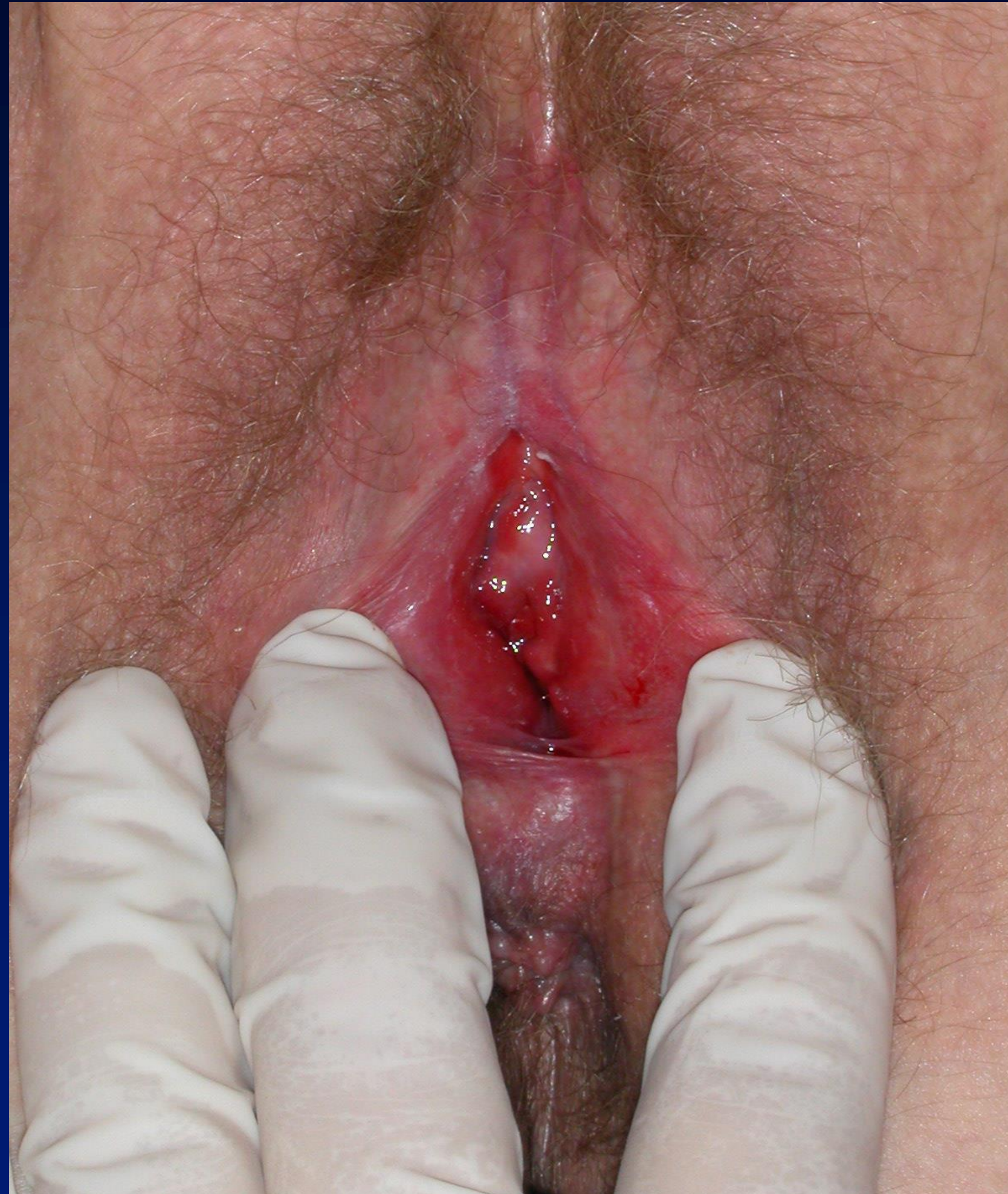


Lichen Planus: Classic Presentation

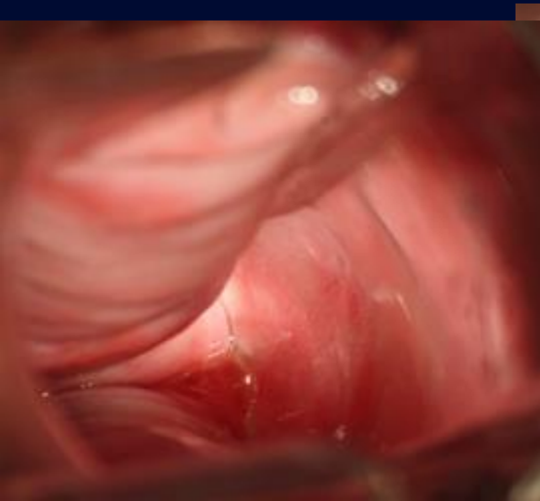
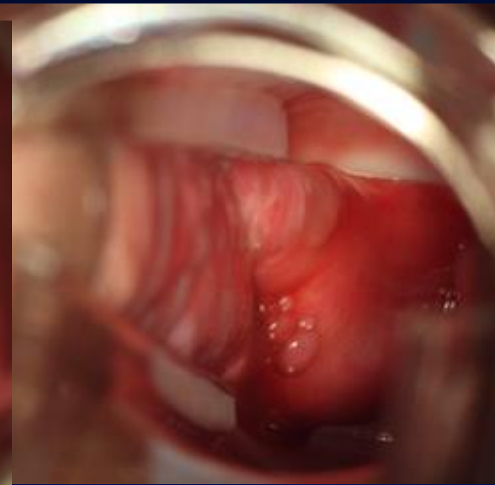
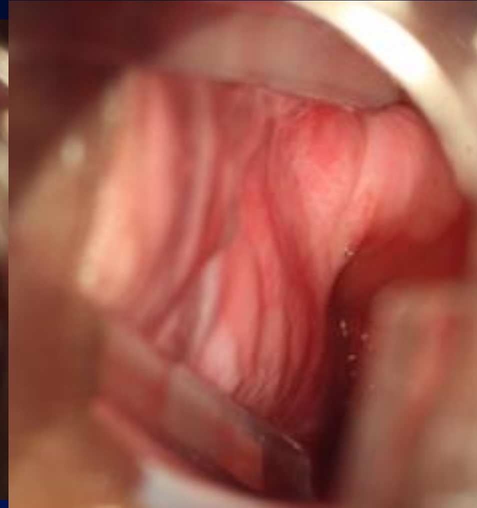
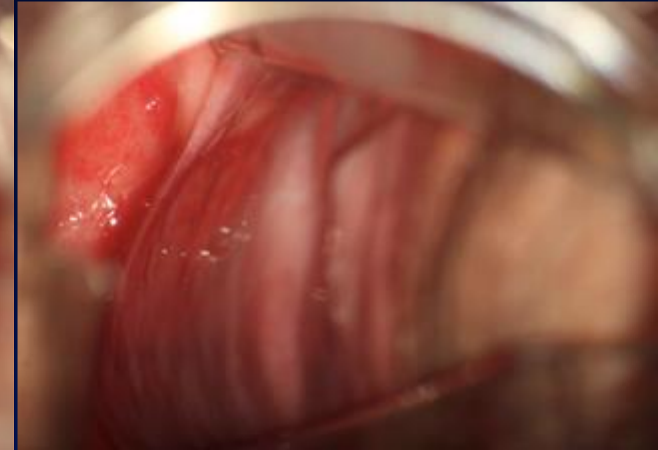
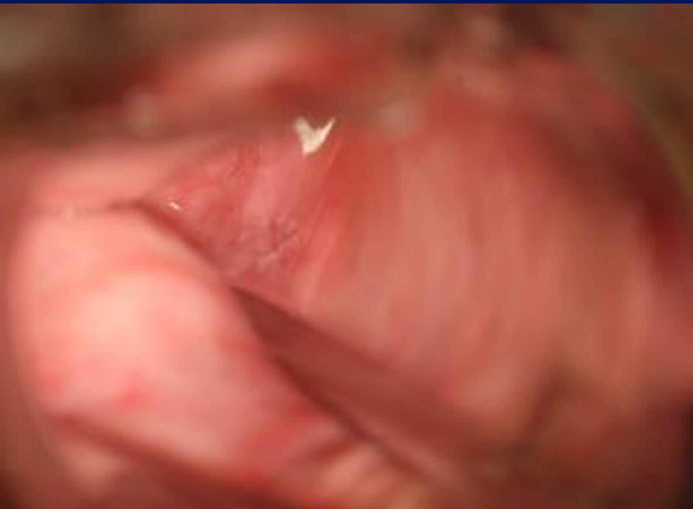
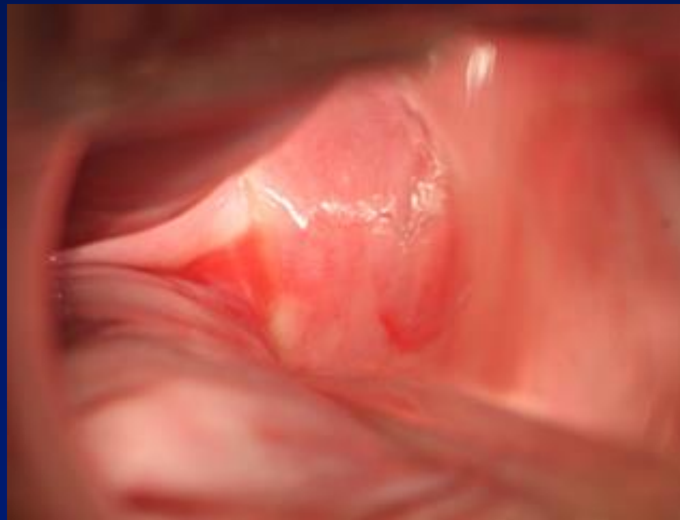
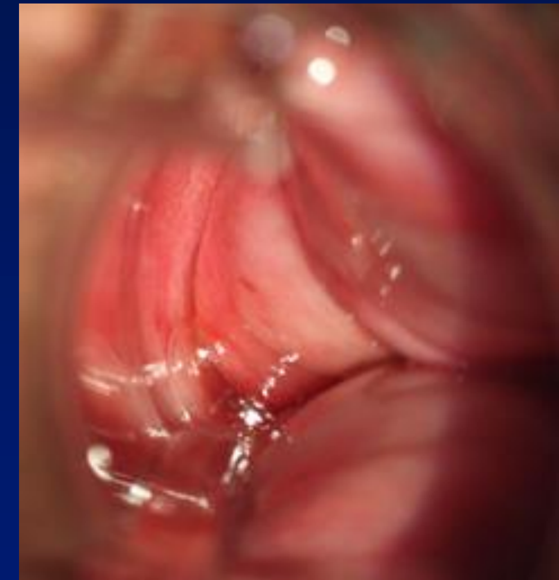


Lichen Planus with painful vulvar erosion and irregular white lacy border (Wickham Striae)

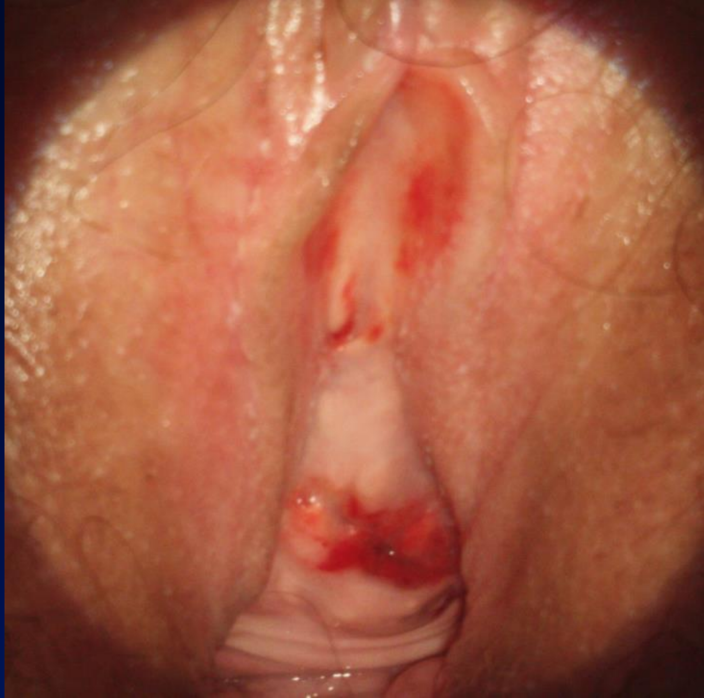
Erosive Lichen Planus

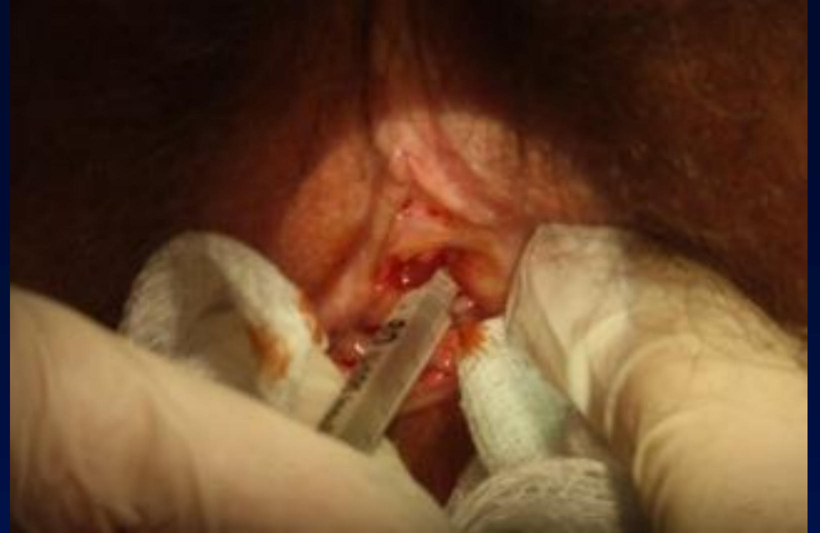


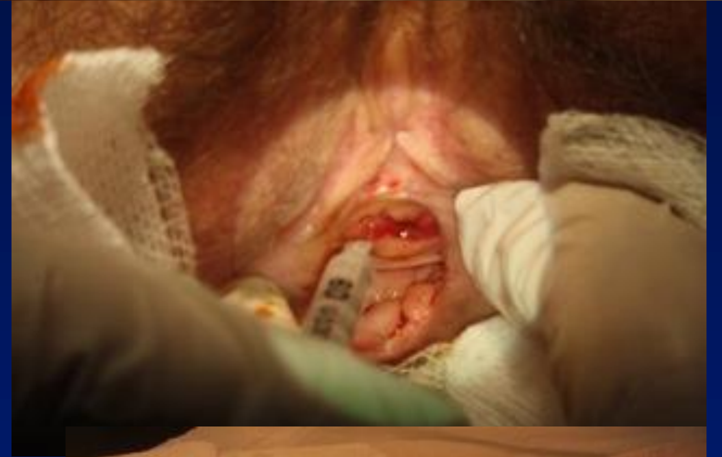
LICEN PLANUS

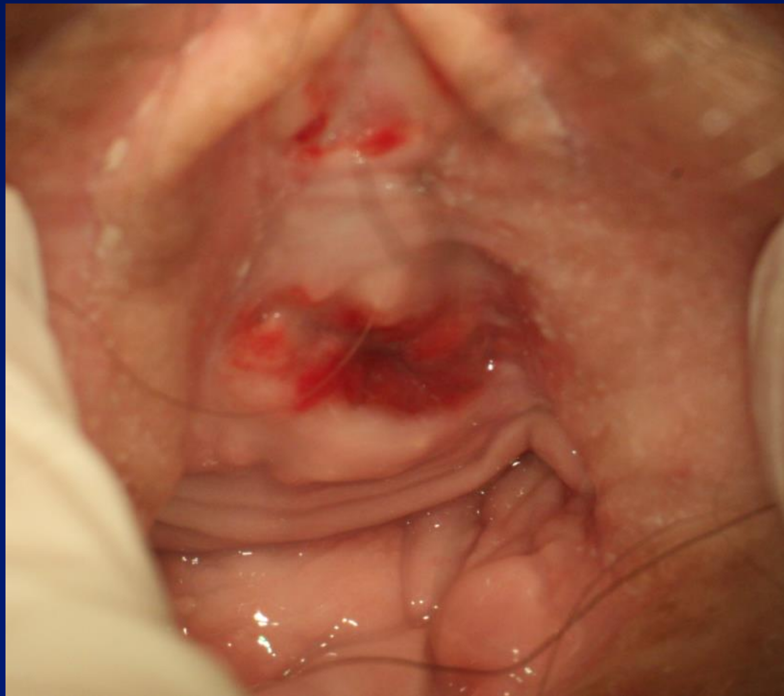








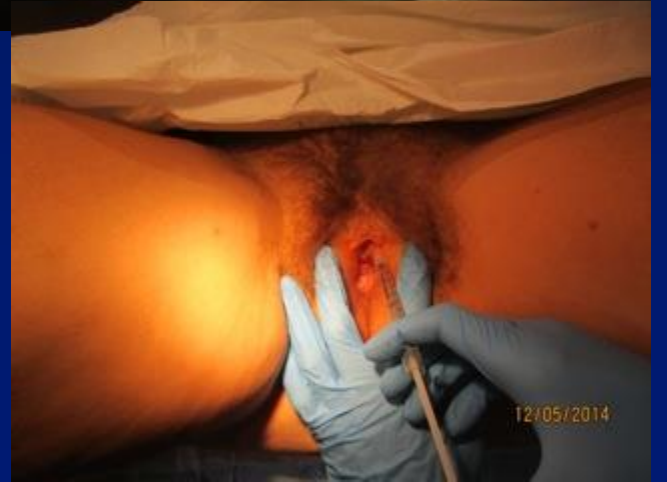
Clobetasol once/twice a week on a vaginal dilator OR Hydrocortisone 10% with estradiol 0.01% and testosterone .1% twice a week on a dilator










12/05/2014

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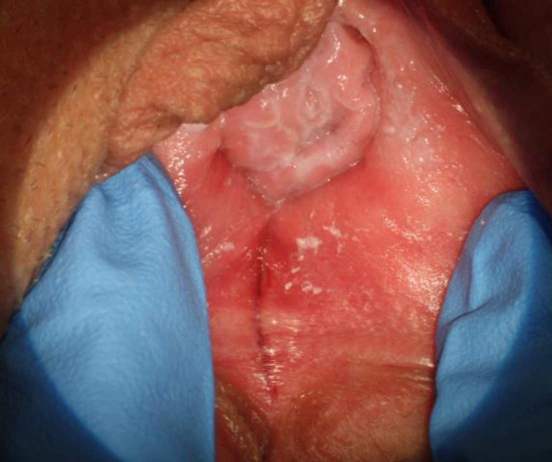
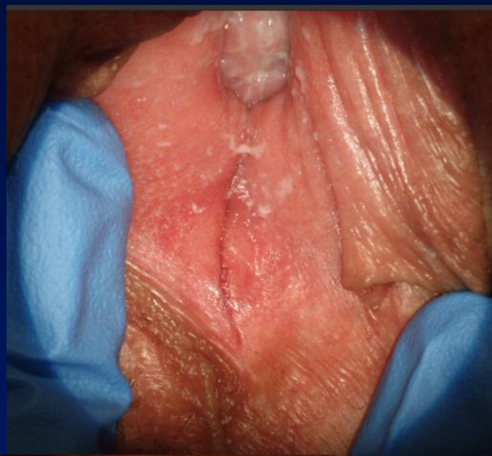
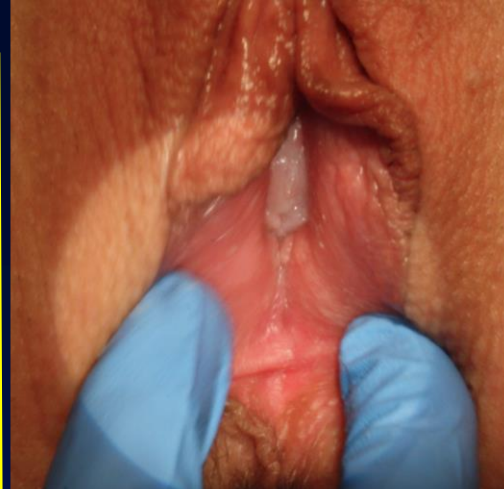
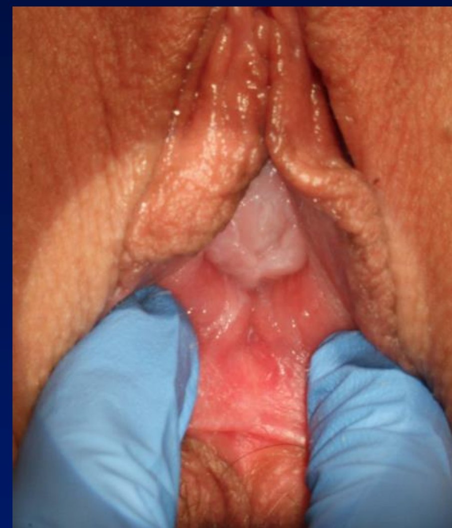
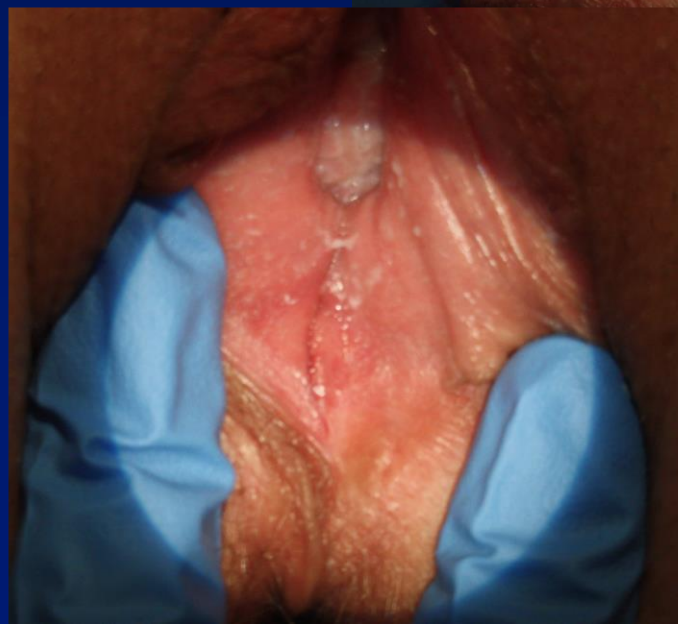
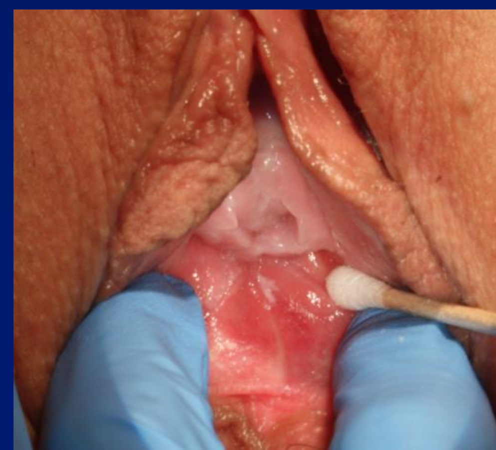
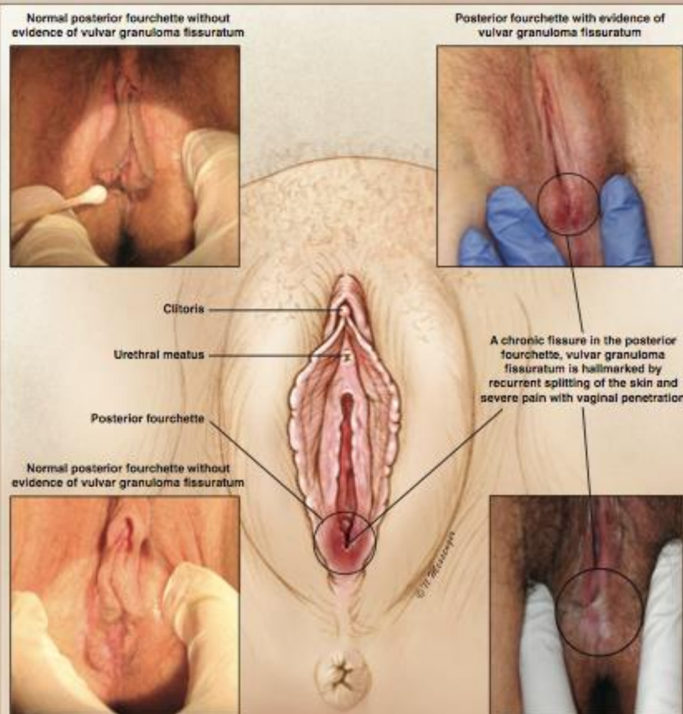
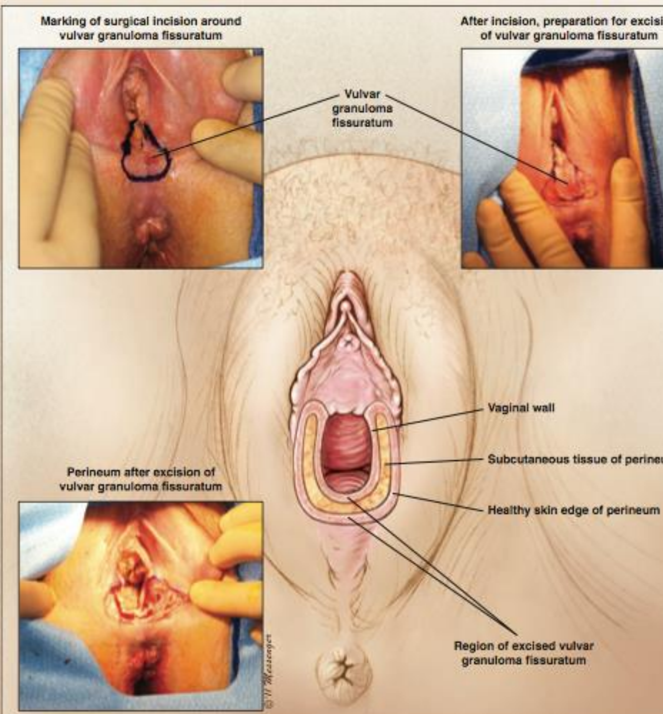
INTROITAL DYSPAREUNIA
Vulvar granuloma fissuratum

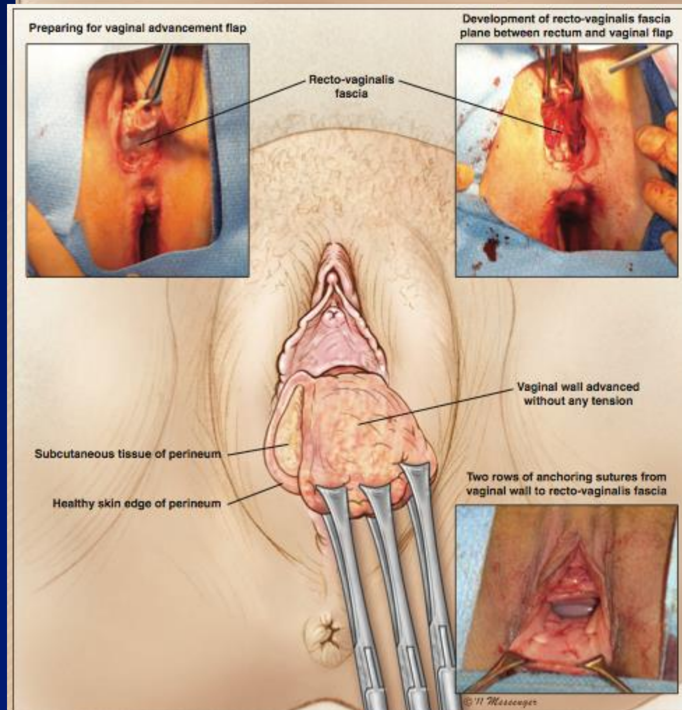







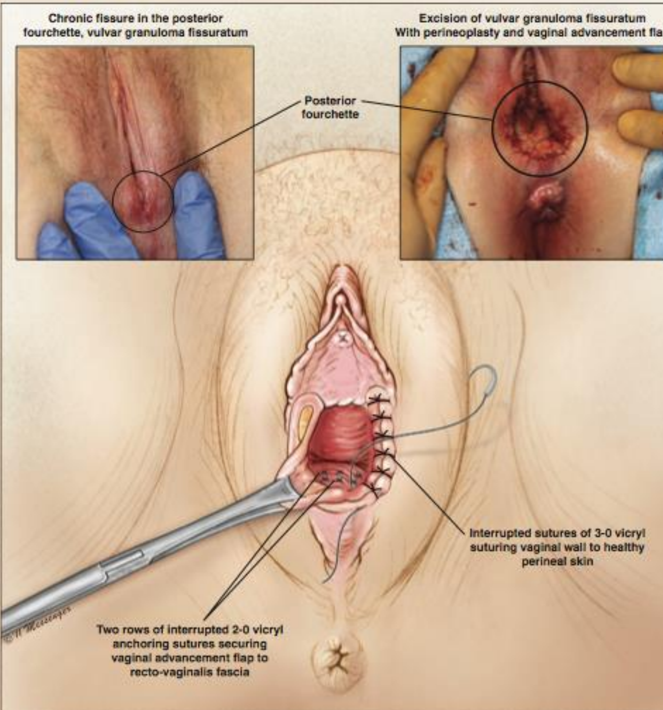
Surgical Techniques

Perineoplasty and Vaginal Advancement Flap for Vulvar Granuloma Fissuratum









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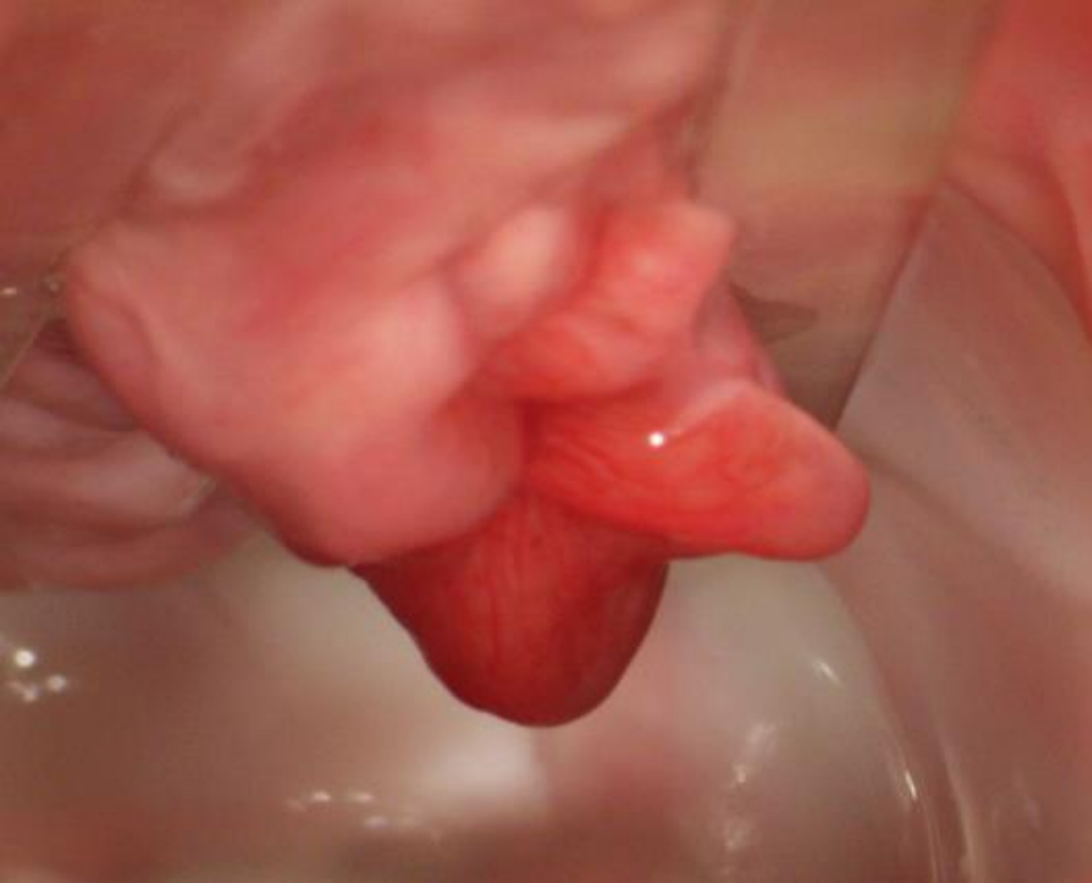
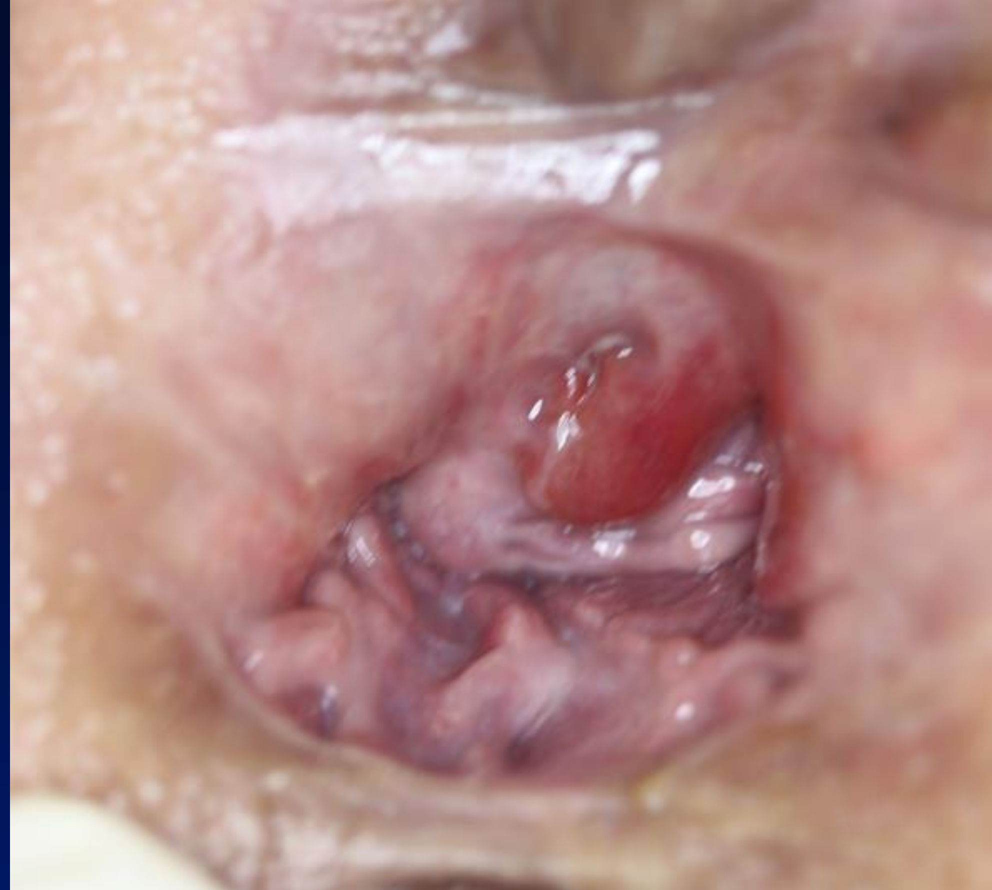
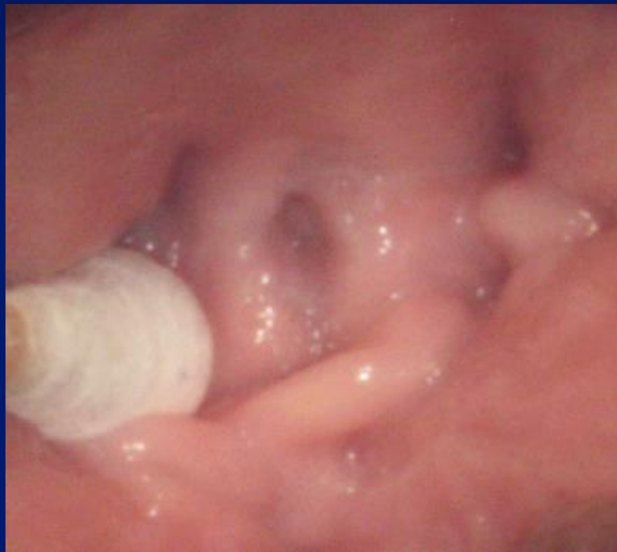
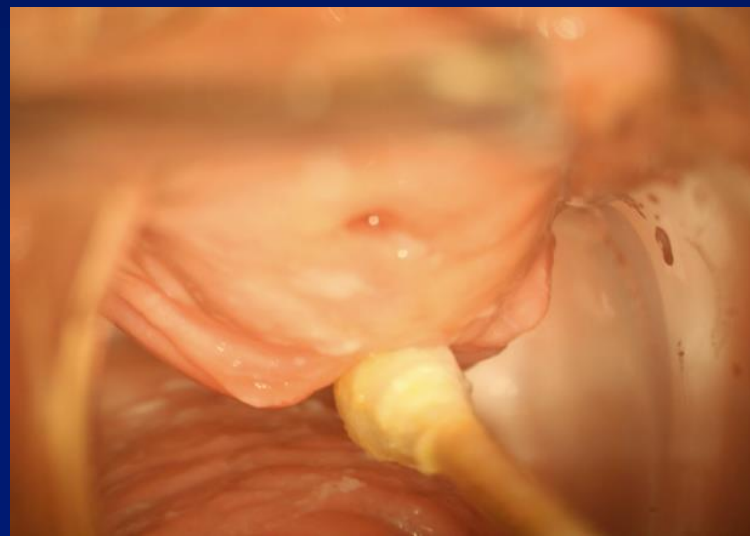

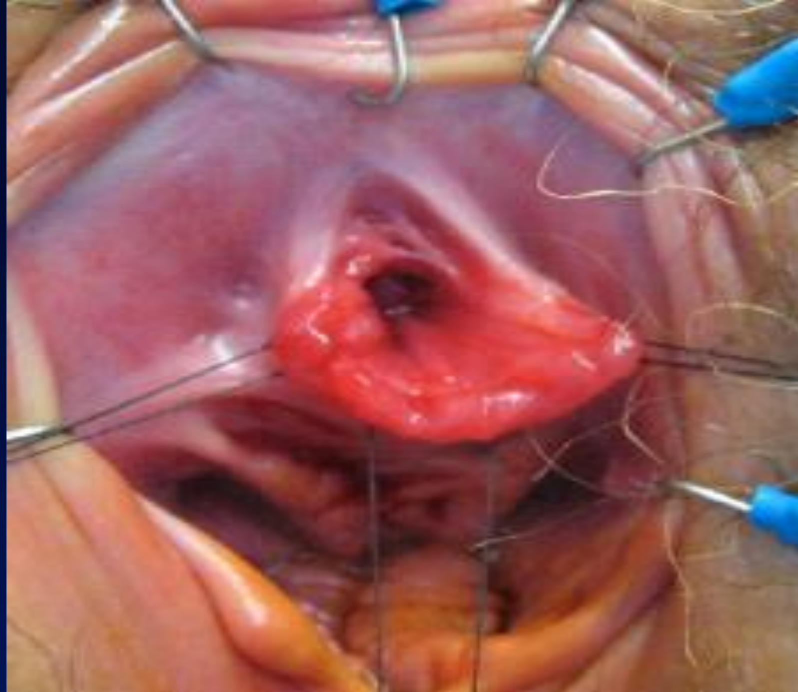
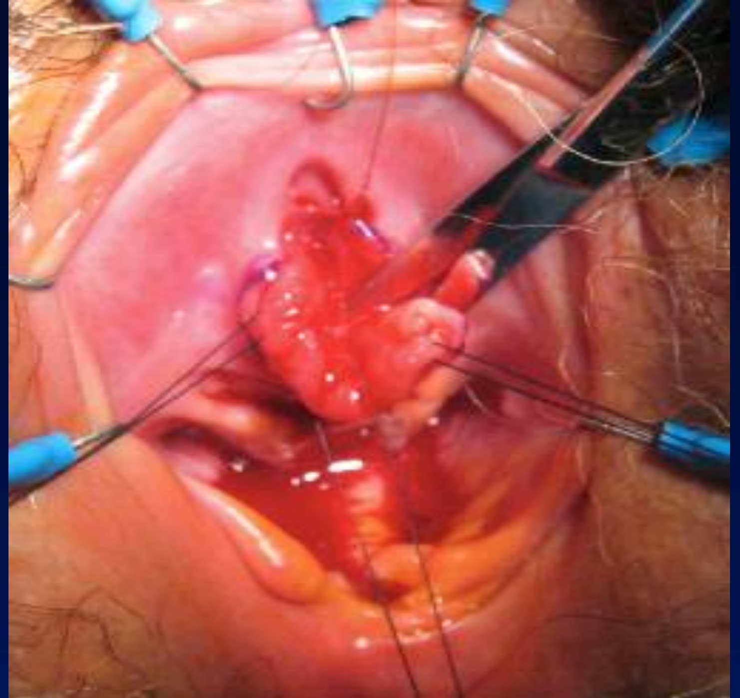
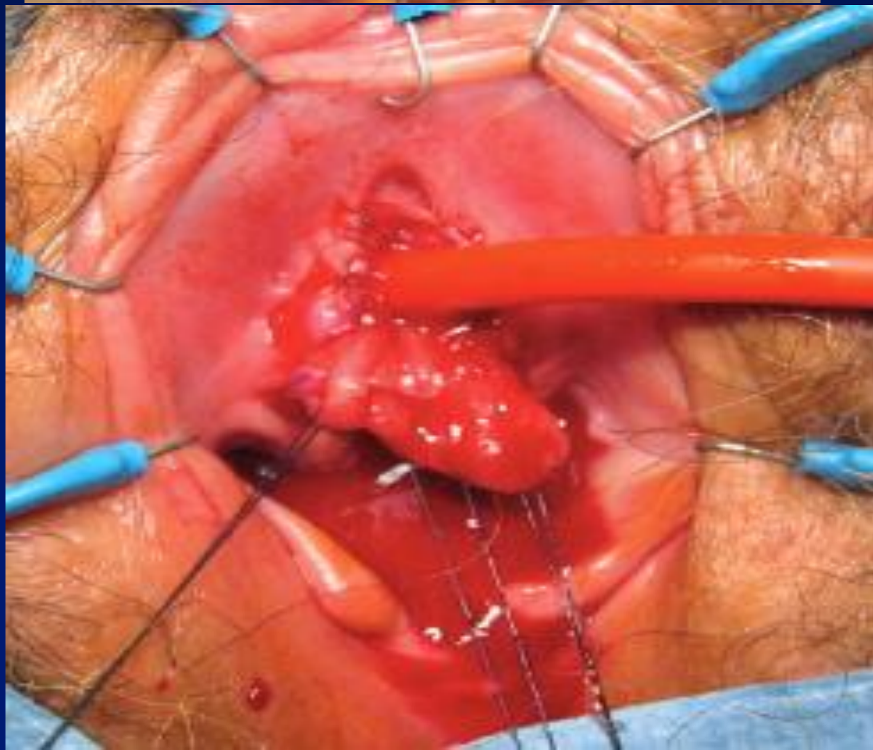
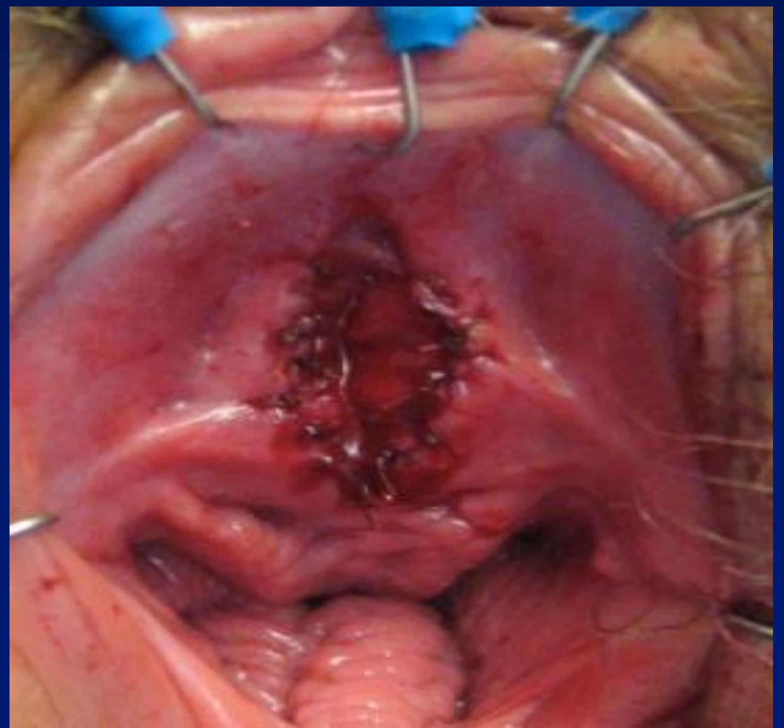

