

All “V” Things:

Vulva, Vestibule, and Vagina

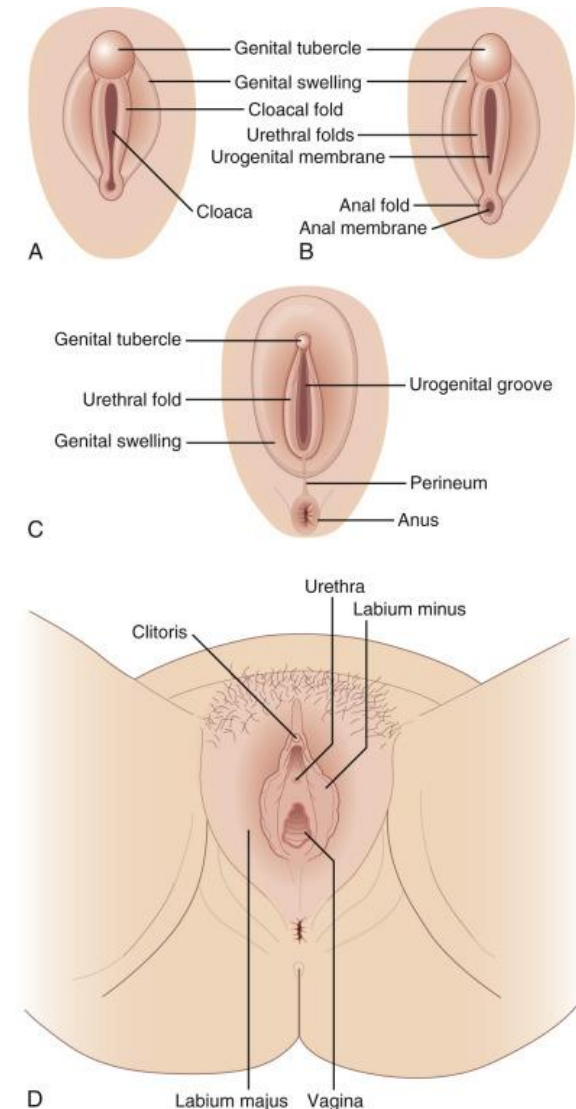
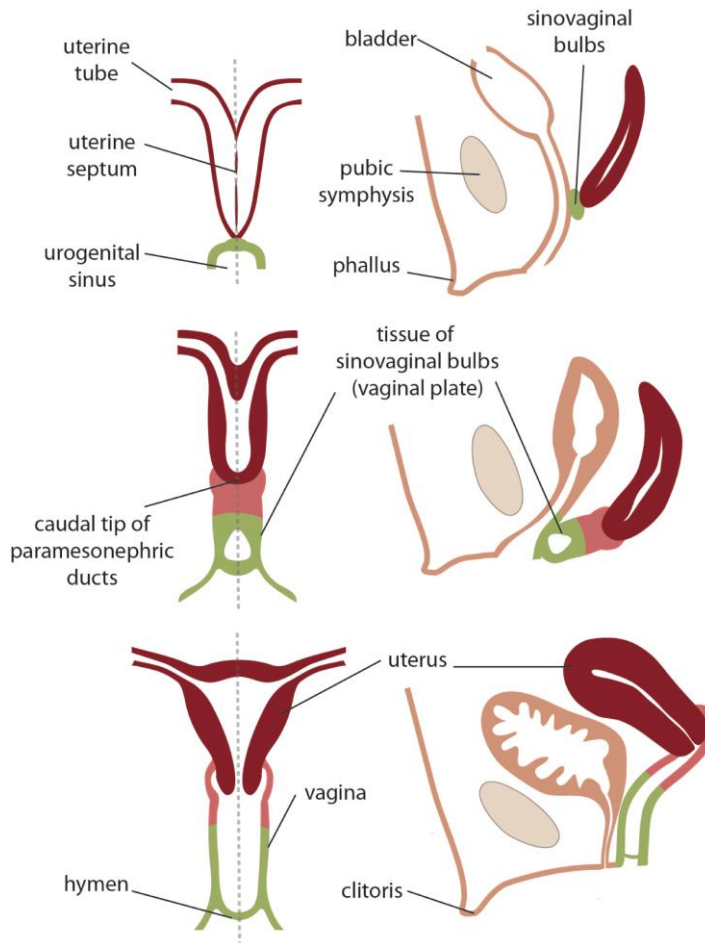
Aleece Fosnight, MSPAS, PA-C, CSC-S, CSE, NCMP, IF, HAES

Urology, Women’s Health, Sexual Medicine

Skin, Bones, Hearts, and Private Parts 2024

Back to the Basics...

- What is the vulva?
- What is the vestibule?
- What is the vagina?



Pelvic Exam Best Practices

- What might be reasons for a pelvic exam?
- Anyone guess how many pelvic exams are performed each year?
- Components of a pelvic exam
- The exam consists of:
 - Inspection of the external genitalia
 - Monomanual examination
 - Speculum examination of the vagina and cervix
 - Bimanual examination
 - Sometimes rectal or rectovaginal examination

Pelvic Exam Best Practices

- BIG QUESTION = Should we perform routine pelvic examinations in asymptomatic, average risk, adult women or is this unnecessary?
- Several organizations have tried to answer this question:
 - USPSTF – 2017
 - ACP – 2014
 - AAFP – 2014
 - ACOG – 2012 (Reaffirmed in 2016 after USPSTF Draft Recommendation)
- Consensus on many reasons NOT to do a screening/routine pelvic exam in healthy women.

Pelvic Exam Best Practices

- Use this as an opportunity to educate!
- A pelvic exam is NOT required in asymptomatic women for the initiation of systemic hormonal contraceptives
 - Remember – only need medical history and blood pressure measurement to rule out contraindications
- Annual pelvic exam
 - Also an opportunity for...
 - Screening for STI's
 - Screening for cervical cancer
 - Immunizations
 - Blood pressure check
 - Weight measurements
 - Cholesterol measurements
 - Colon cancer screening
 - Risk factor assessment and counseling
 - There is no data indicating that the performance of the routine pelvic examination in asymptomatic average risk women reduces morbidity or mortality from any condition

Pelvic Exam Best Practices

Are there any harms to a screening pelvic exam?

- False positive work ups and unnecessary surgeries + complications add to the cost
- Opportunity costs:
 - Preparing room and supplies
 - Patient disrobing and putting on a gown
 - Clinician finding a chaperone
 - Chaperone taking time away from other duties
 - Adds at least 10 minutes to an office encounter
- False Reassurance
- Psychological Harms:
 - Approximately 1/3 of women experience pain, discomfort, fear, anxiety and or embarrassment related to the pelvic exam
 - Less likely to return for another visit.
- Delay in Services and Obstruction of efforts to:
 - Increase appropriate cervical cancer screening
 - Reduce unwanted pregnancy
 - Prevent infertility through early treatment of chlamydia infections.