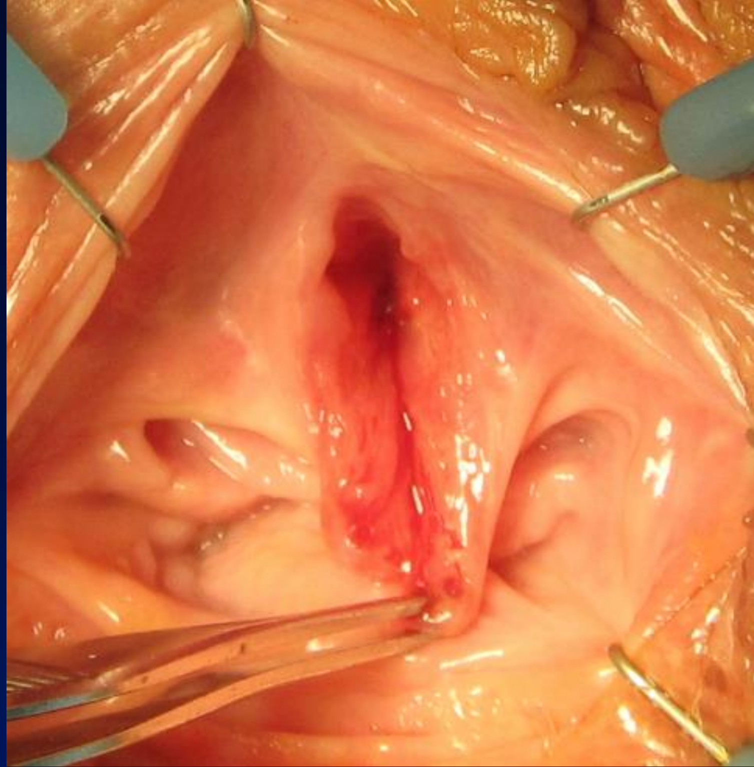
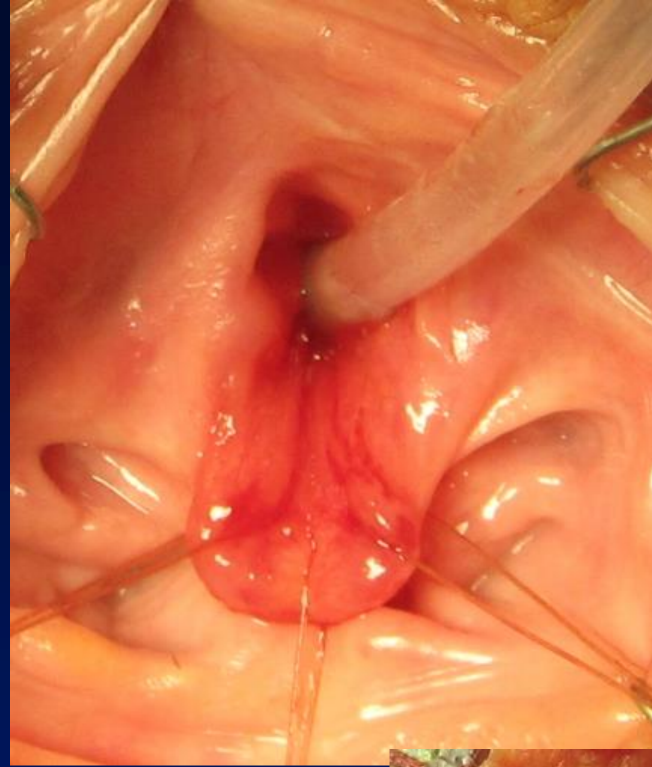
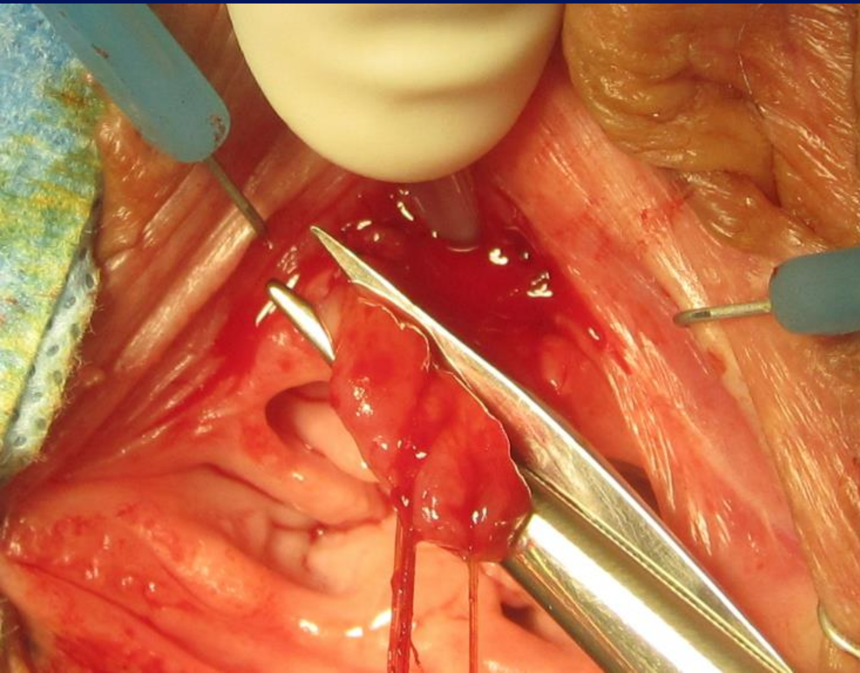
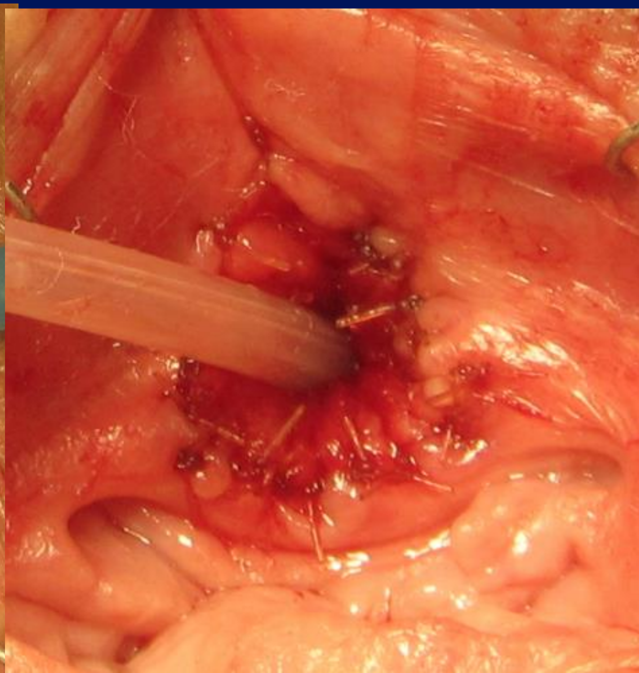
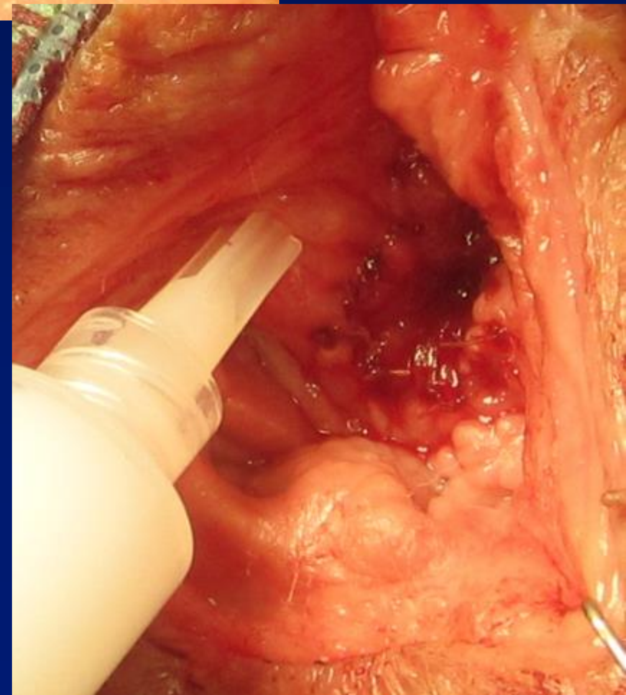

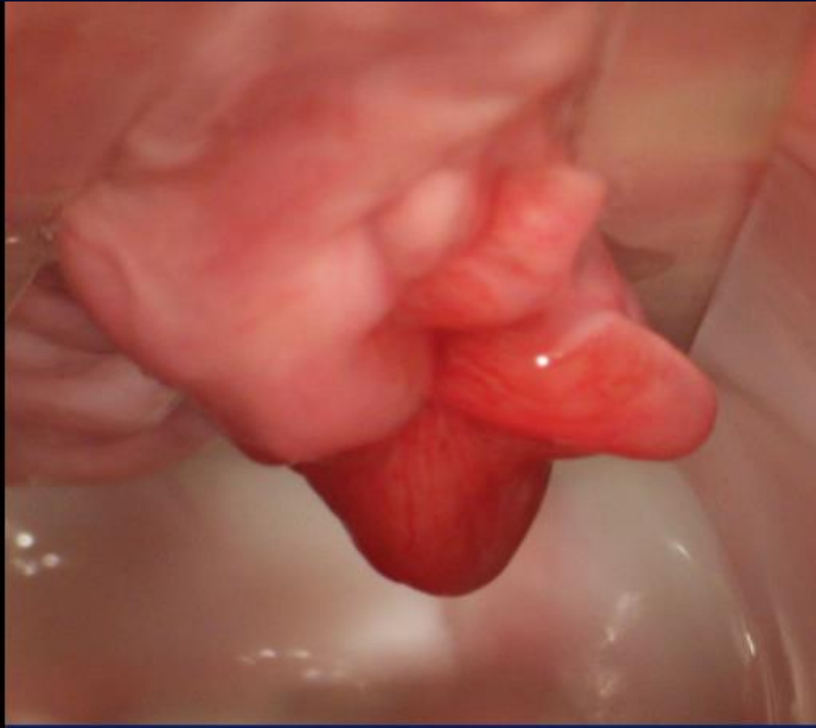
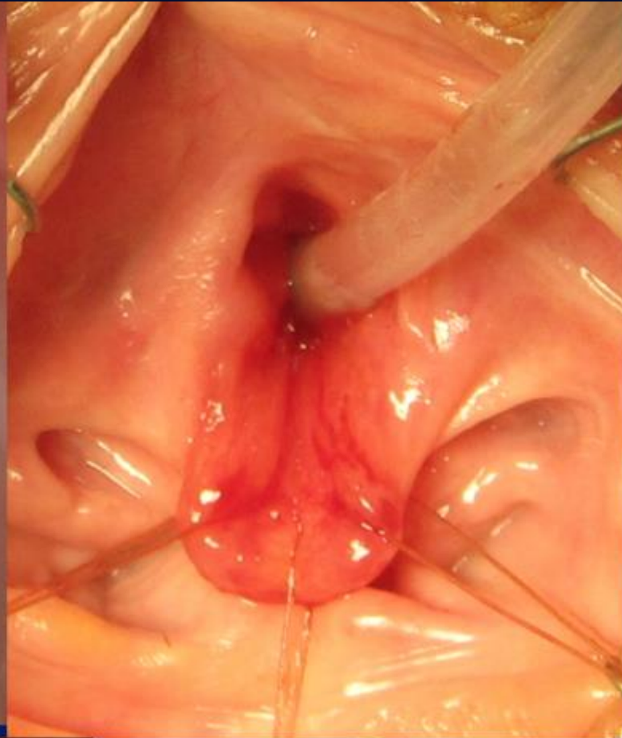
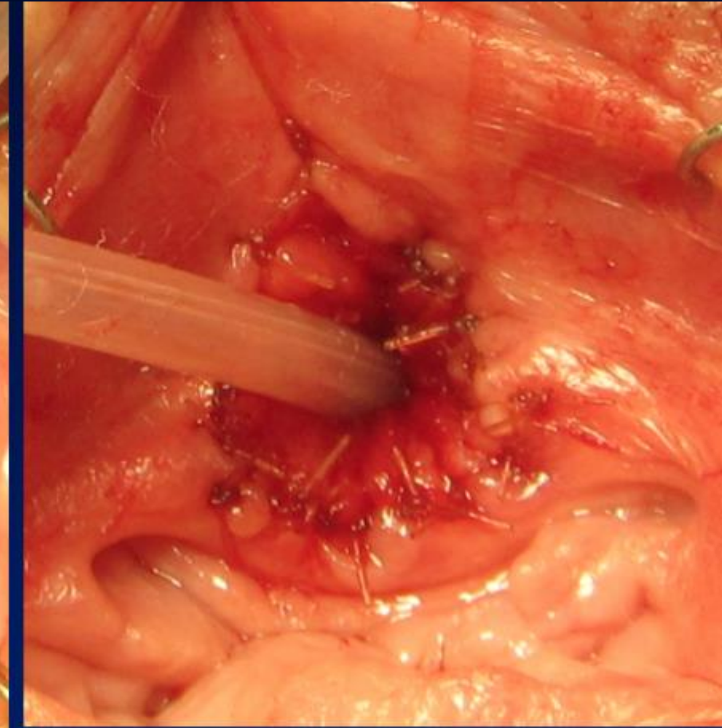
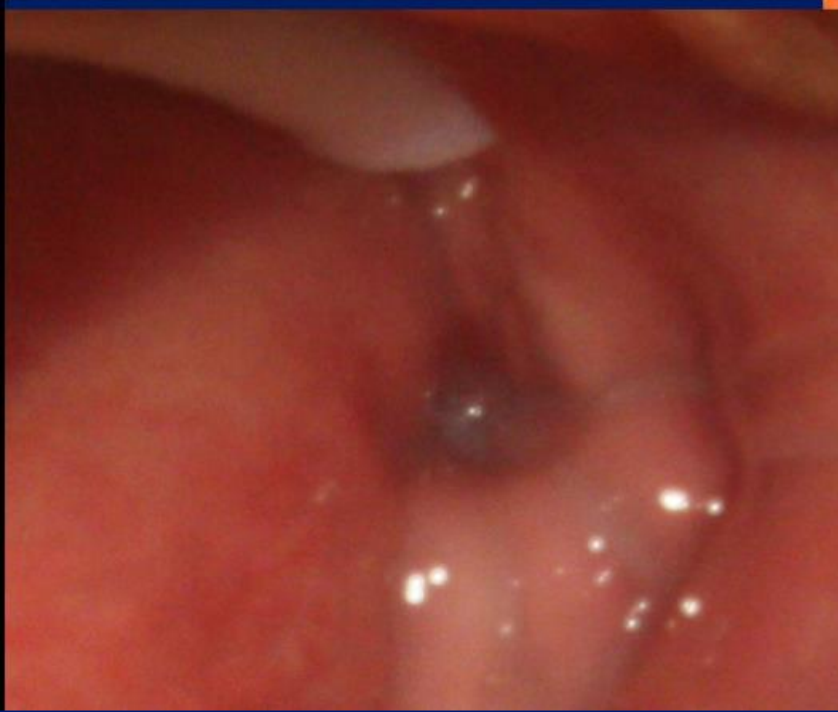
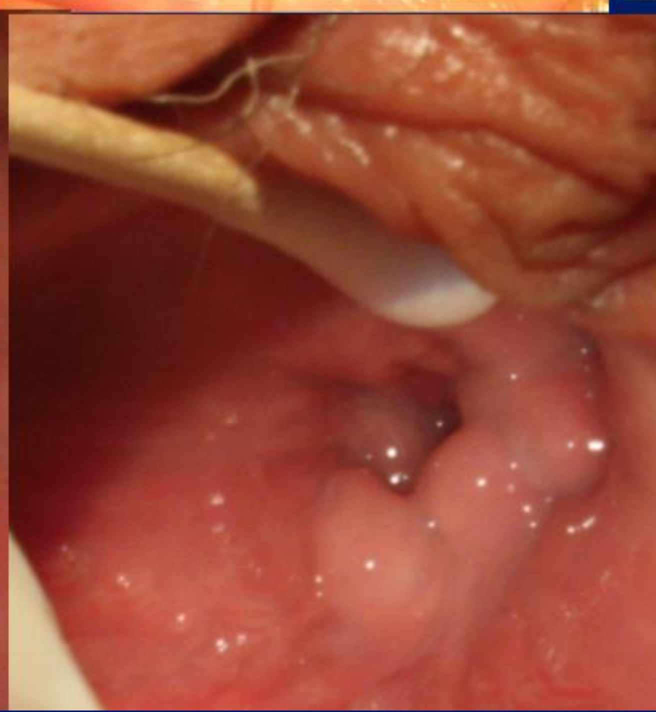
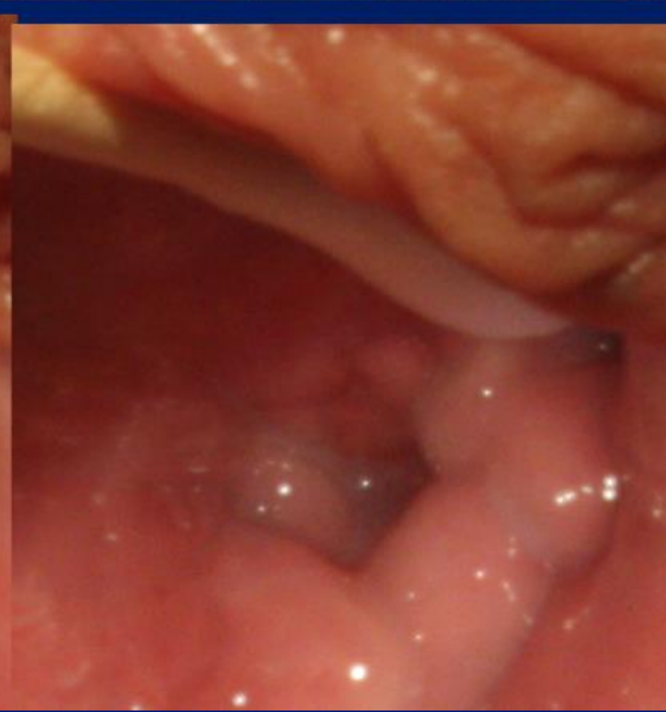

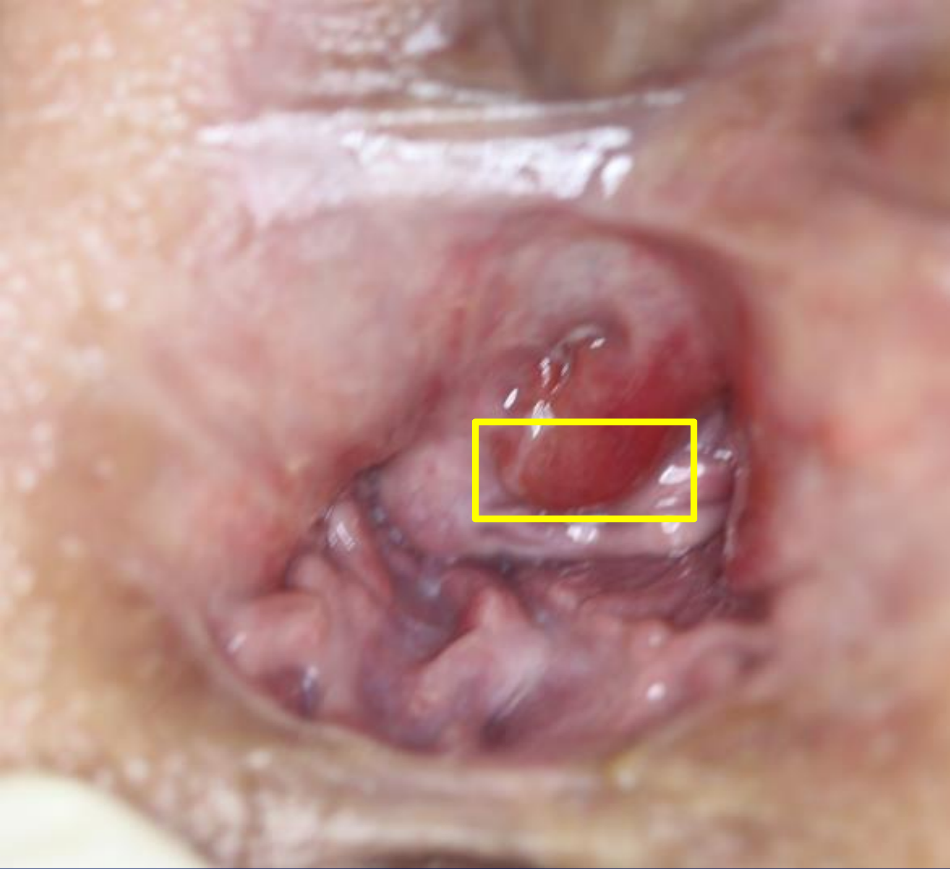
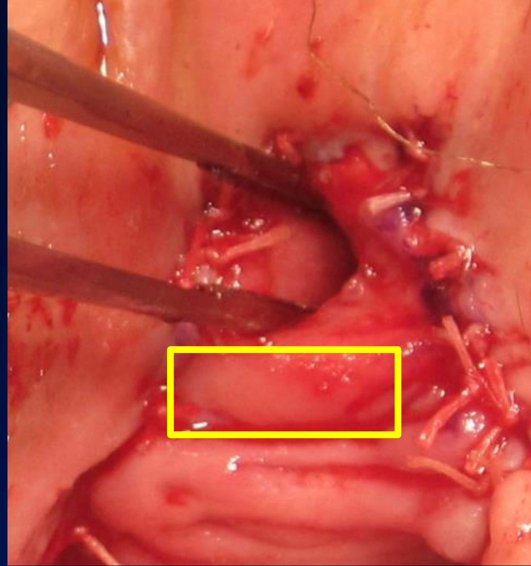
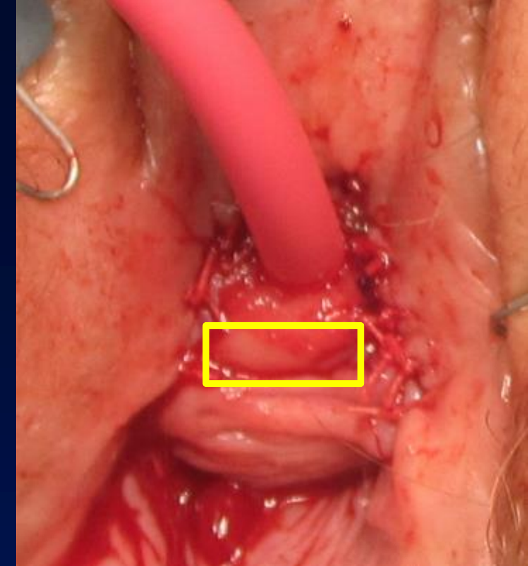
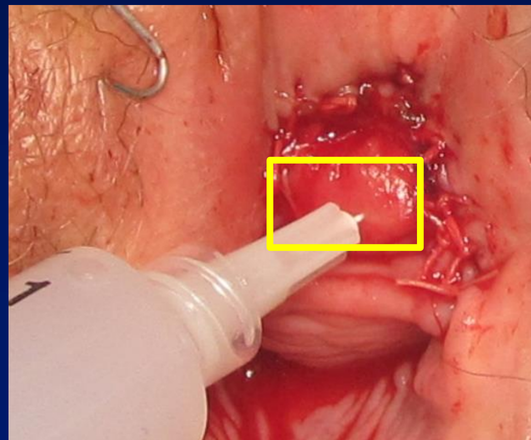
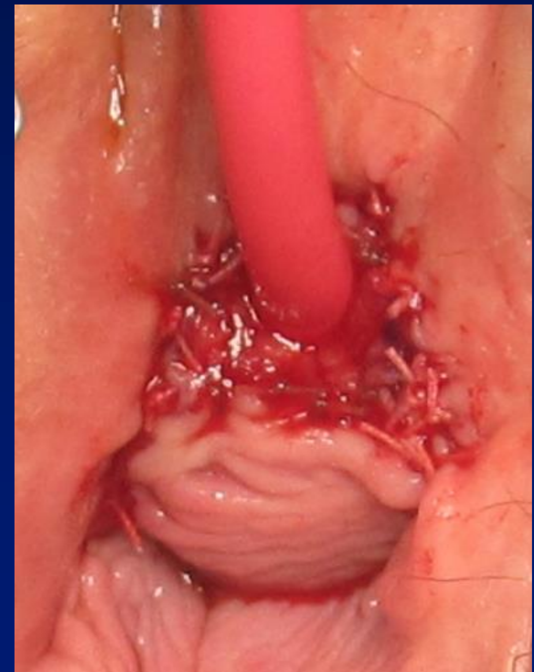

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The pain is mainly in the vestibule but there is irritation, erythema, and fissures on the perineum

Leukorrhea and Parabasal cells on microscopy

Desquamative Inflammatory Vaginitis (D.I.V.)

- Intensely inflammatory vaginitis of unknown etiology (infection, ELP, estrogen deficiency, cervical ectropion)
- Women complain of a COPIUS yellow discharge that requires them to wear a pad or change underwear several times a day. The discharge "dries like glue" and ruins underwear.
- Physical findings: pain at the vestibule (posteror > anterior) and induration/erythema wherever the discharge touches.
- Wet mount- pH >5.5, +++++WBCs, ++++parabasal cells. (frequently confused with trichomonas & BV)

Desquamative inflammatory vaginitis

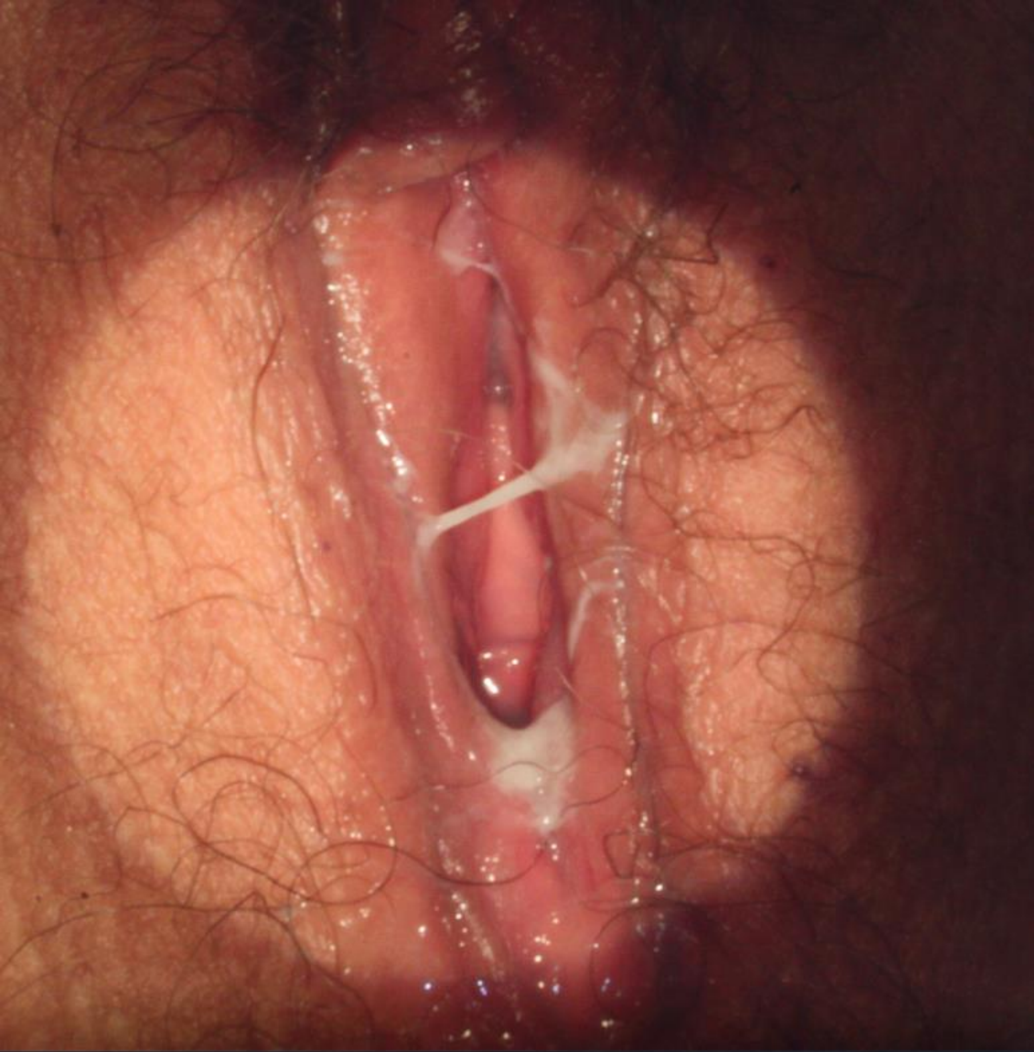
Intensely inflammatory vaginitis of unknown etiology. Finding on wet mount- pH >5.0, +++++WBCs, +++parabasal cells

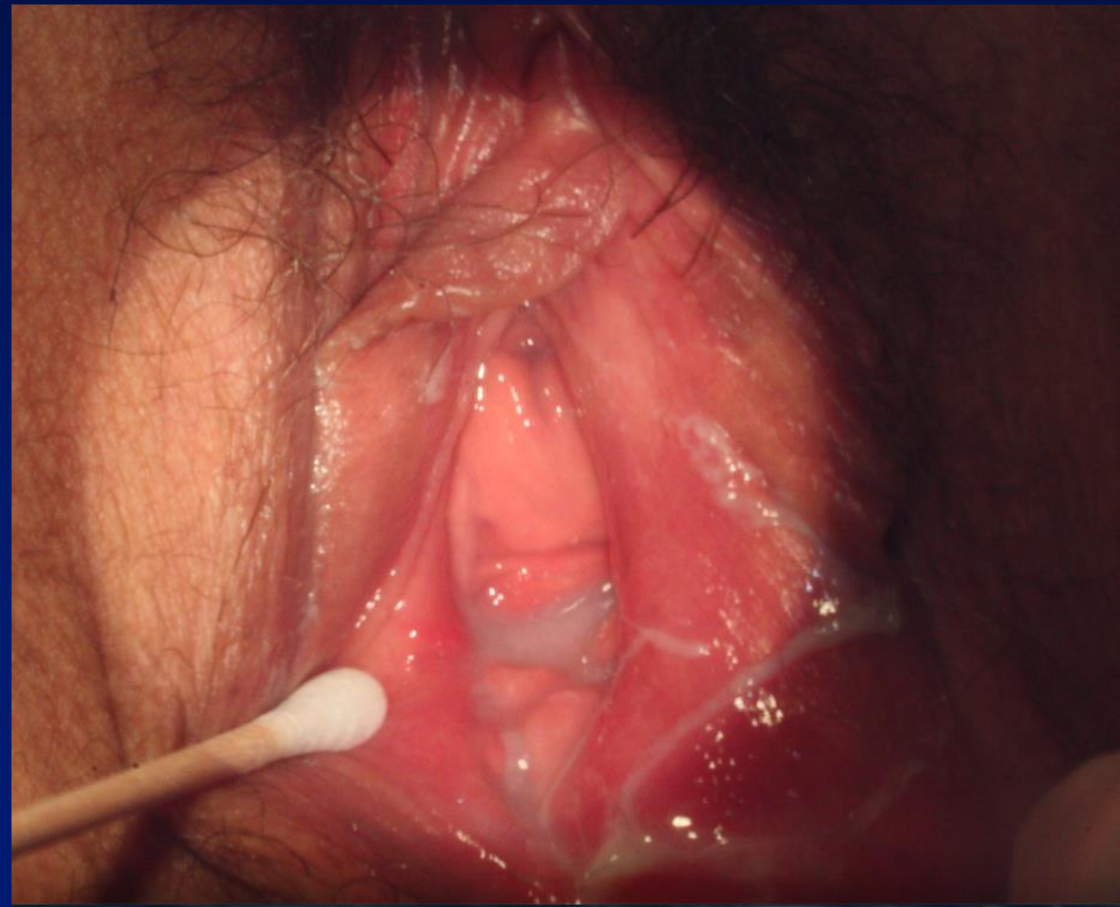
Leukorrhea causes a secondary dermatitis because of inflammatory cytokines

Treatment: compound of hydrocortisone 10%; estradiol 0.02%; and clindamycin 2% in a vaginal cream base – versabase

Use every other day for one month or indefinitely With this strategy, those with DIV are 85% cured 15% use it indefinitely

Use diflucan 150 mg once per week if needed





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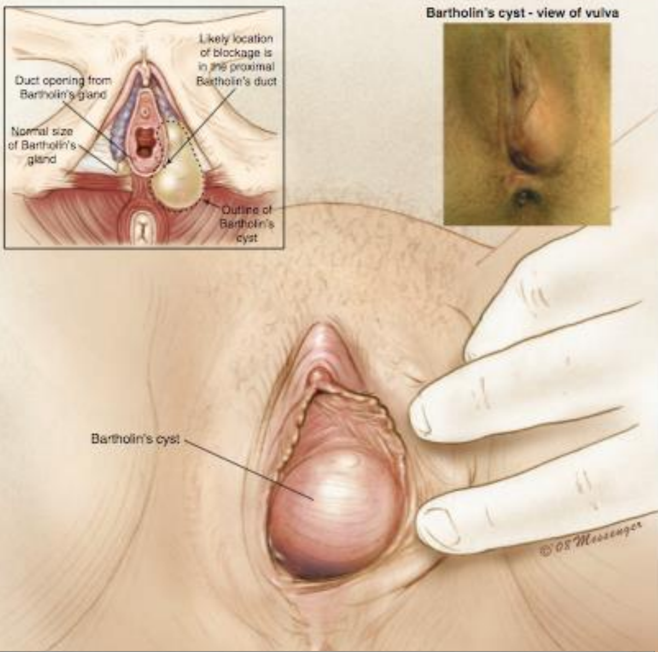
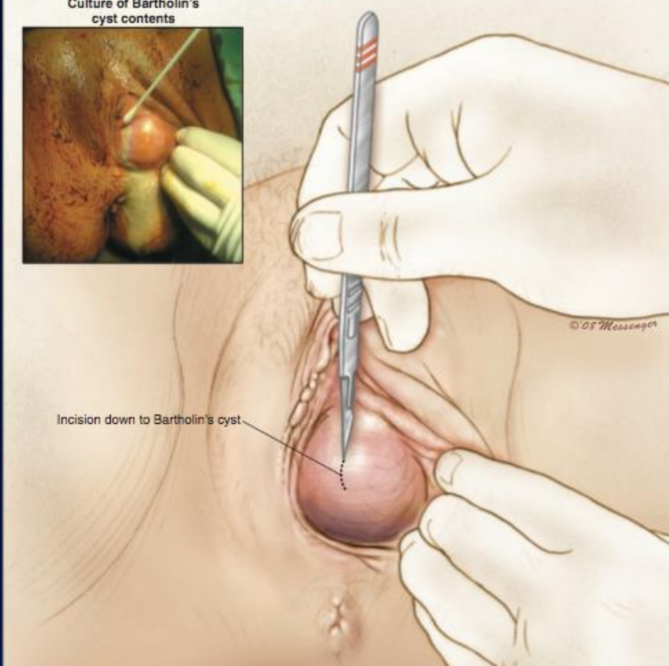
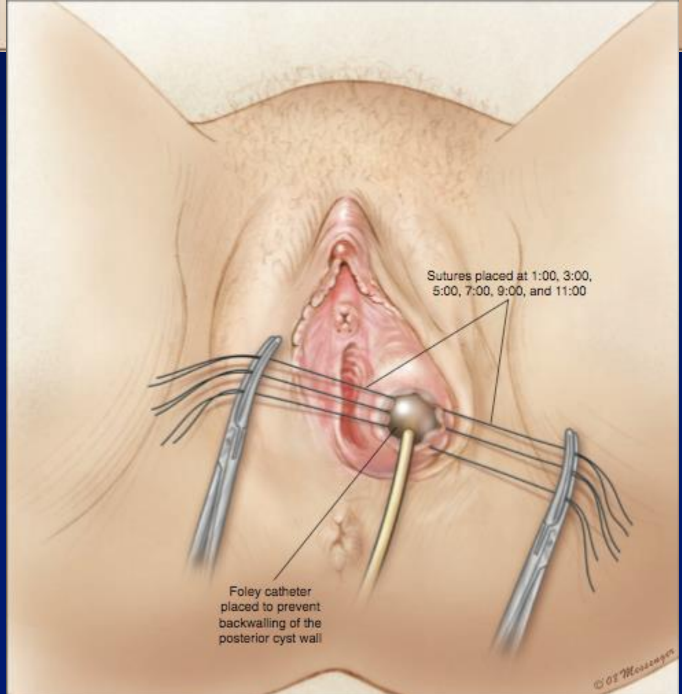
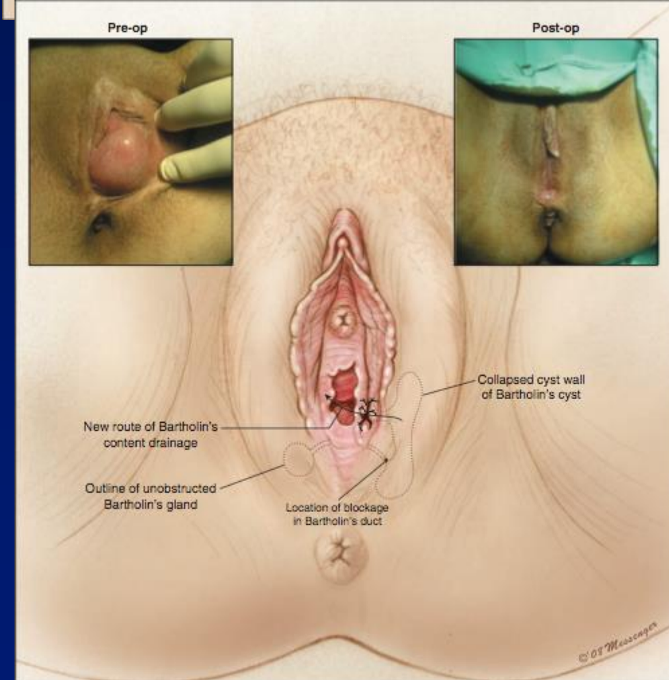
7. Peri-urethral glans pathology
8. Desquamative Inflammatory Vaginitis
9. Bartholin cyst
10. Clitorodynia
11. Pelvic Congestion Syndrome
12. Endometriosis
13. Pelvic Organ Prolapse
14. Interstitial Cystitis
15. Referral from Hip Disease
16. Partner Issues – Peyronie's disease, piercings
17. High tone pelvic floor dysfunction









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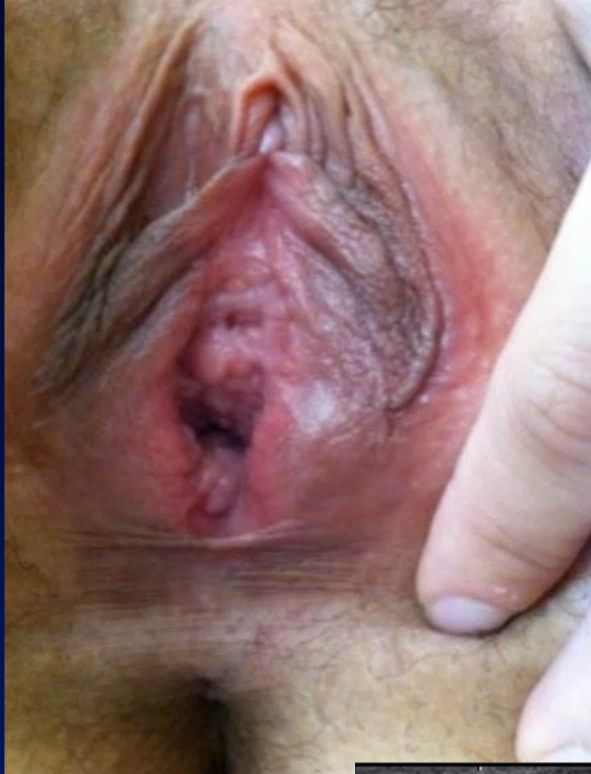
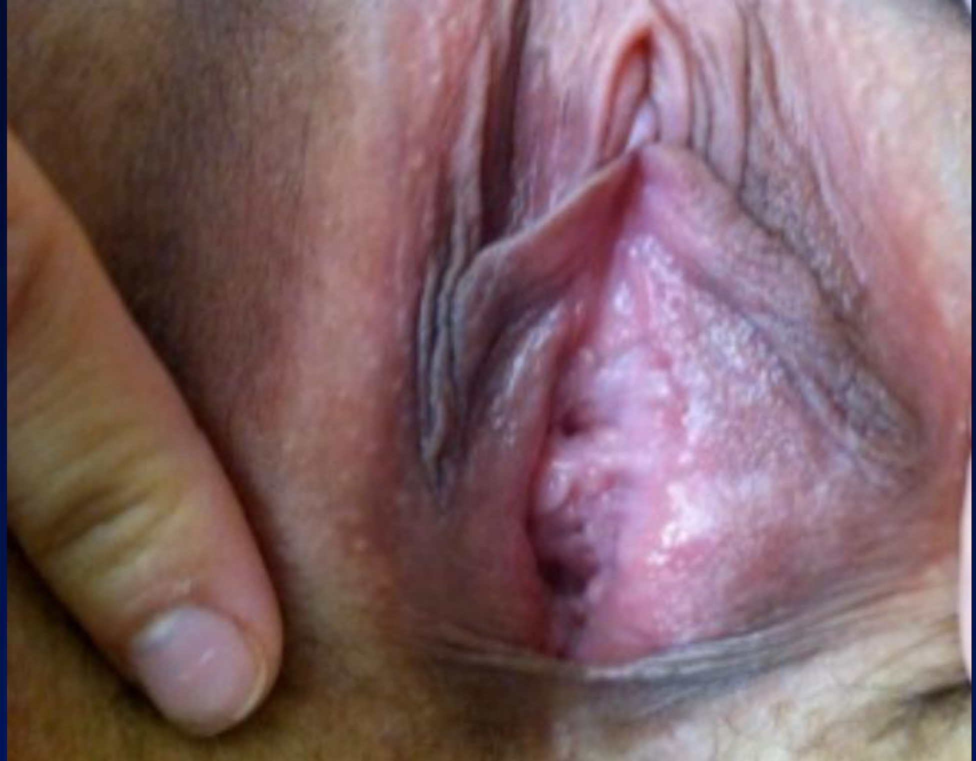
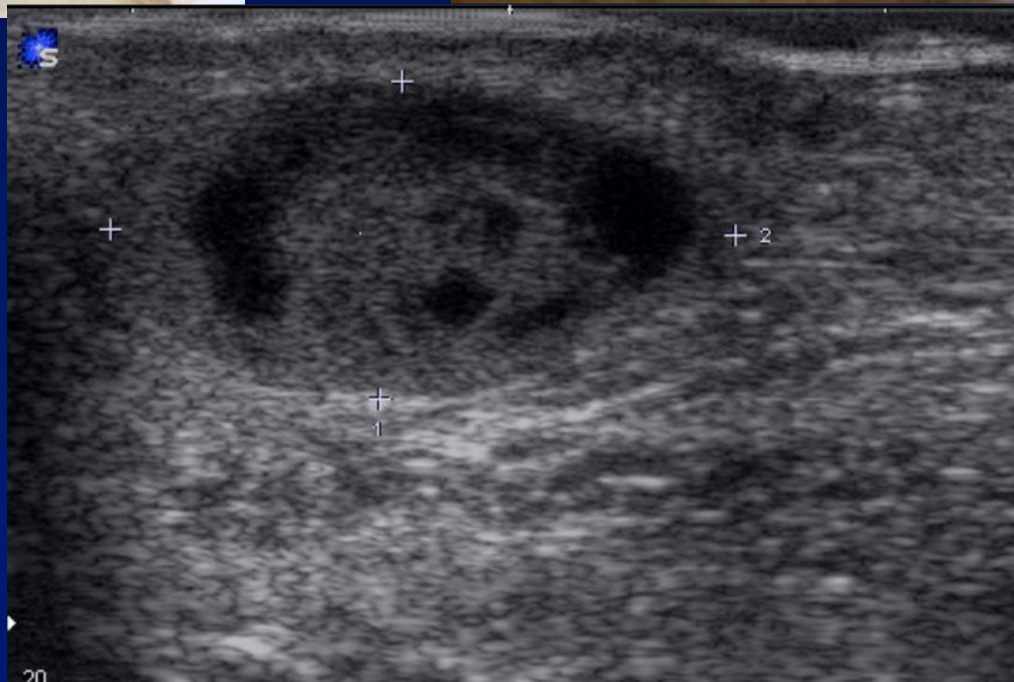
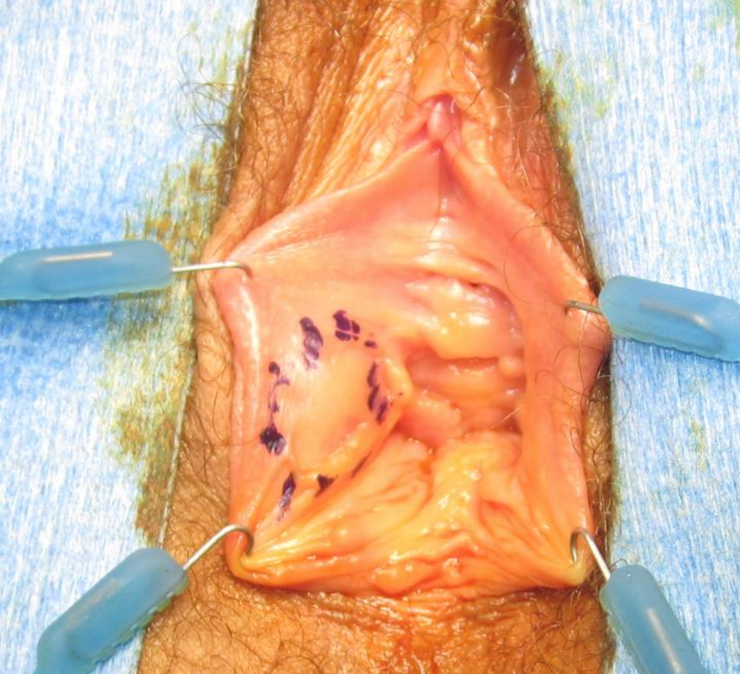
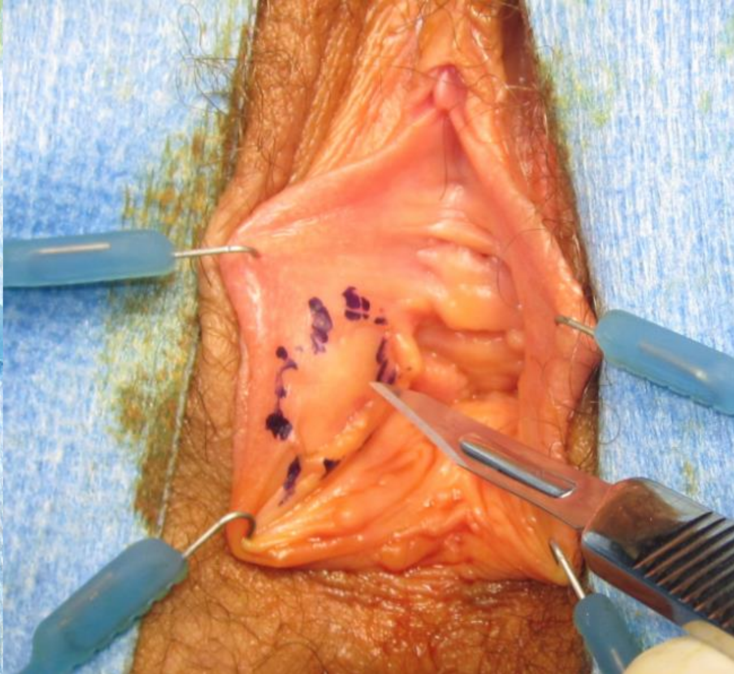
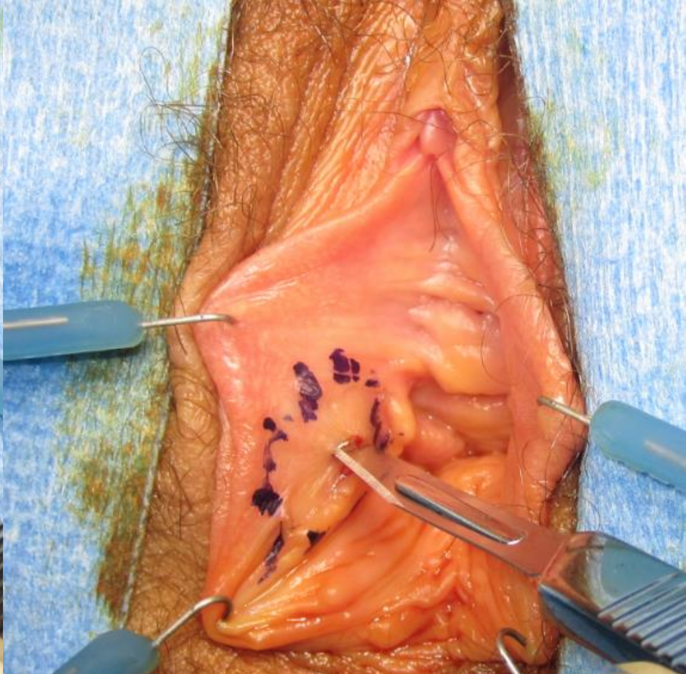
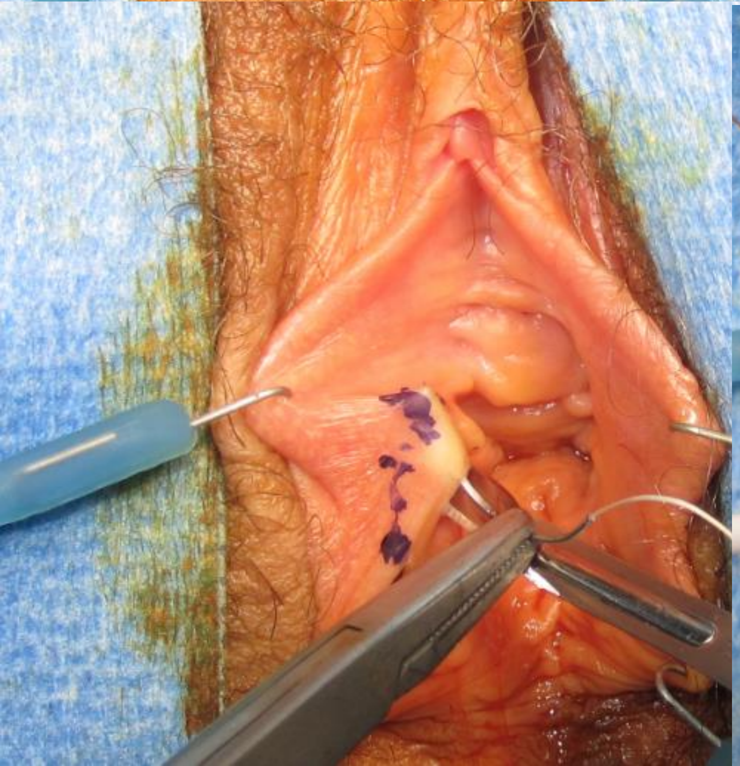
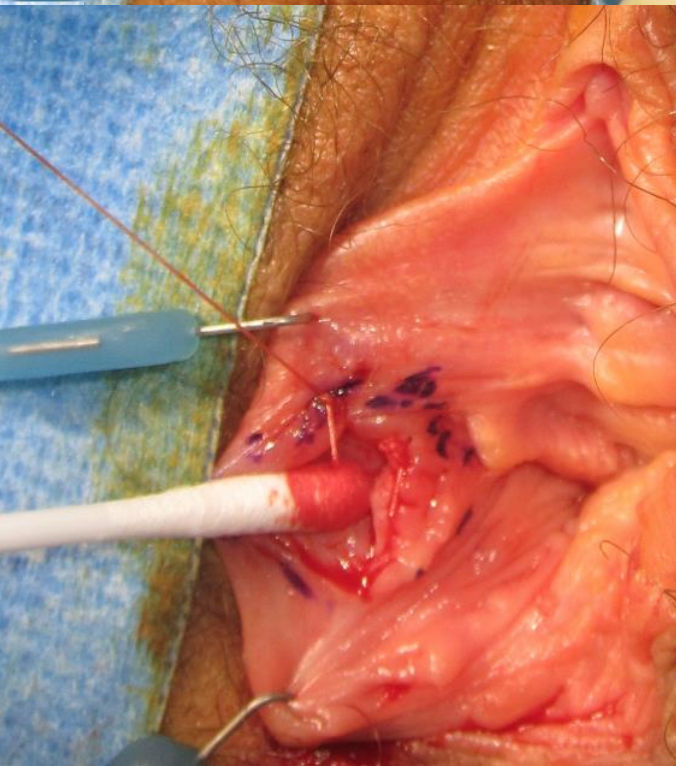
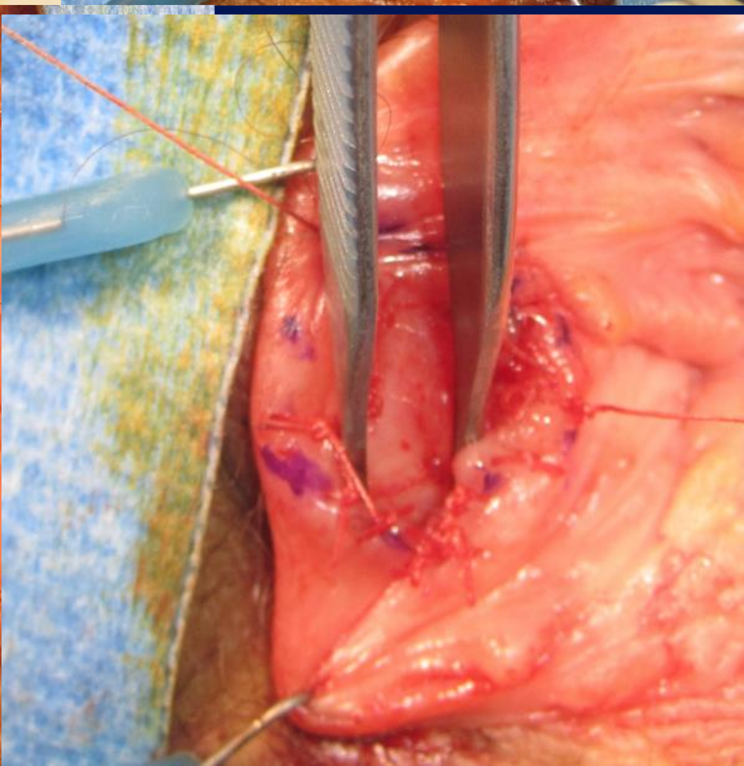
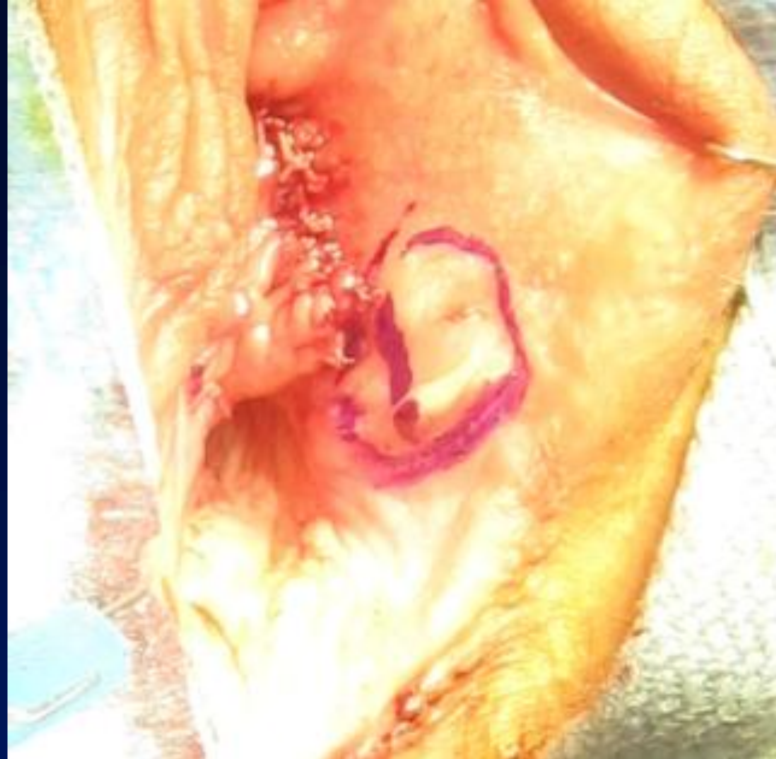
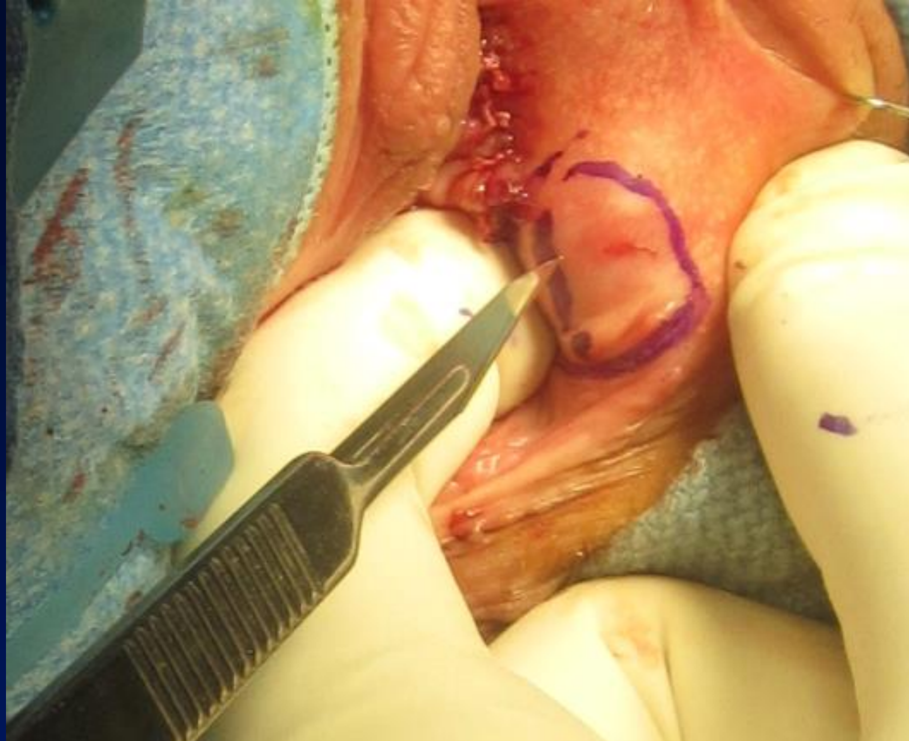
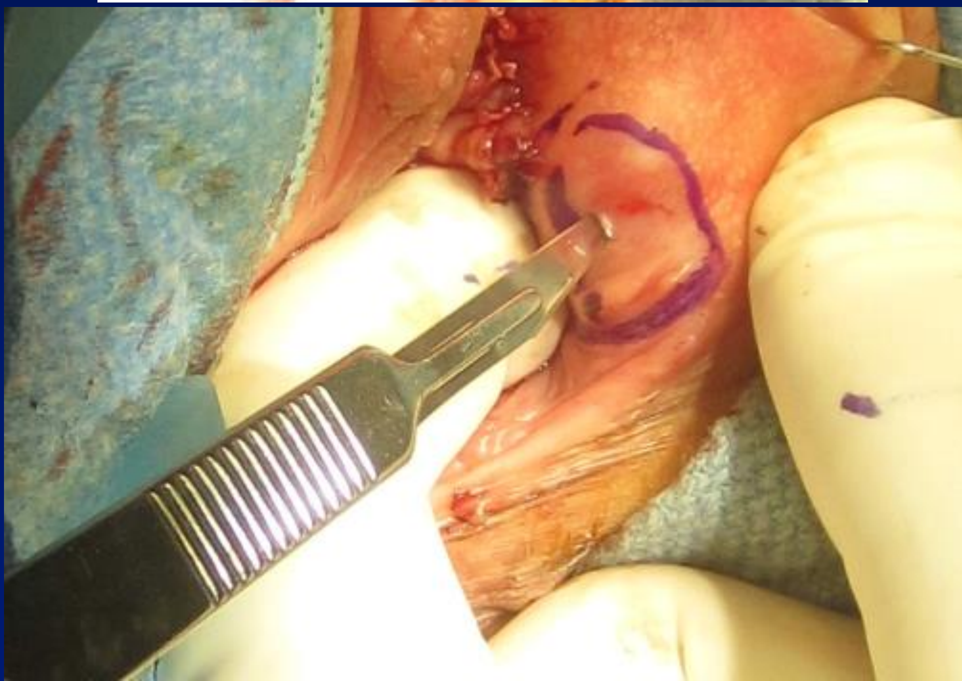
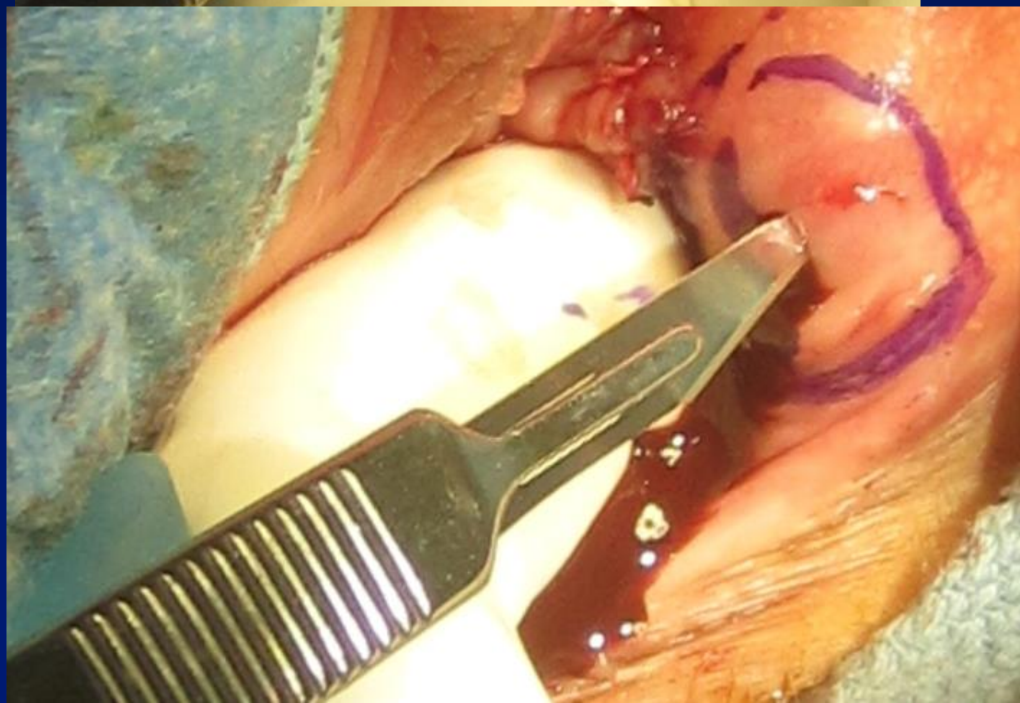
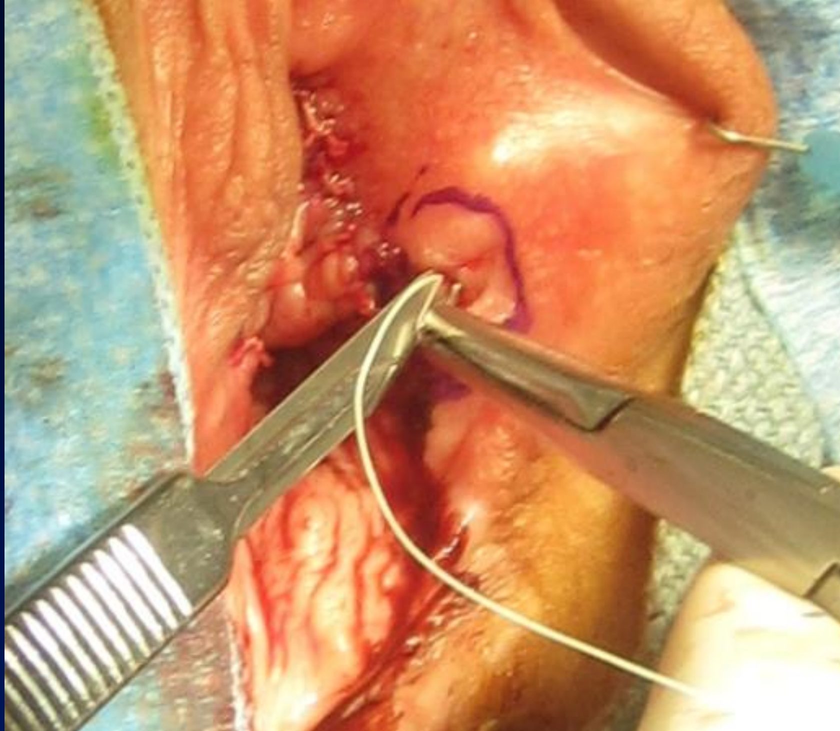
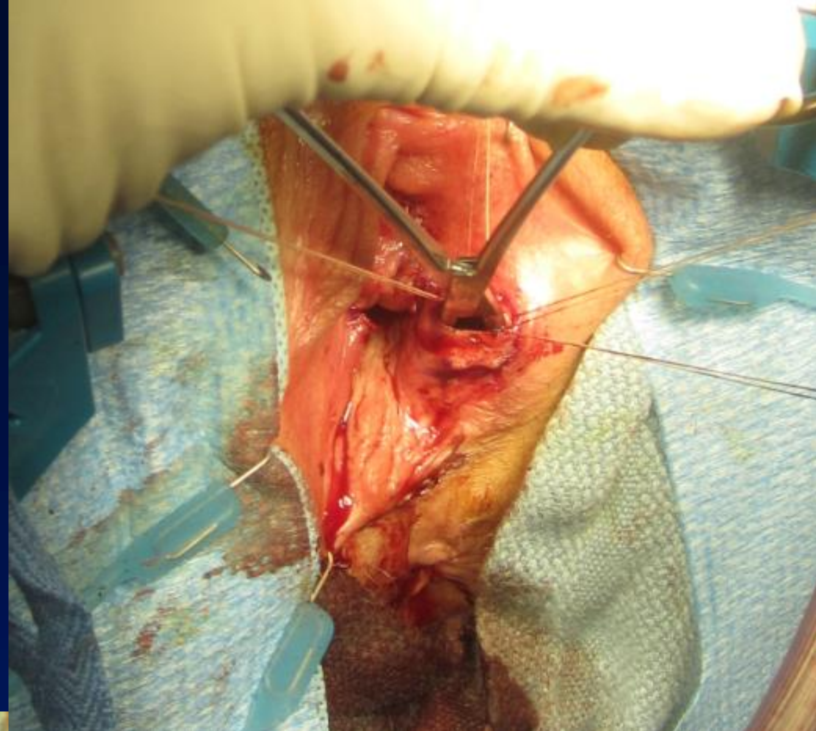
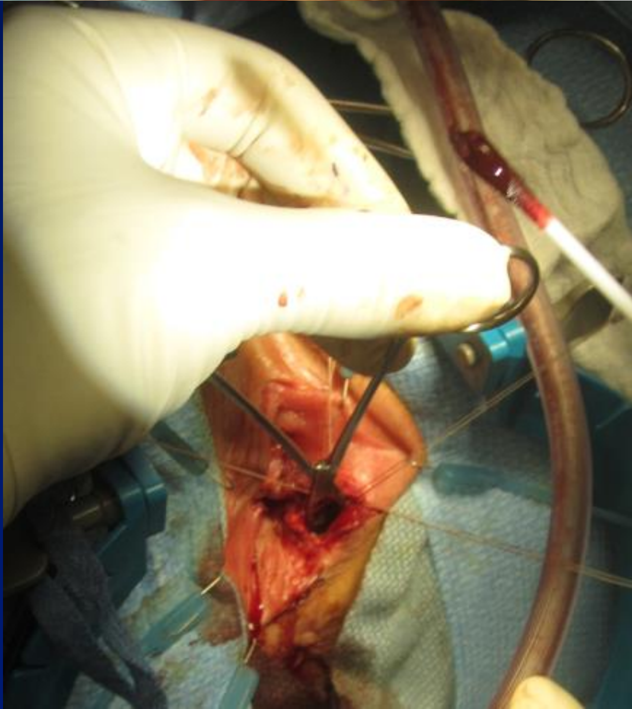
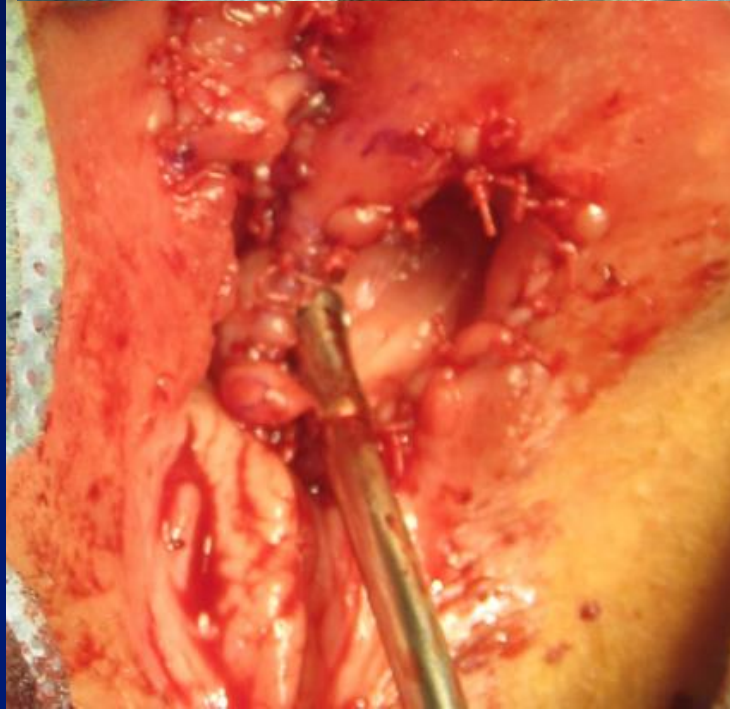




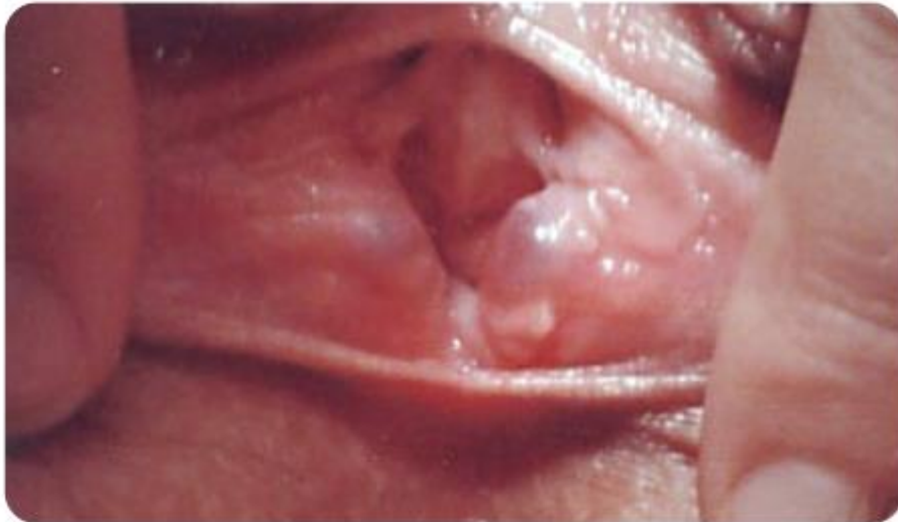





Incidence of Bartholin's duct occlusion after superficial localized vestibulectomy

Martha F. Goetsch, MD, MPH

688.e1 American Journal of Obstetrics & Gynecology JUNE 2009

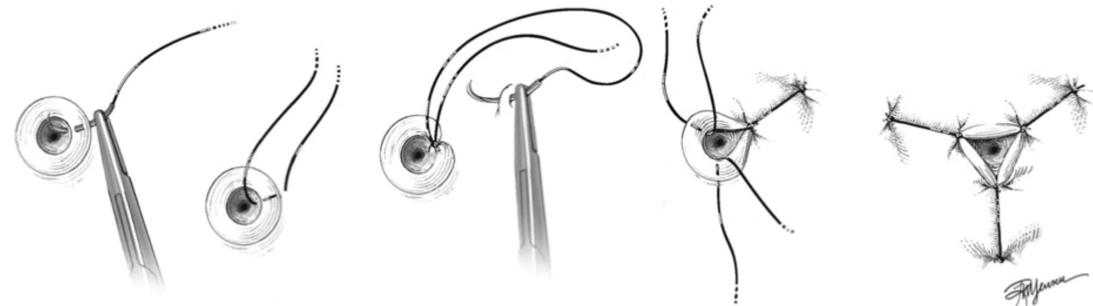
FIGURE 2
Bartholin's duct blisters



Vestibule with bilateral duct blisters. Photograph taken by the patient.

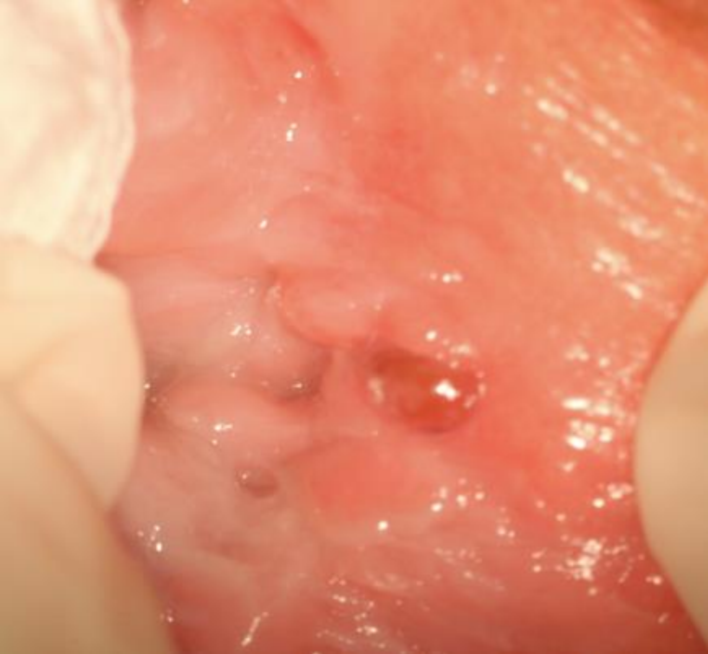
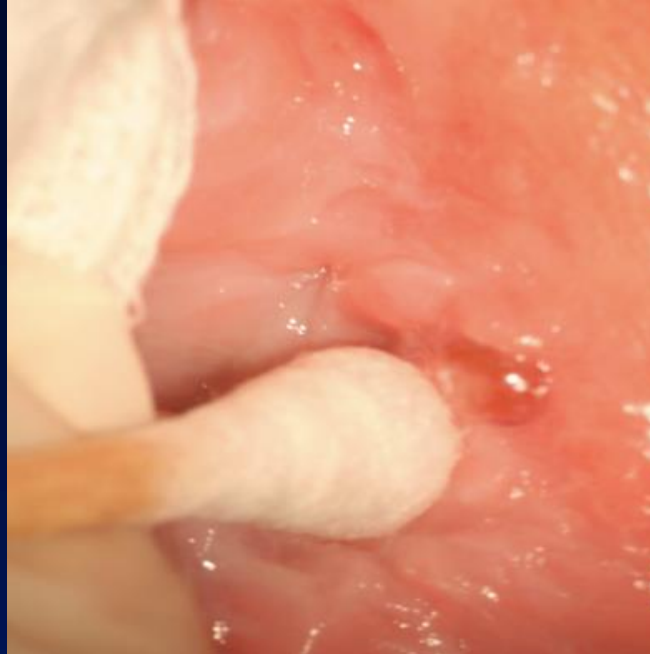
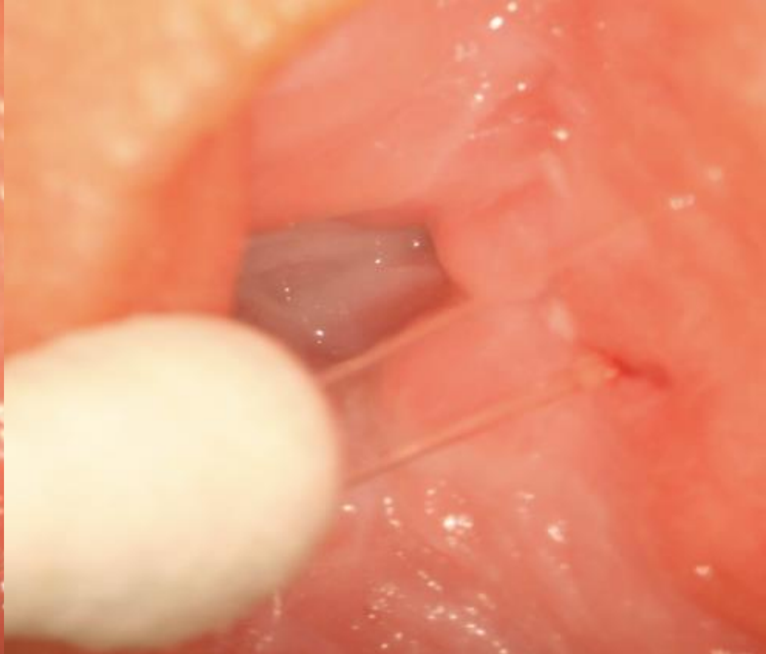
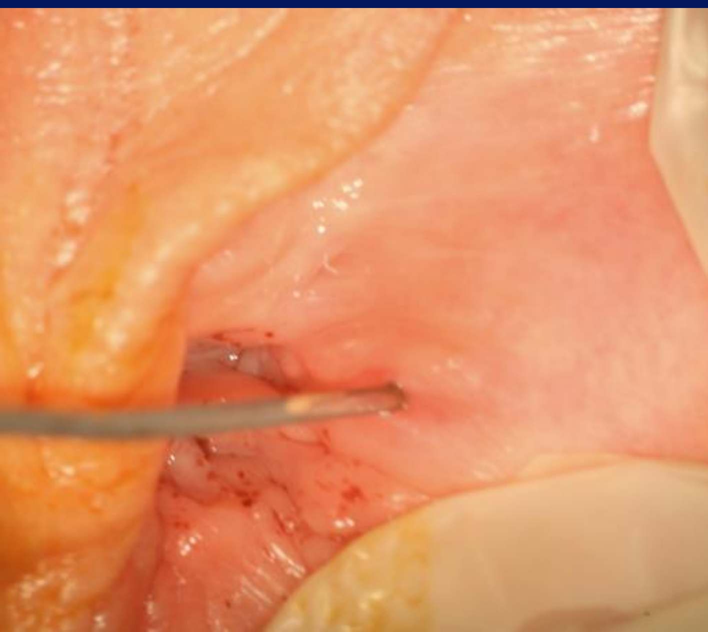
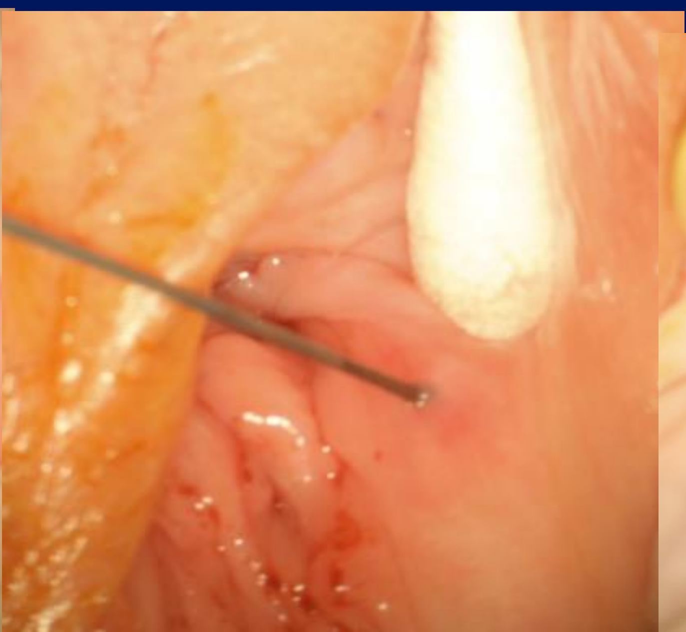
Goetsch. Incidence of Bartholin's duct occlusion after superficial localized vestibulectomy. Am J Obstet Gynecol 2009.

FIGURE 4
Marsupializing tension sutures



A suture first unites skin epithelium and duct epithelium. It is then knotted and anchored in skin 1.5 cm distant under tension with another knot. This is repeated on 3 corners, pulling the orifice open.

Goetsch. Incidence of Bartholin's duct occlusion after superficial localized vestibulectomy. Am J Obstet Gynecol 2009.