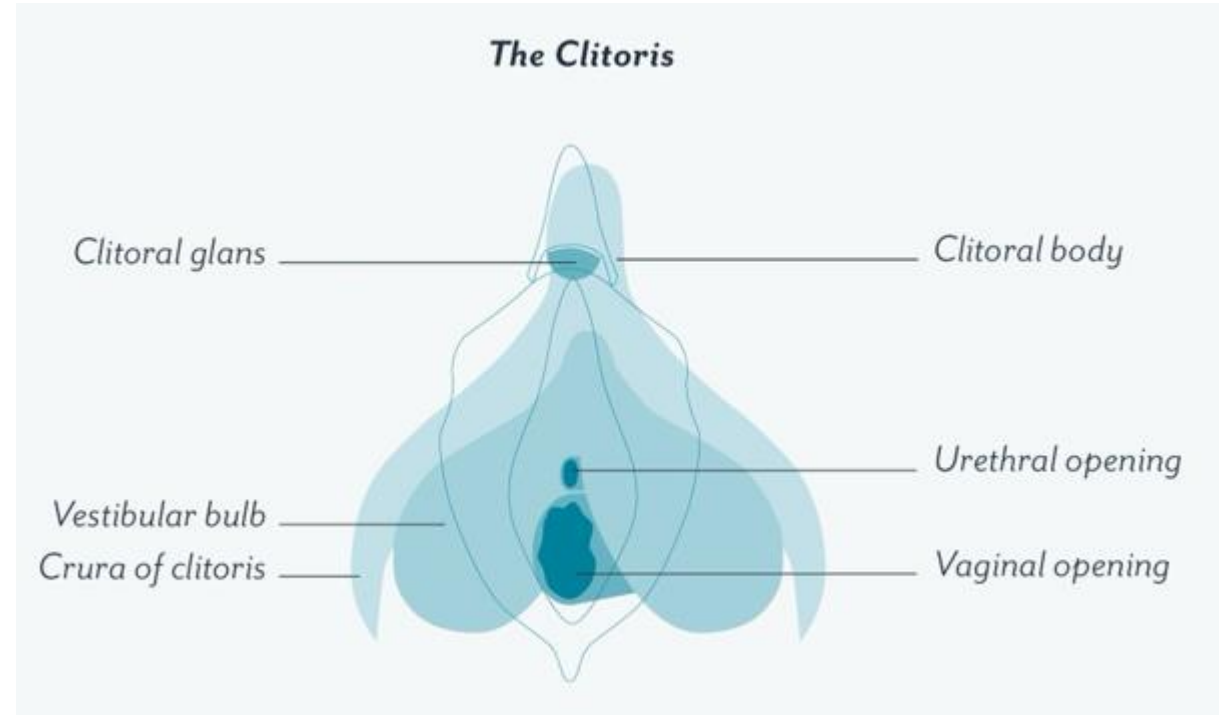
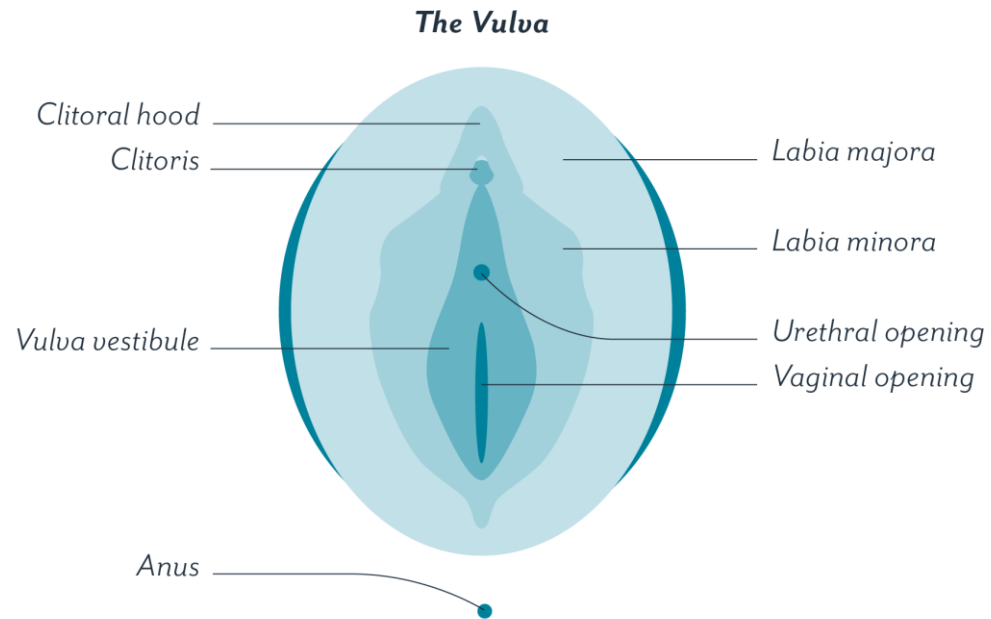
Pelvic Exam Best Practices

Summary of Guidelines for Screening Pelvic Exam

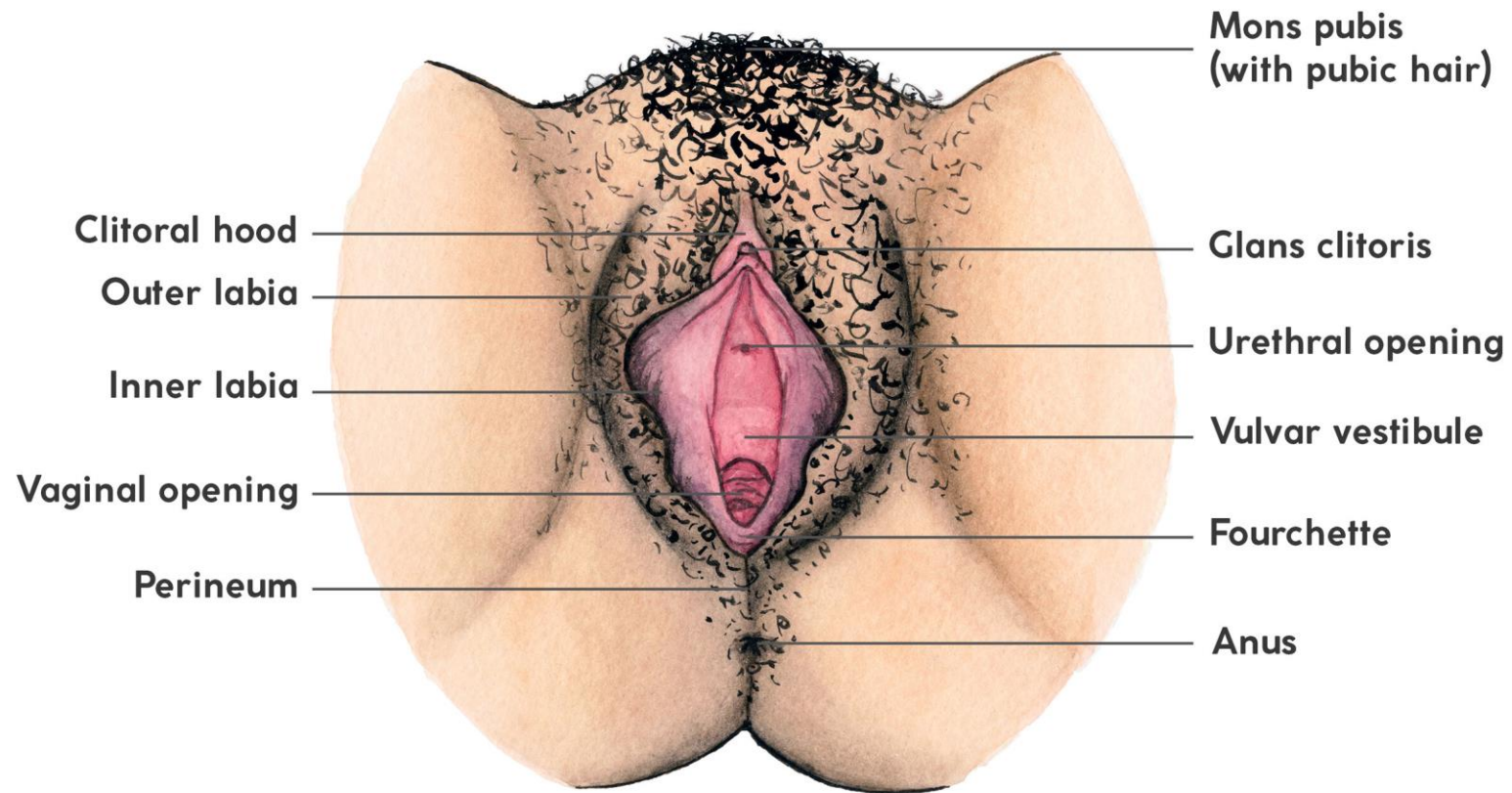
	Recommendation	Rationale
USPSTF (2017)	Neither for nor against	Not enough evidence
ACP (2014)	Against	No evidence to support and significant harms
AAFP	Against	No evidence to support and low likelihood of benefit and increased risk of harm.
ACOG	Yearly after age 21	Expert Opinion.
APAOG	Yearly after age 21	Expert Opinion.