Medical or biologic causes vulvodynia:

1. Altered hormone integrity
2. Increased nerve fiber density - genetic susceptibility leading to elevated levels of nerve growth factor substances
3. An injury to, or irritation of, the pudendal nerves that transmit pain and other sensations
4. Abnormal response of tissues to Candida infection, or recognized allergies or non-specific allergies
5. Dermatologic conditions: lichen sclerosus or lichen planus
6. Vulvar granuloma fissuratum
7. Peri-urethral glans pathology
8. Desquamative Inflammatory Vaginitis
9. Bartholin cyst
10. Clitorodynia
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16. Partner Issues – Peyronie's disease, piercings
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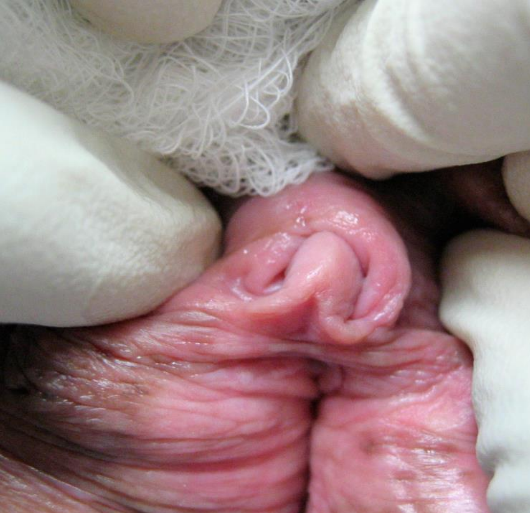
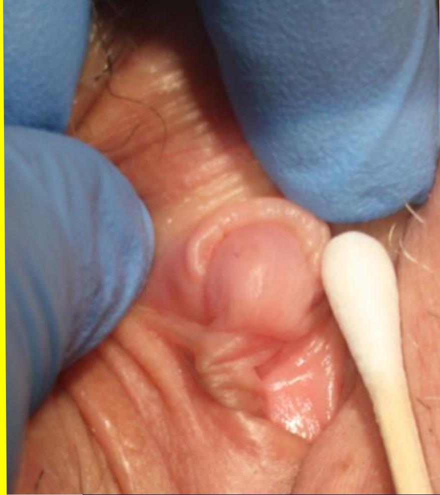
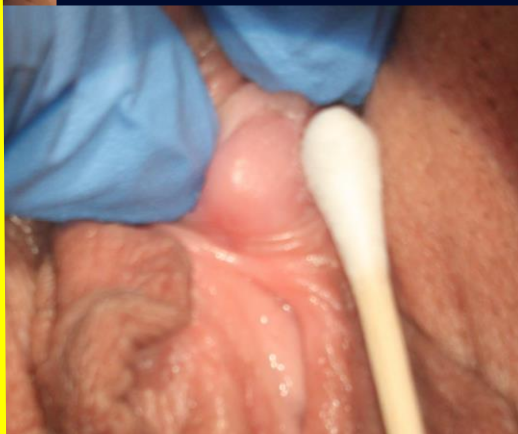
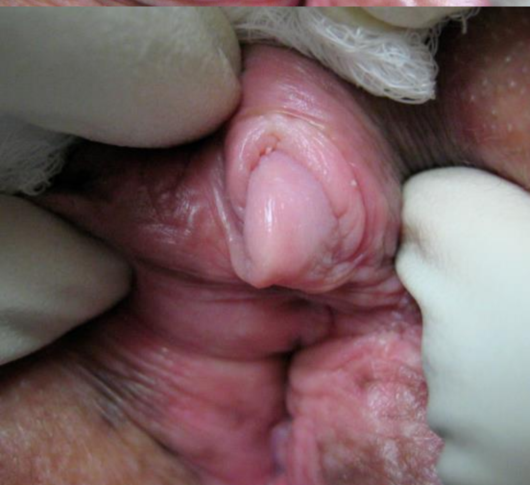
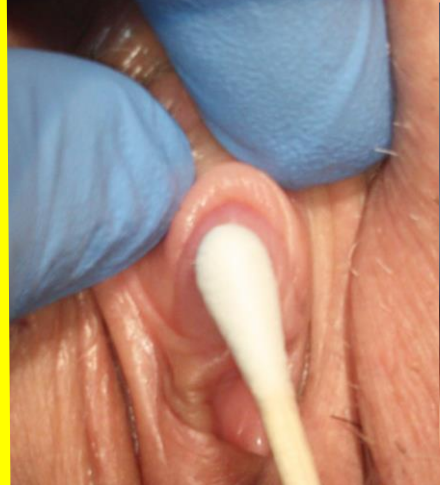
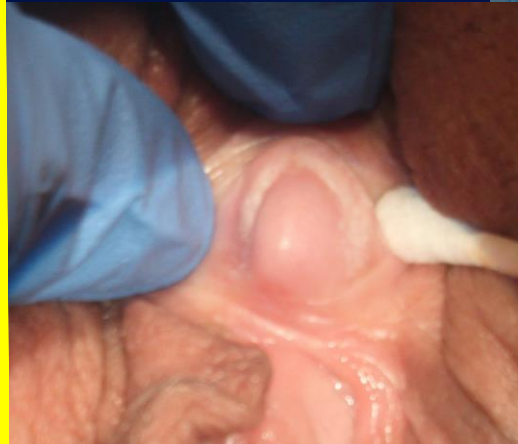
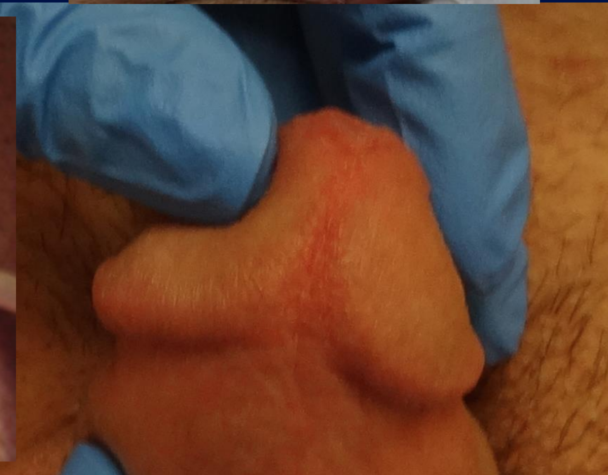
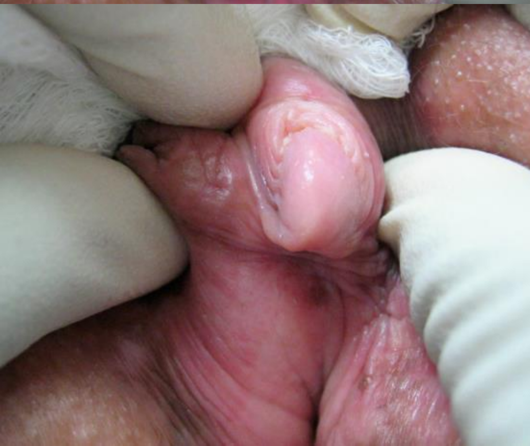
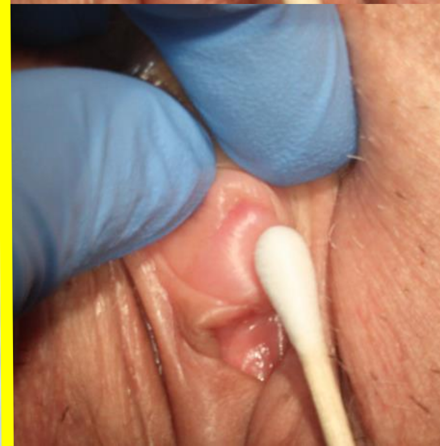
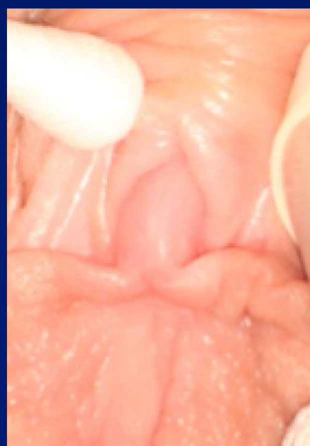
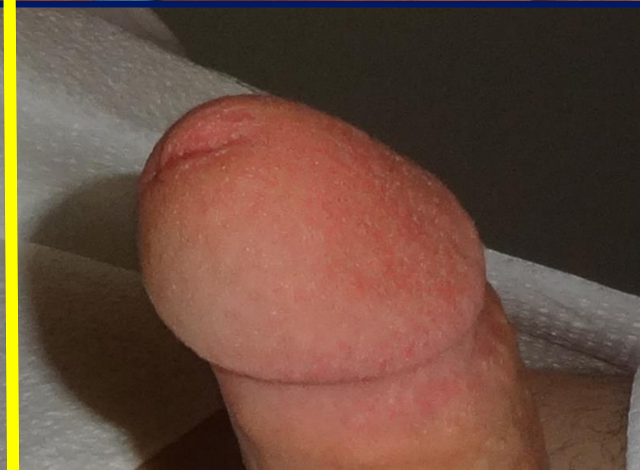
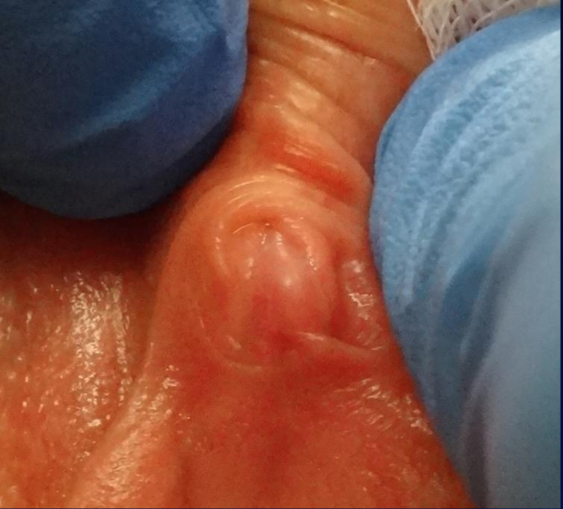
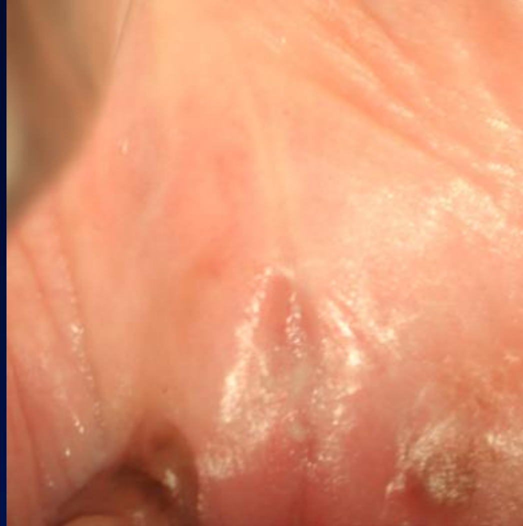
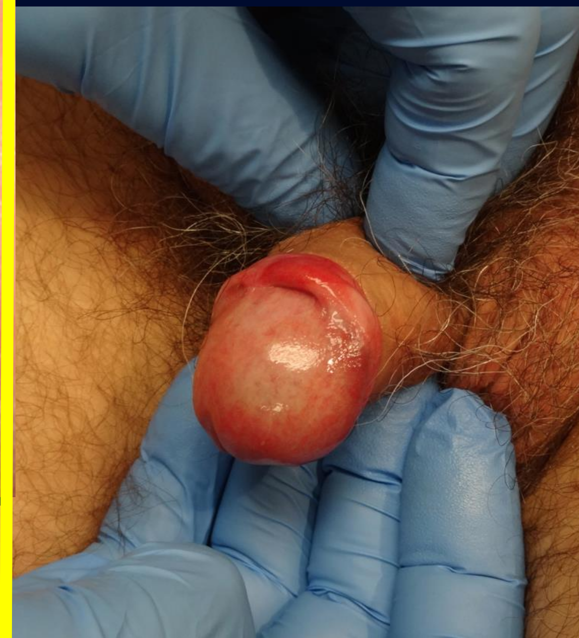
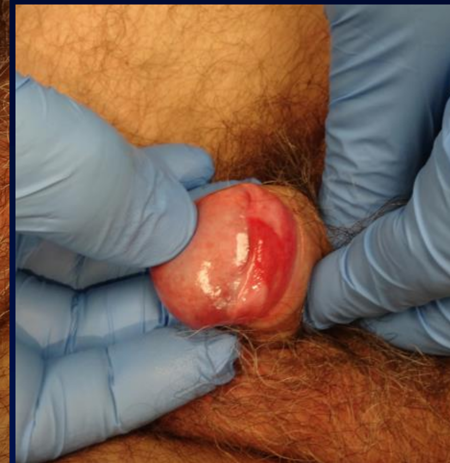
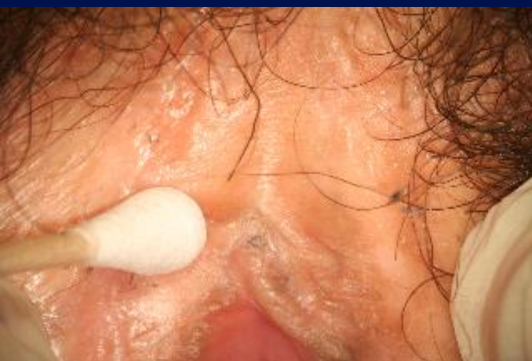
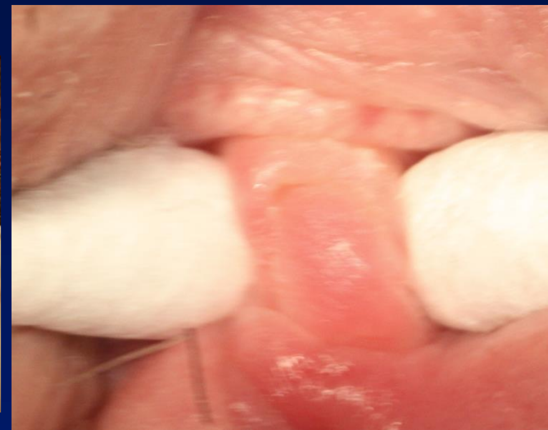
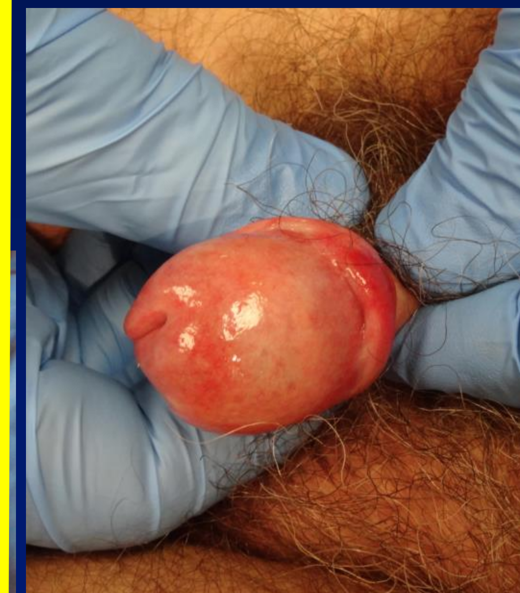
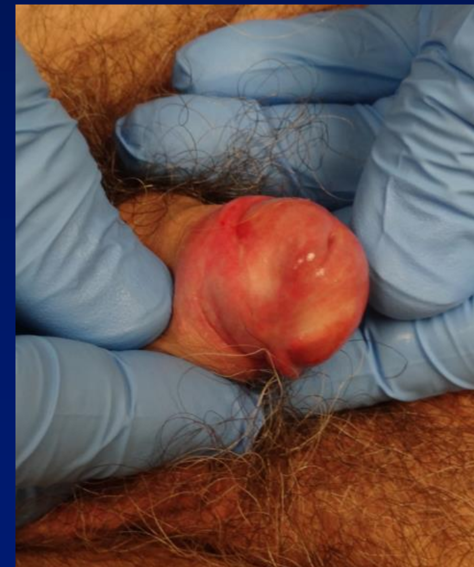
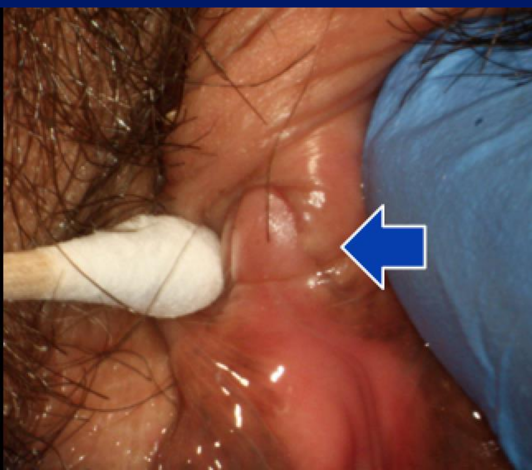
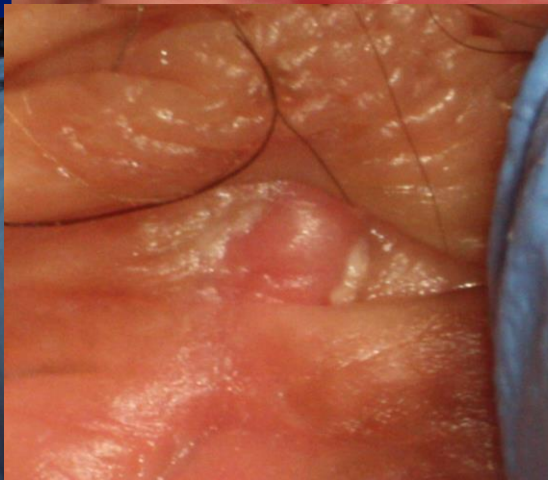
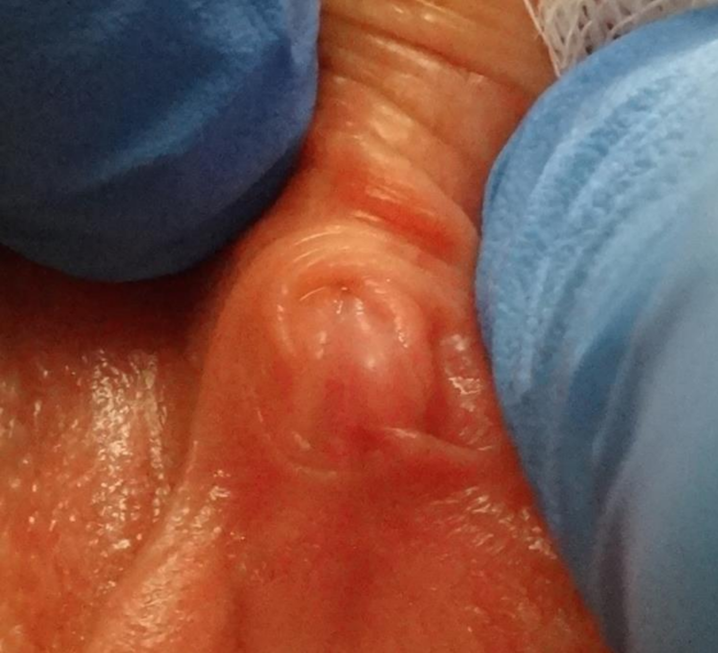
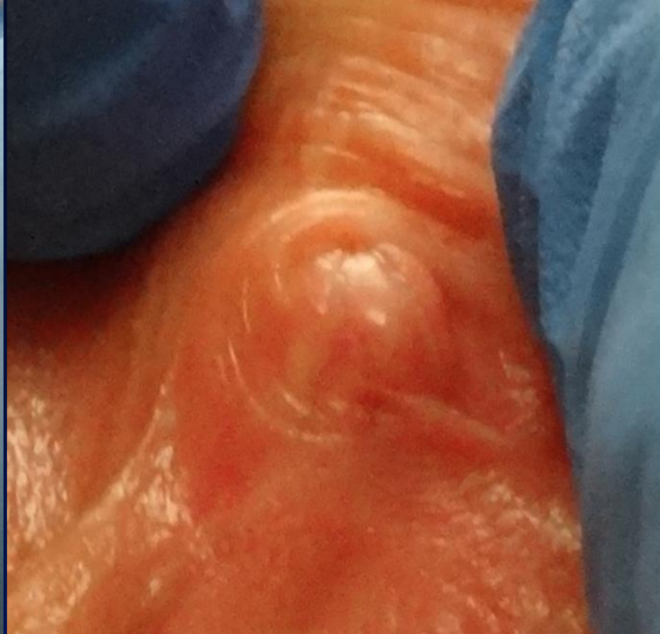
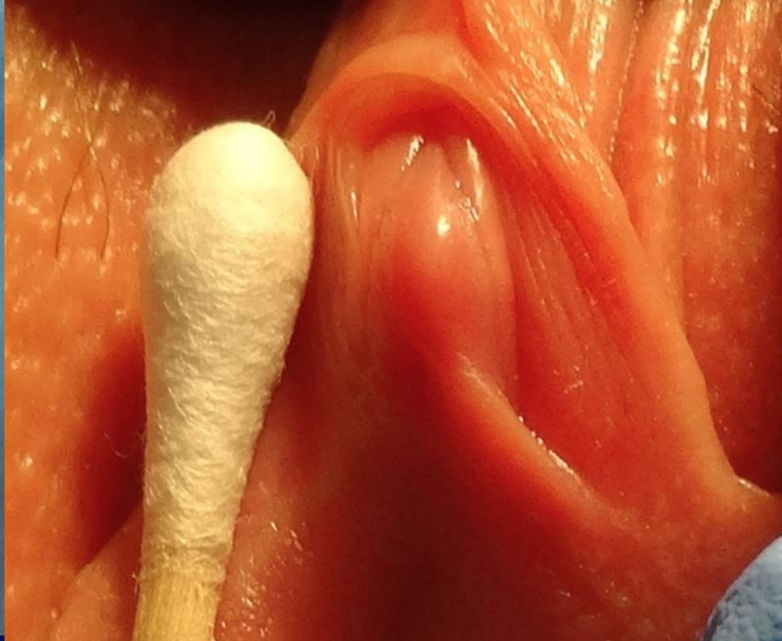
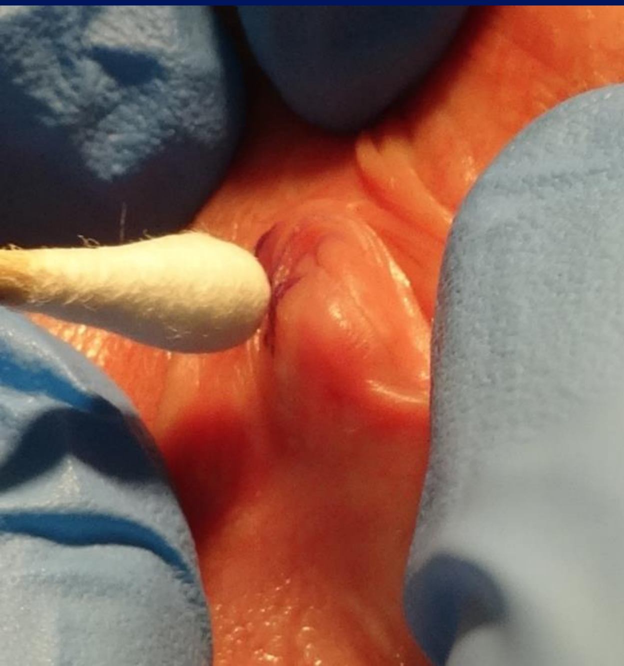
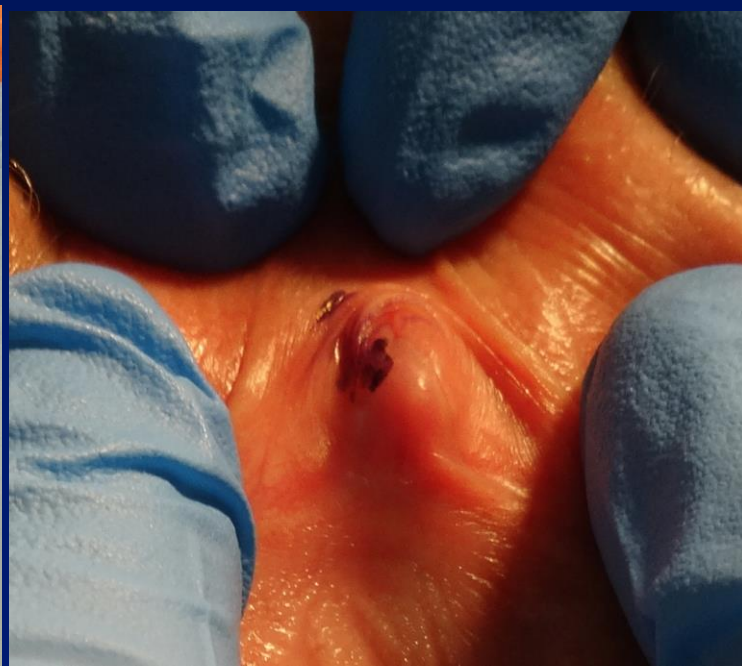
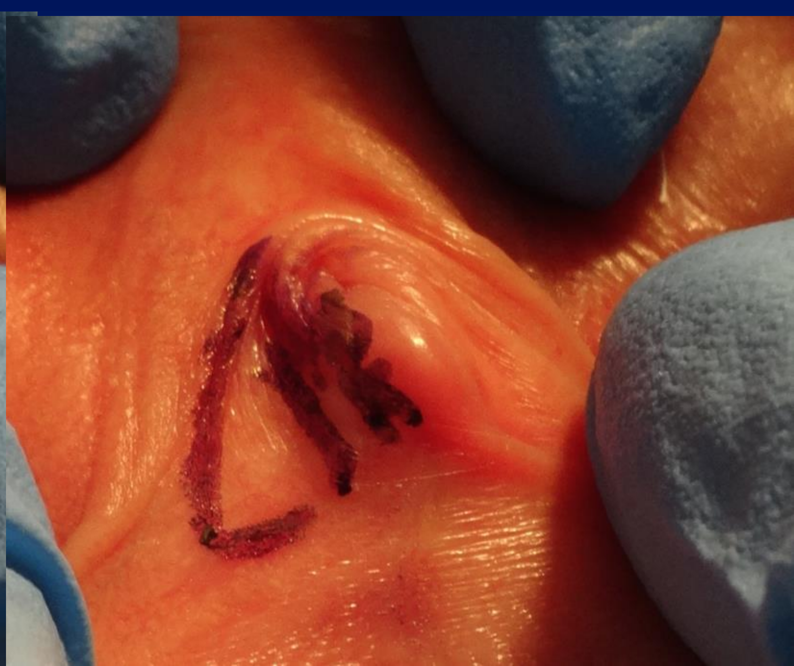
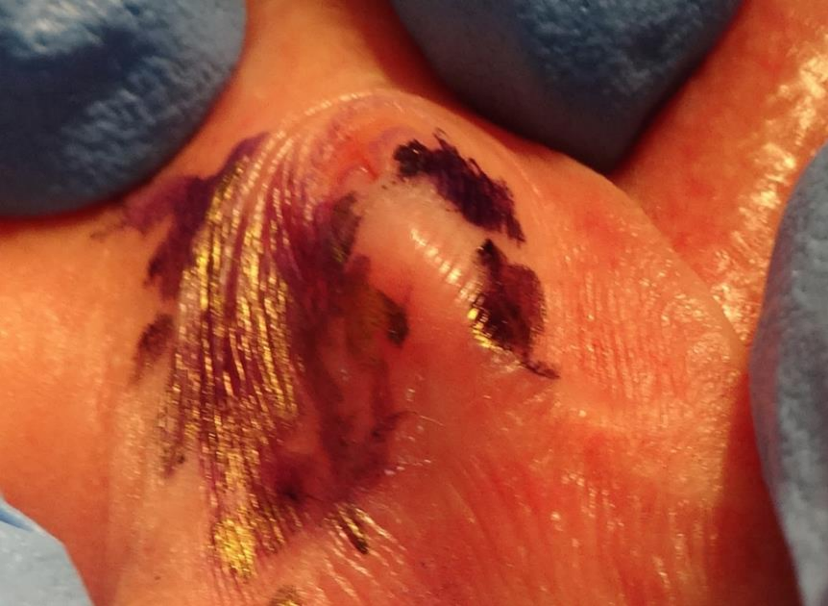
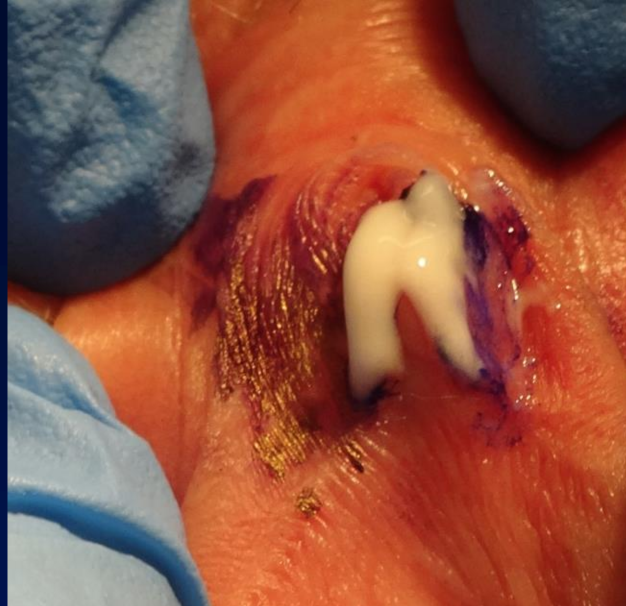




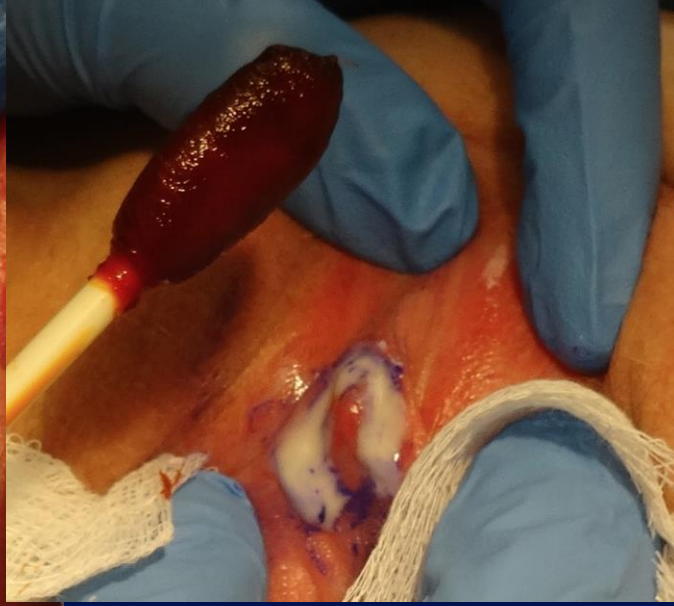









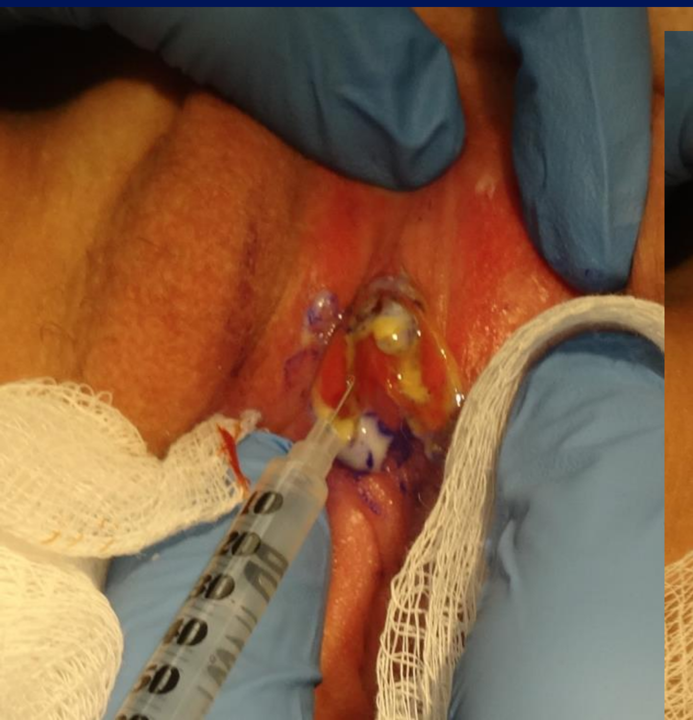











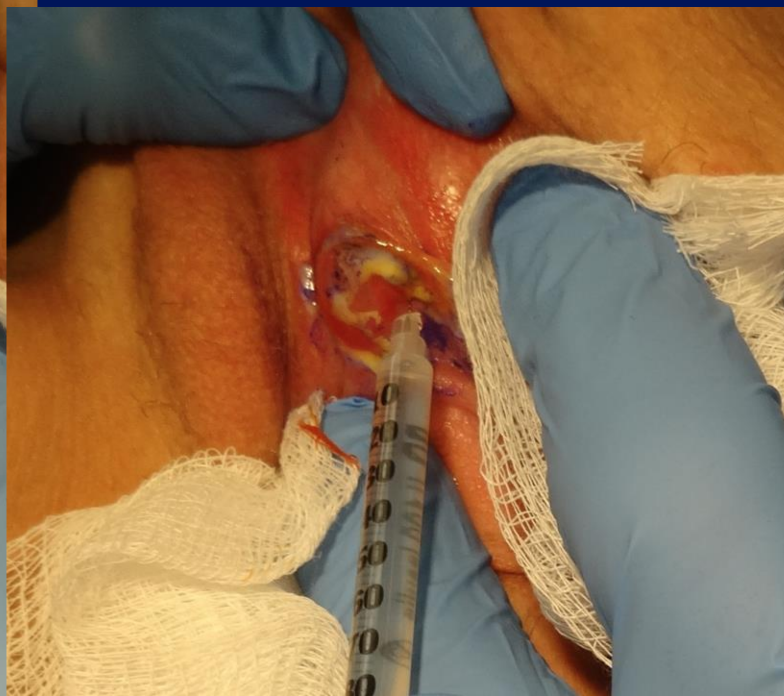







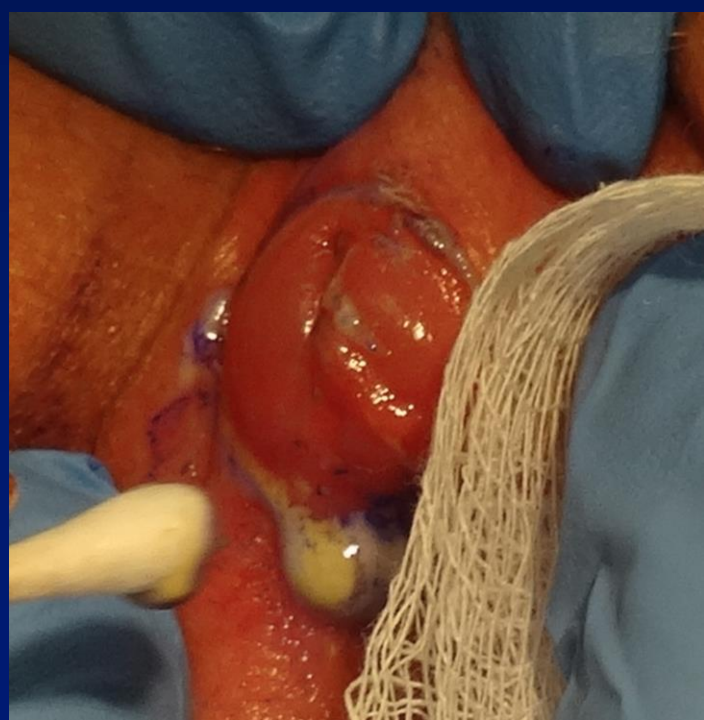


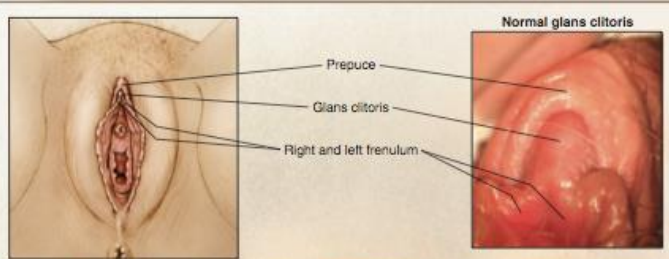




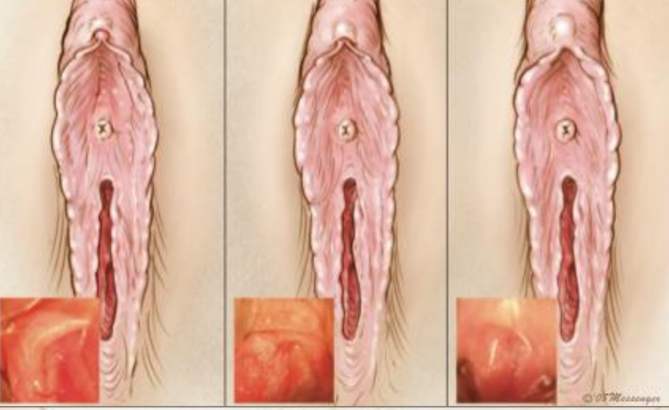




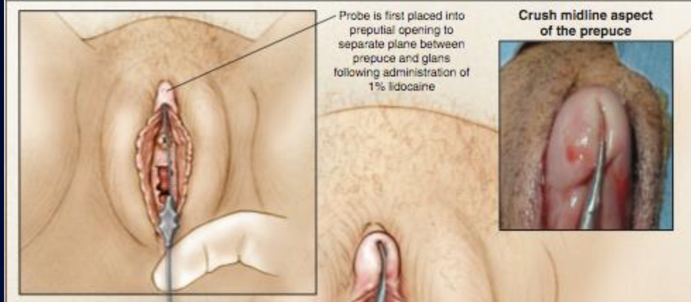




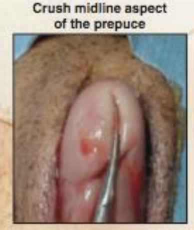
Normal glans clitoris
Prepuce
Glans clitoris
Right and left frenulum



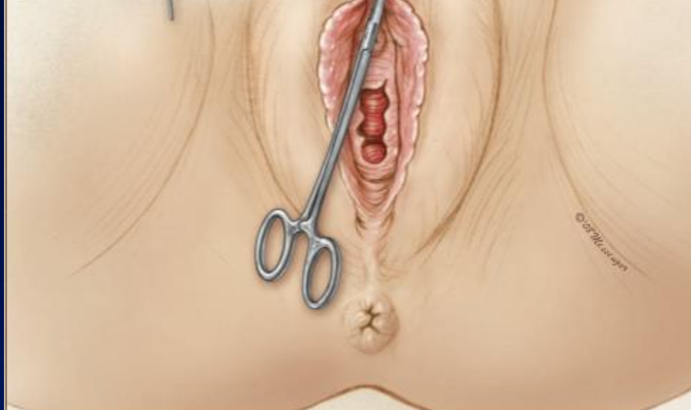
Mild clitoral phimosis
~50% coverage of glans clitoris
Moderate clitoral phimosis
~75% coverage of glans clitoris
Severe clitoral phimosis
100% coverage of glans clitoris

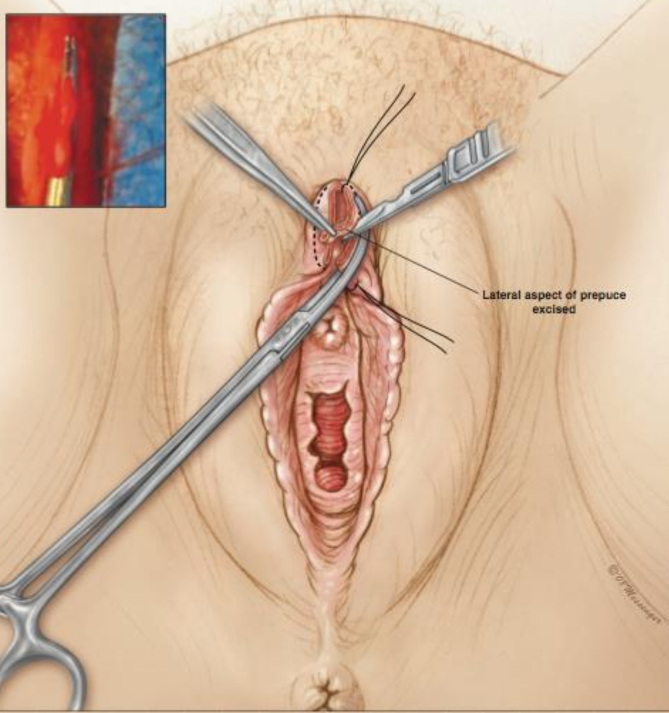


Probe is first placed into preputial opening to separate plane between prepuce and glans following administration of 1% lidocaine

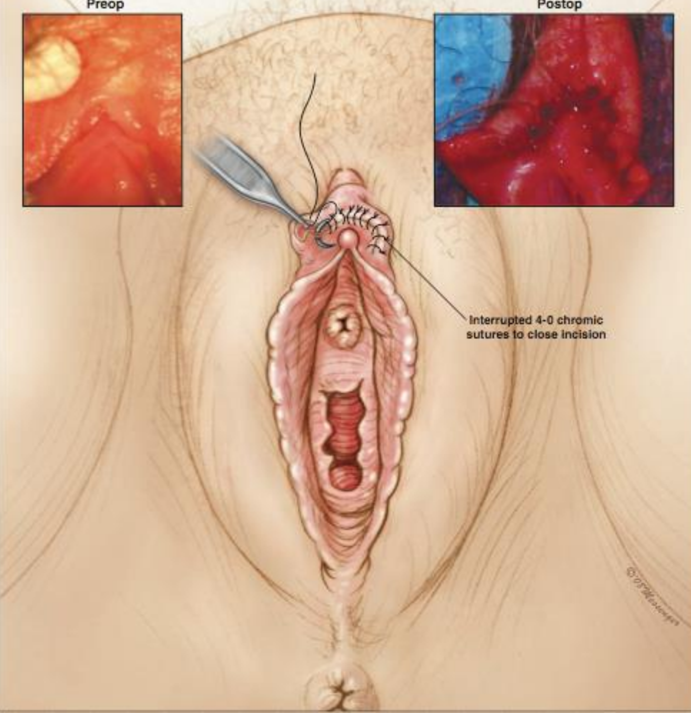


Crush midline aspect of the prepuce

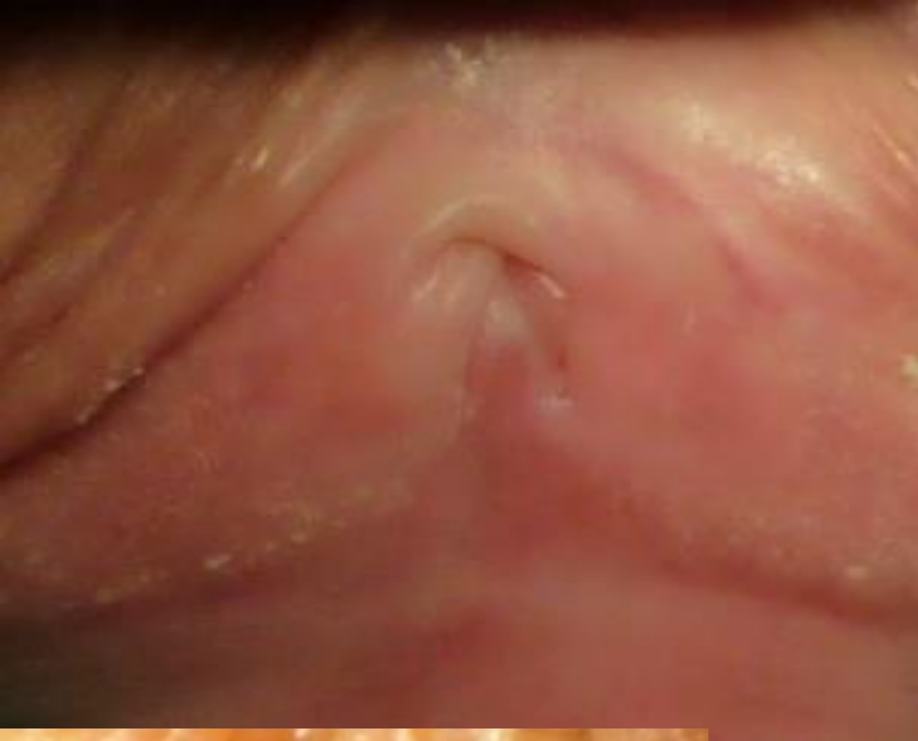
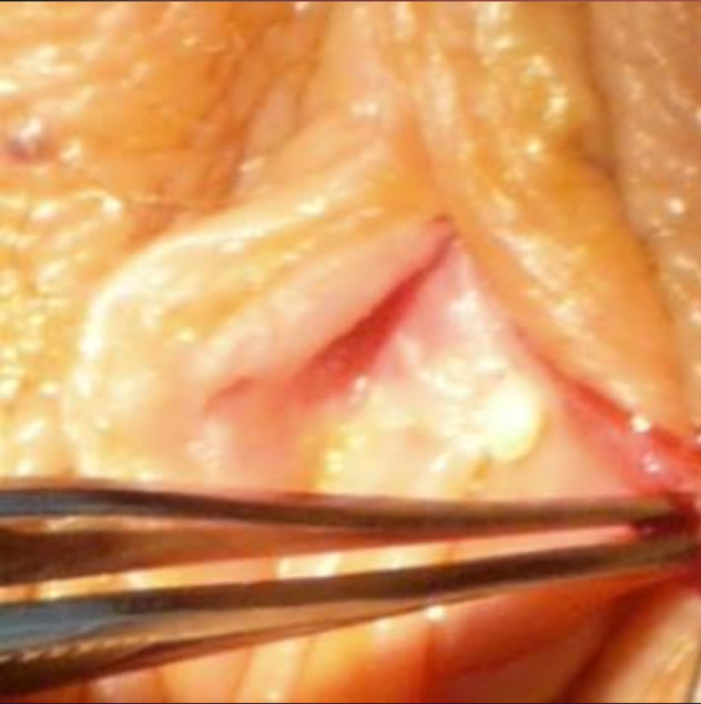
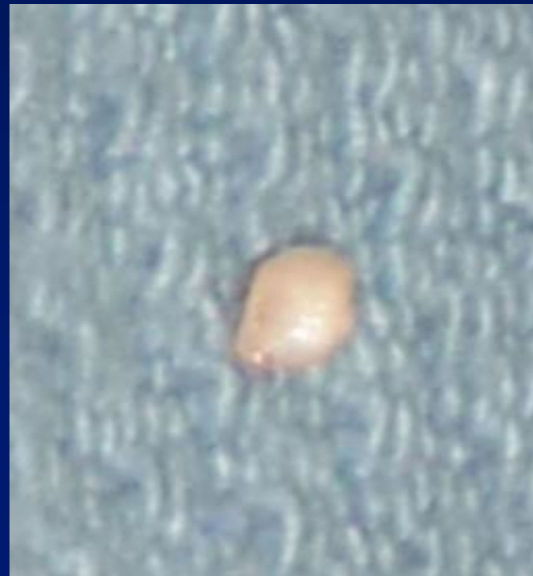
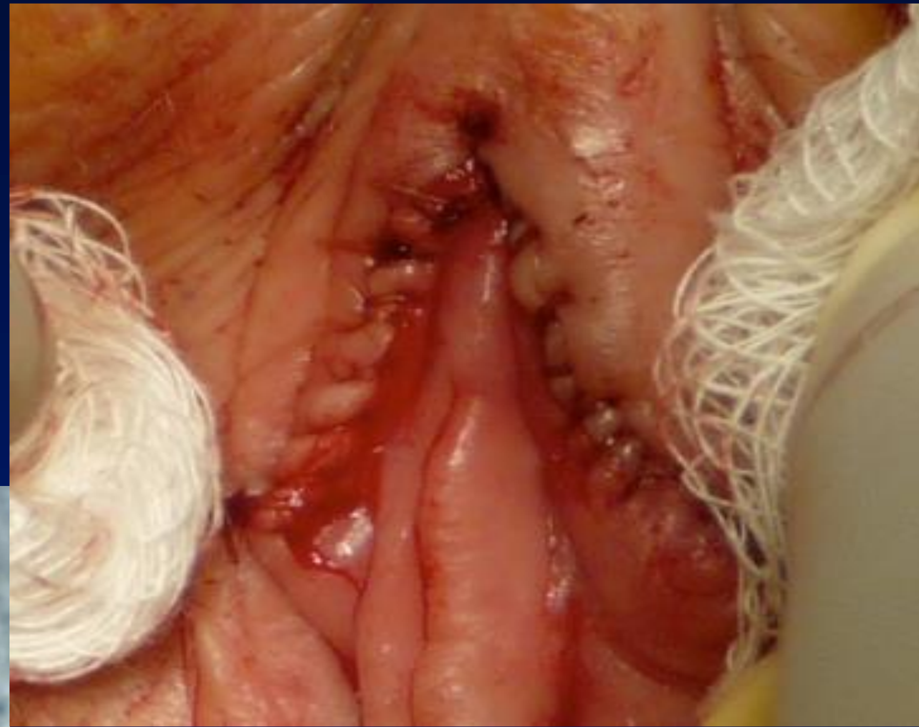


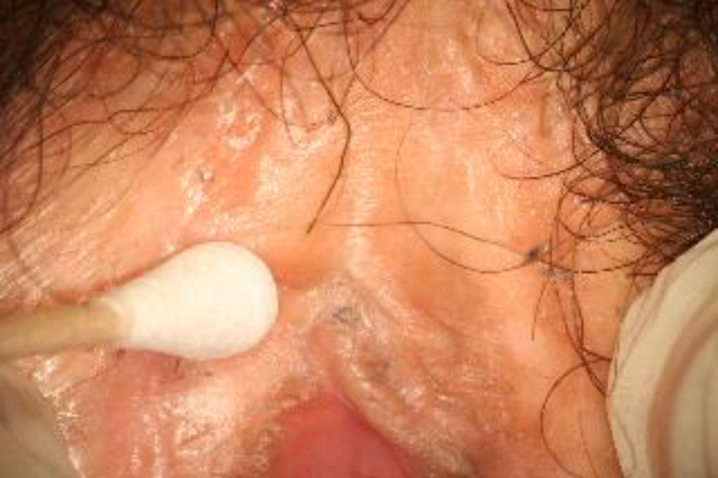
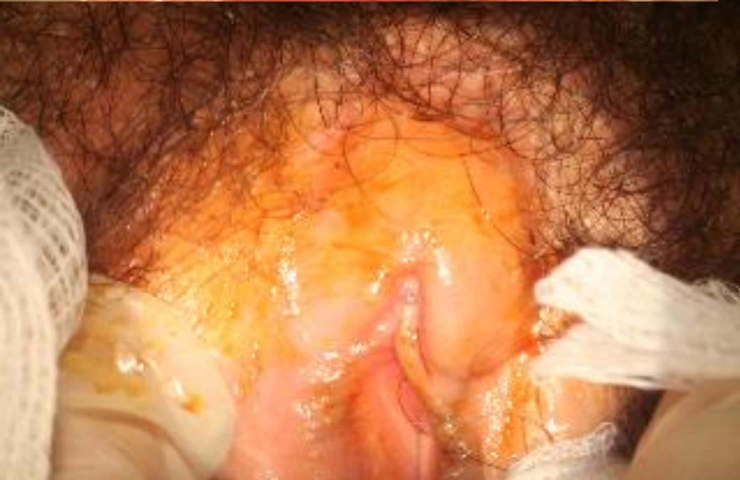
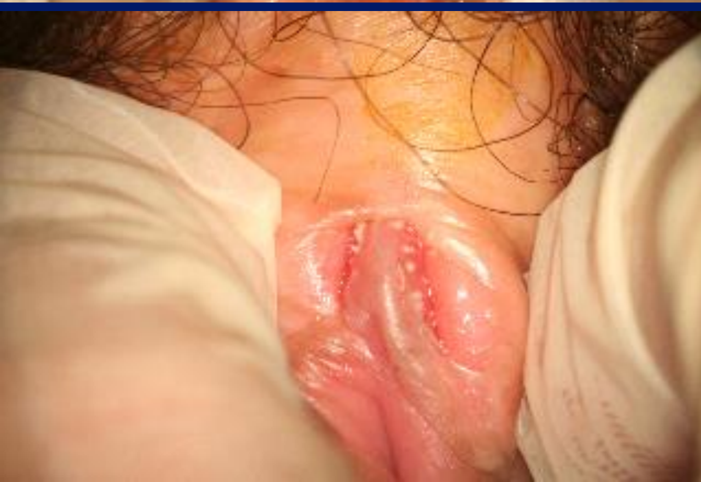
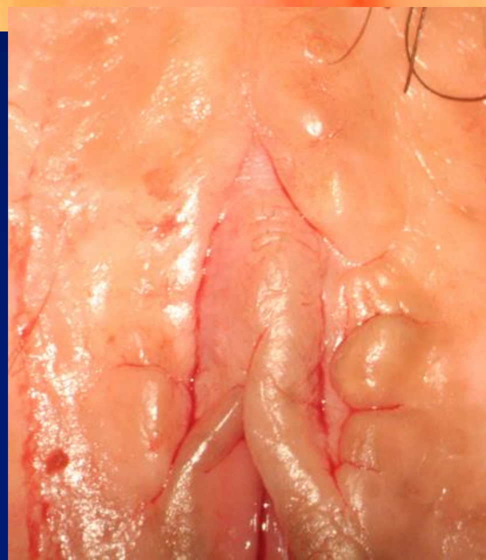


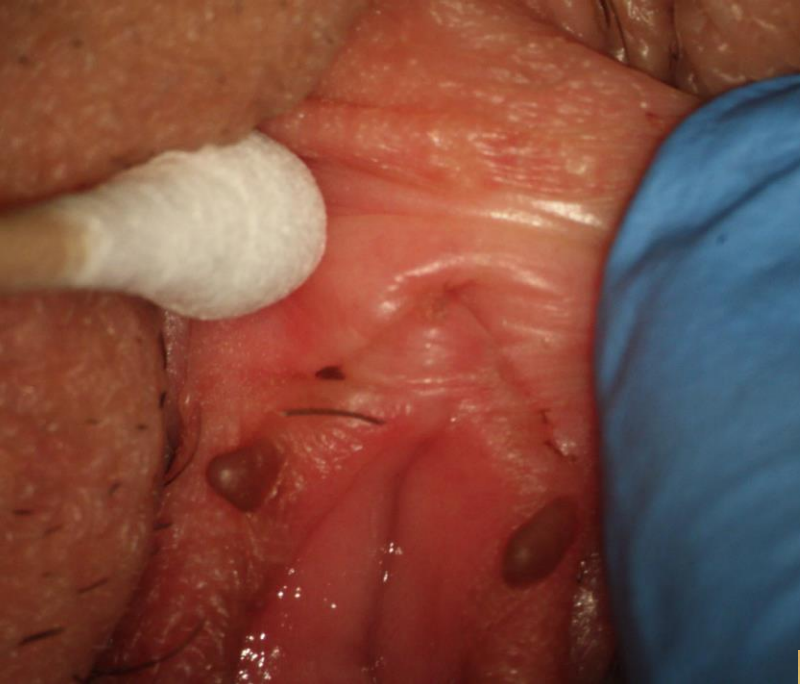
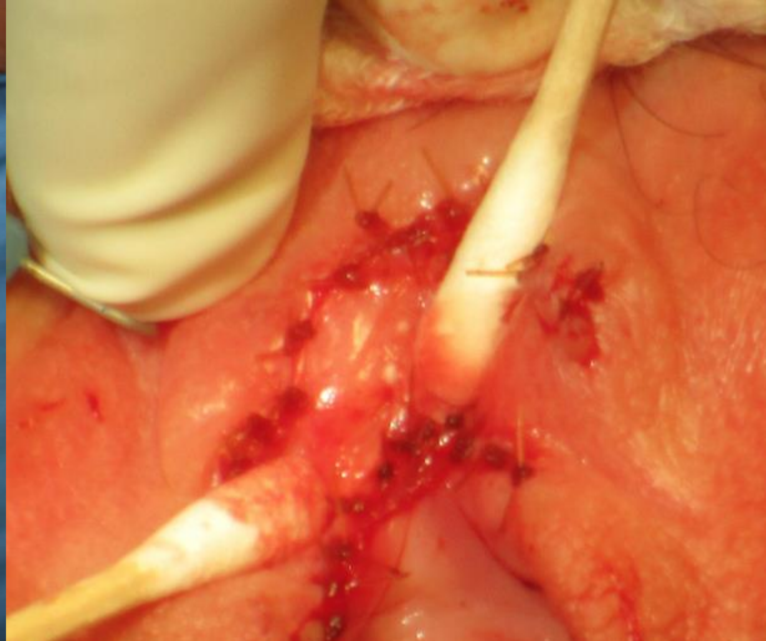
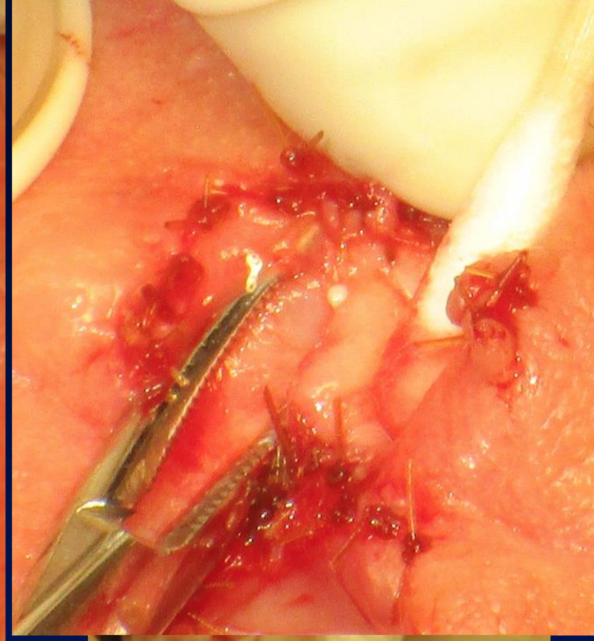
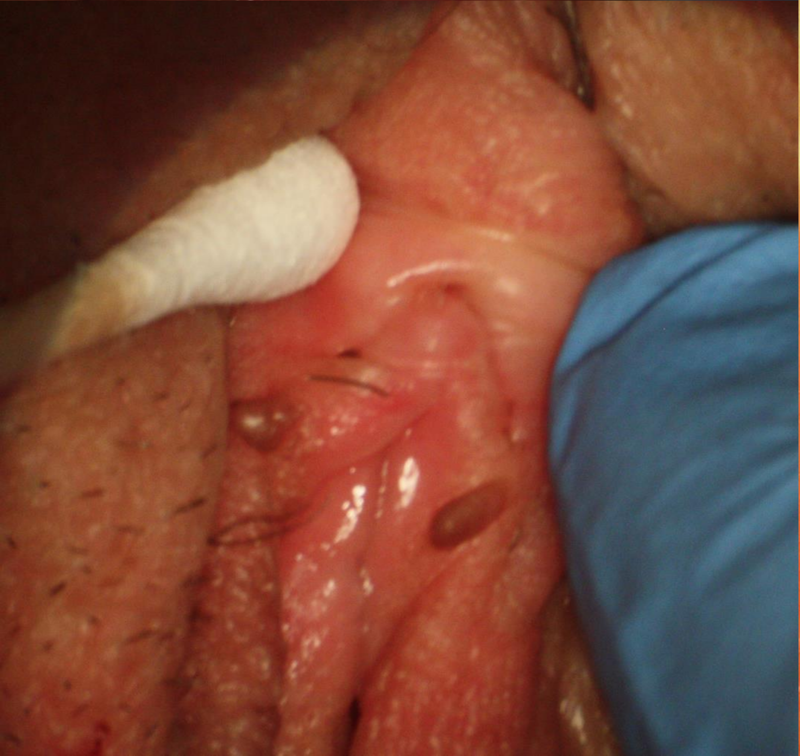
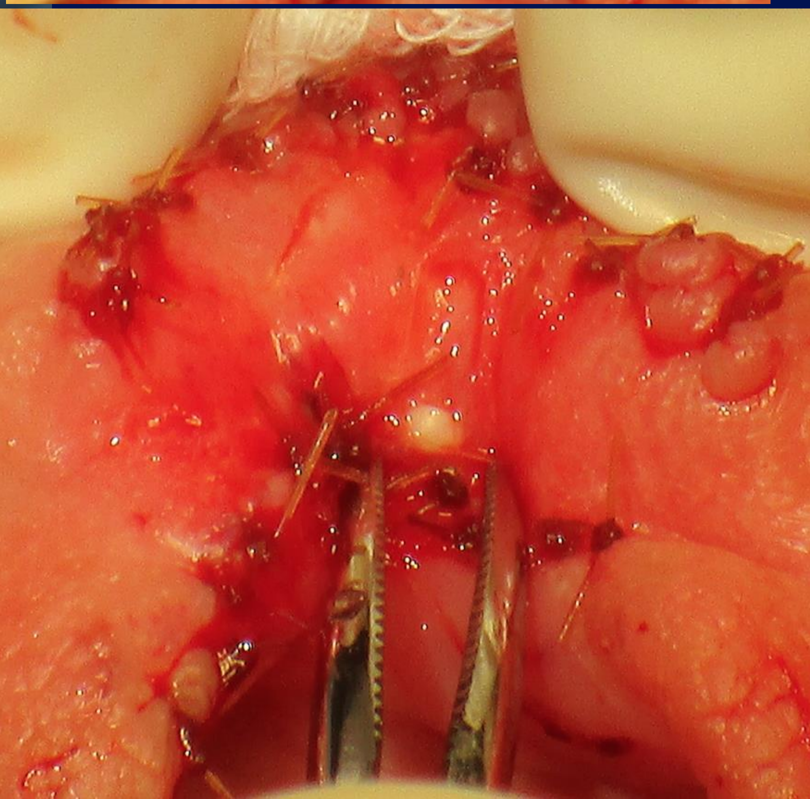
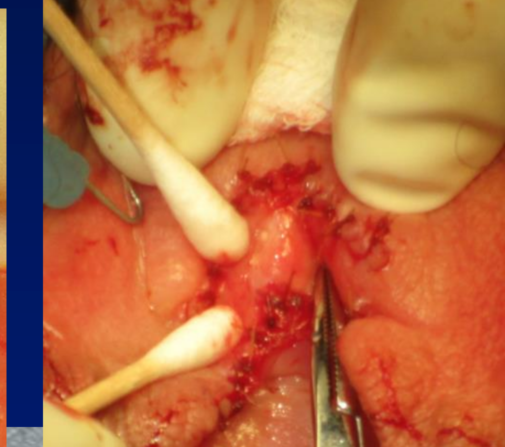
Lateral aspect of prepuce excised

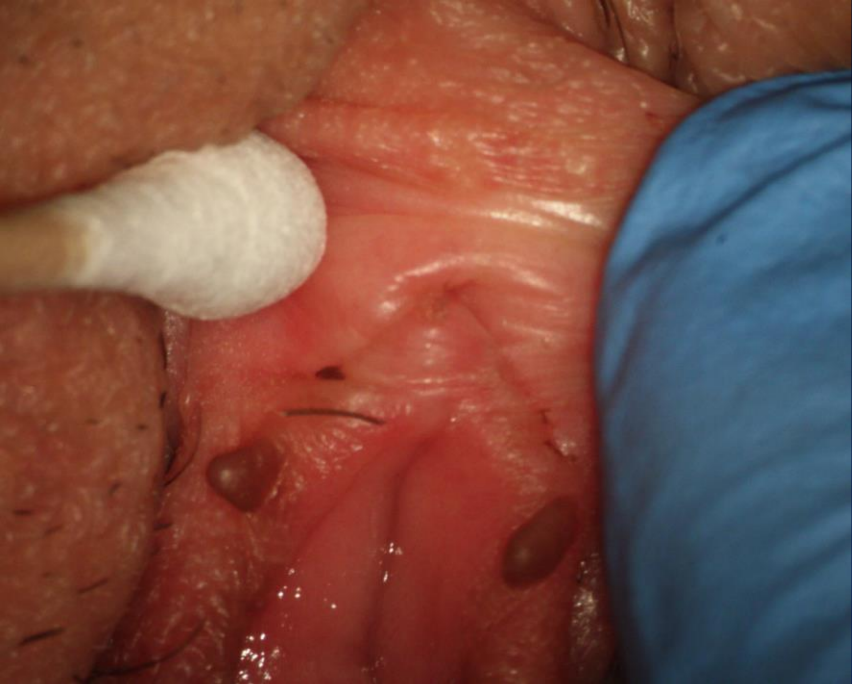
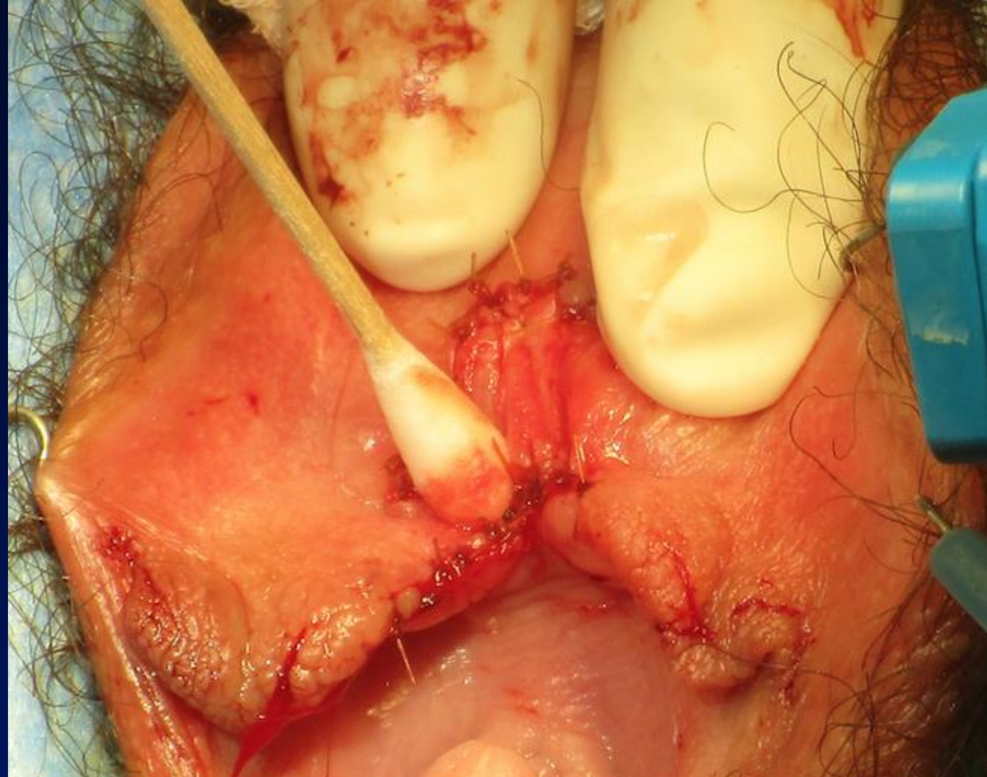
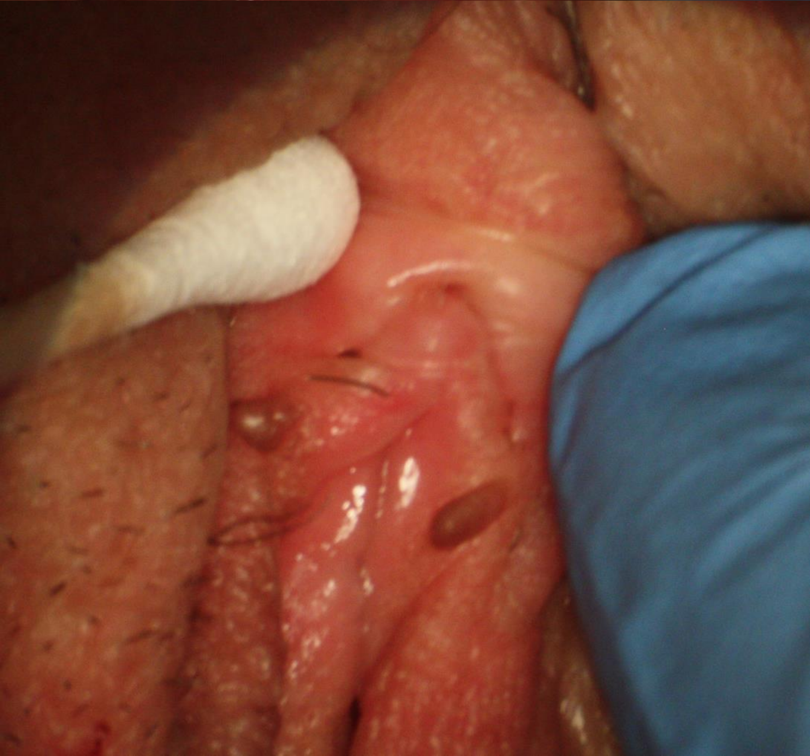
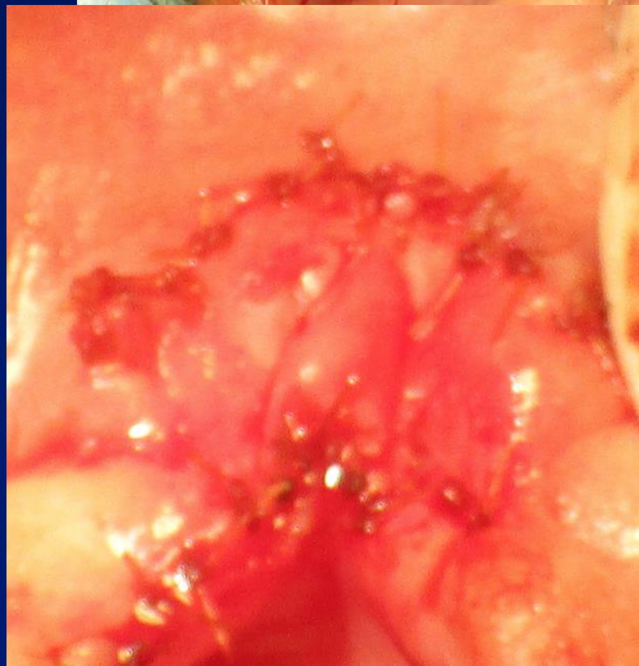
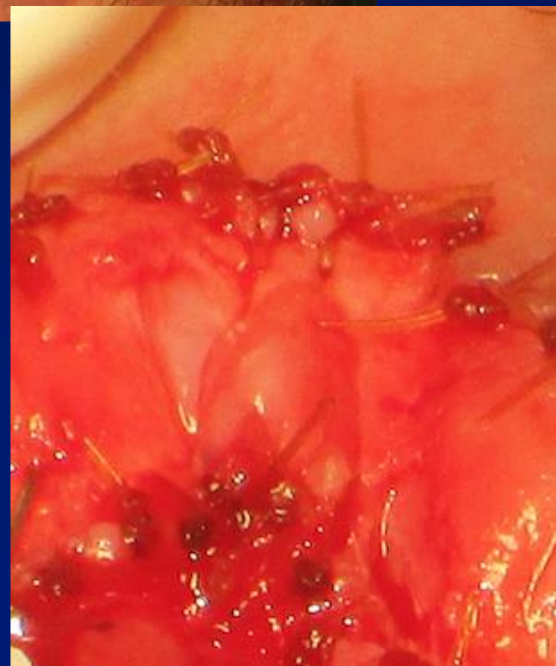


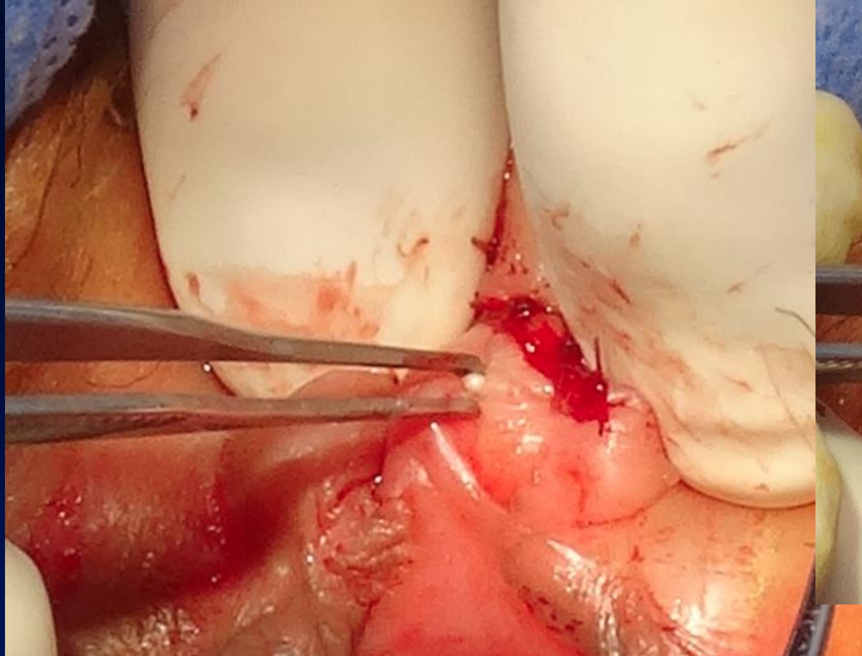
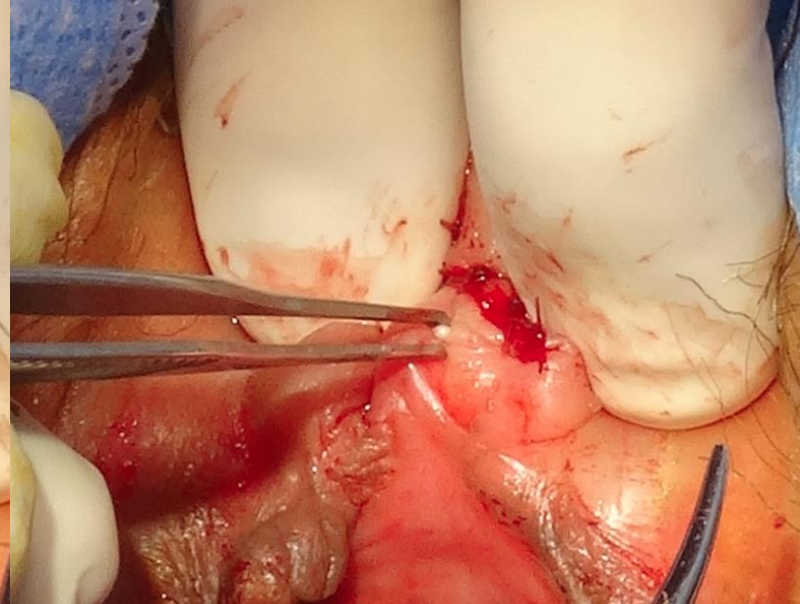
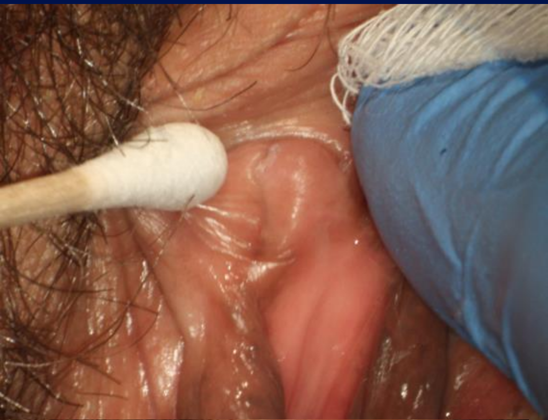
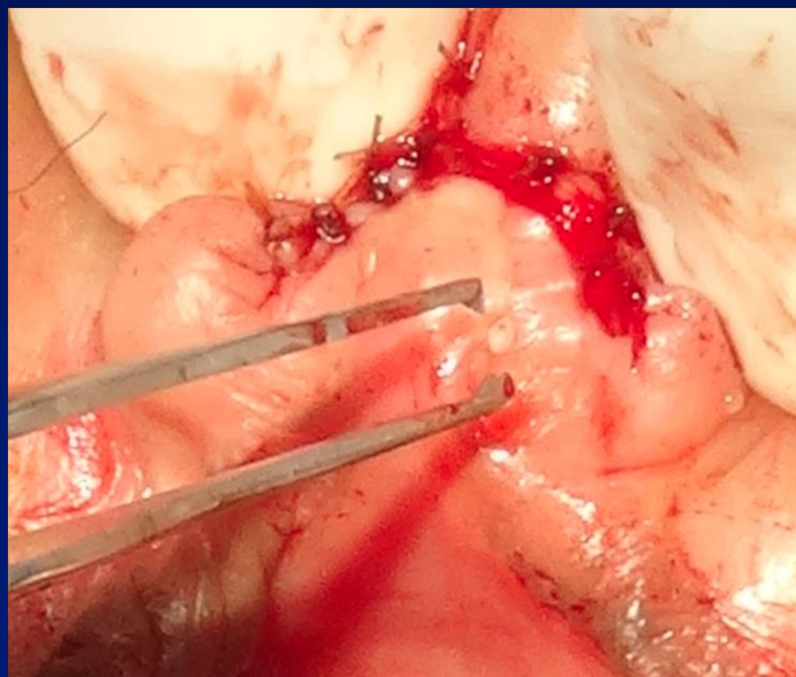
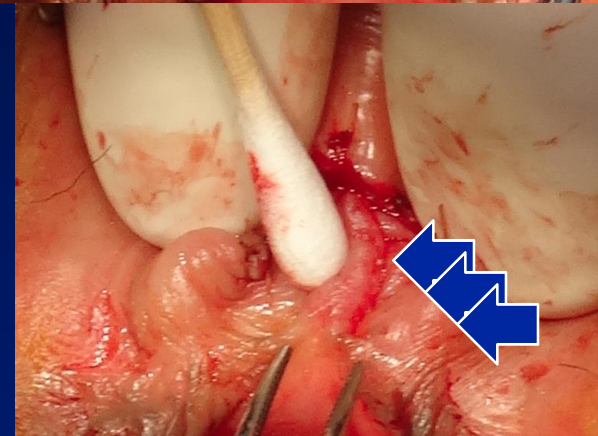
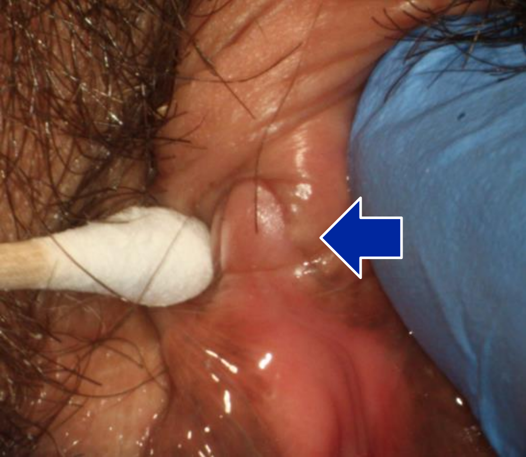
Preop
Postop
Interrupted 4-0 chromic sutures to close incision

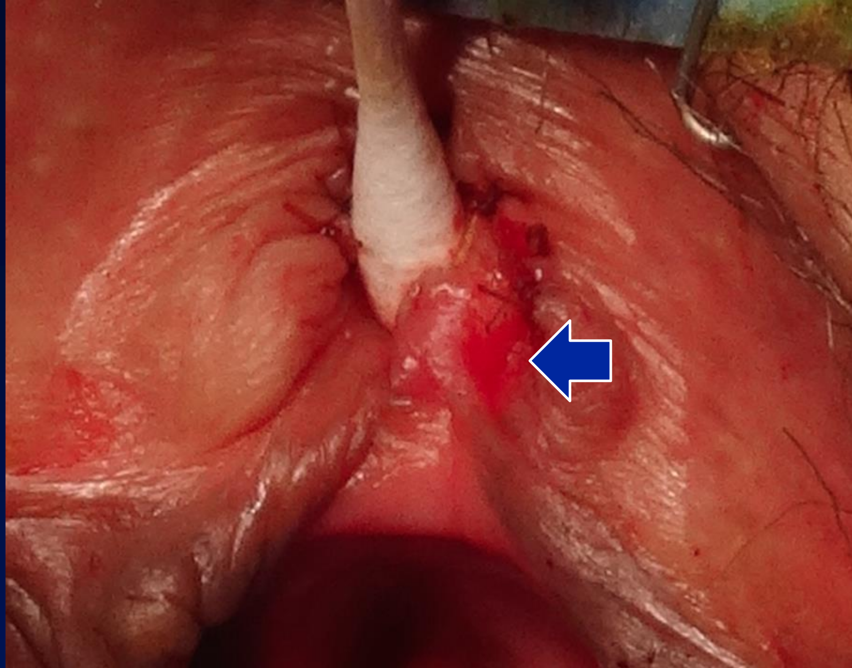
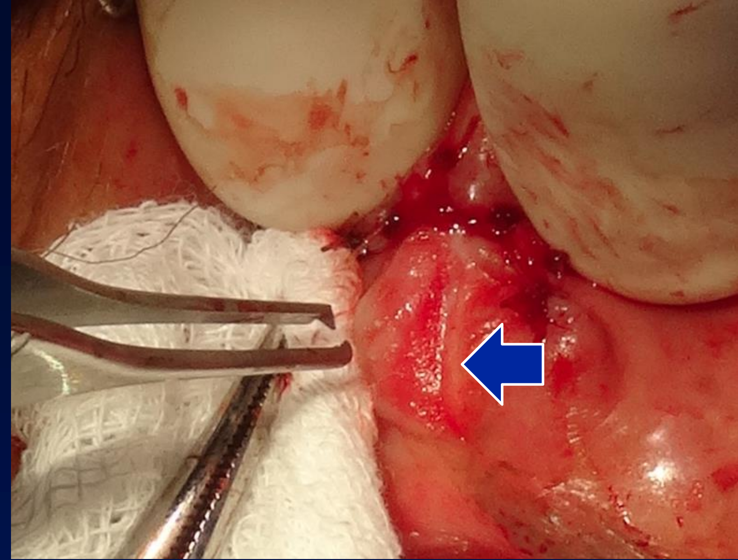
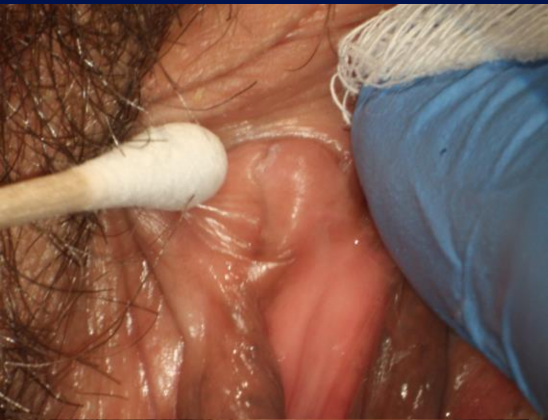
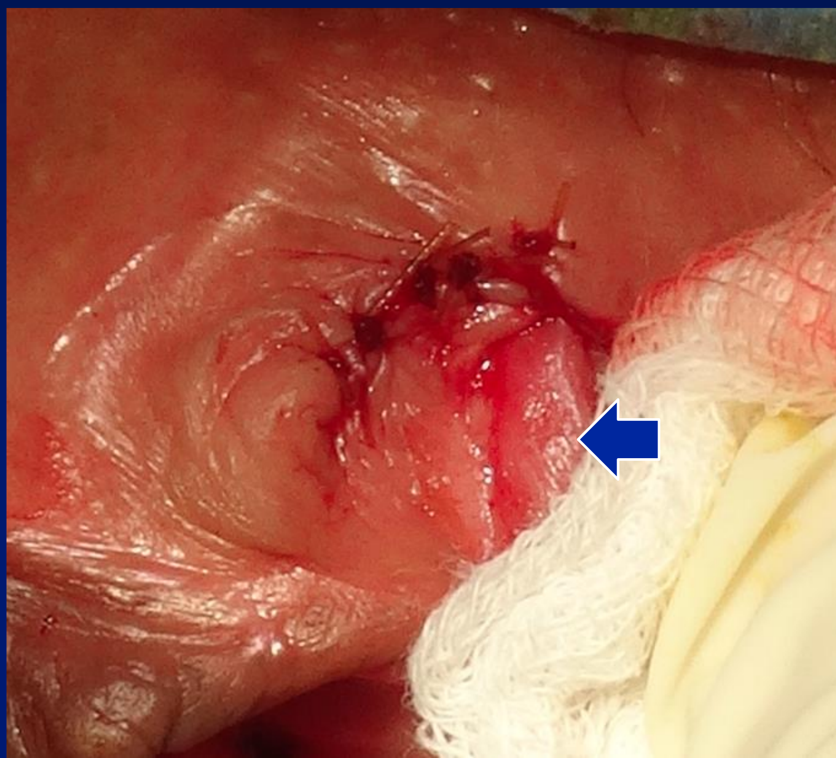
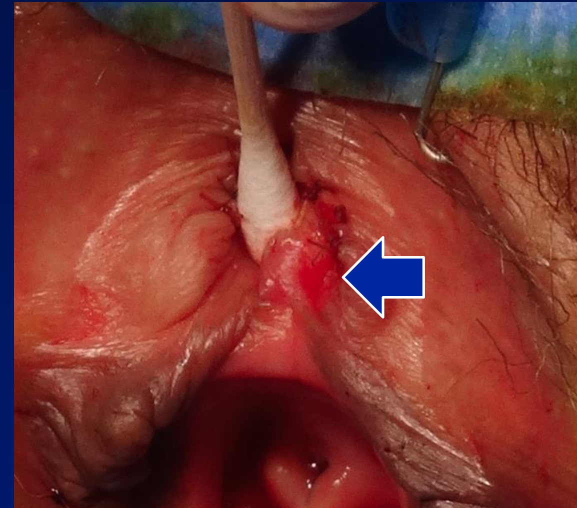
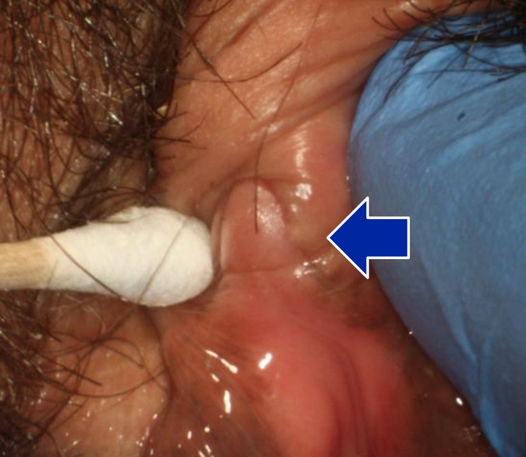
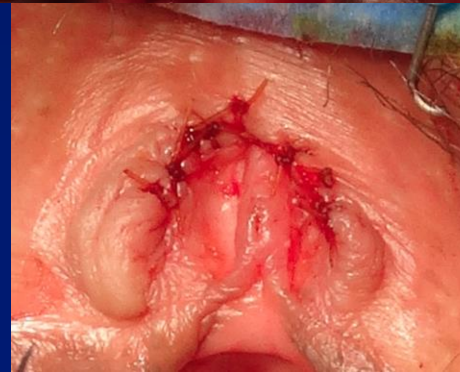





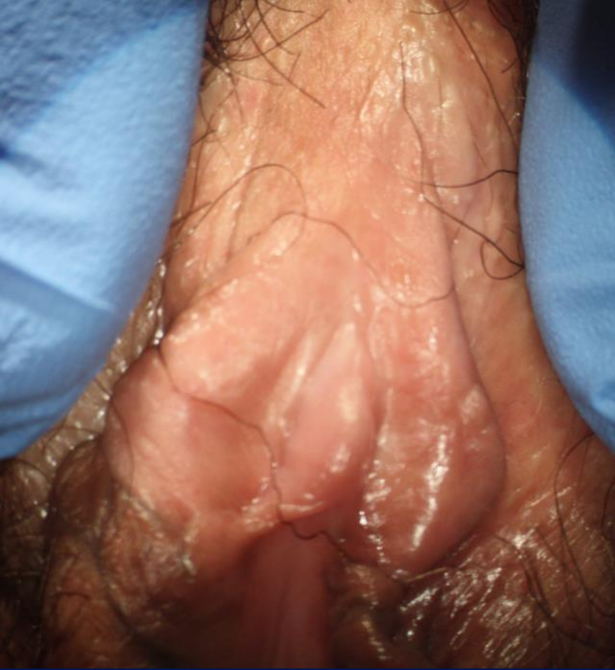
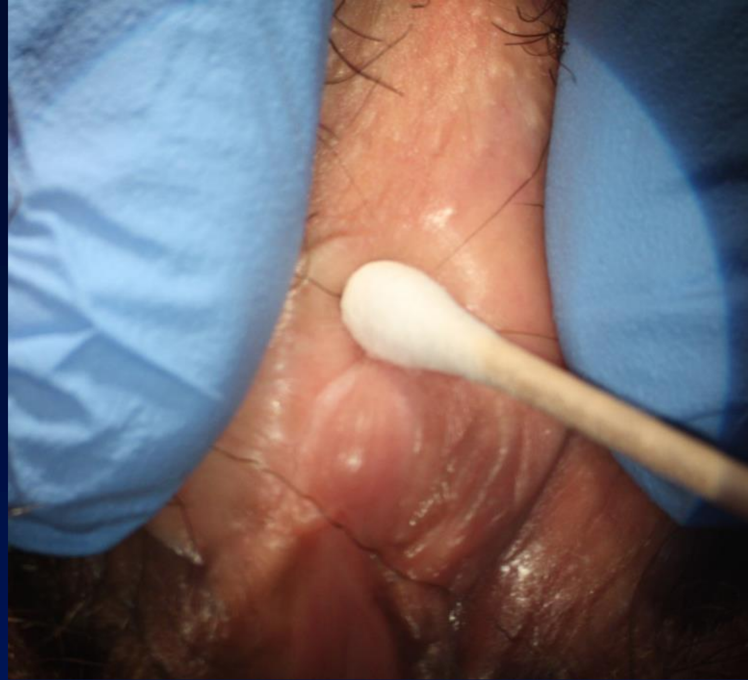
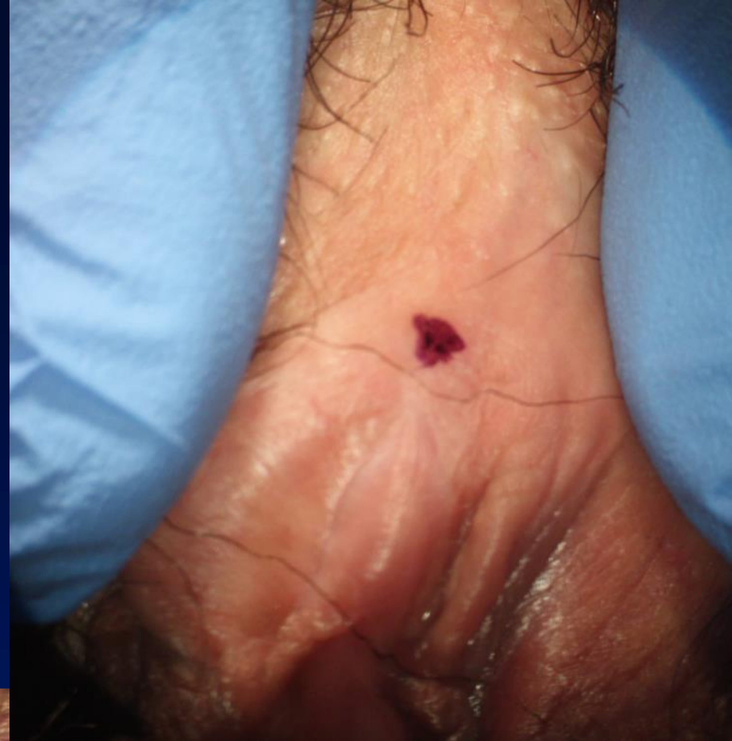
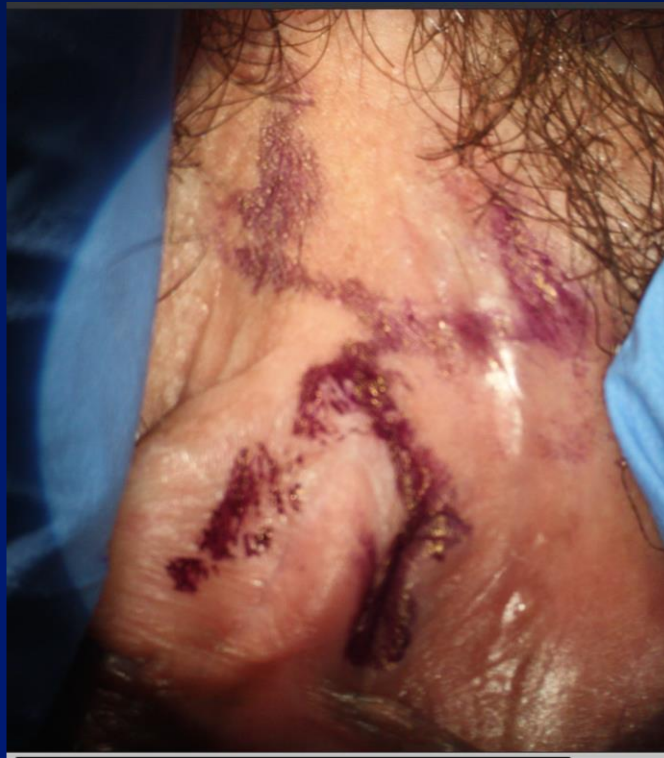
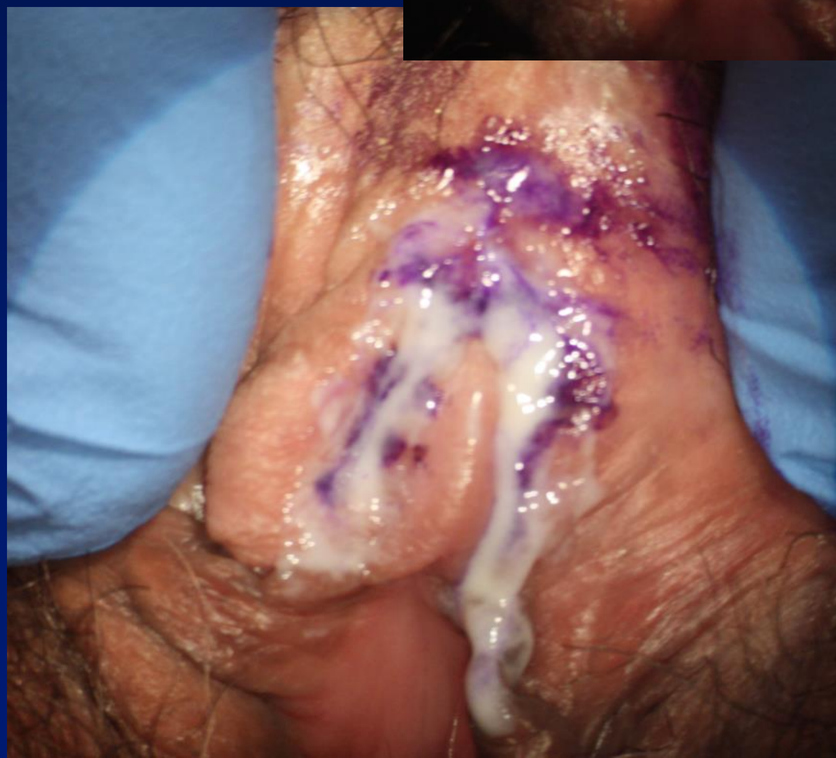