The Vulva

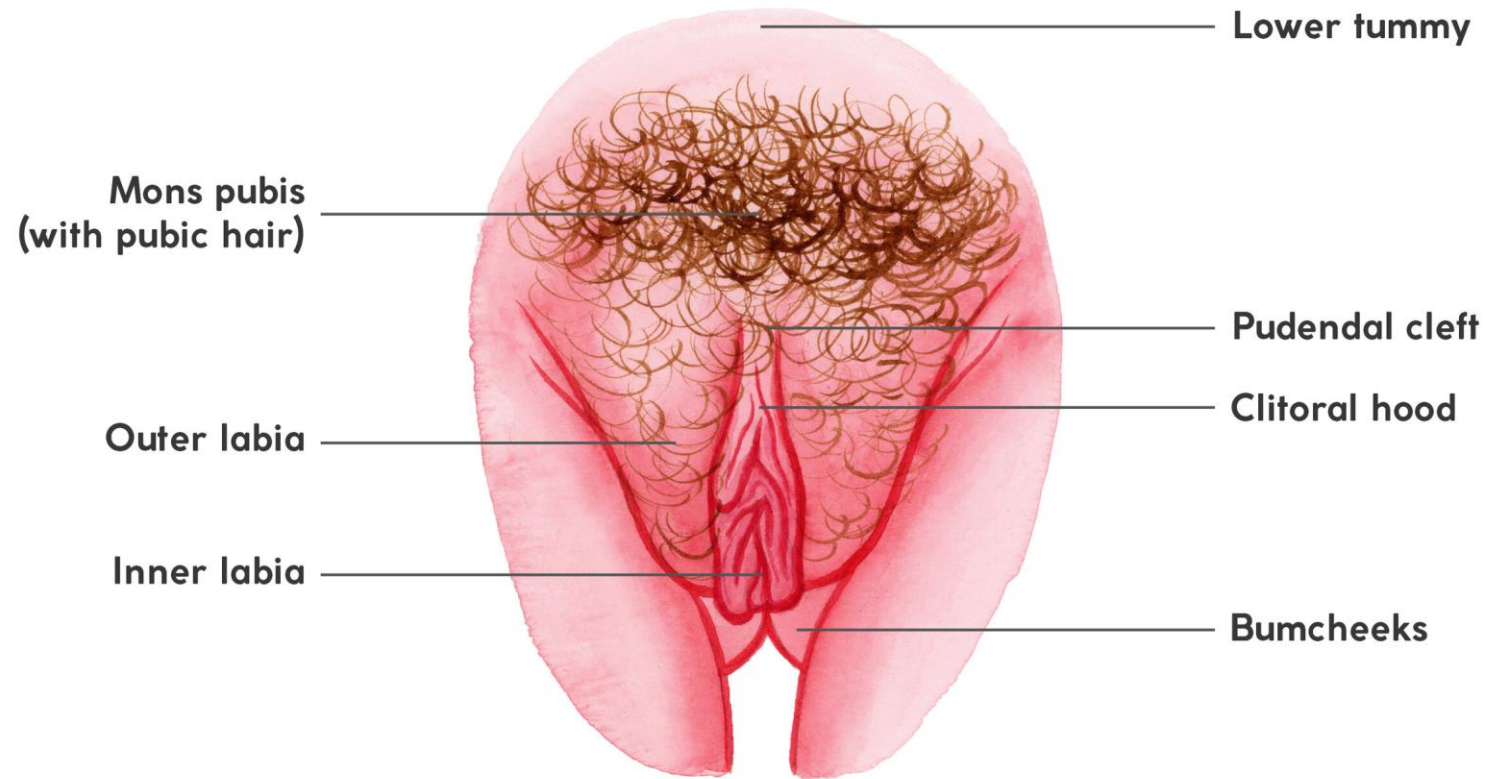
Vulvar Anatomy



What is the vulva?



What is the Mons Pubis?



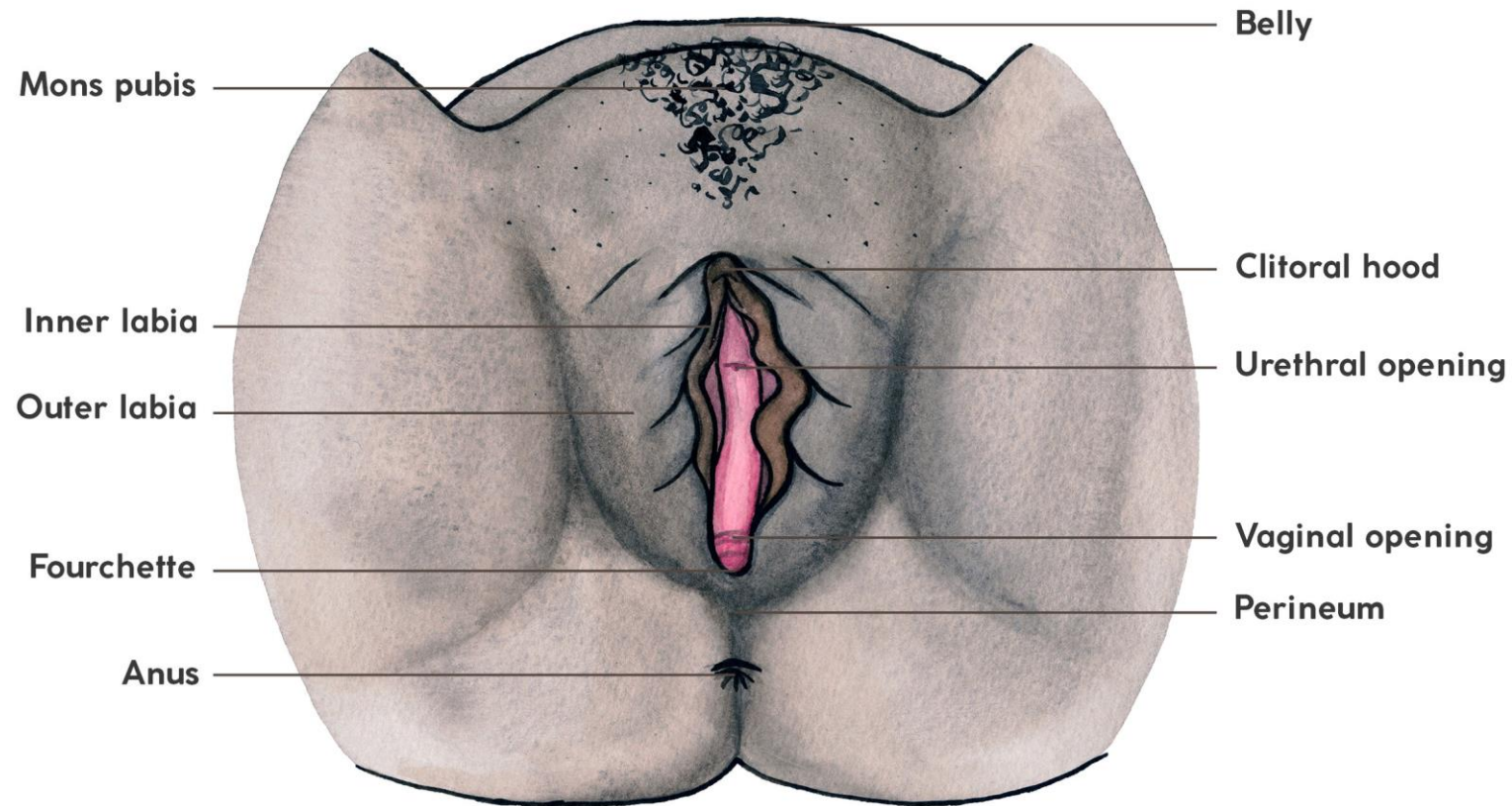


The Vulva Gallery – Celebrating vulva diversity

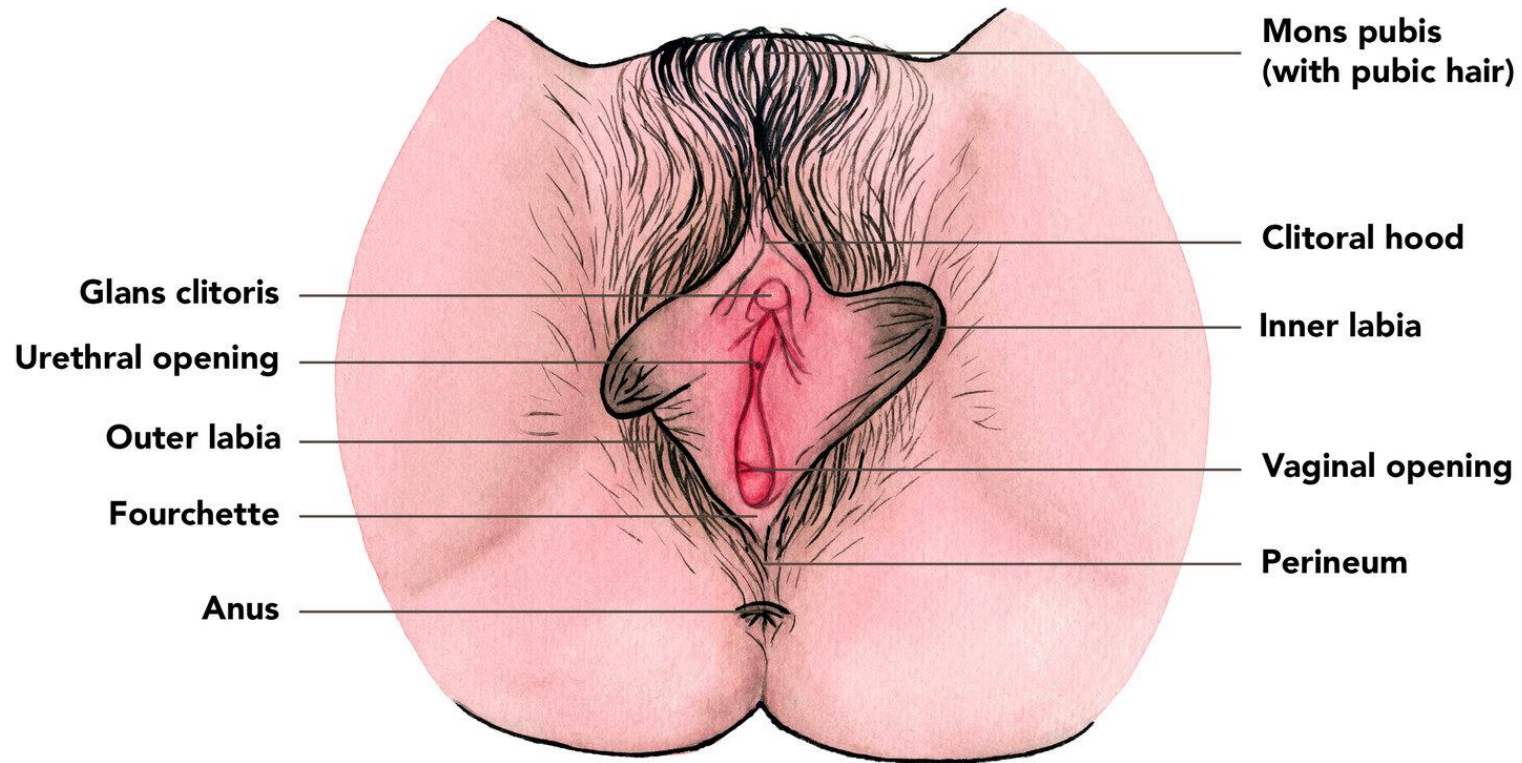
Let's talk pubic hair!

- Sexism vs body empowerment
- Keep things fresh
- Genital grooming
- What about accidents?
- Ingrown hairs
- Pornographic influence
- Always your choice
- Stigmatism