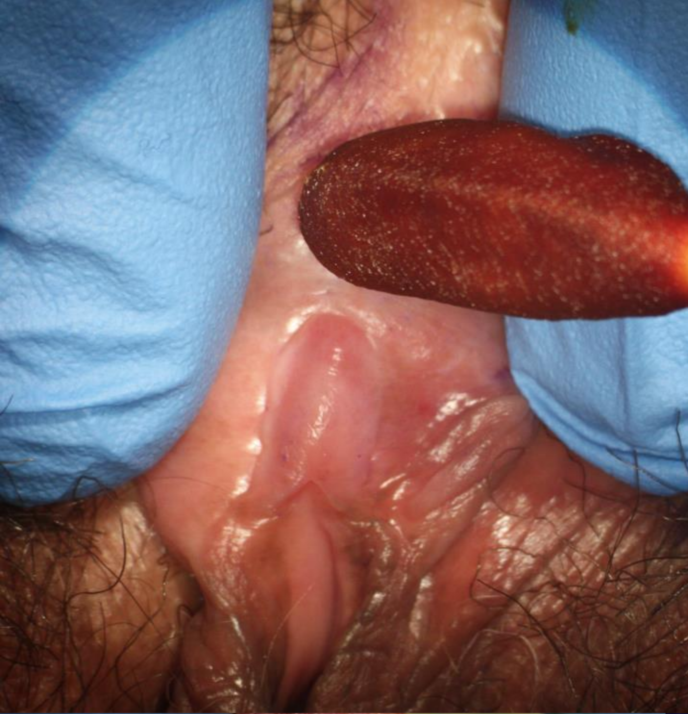
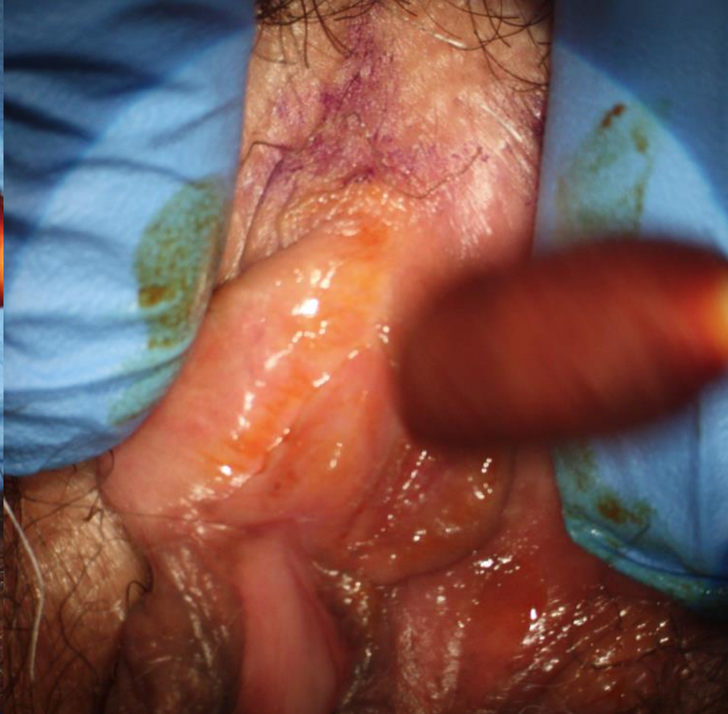
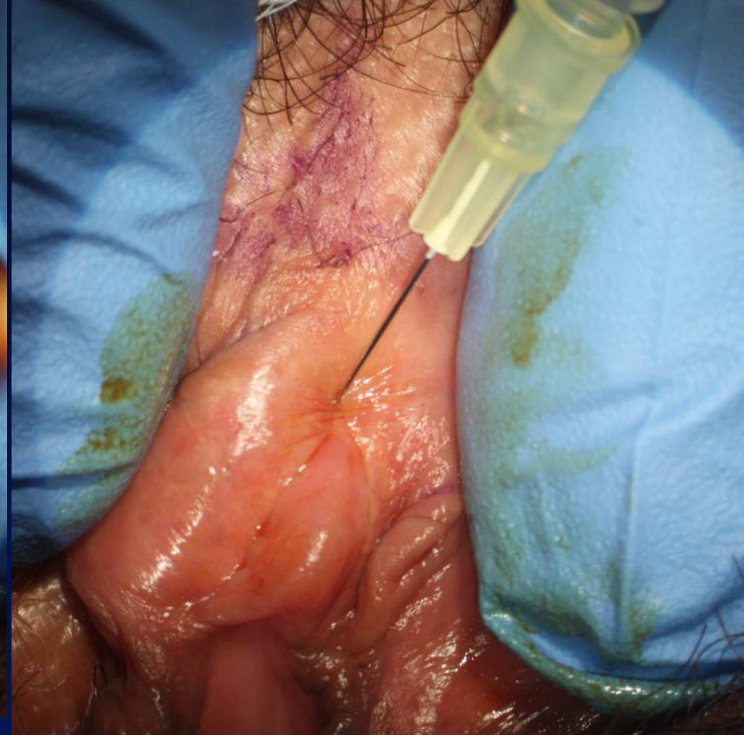
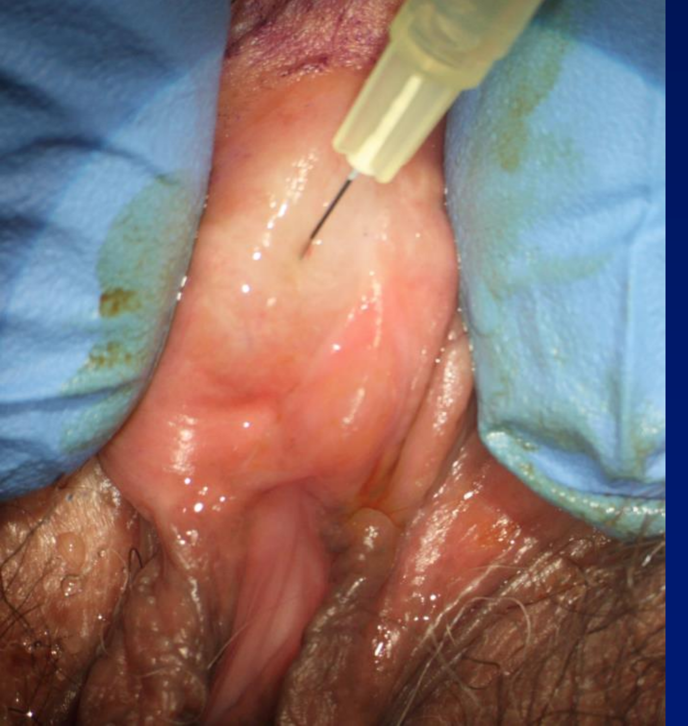
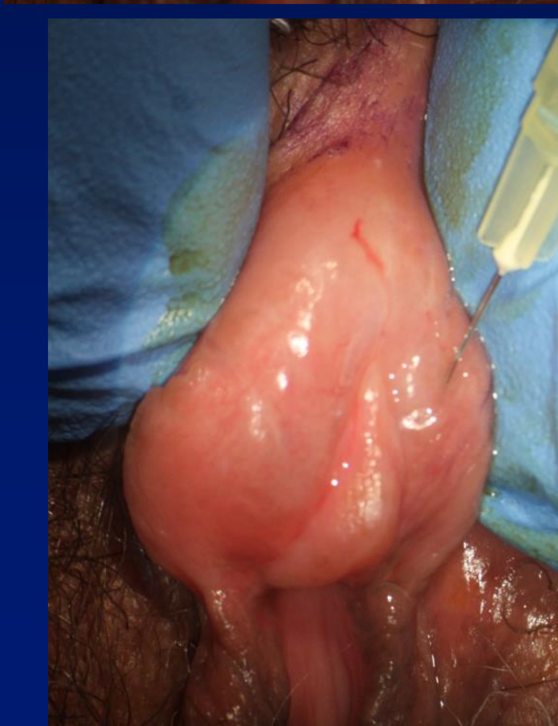
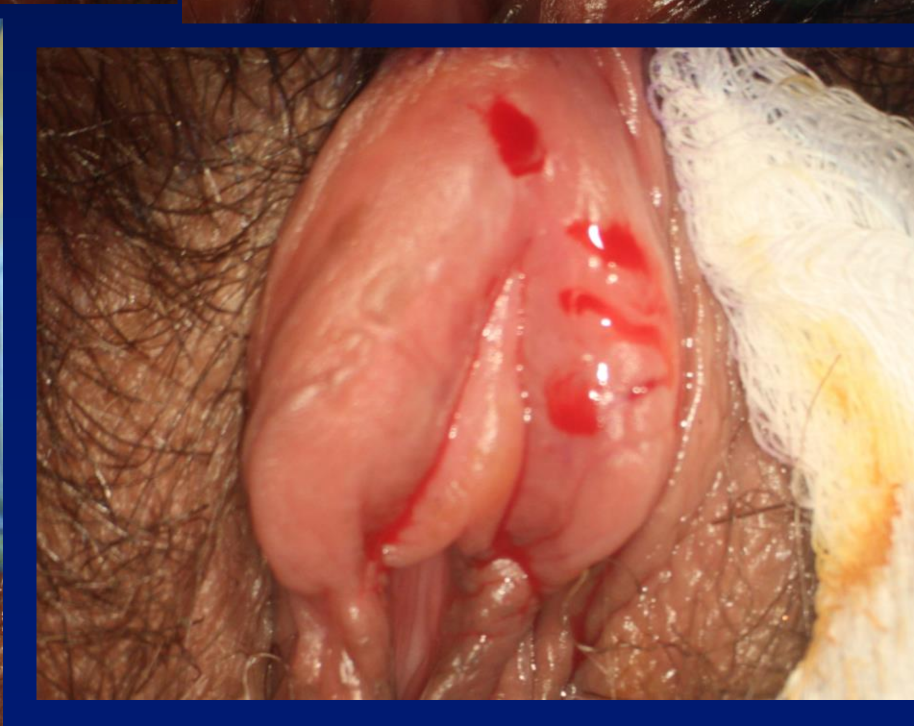







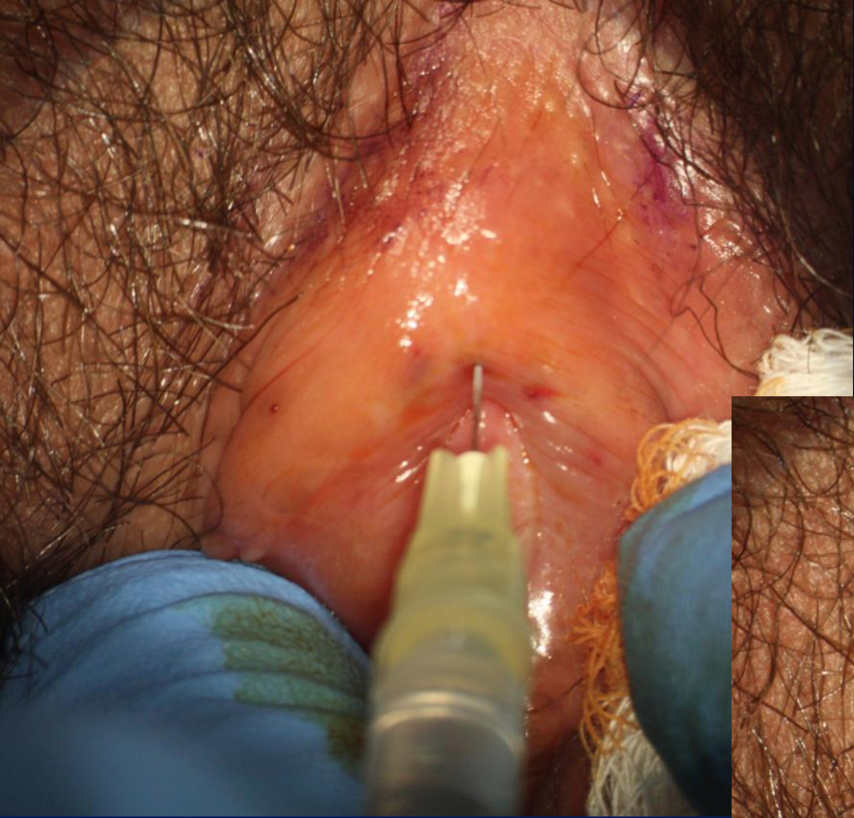
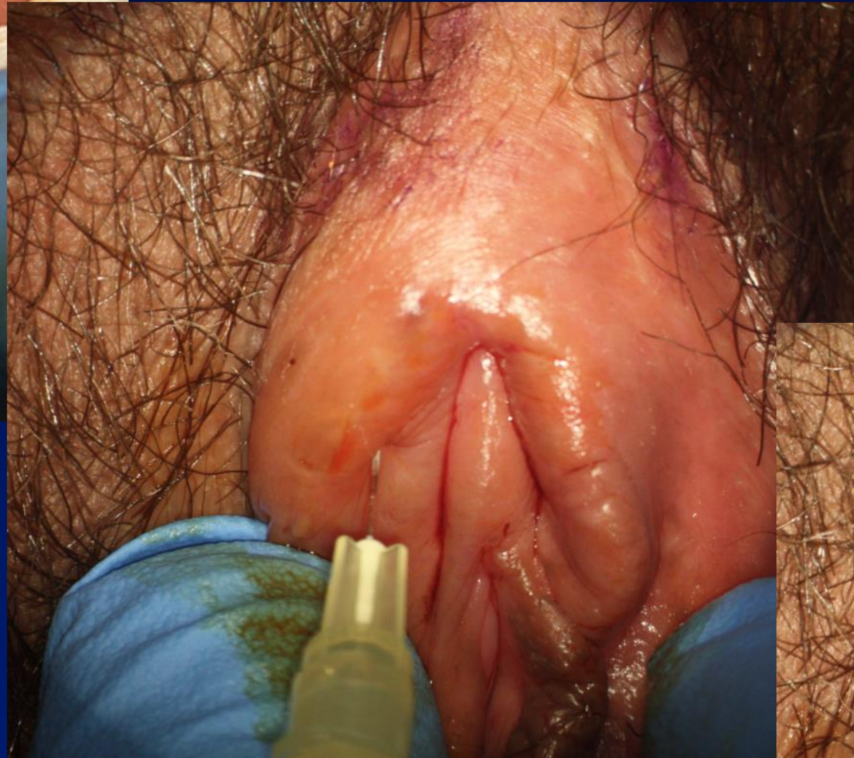
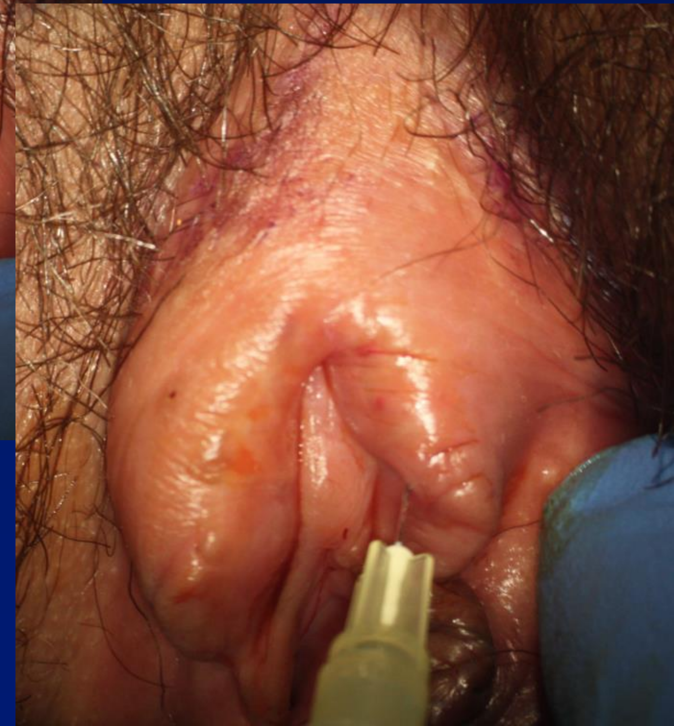






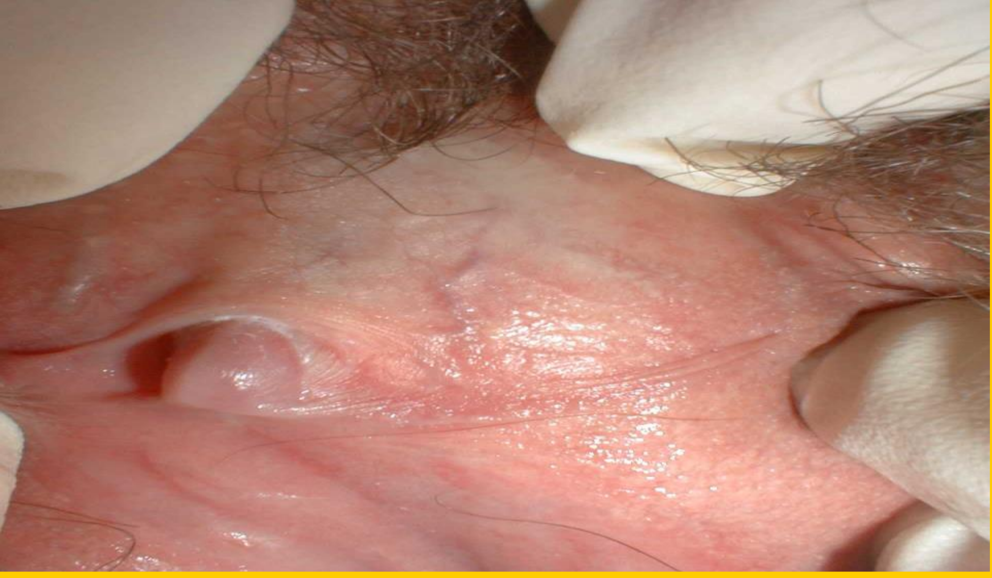







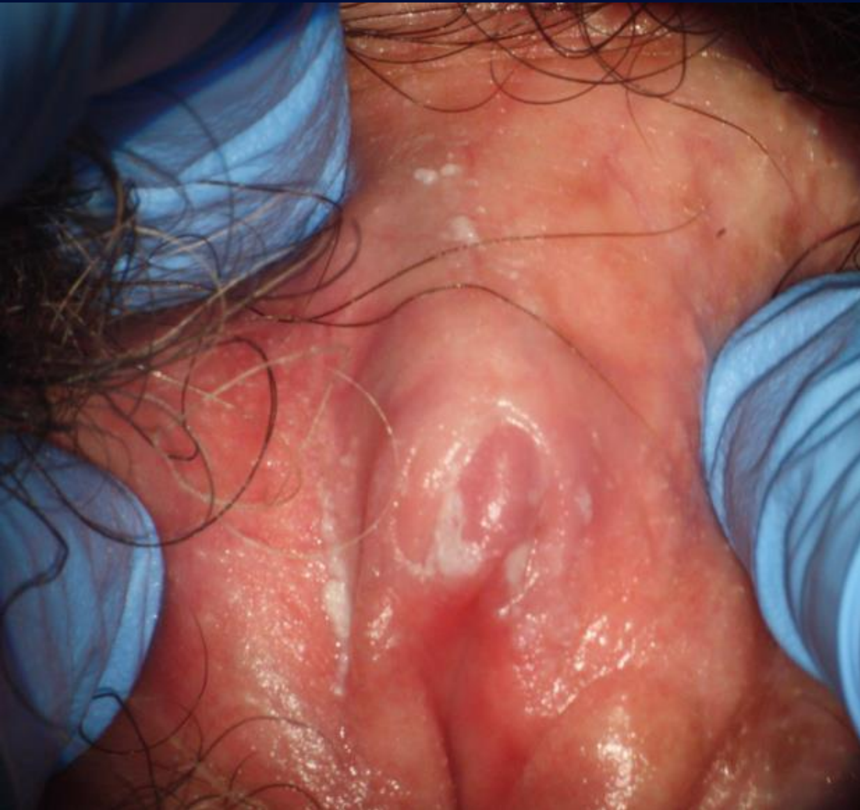






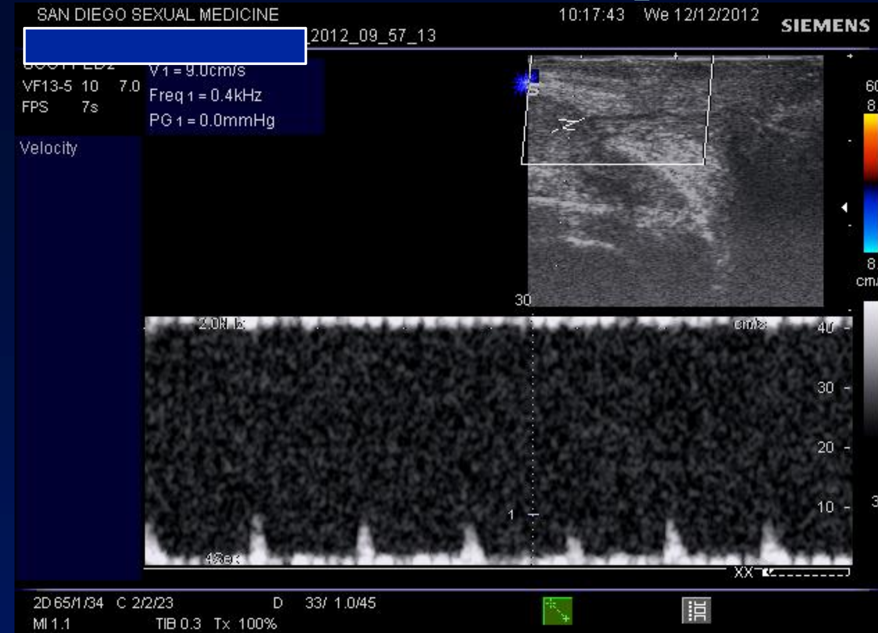







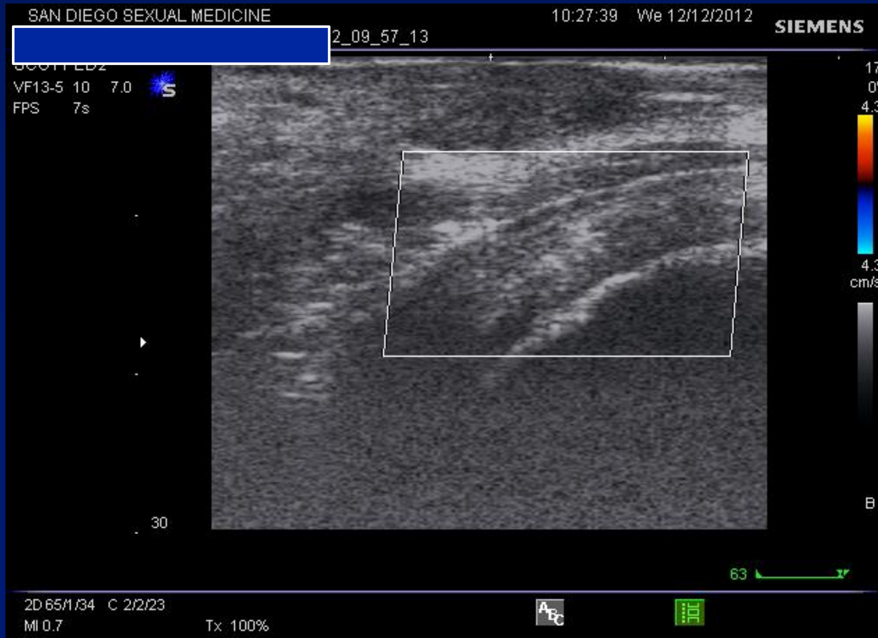






Clitoral Priapism







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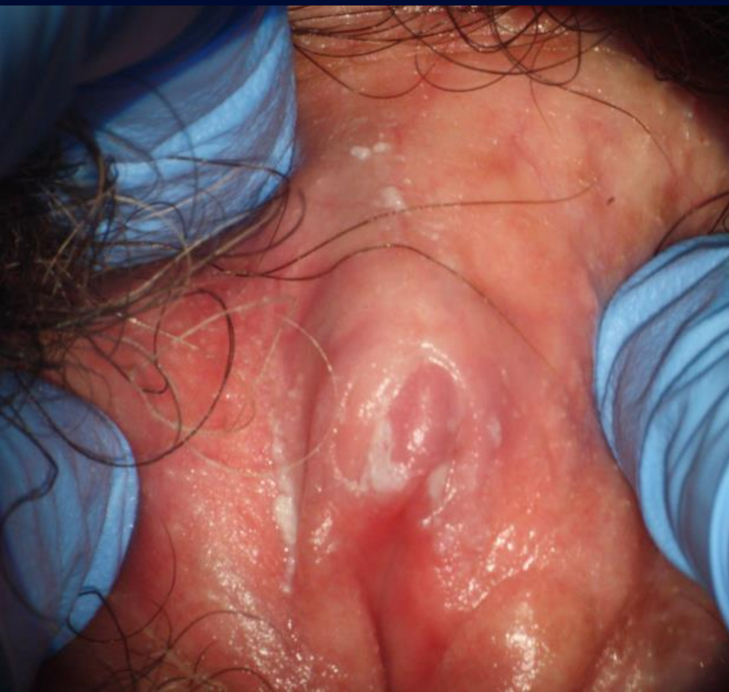
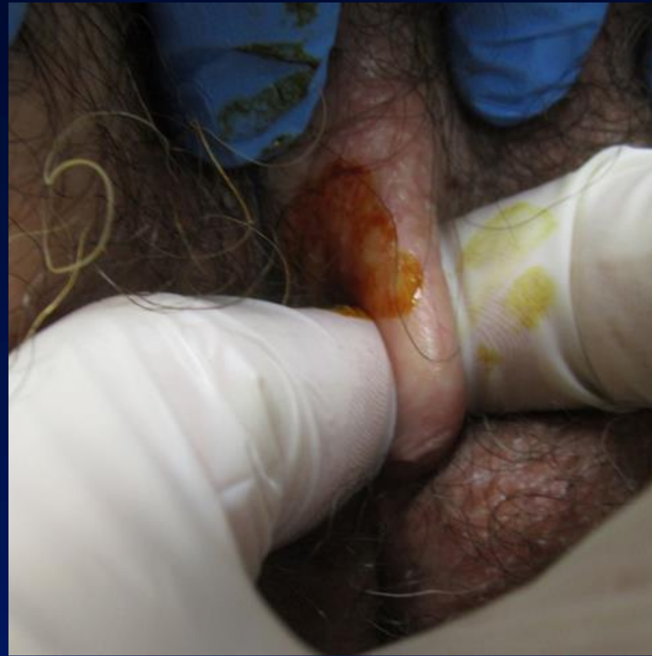
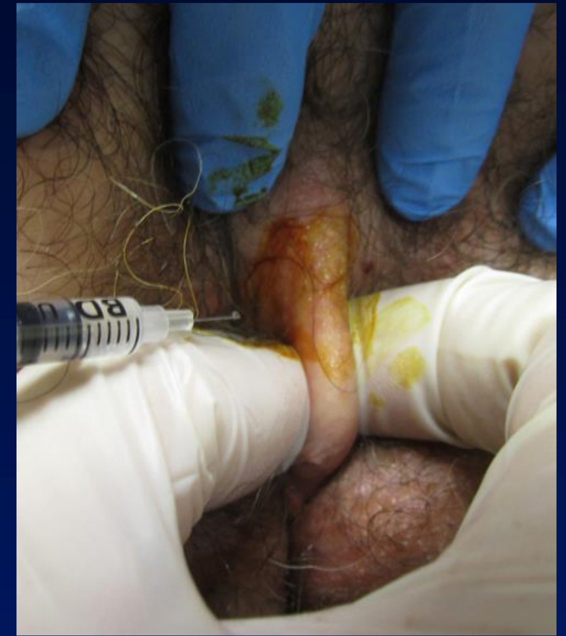
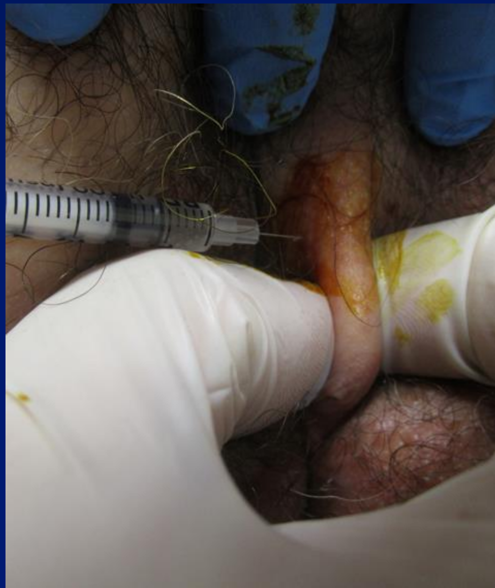
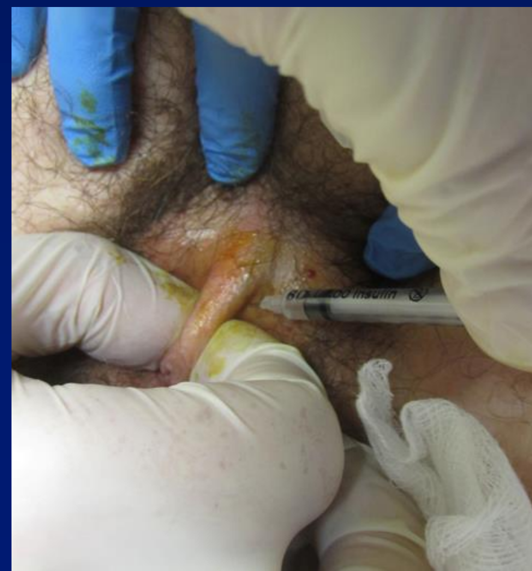
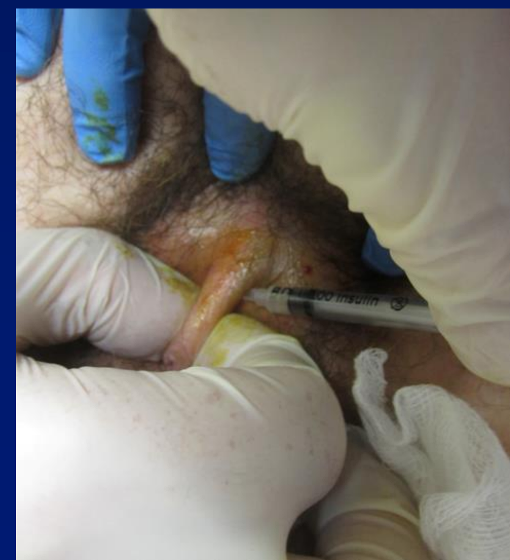




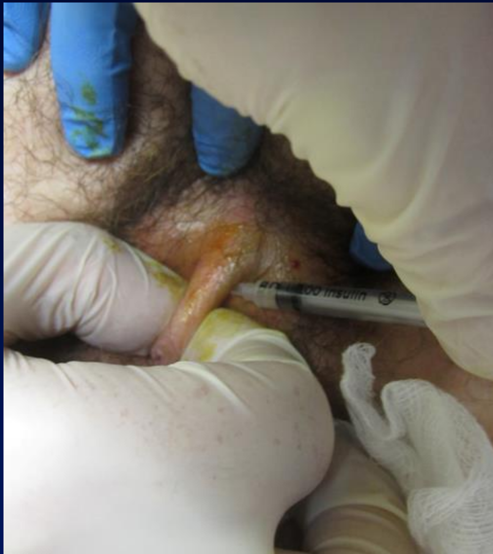








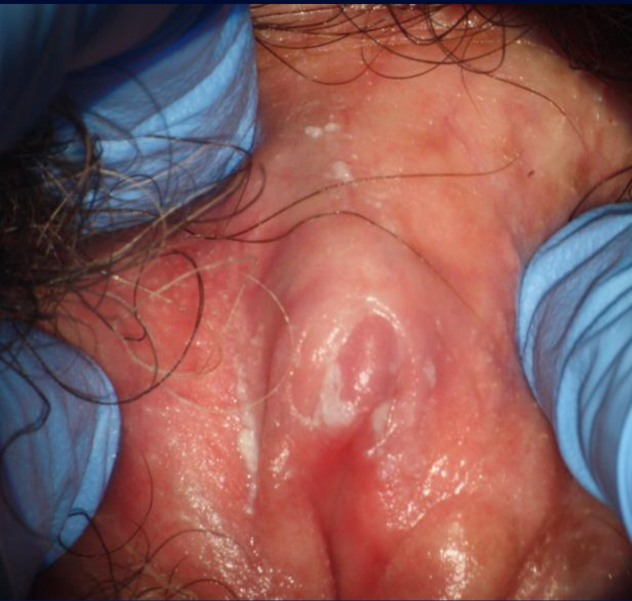
Clitoral Priapism

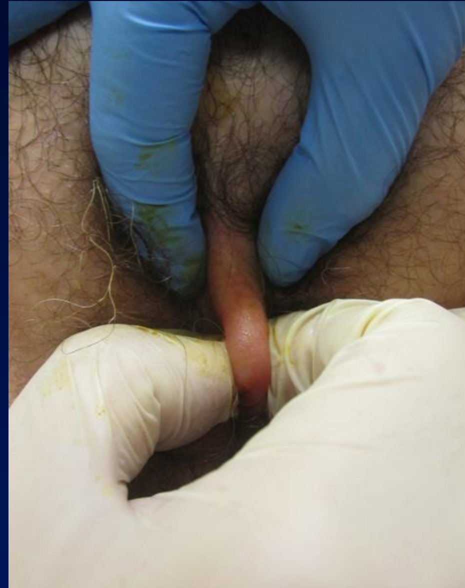


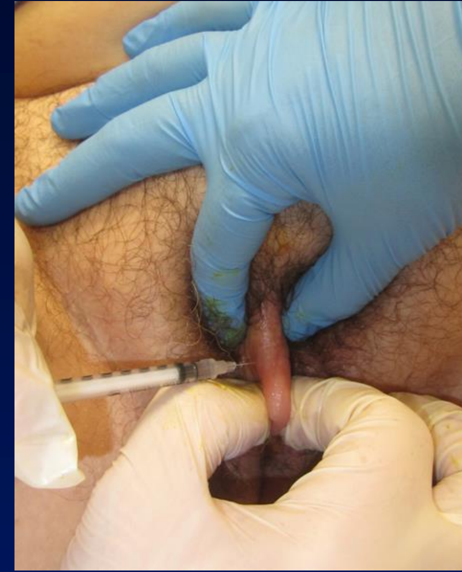
SAN DIEGO SEXUAL MEDICINE
ears F 12_12_2012_09_57_13
10:56:15 We 12/12/2012
SIEMENS
SCOTT ED2
VF13-5 10 7.0
FPS 7s
V1 = 32.9cm/s
Freq 1 = 1.5kHz
PG 1 = 0.4mmHg
Velocity
11
60°
8.6
8.6
cm/s
30
30
20
10
3
2D 65/1/32 C 2/2/23 D 33/ 1.0/45
MI 1.0 TIB 0.3 Tx 100%

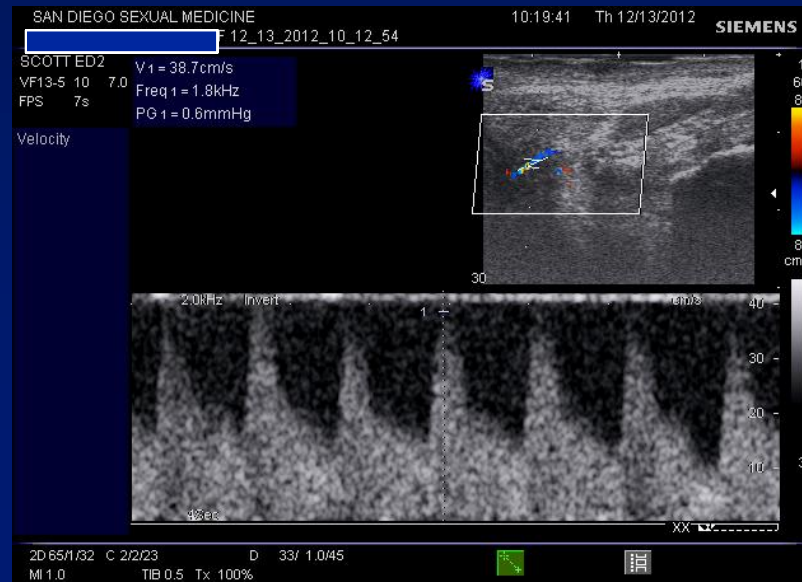
Dramatic relief of pain for 13 hours

Clitoral Priapism







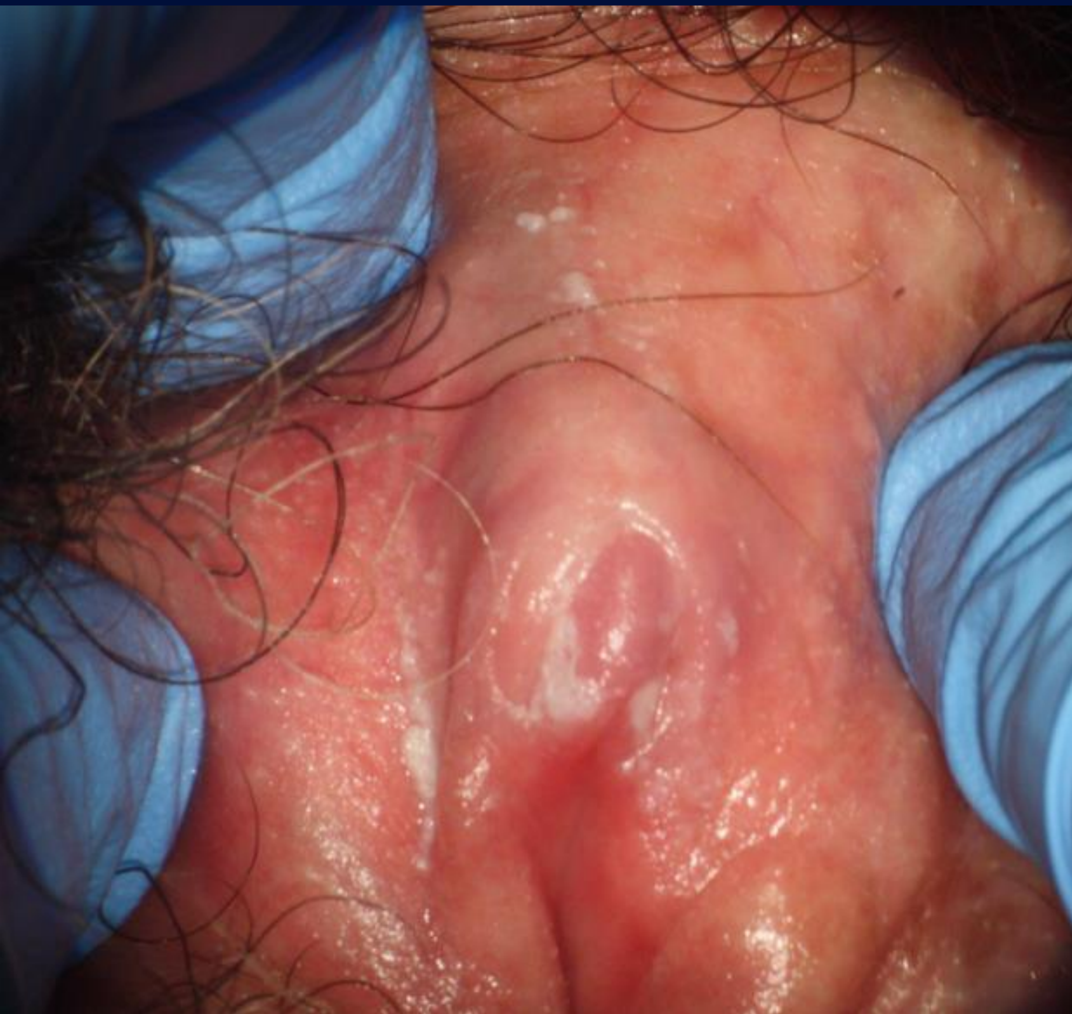


Dramatic relief of pain for 10 hours

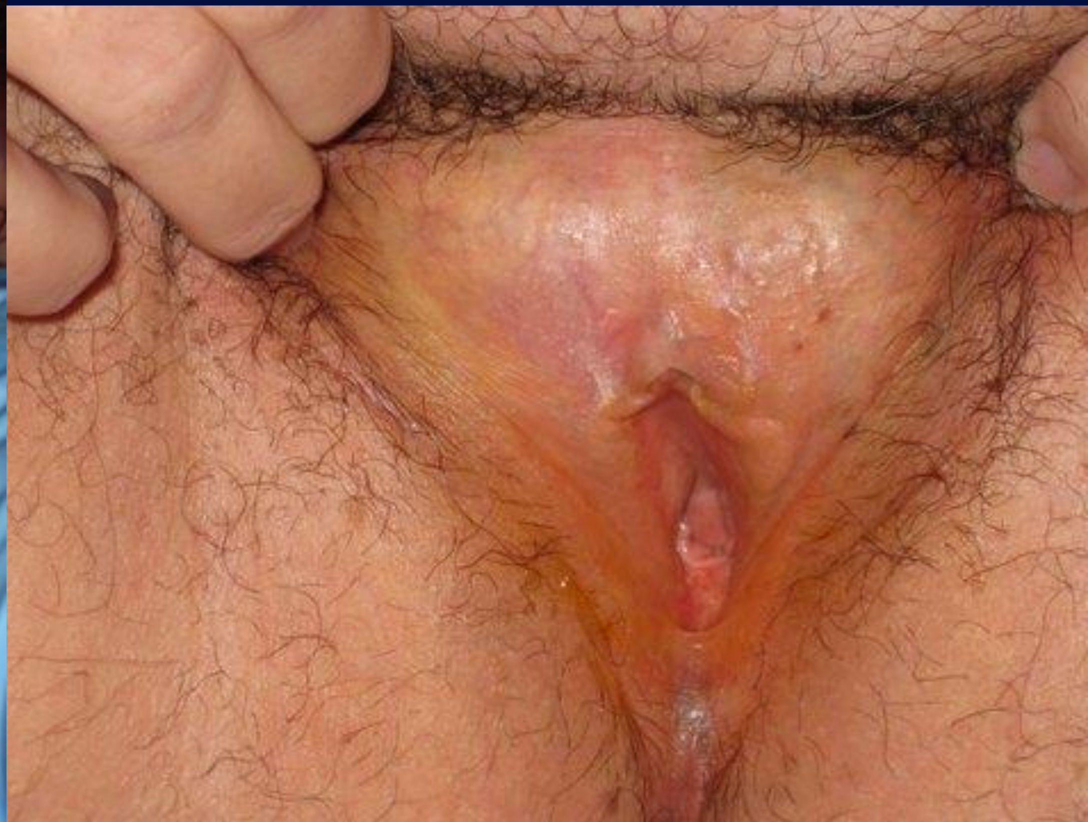
Modified Corporal Glanular Shunt with Corporal Snake Maneuver

SAN DIEGO SEXUAL MEDICINE
2013_08_56_48
09:12:05 We 03/20/2013
SIEMEN
SCOTT ED2
VF13-5 10 7.0
FPS 7s
V1 = 37.5cm/s
Freq1 = 1.7kHz
PG1 = 0.6mmHg
Velocity