Labia Majora

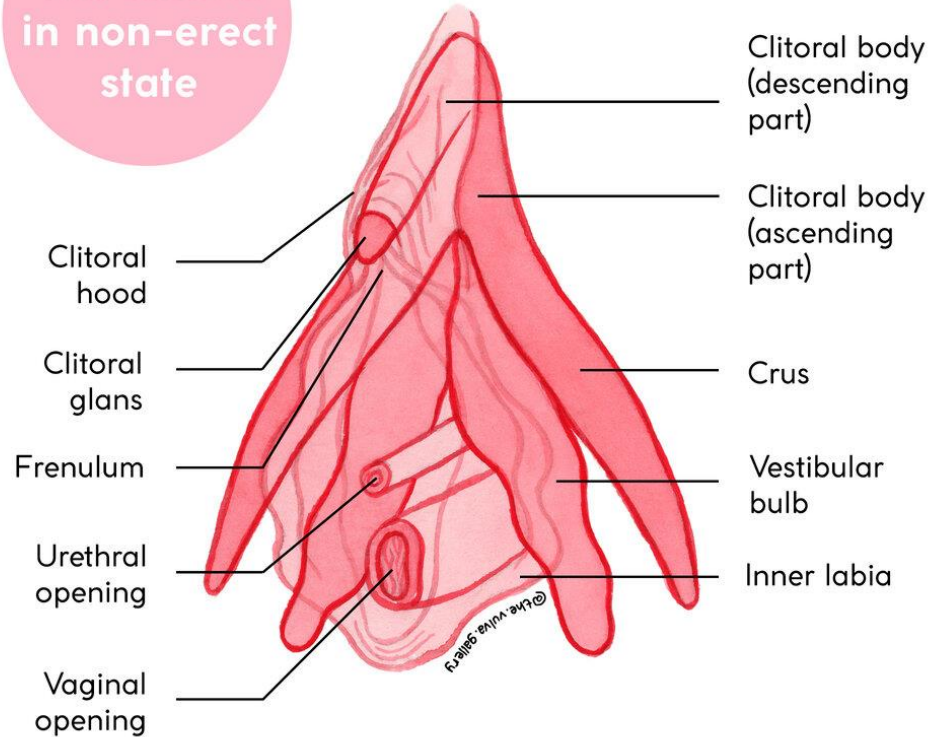


Labia Minora



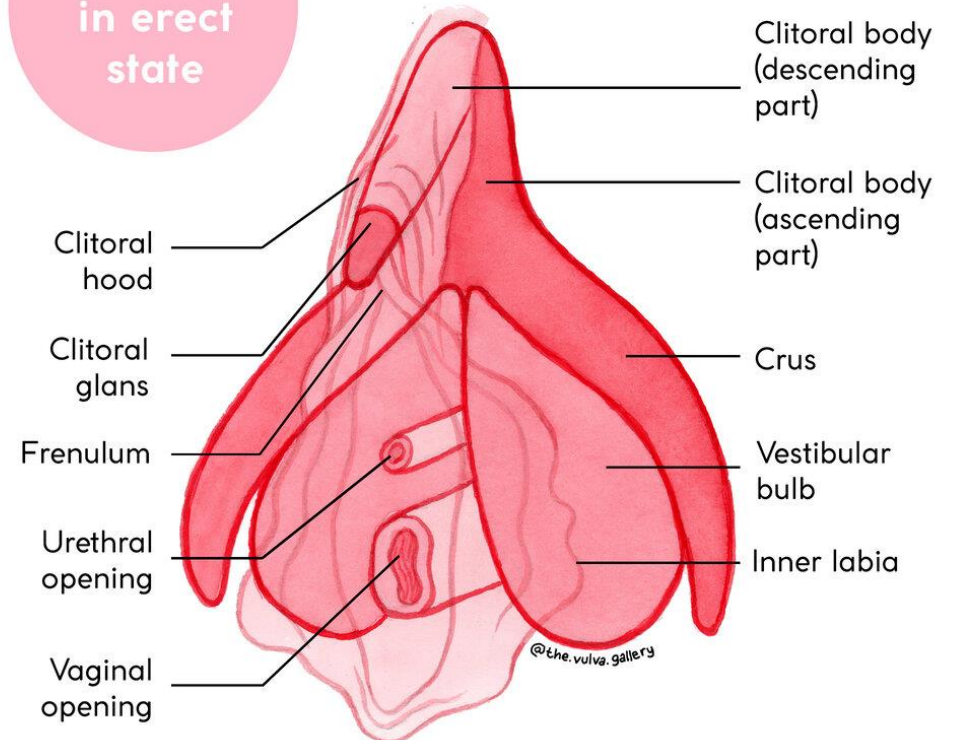
The clitoris

The clitoris
in non-erect
state



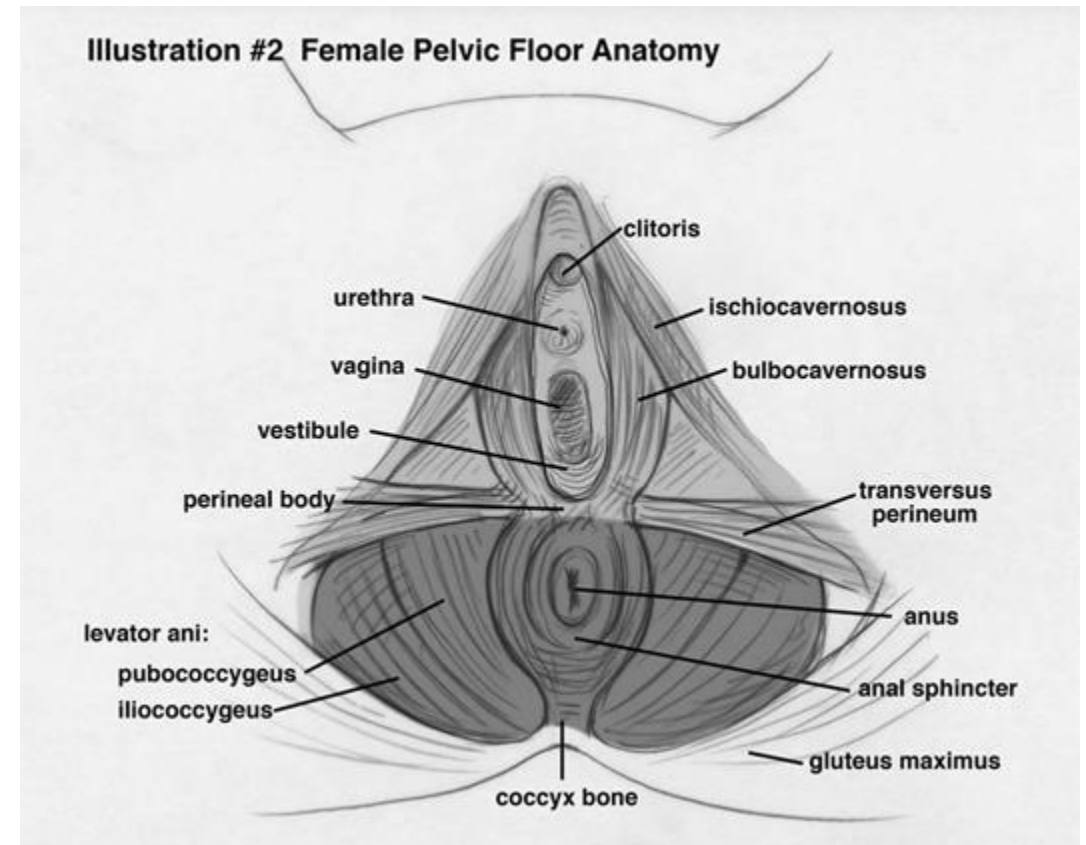
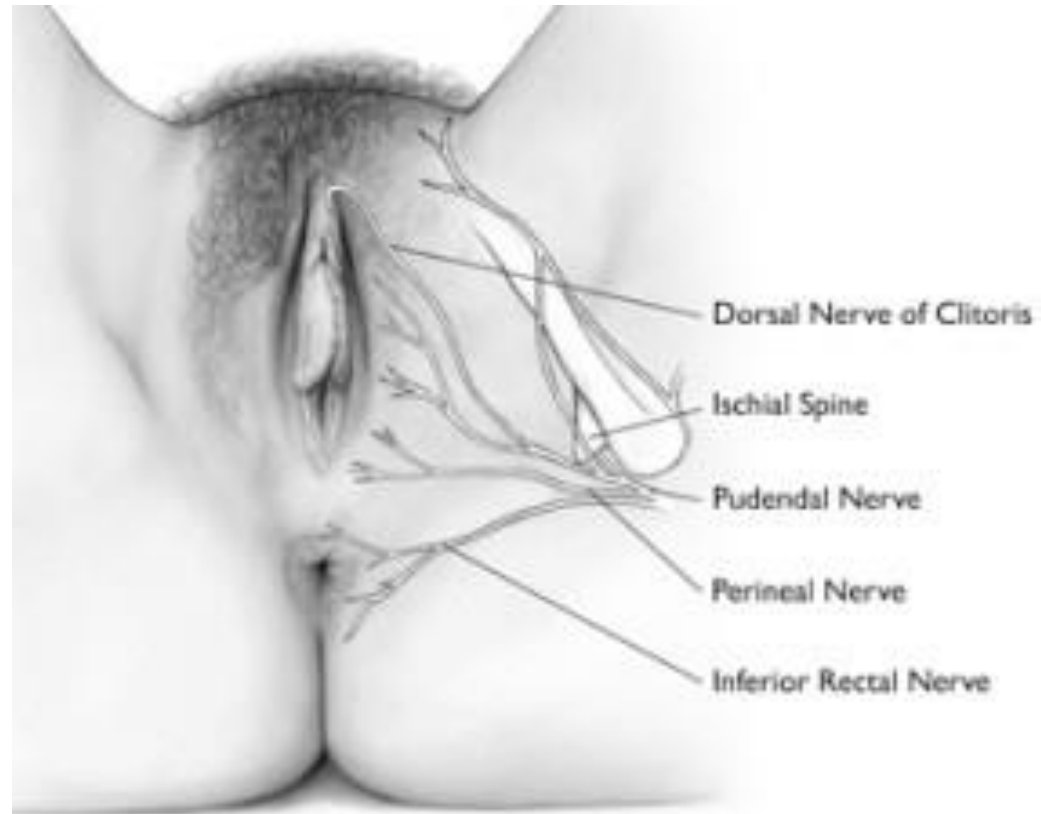
© Illustration by Hilde Atalanta – The Vulva Gallery