Pre-op

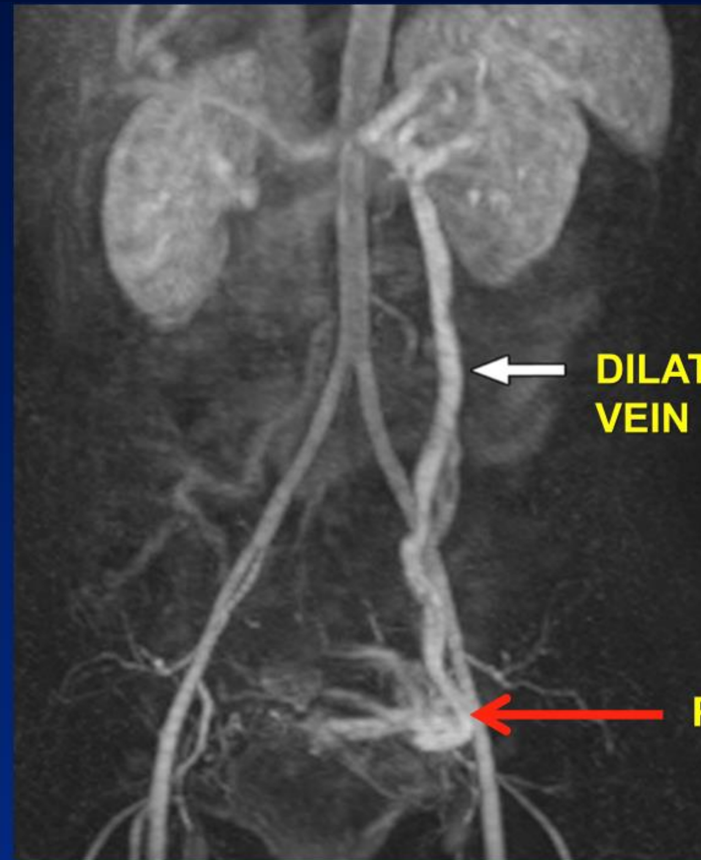


1 month post-op



Medical or biologic causes vulvodynia:

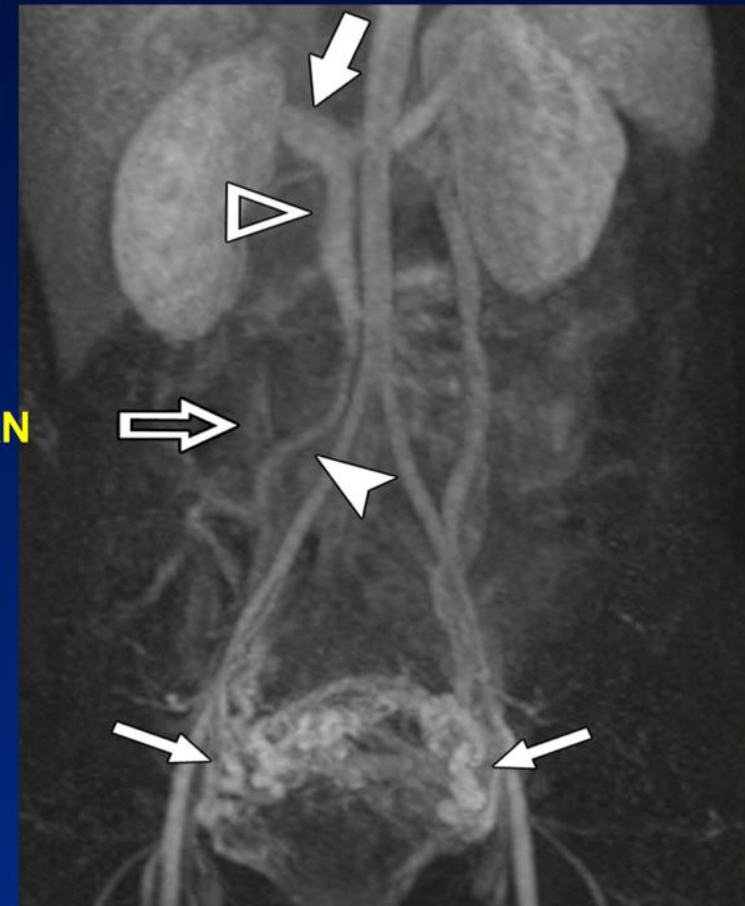
1. Altered hormone integrity
2. Increased nerve fiber density - genetic susceptibility leading to elevated levels of nerve growth factor substances
3. An injury to, or irritation of, the pudendal nerves that transmit pain and other sensations
4. Abnormal response of tissues to Candida infection, or recognized allergies or non-specific allergies
5. Dermatologic conditions: lichen sclerosus or lichen planus
6. Vulvar granuloma fissuratum
7. Peri-urethral glans pathology
8. Desquamative Inflammatory Vaginitis
9. Bartholin cyst
10. Clitorodynia
11. Pelvic Congestion Syndrome
12. Endometriosis
13. Pelvic Organ Prolapse
14. Interstitial Cystitis
15. Referral from Hip Disease
16. Partner Issues – Peyronie's disease, piercings
17. High tone pelvic floor dysfunction

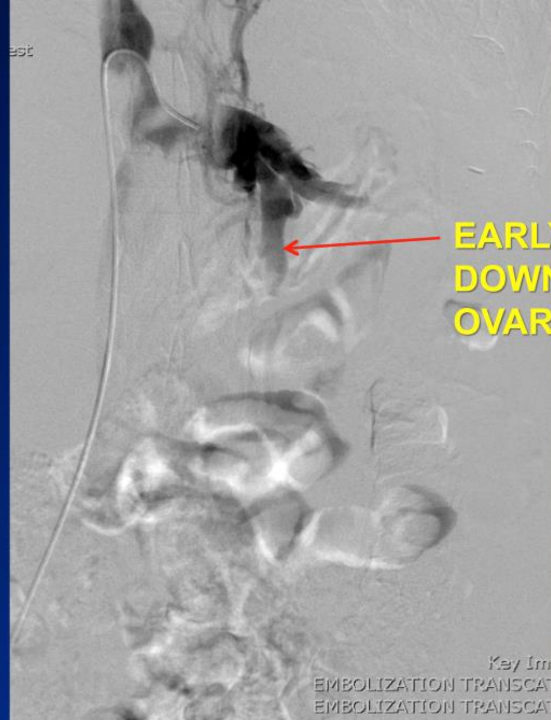


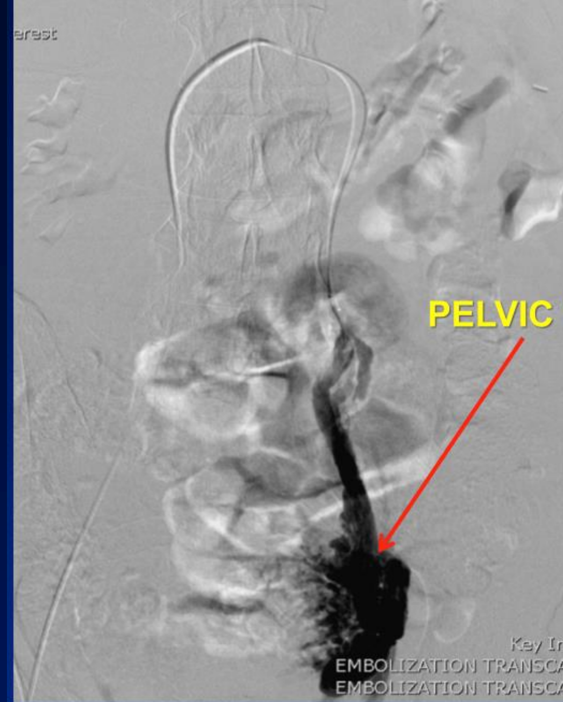
DILATED LEFT OVARIAI
VEIN

PELVIC VARICES

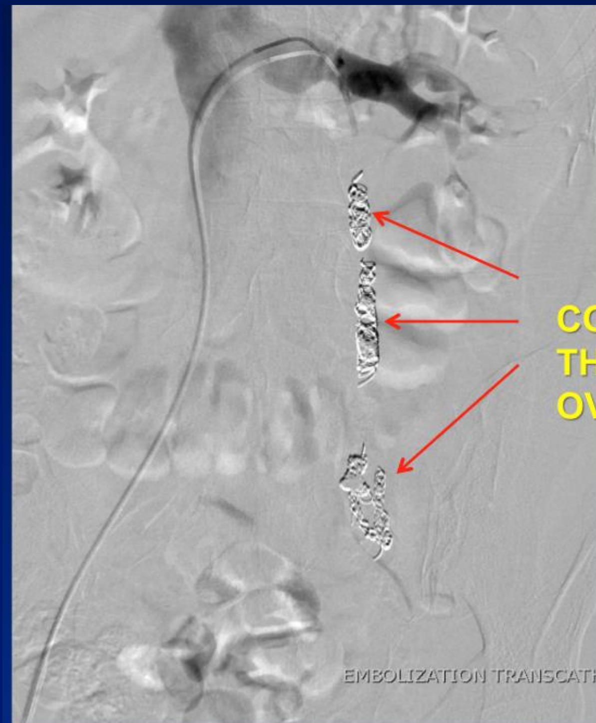
RIGHT OVARIAN
VEIN




EARLY REFLUX
DOWN LEFT
OVARIAN VEIN
Key Ima
EMBOLIZATION TRANSCAT
EMBOLIZATION TRANSCAT


PELVIC VARICES
Key Im
EMBOLIZATION TRANSCAT
EMBOLIZATION TRANSCAT

PELVIC VARICES CROSS THE
MIDLINE
Key Im
EMBOLIZATION TRANSCAT
EMBOLIZATION TRANSCAT


COILS PLACED
THROUGHOUT LEFT
OVARIAN VEIN
EMBOLIZATION TRANSCATHE

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2. Increased nerve fiber density - genetic susceptibility leading to elevated levels of nerve growth factor substances
3. An injury to, or irritation of, the pudendal nerves that transmit pain and other sensations
4. Abnormal response of tissues to Candida infection, or recognized allergies or non-specific allergies
5. Dermatologic conditions: lichen sclerosus or lichen planus
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7. Peri-urethral glans pathology
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9. Bartholin cyst
10. Clitorodynia
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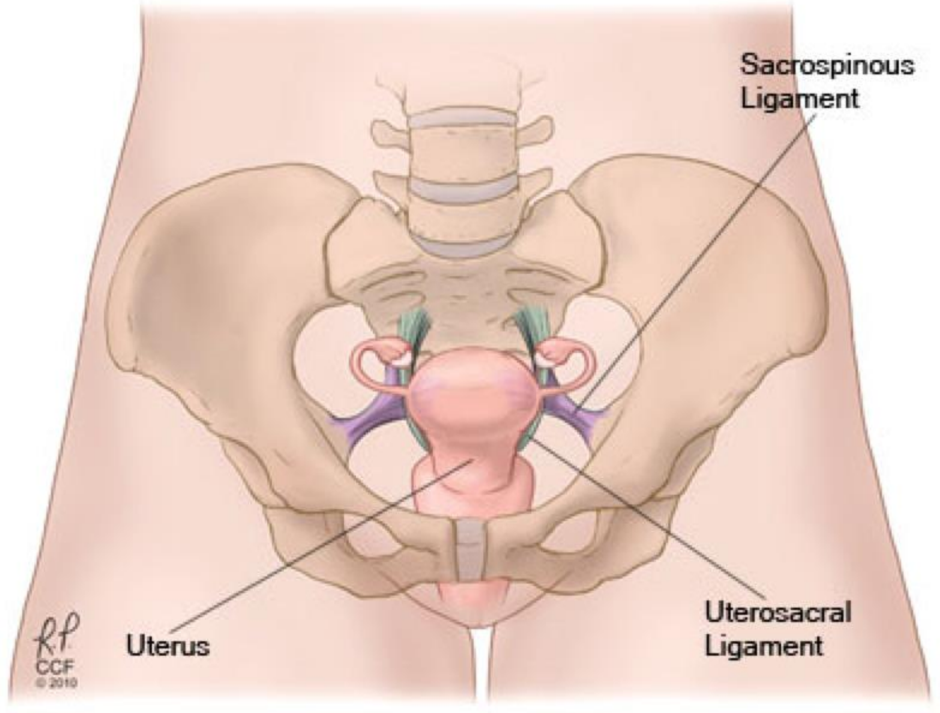
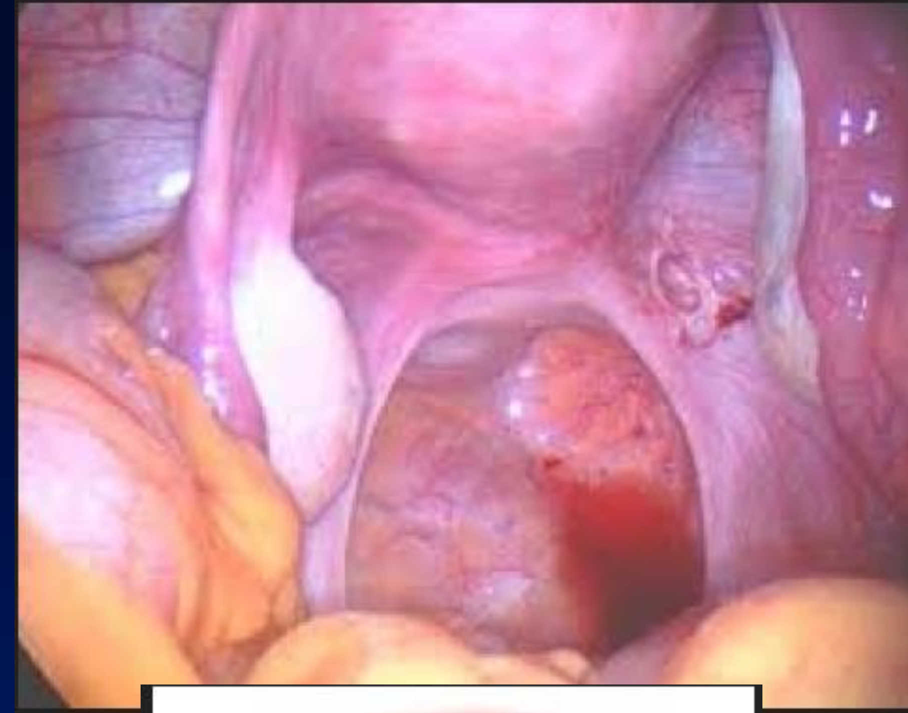
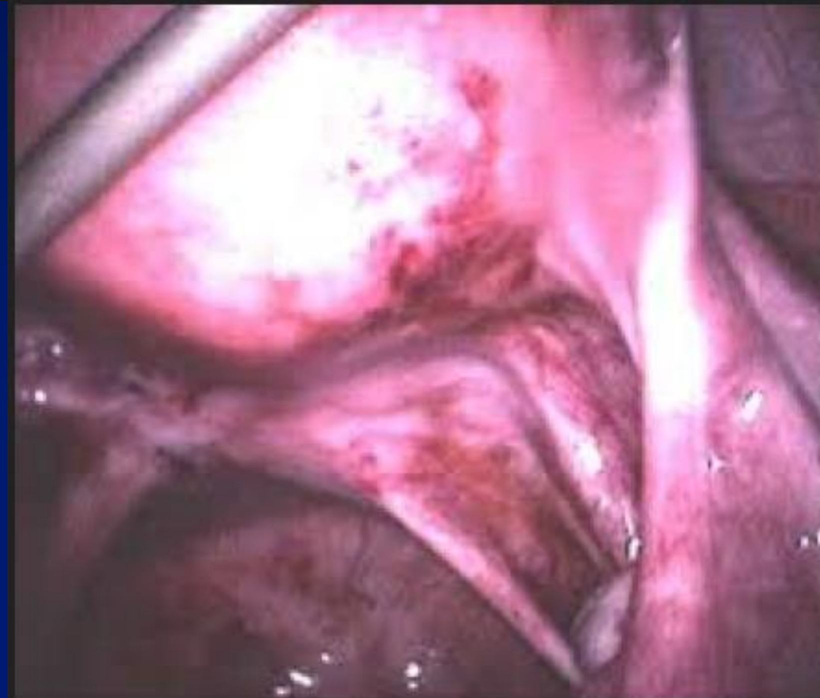
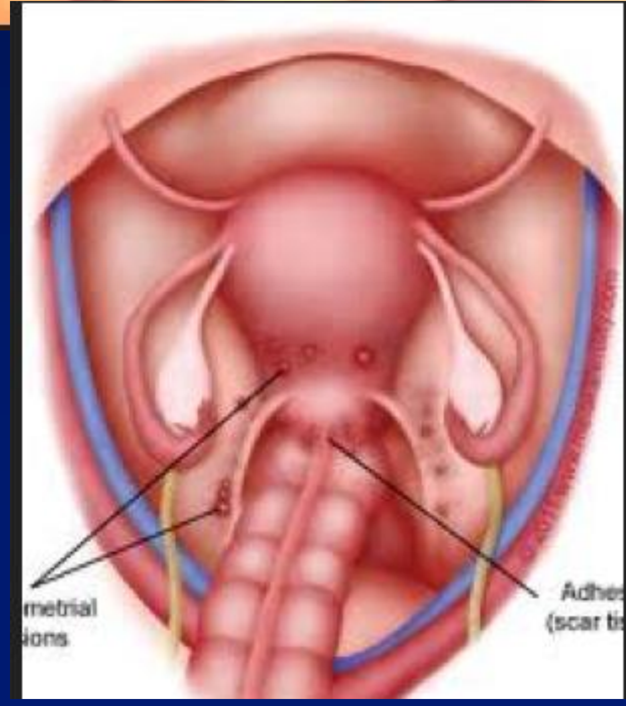
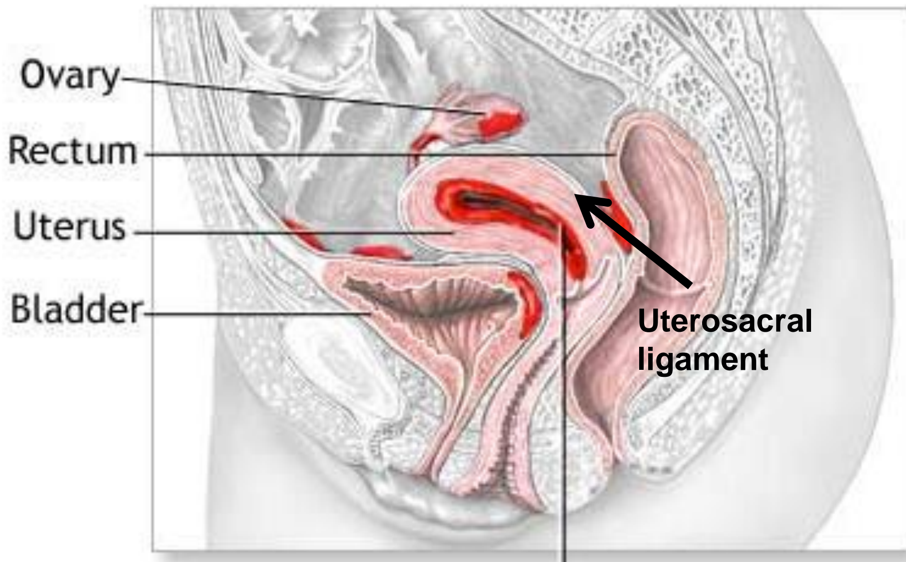
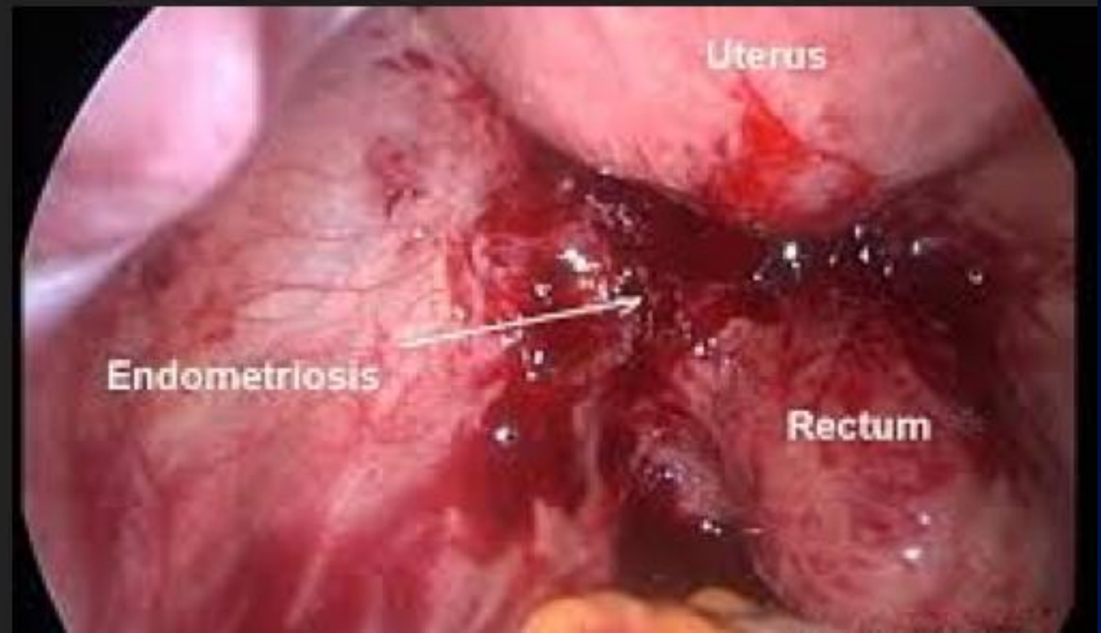

Sacrospinous
Ligament
Uterus
Uterosacral
Ligament
CCF
© 2010

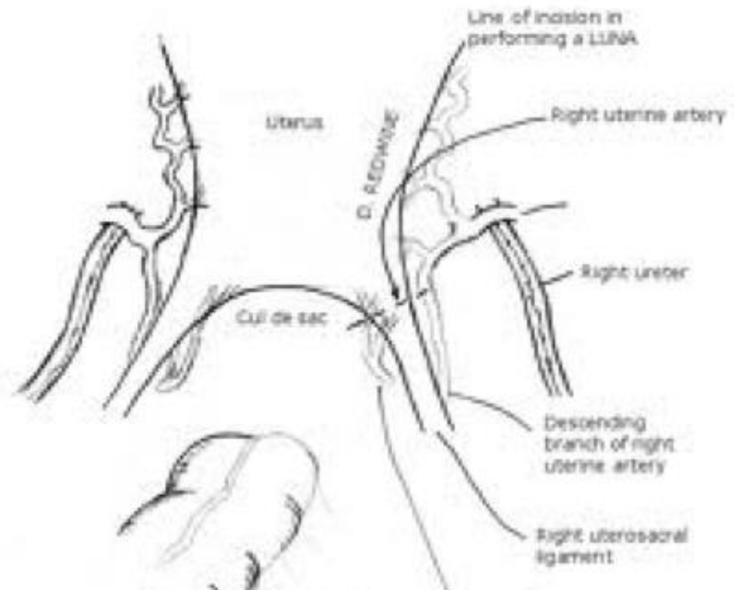


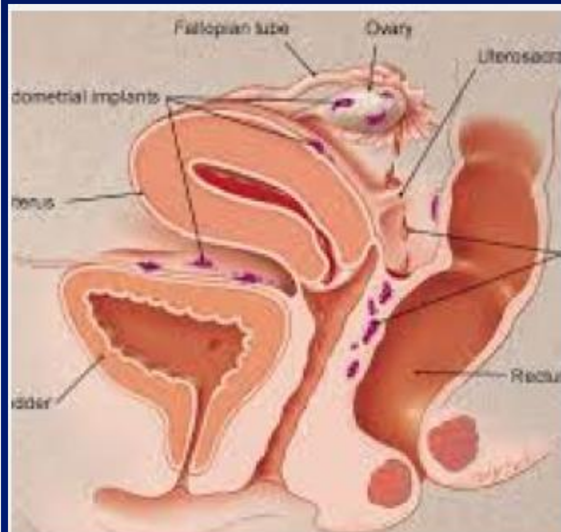


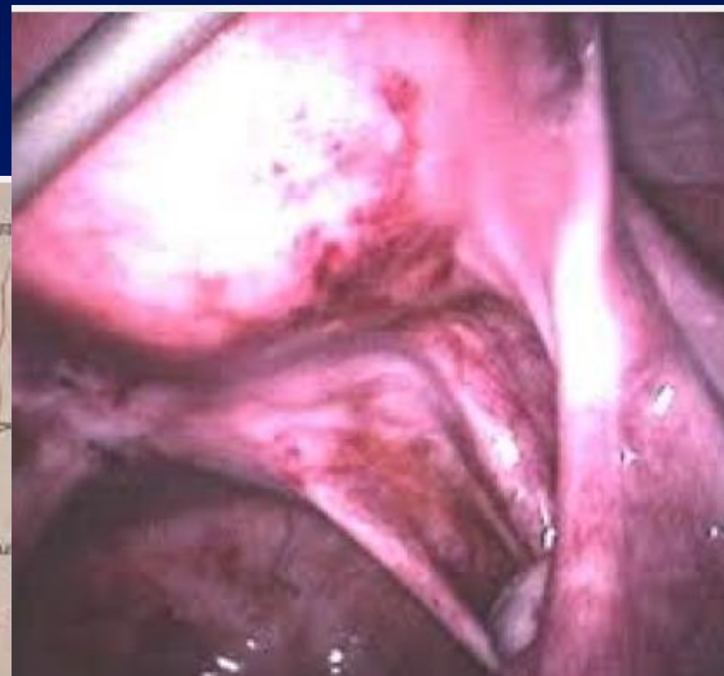



Common sites for endometrial growths in red
Ovary
Rectum
Uterus
Bladder
Uterosacral ligament
Normal endometrial lining


Uterus
Endometriosis
Rectum

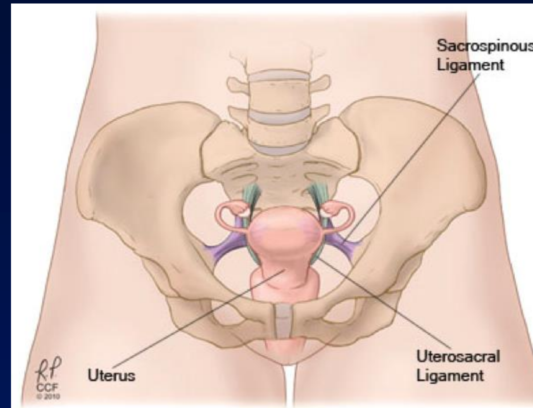

Line of incision in performing a LUNA
Uterus
D. REDWINE
Right uterine artery
Right ureter
Cul de sac
Descending branch of right uterine artery
Right uterosacral ligament

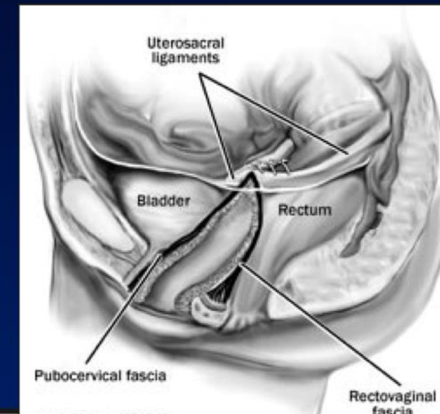

Fallopian tube
Ovary

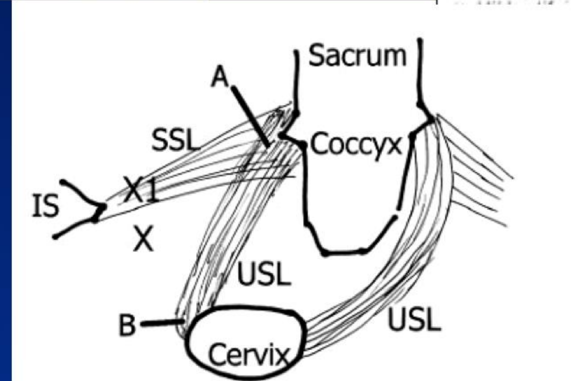


Endometriosis

- Severely debilitating disease affecting 10% women of reproductive age
- Impact on quality of life:
  - Chronic pelvic pain, dyspareunia, dysmenorrhea, dysuria, and infertility
- Dyspareunia with deep penetration
- Uterosacral ligament involvement linked to most severe impairment on sexual function







Ferrero S, et al. Human Reprod 2007, 22(4):1142-1148

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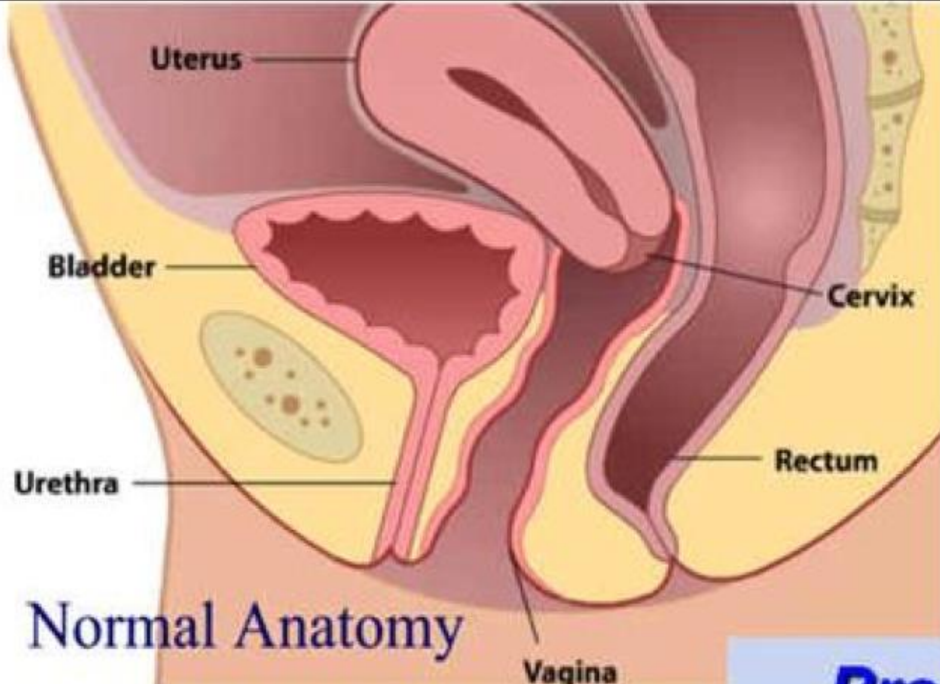
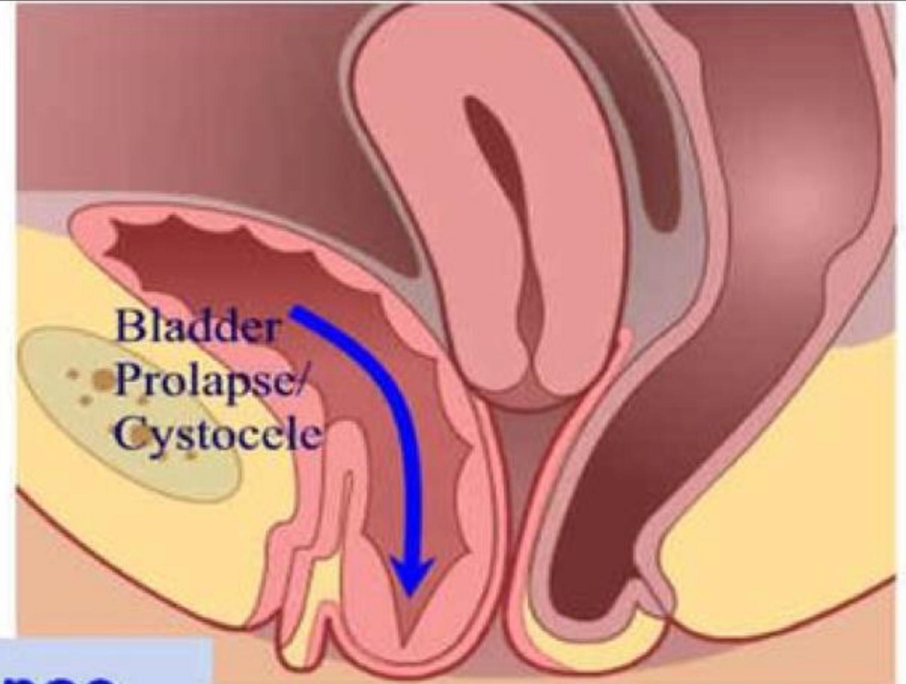
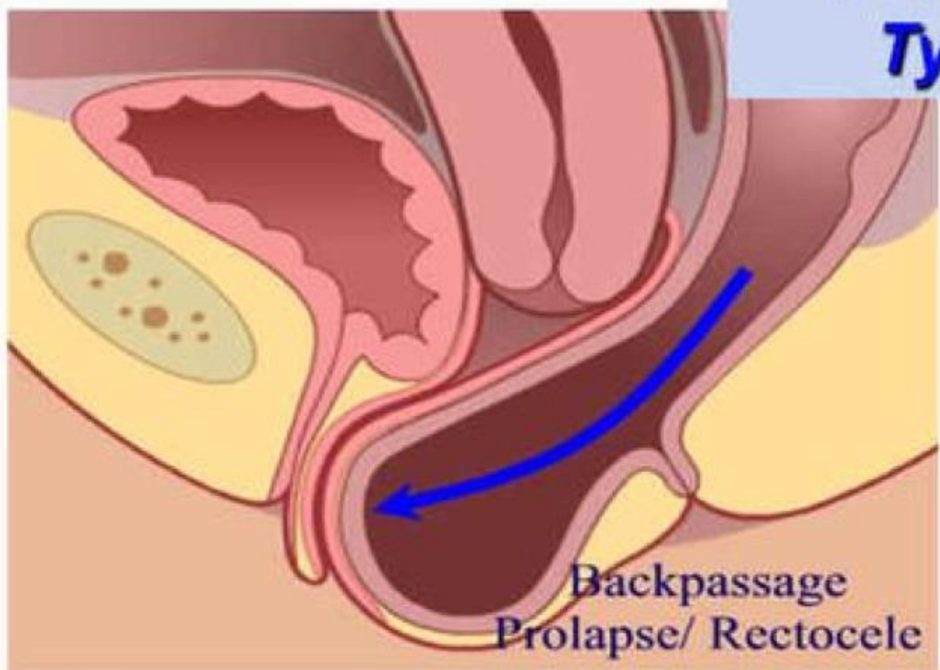
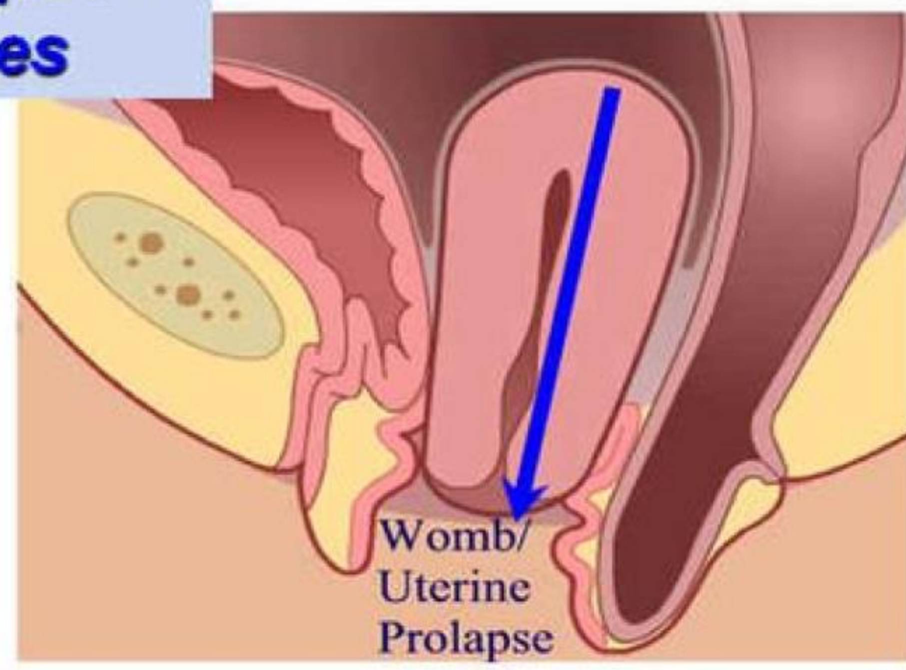
Prolapse Types









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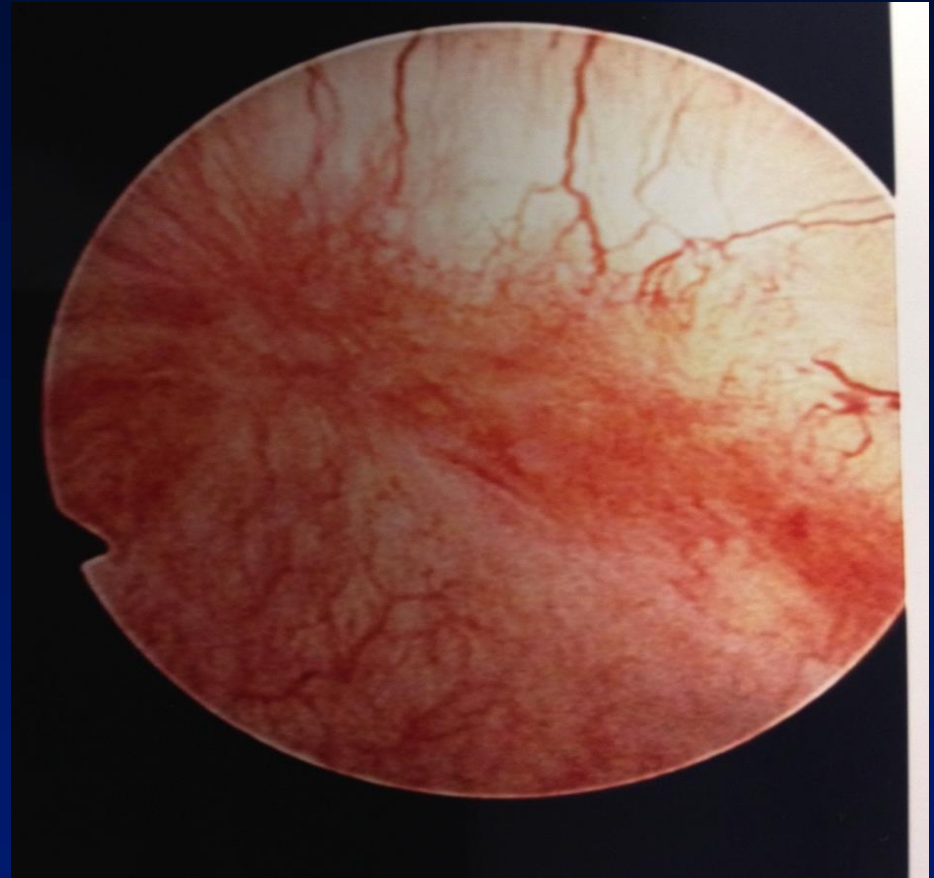
Hunner's Ulcer

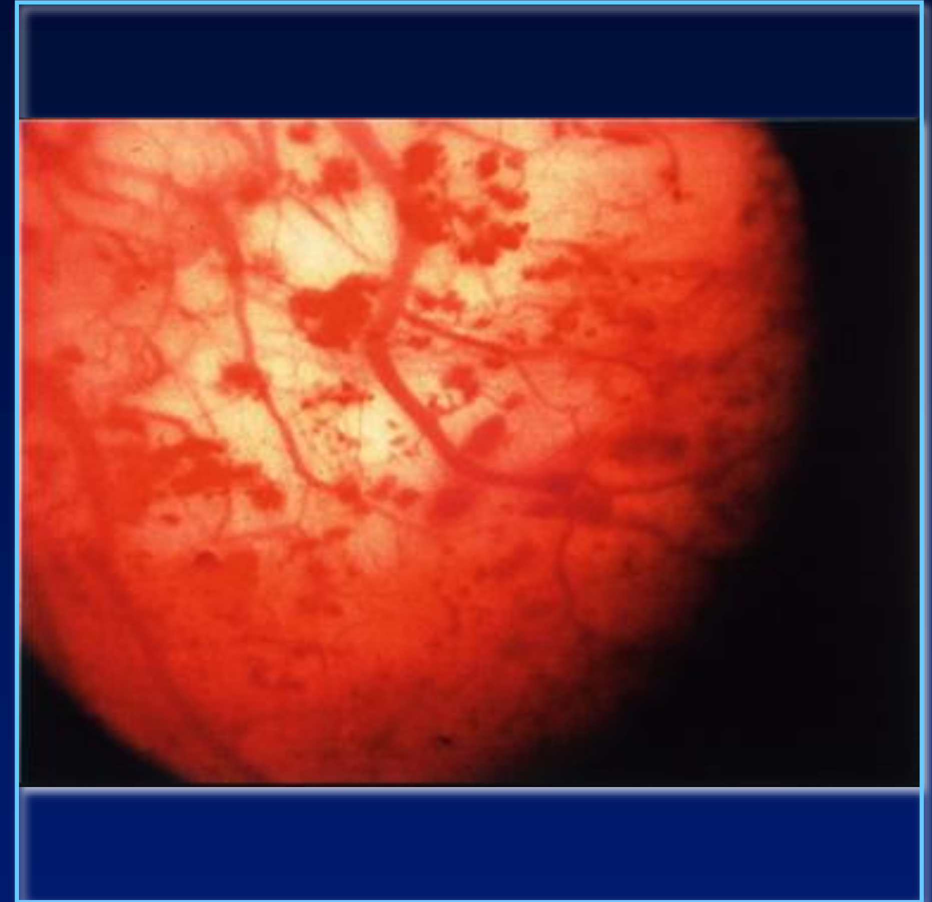
- **Ulcerative IC is defined as symptoms of urinary frequency and/or urgency and pelvic pain with documentation of an ulcerative lesion in the bladder on cystoscopic evaluation.**
- **only in 5-10% of the IC cases**



Abrams P, Cardozo L, Fall M, et al. The standardisation of terminology of lower urinary tract function report from the Standardisation Sub-Committee of the International Continence Society, Am J Obstet Gynecol 2002; 187:116–126.