The clitoris
in erect
state

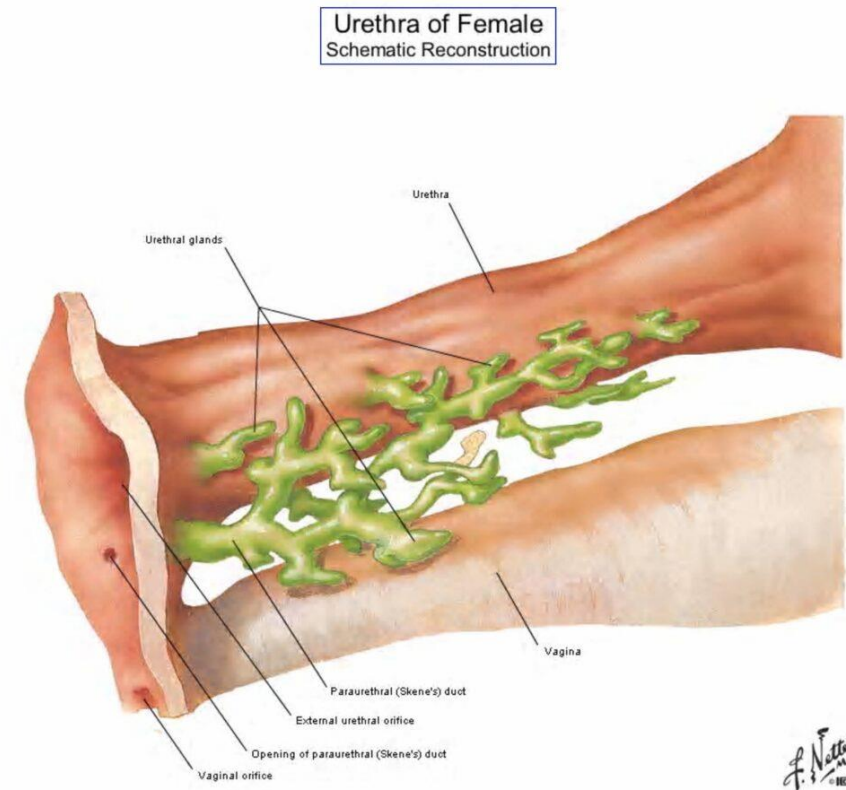
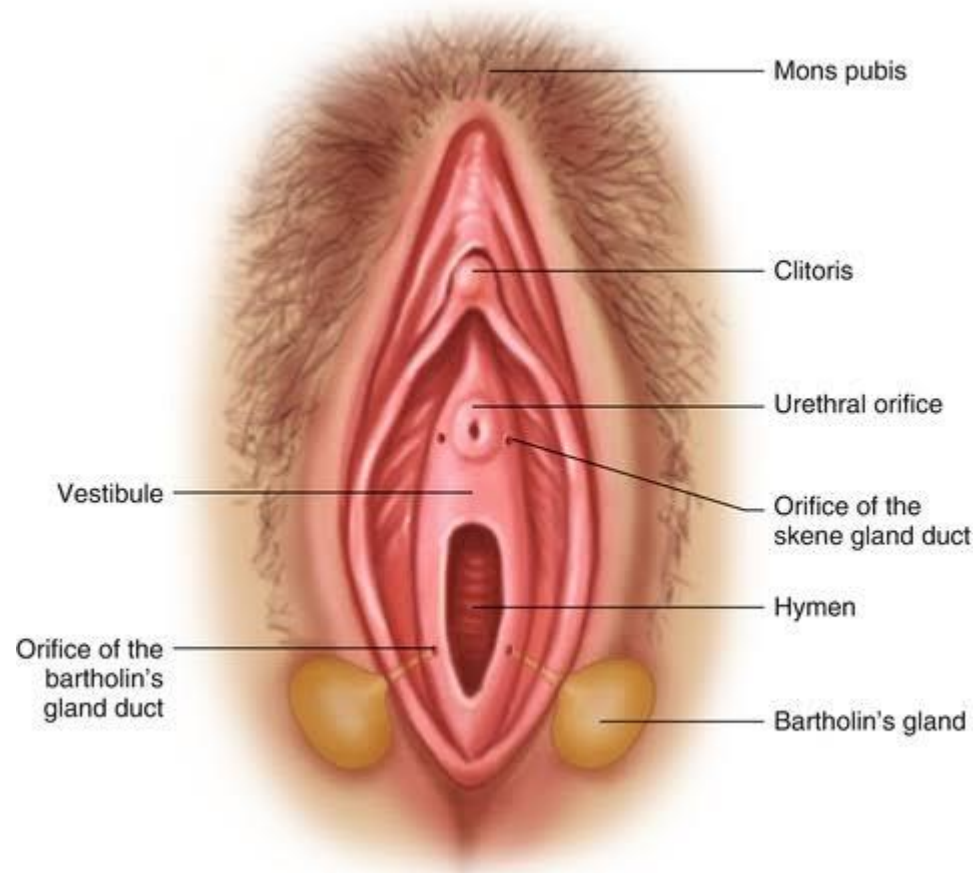


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Pudendal Nerve and muscles



Vulvar Glands – Skenes and Bartholin

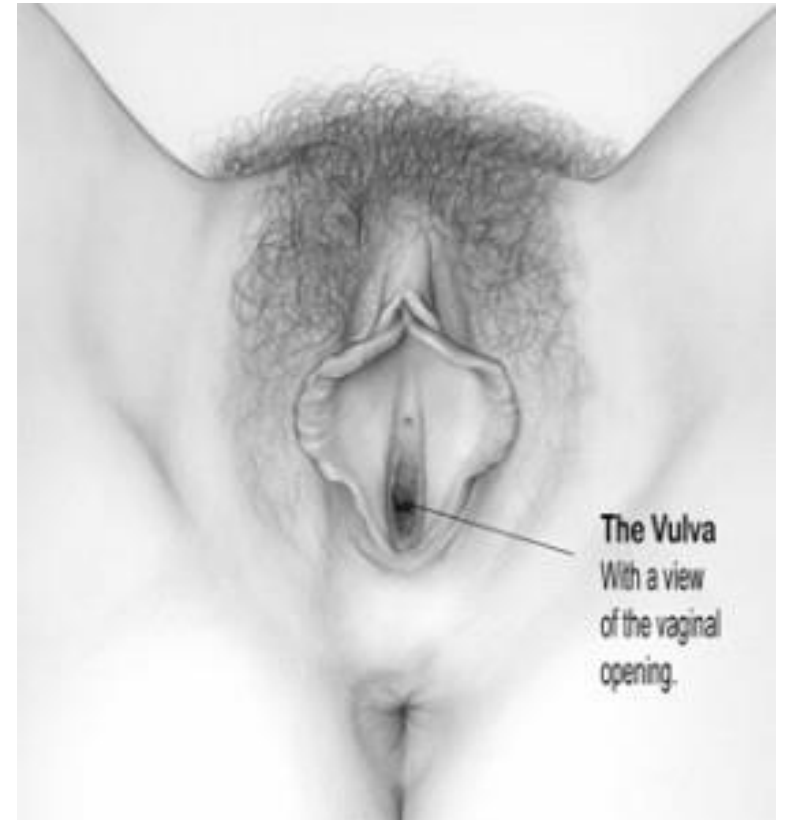
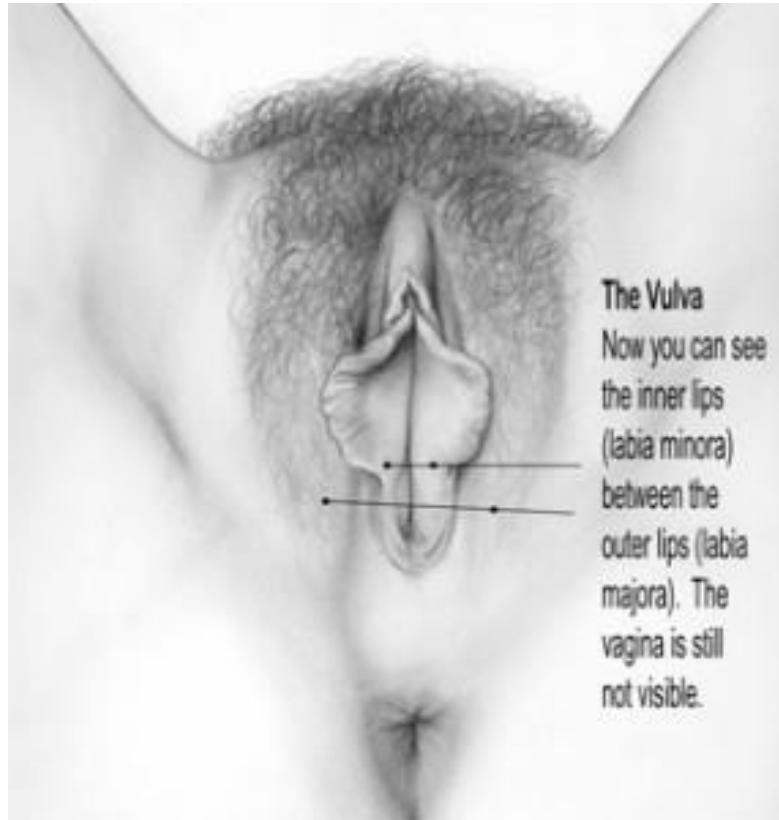


Vulvar Self Exam

- 73% of women are still confused about what their vulva is and what it does.
- Create an inviting space
- Use a hand mirror
- Use your senses – Sight, Touch, Smell
- Performed once a month
- What to look for?
 - Changes in appearance
 - Change in the way it feels
 - Changes in pressure



Vulvar Self Exam



Vulvar Self Exam

How to Perform VSE

- Perform VSE in a well-lit area.
- Wash your hands before performing your VSE.
- Sit down on a comfortable surface or stand with one foot propped up on a chair or bed.
- Hold a mirror in one hand and use the other hand to examine the vulva.
- Examine the parts of the vulva using sight and touch: the mons pubis; the left and right folds of the labia majora and minora; the clitoris and its general area; the skin around the vaginal entrance; the perineum; and the perianal area.

What to Look for During Your VSE

- Changes in appearance, such as a new mole, wart, lump or other growth; changes in skin color such as white, reddened or brown patches of skin; cuts or sores.
- Changes in the feel of the skin, paying careful attention to areas where you feel pain, itching, or other discomfort.
- During visual inspection of the vulva, apply gentle pressure to the vulvar skin to check for any lumps.

When to Perform Your VSE

- VSE should be performed in between menstrual periods, preferably at the same time each month. All sexually active women and women over 18 should perform VSE. If you notice any change, you should contact your healthcare provider promptly.

Patient Autonomy and Informed consent

Should a healthcare provider obtain the patient's consent before performing a physical exam?

CONSENT IS:

CLEAR **COHERENT**
WILLING **ONGOING**

CLEAR

Consent is active.

It's expressed through words or actions that create mutually understandable permission.

Consent is never implied, and the absence of a no is not a yes.

Silence is NOT consent.

"I'm not sure," "I don't know," "Maybe" and similar phrases are NOT consent.

COHERENT

People incapacitated by drugs or alcohol cannot consent.

Someone who cannot make rational, reasonable decisions because she or he lacks the capacity to understand the "who, what, when, where, why or how" of the situation cannot consent.

People who are asleep or in another vulnerable position cannot consent.

WILLING

Consent is never given under pressure.

Consent is not obtained through psychological or emotional manipulation.

Consent cannot be obtained through physical violence or threat.

Someone in an unbalanced power situation (i.e. someone under your authority) cannot consent.

ONGOING

Consent must be granted every time.

Consent must be obtained at each step of physical intimacy. If someone consents to one sexual activity, she or he may or may not be willing to go further.

American Medical Association

Informed consent

- Explaining a medical intervention to a patient
- Include the risks and benefits
- Making sure they understand what they've been told
- Ask the patient if they agree
- Documenting the process
- Include ALL options



Communication

- A conversation doesn't just involve speaking to your patient
- Paying attention and active listening
- Use your eyes for nonverbal cues
- Asking permission
- Use their language
- Handouts are great!
- Defer if necessary.