Glomerulations – non-specific cystoscopy finding

Non ulcerative IC as defined by the International Continence Society (ICS) is the complaint of suprapubic pain related to bladder filling accompanied by other symptoms, such as increased daytime and nighttime frequency **in the absence of proven urinary infection or other obvious urinary pathology**



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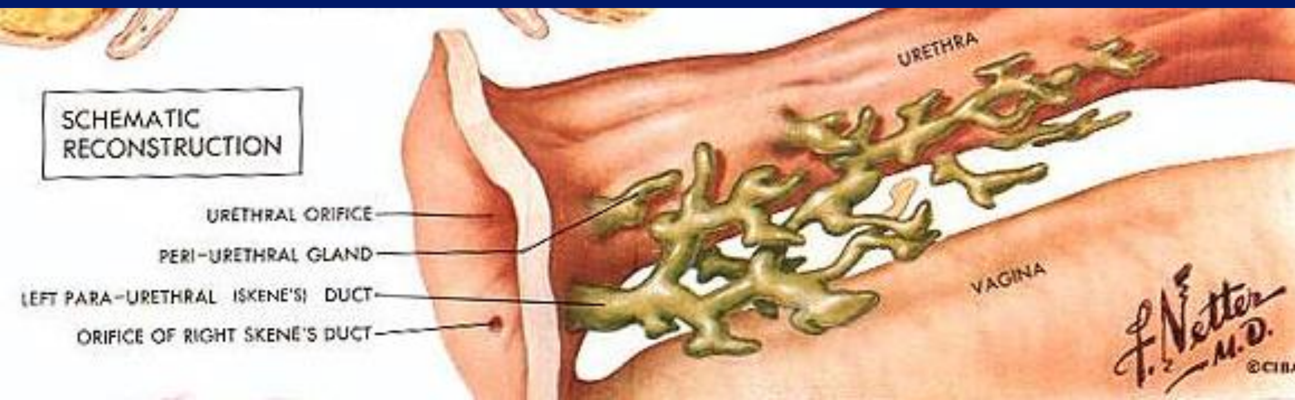
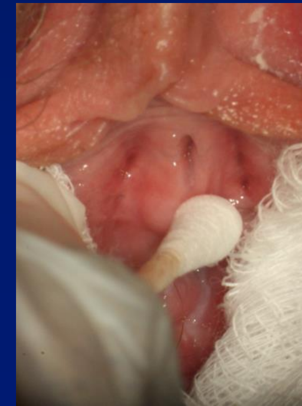
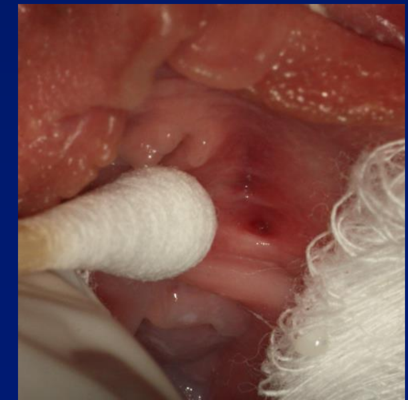
Interstitial Cystitis - Clinical Presentation

- Symptoms worse with stress
- Urinary Frequency
- Urinary Urgency
- Pelvic pain
  - Worse with bladder filling
  - Worse with intercourse
- Dyspareunia
- Burning, stinging, discomfort at the introitus

- Failed antibiotic therapy
- Failed anticholinergic therapy
- Bowel dysfunction
- Fibromyalgia
- Allergies
- Chronic fatigue
- Autoimmune disorders
- Food sensitivities



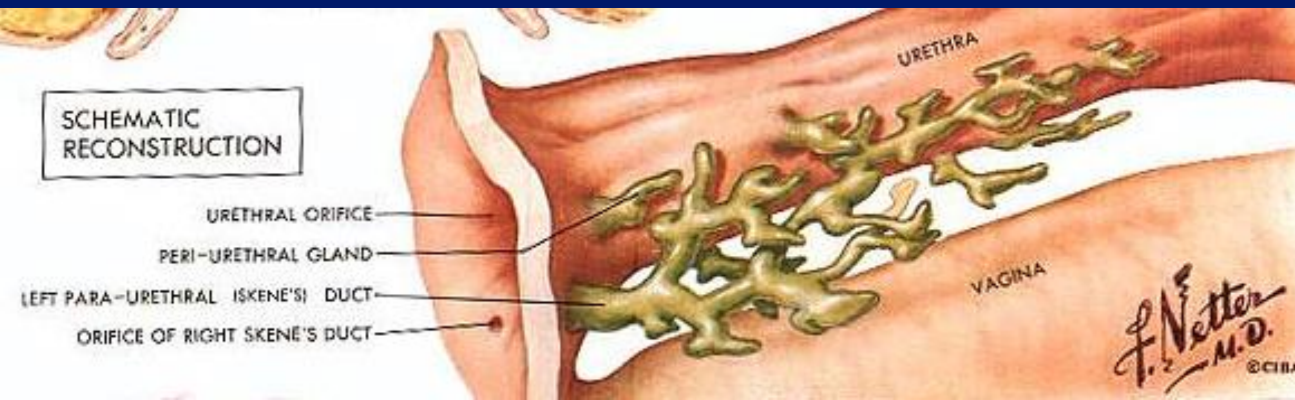


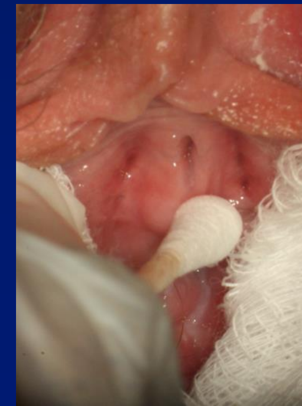


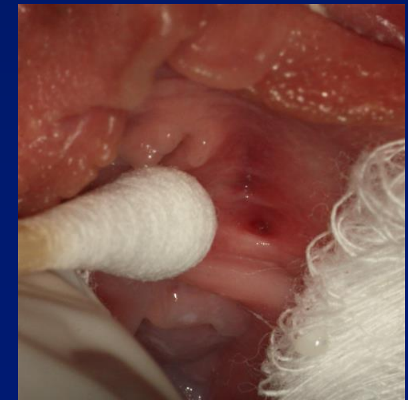
Interstitial Cystitis - Differential Diagnosis

- Recurrent UTI
- Urethral Stricture
- Bladder Cancer
- Urethral Diverticulum
- Neurogenic Bladder
- Psychological issues

- Vulvodynia/Vestibulodynia
- Detrusor instability, OAB
- Pelvic Floor Dysfunction
- TB, Schistosomiasis
- Endometriosis
- Fibromyalgia







Interstitial Cystitis

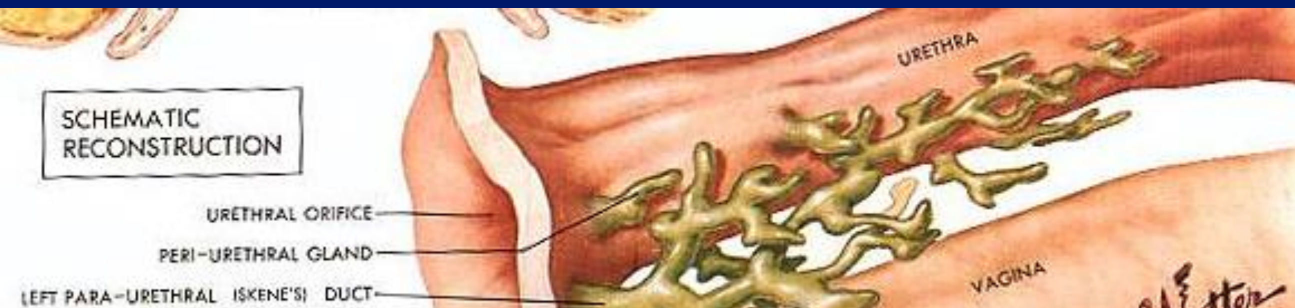
AUA GUIDELINES—KCL TEST IS OUT

Start with careful history, physical exam—rule out co-morbid conditions.

Pain is hallmark symptom, including pressure and discomfort
- Especially pain that worsens as the bladder fills
- Includes pain in bladder, urethra, vulva, vagina, rectum, lower abdomen and back
- Frequency and urgency are common

Take baseline voiding and pain measures

Potassium sensitivity test is no longer recommended
- Results not consistent
- Can hurt patient and trigger IC flare



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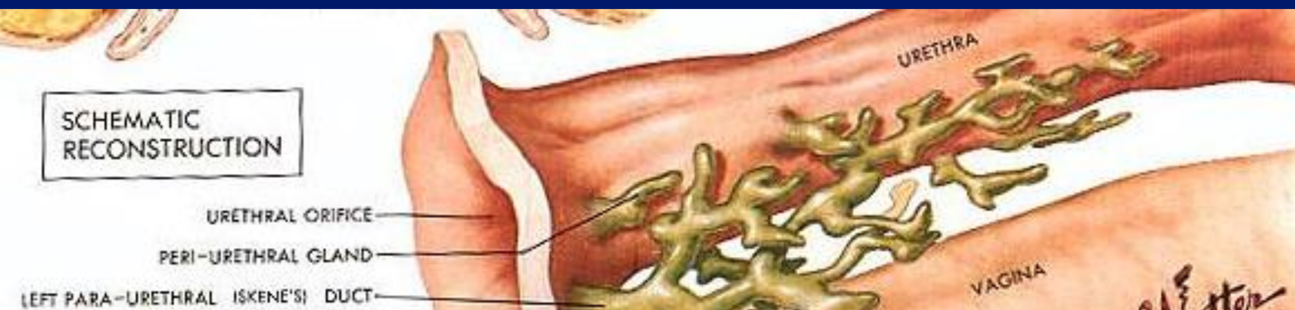
Interstitial Cystitis

- Complicated cases may require additional testing
  - Signs and symptoms of other problems: Incontinence, OAB, blood or pus in the urine, endometriosis, vulvodynia, or GI conditions
- Urodynamic testing
  - No clinical standards for IC----Difficult for patients
- Cystoscopy with hydrodistention under anesthesia
  - Find and treat Hunner's lesions -- Rule out bladder cancer
  - Glomerulations are no longer considered diagnostic
  - No clinical standards for IC
  - May be therapeutic



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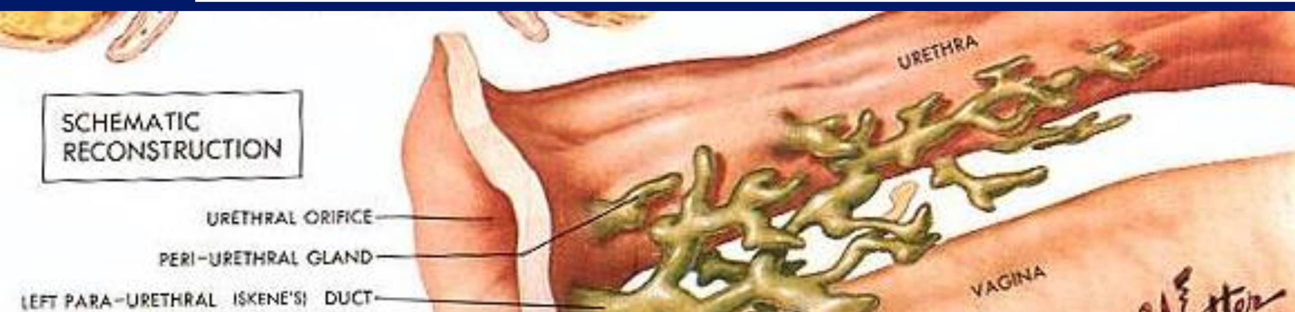
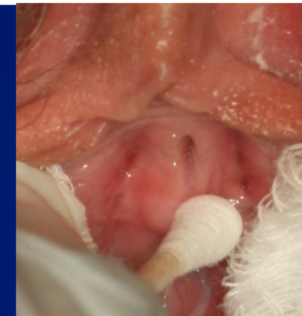
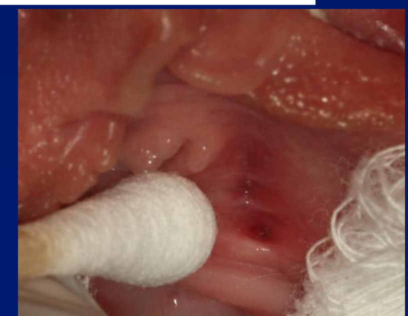
Interstitial Cystitis- First Line Therapies

- Heat or cold over bladder or perineum
- Dietary changes (refer to www.ichelp.org/diet)
- Nutrition/short-term pain relievers
  - Nutraceuticals P
  - Pyridium (phenazopyridine), antispasmodics
- Treat trigger points and hypersensitive areas
- Meditation and guided imagery
- Modify or stop Kegel's, sexual intercourse, tight clothes
- Manage constipation
- Manage stress







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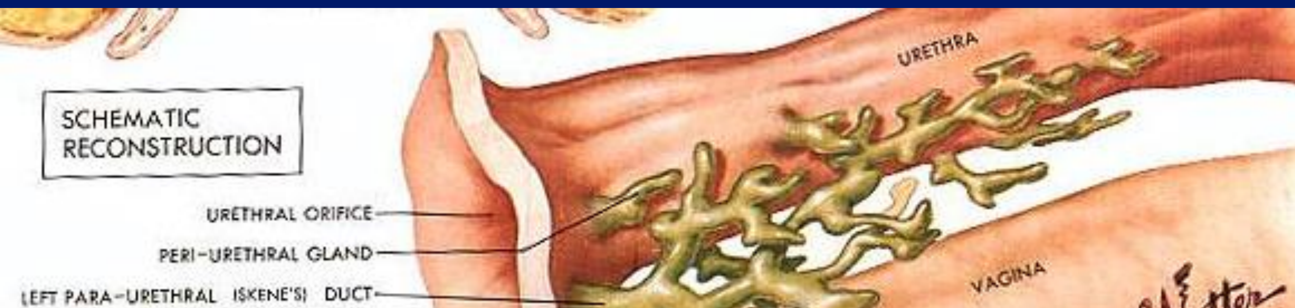
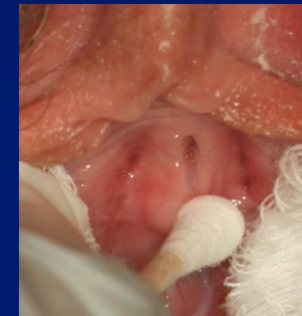
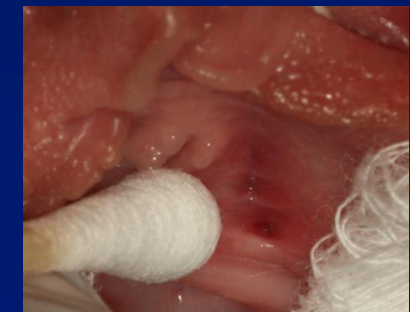
Interstitial Cystitis - CHALLENGE

- Became clear that Interstitial Cystitis may not be a disease of the bladder
- Rather the bladder is an innocent bystander is a larger pelvic/systemic process
- 20 years of clinical trials sponsored by industry and the NIH has shown no response over placebo when therapy is directed toward the bladder in IC/BPS
- To improve symptoms of IC you must be an astute clinician and think outside the bladder







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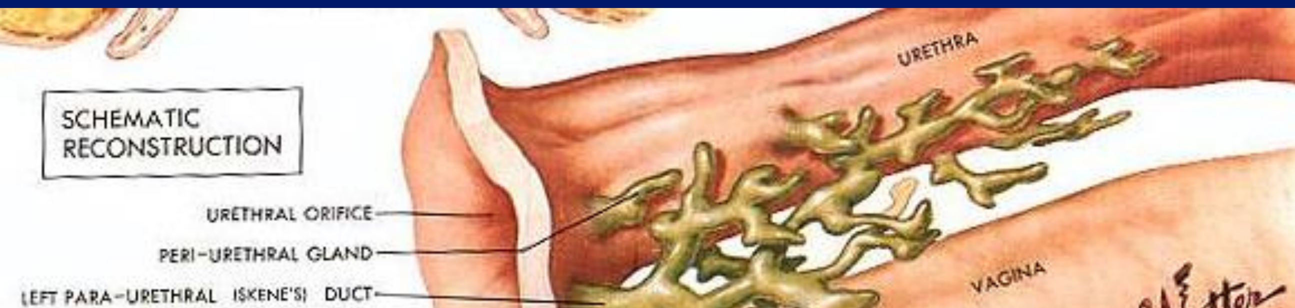
Interstitial Cystitis - Looking outside the Bladder

- The bladder may be an innocent bystander in a bigger process
- The pelvic floor is crucial in normal voiding and bowel function
- Pelvic floor dysfunction may be the cause of many of the symptoms of the IC syndrome
- Triggers for development of PFD may exist
- Vulvoscopy should be considered



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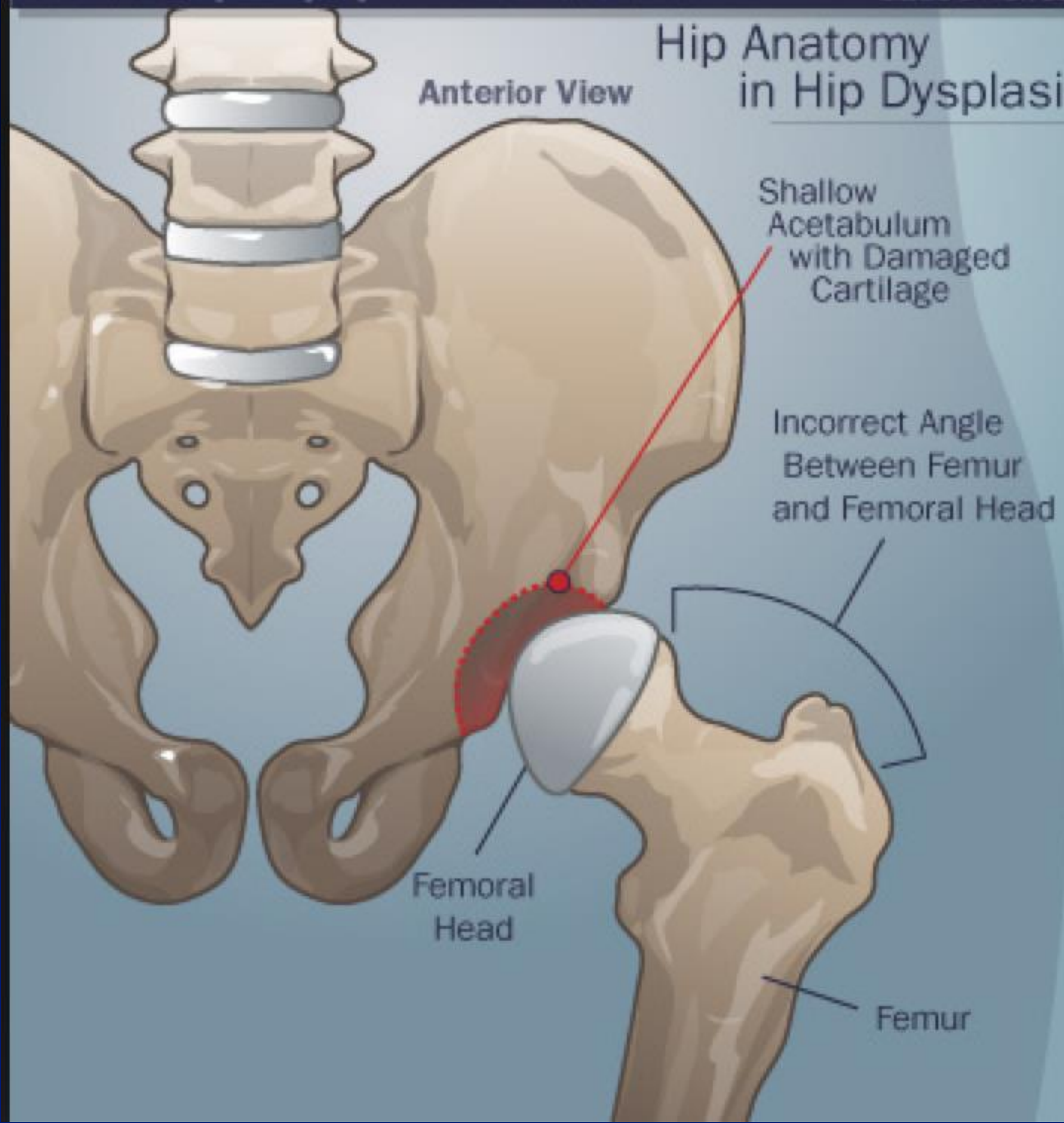
Hip Anatomy
in Hip Dysplasia
Anterior View
Shallow
Acetabulum
with Damaged
Cartilage
Incorrect Angle
Between Femur
and Femoral Head
Femoral
Head
Femur

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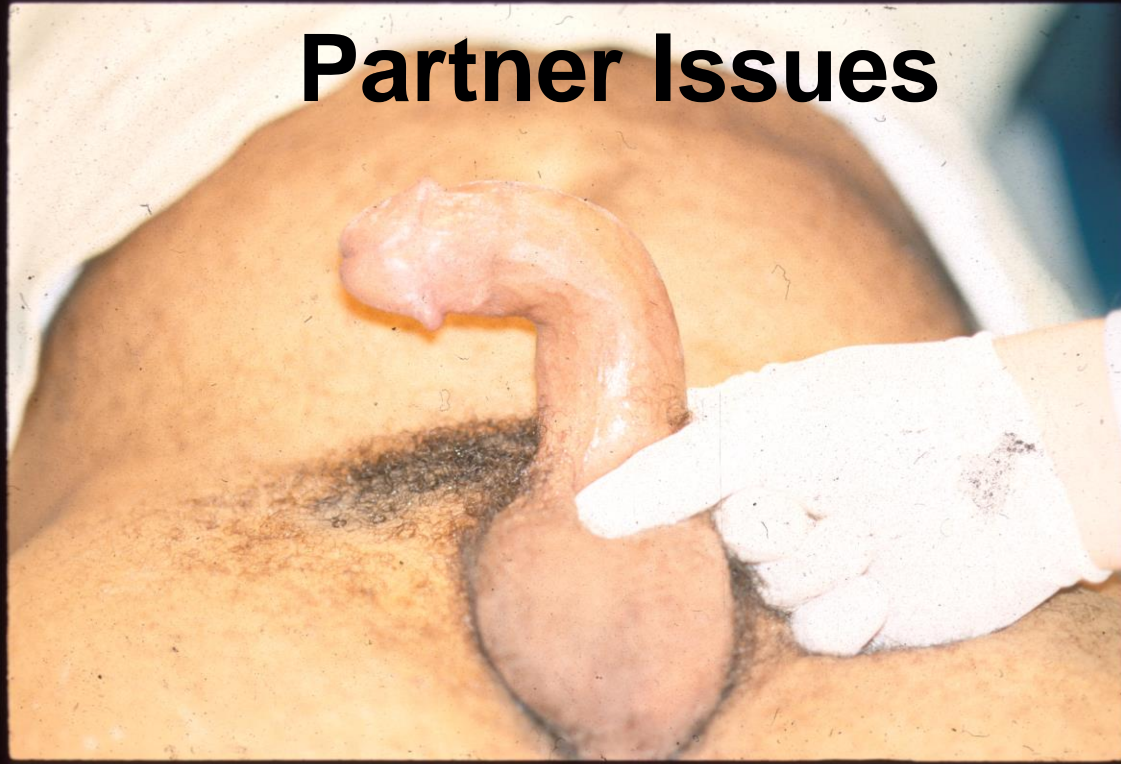
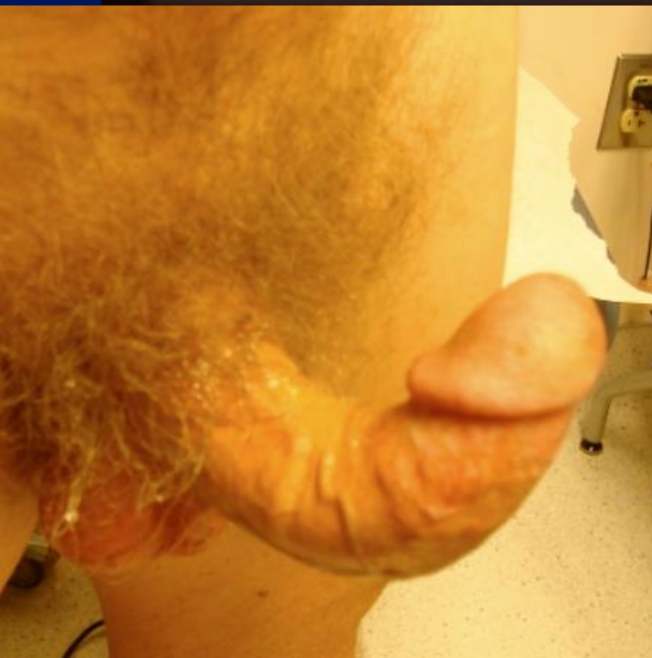
Partner Issues





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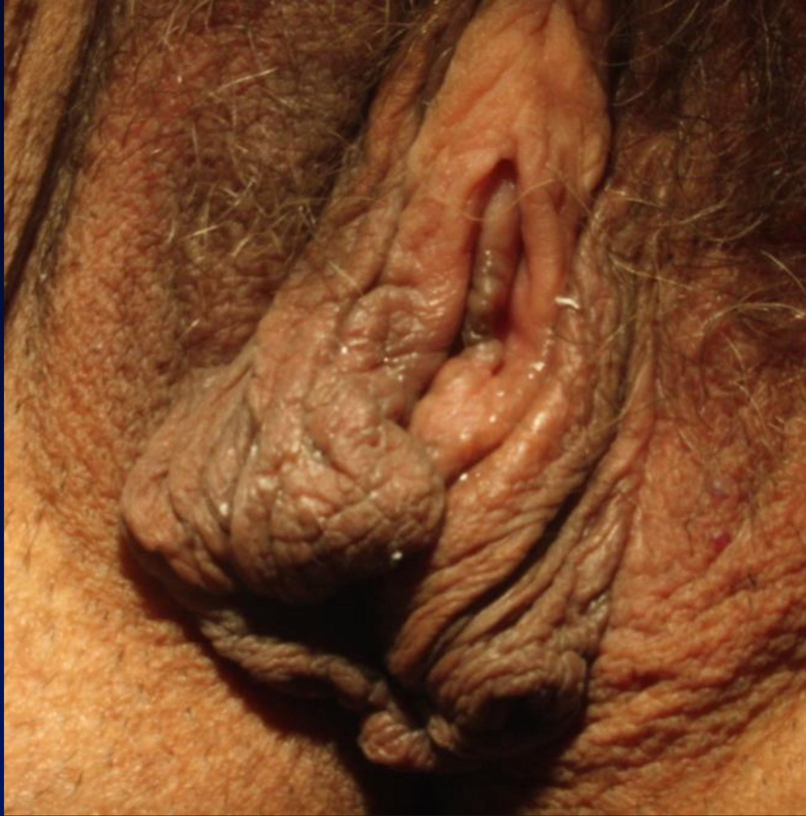
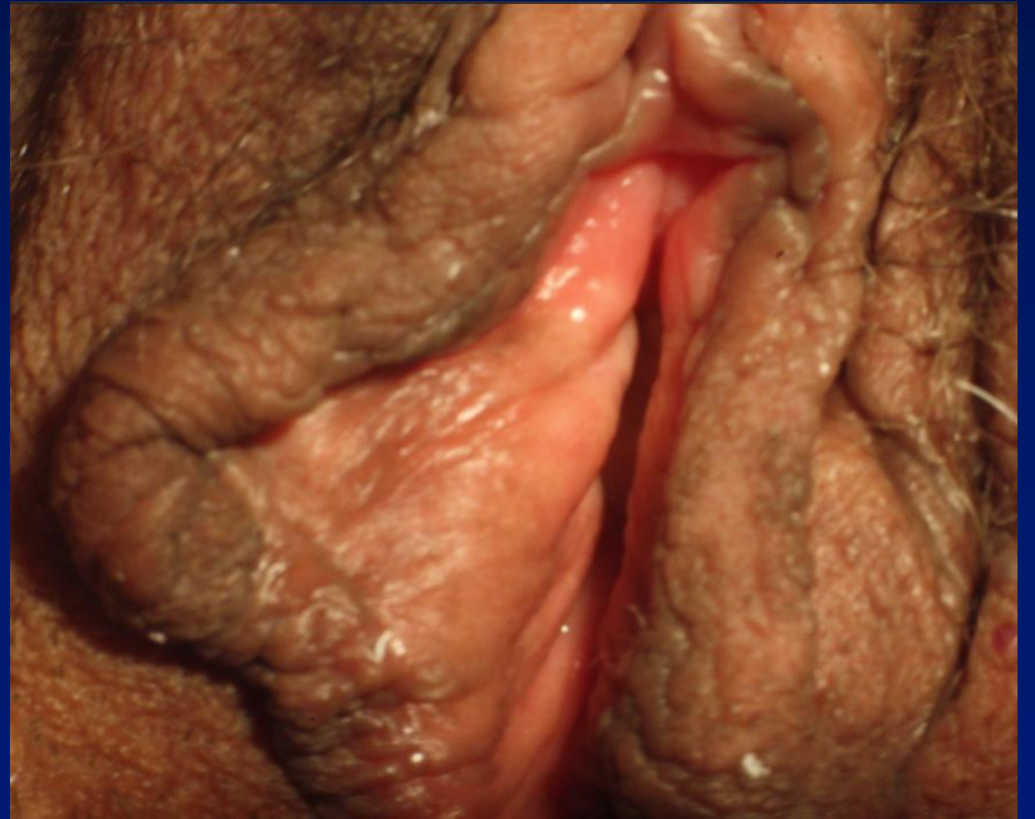
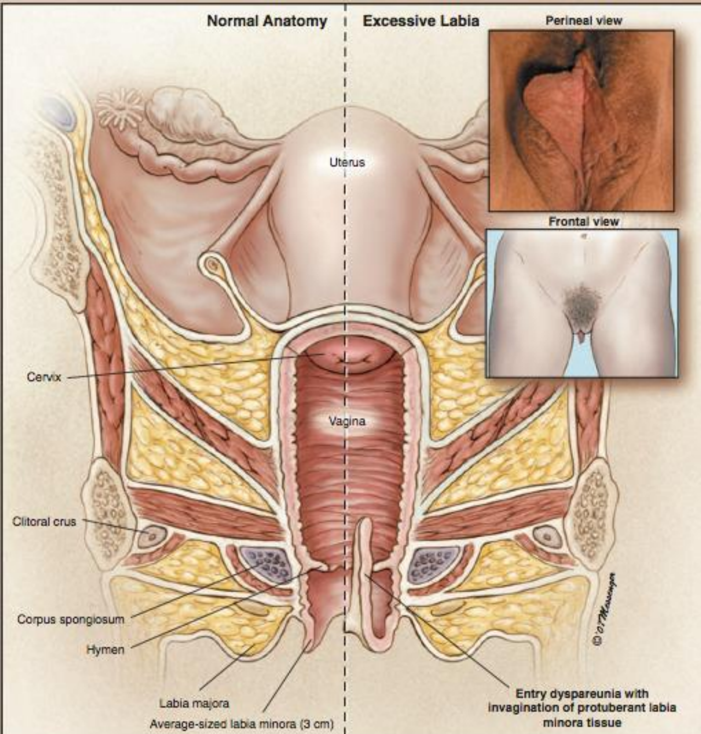


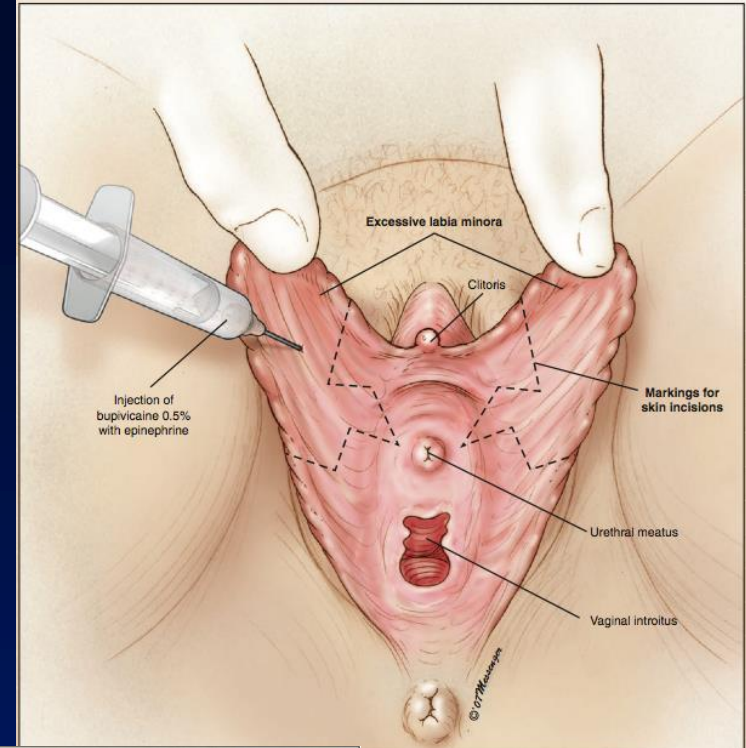


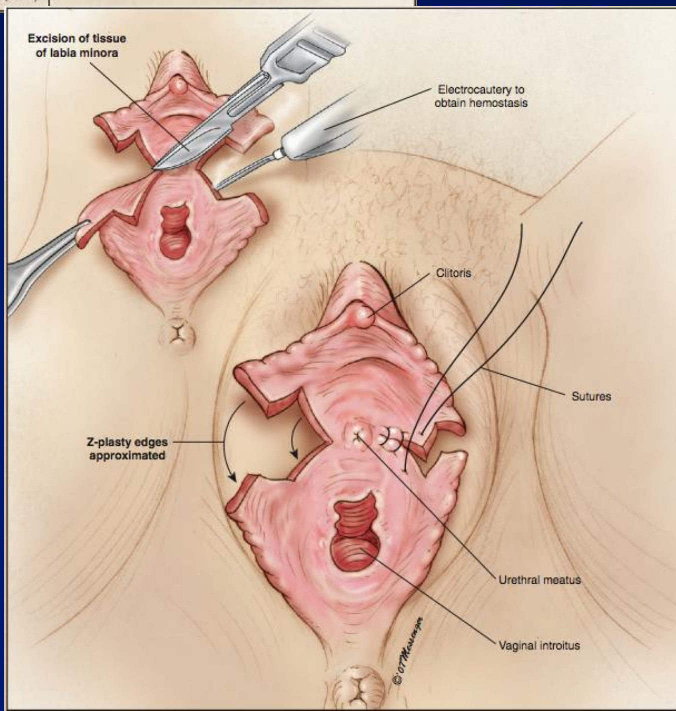
Z-Plasty Reductional Labiaplasty

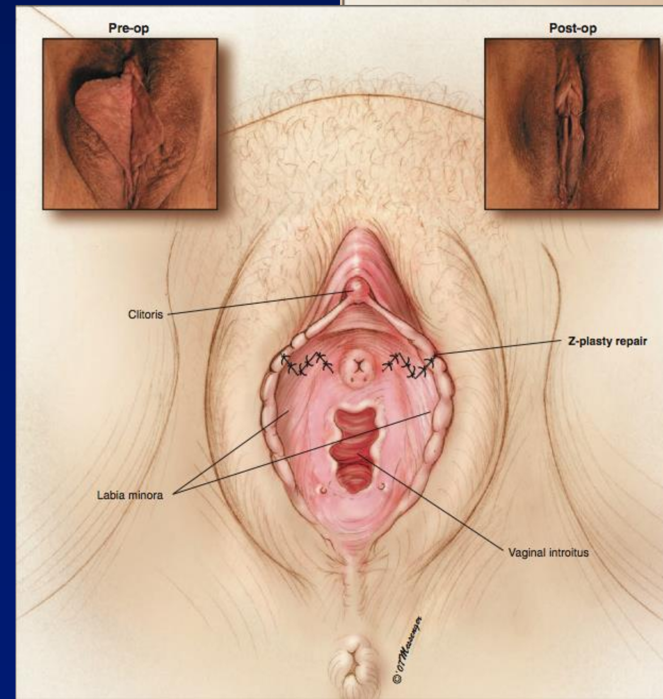
J Sex Med 2007;4:550–553

Andrew T. Goldstein, MD,*† and Lauri J. Romanzi, MD‡









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Hypertonic Pelvic Floor Muscle Dysfunction

- Increased tone causes a decrease in blood flow and oxygen to the muscles of the pelvic floor. This leads to a build up of lactic acid.
- Symptoms include: generalized vulvar pain or burning, and superficial (mucosal tenderness) where the muscle insert (4,6,8 o'clock on the vestibule) which causes severe introital dyspareunia, urinary symptoms (frequency, hesitancy, incomplete emptying) constipation, hemorrhoids, and rectal fissures
- Physical exam reveals erythema where the muscles insert at the vestibule, multiple trigger points, muscles weakness and an inability to hold a sustained contraction.

The pain is much worse at 4,6, & 8 o’ clock position of the vestibule (and there is minimal, or no pain, on either side of the urethra.)

Tenderness and tightness of the levator ani muscles.

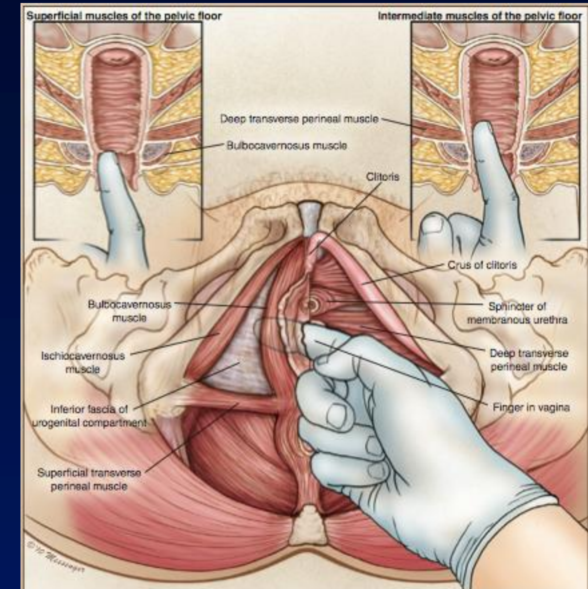
Sarton J. Assessment of the pelvic floor muscles in women with sexual pain. J Sex Med. 2010 Nov;7(11):3526-9.

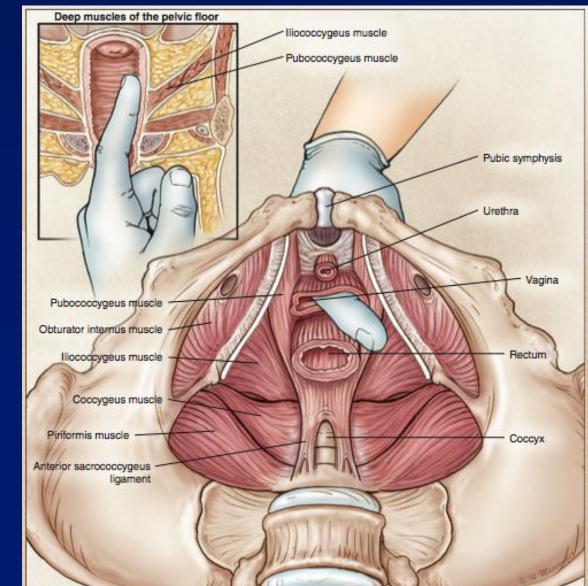
Superficial muscles of the pelvic floor
Intermediate muscles of the pelvic floor
Deep transverse perineal muscle
Bulbocavernosus muscle
Clitoris
Crus of clitoris
Bulbocavernosus muscle
Sphincter of membranous urethra
Ischiocavernosus muscle
Deep transverse perineal muscle
Inferior fascia of urogenital compartment
Finger in vagina
Superficial transverse perineal muscle

Deep muscles of the pelvic floor
Iliococcygeus muscle
Pubococcygeus muscle
Pubic symphysis
Urethra
Vagina
Pubococcygeus muscle
Obturator internus muscle
Iliococcygeus muscle
Rectum
Coccygeus muscle
Piriformis muscle
Coccyx
Anterior sacrococcygeus ligament

Hypertonic Pelvic Floor Muscle Dysfunction

1. Insert one finger through the hymenal ring then:
2. Press posteriorly towards the rectum and tell the patient "this is pressure"
3. Palpate the coccygeus, ileococcygeus, pubococcygeus, pubococcygeus, and obturator internus muscles.
4. For each muscle ask "is this pressure or pain?"
5. Is there hypertonicity? Are there trigger points?
6. Have them squeeze- is there weakness?
7. Can they relax the muscles?
8. Palpate the urethra and bladder- it should cause urgency but not burning or pain.
9. Palpate the pudendal nerve at the ischial spine- is it more painful than the muscles or is one side more tender



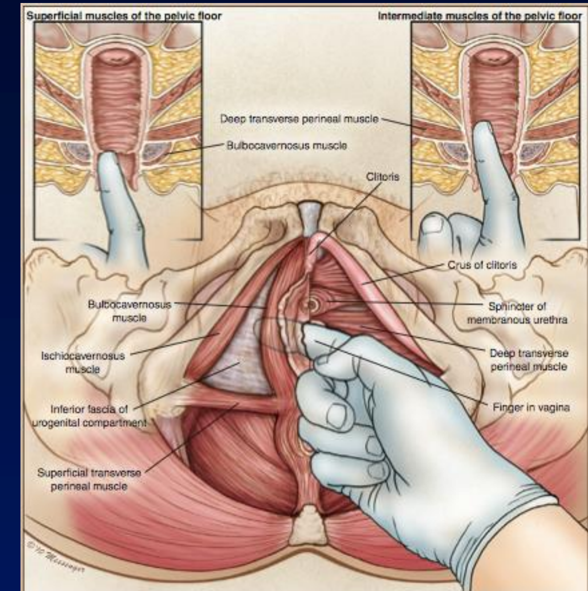


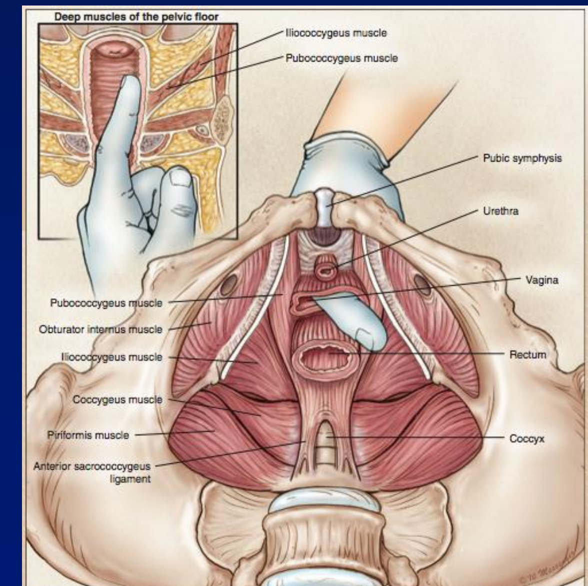
Hypertonic Pelvic Floor Muscle Dysfunction

Increased tone causes a decrease in blood flow and oxygen to the muscles of the pelvic floor. This leads to a build up of lactic acid.

Symptoms include: generalized vulvar pain or burning, tenderness where the muscle insert (4,6,8 o'clock on the vestibule) which causes severe introital dyspareunia, urinary symptoms (frequency, hesitancy, incomplete emptying) constipation, hemorrhoids, and rectal fissures

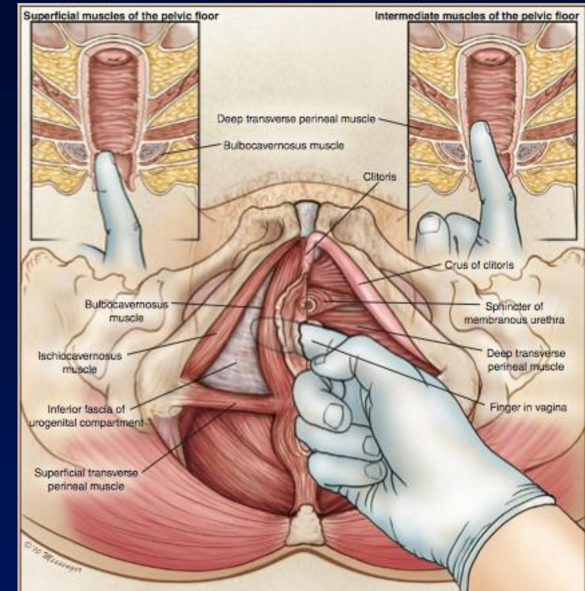
Physical exam reveals erythema where the muscles insert at the vestibule, multiple trigger points, muscles weakness and an inability to hold a sustained contraction.

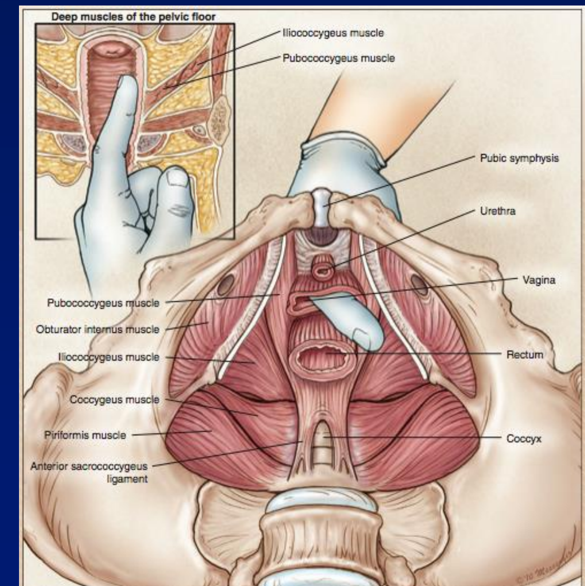




Hypertonic Pelvic Floor Muscle Dysfunction

- Associated with anxiety, low back pain, “holding urine,” excessive abdominal strengthening exercises, scoliosis, sacroiliac joint dysfunction, piriformis syndrome, hip pain/labral tears. Association with history of sexual abuse is controversial.
- The term “Vaginismus” has been used in the past but this term may be removed from the new DSM V.
- Treatment: pelvic floor physiotherapy. May augment physiotherapy with diazepam suppositories, Botox injections, trigger point injections, biofeedback, and vaginal dilators





Neuro-Proliferative Vestibulodynia

Should the diagnosis be considered to be *congenital neuro-proliferative vestibulodynia:*

Should all conservative treatments fail and the diagnosis be considered to be *acquired neuro-proliferative vestibulodynia:*

Consider a vestibular anesthesia test (VAT) in which a long acting numbing agent is administered to every square mm of vestibular tissue - local anesthesia is not administered to the vulva or to the vagina