Illustration by Emily Roberts, Verywell

Pelvic exam considerations

- Environment – lighting, temperature, music
- Decrease anxiety – weighted blanket, stress ball
- Grounding or Mindfulness exercises
- Incorporate mental health as an active participant in the pelvic exam
- Exposure therapy – speculum, PAP items, Q-tip
- Have a mirror handy
- Think about the other people in the room
- Aftercare



The Vulva – Pathophysiology

- Vulvodynia
- Lichen Sclerosus
- Lichen Planus
- Lichen simplex chronicus
- Folliculitis
- Contact dermatitis
- Vulvar atrophy (GSM)
- Mast Cell Activation

The Vulva – Diagnosis

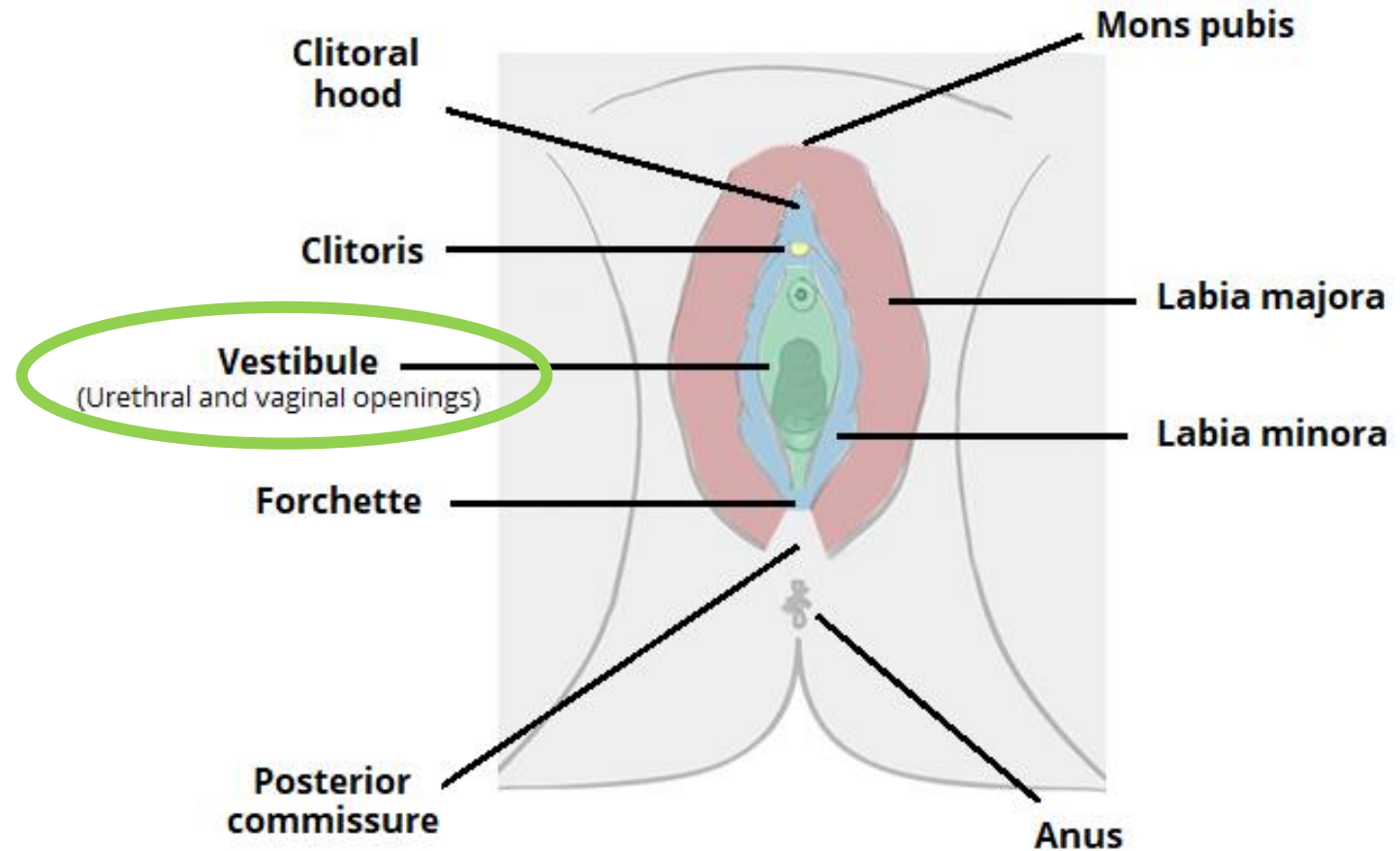
- Vulvar swabs
- Vulvoscopy with or without biopsy
- Q-tip test

The Vestibule

Vestibule

The area between the two labia minora where the vagina and urethra opening are located is called the vestibule.

Vestibular Glands



The Vestibule – Pathophysiology

- Vestibulodynia
 - Hormonally mediated
 - Neuroproliferative
- Vestibule atrophy (GSM)

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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.

**INTROITAL DYSPAREUNIA & VULVAR PAIN:
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

TENDERNESS THROUGHOUT THE ENTIRE VESTIBULE

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

PAIN CONFINED TO THE POSTERIOR VESTIBULE

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

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 methylcellulose 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, vulvovaginal 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: tenderness at ischial spine, MRI, pudendal nerve block, dorsal clitoral nerve block

LICHEN SCLEROSUS
Anogenital in a "figure 8" distribution 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

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 cotton 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 dietary 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.

HYPERTONIC PELVIC FLOOR MUSCLE DYSFUNCTION
-Pain at 4,8 o'clock 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

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

The Vagina

Challenging Vaginitis

Recurrent Yeast – Case study

- Vaginitis = inflammation of the vagina
- Symptoms = discharge, odor, pruritis, burning, pain, dysuria, dyspareunia
- Common condition affecting almost all women at some point in their life
- Most common causes
 - Candidiasis
 - Bacterial vaginosis
 - Trichomoniasis
- After puberty, 90% of cases are infectious vaginitis – *Gardnerella*
- Contributing factors
 - Lack of estrogen
 - Anatomy
 - Hygiene – too much and too little
 - Lack of pubic hair
 - Contact irritants
 - Pregnancy
 - Comorbidities

Challenging Vaginitis

- Vulvovaginal candidiasis is a common vaginal infection affecting 70-75% of women at least once in their reproductive years
- Primary symptom = vulvar pruritis
 - Additional symptoms can be burning, soreness, irritation
- Physical exam
 - Vulvar edema/erythema
 - Fissures
 - Excoriations (scratching)
 - Discharge – thick, white, clumpy *** Can you have a candida infection without discharge? ***
- Diagnosis
 - Obtain a vaginal swab for wet mount with saline or KOH – will see budding yeast and hyphae
 - No microscope? Send for fungal culture – PCR can help differentiate between species and sensitivities
 - 90% of all vaginal candida infections are from *C. Albicans* (second most common is *C. Glabrata*)
- Treatment
 - All OTC imidazoles (butoconazole, clotrimazole, miconazole) and Rx single-dose oral fluconazole

Challenging Vaginitis

- Criteria for complicated/recurrent candidiasis
 - Four or more episodes in one year
 - Severe symptoms or findings
 - Suspected or confirmed non-*albicans* *Candida* infection
 - Comorbidities – diabetes, severe medical illness, immunosuppression
 - Co-vulvovaginal infections
 - Pregnancy
- Treatment
 - *Candida glabrata*
 - 50% improvement with “azoles”
 - Topical Gentian Violet
 - Vaginal boric acid 600mg daily for 14 days
 - Flucytosine 15.5% vaginal cream , 5g daily for 14 days with/without amphotericin B 50mg suppositories nightly
 - Longer duration of initial therapy – fluconazole 100/150/200mg on the 1, 4, 7 days
 - Fluconazole 100-150mg PO weekly for 6 months
- Complication with vulvar cellulitis rare – swollen, beefy-red vulva and pain, tenderness, fever, chills, lymphadenopathy
- Management of sex partners

Challenging Vaginitis

Bacterial Vaginosis – Case study

- Most common vaginal infection in women between the ages of 15-44
- 84% of women with BV have no symptoms
- 18% of women with BV had never had vaginal penetration
- African Americans and Latino women are at higher risk
- Caused by the lack of normal hydrogen peroxide-producing lactobacilli
 - Overgrowth of anaerobes – *Gardnerella vaginalis*, *Mycoplasma hominis*, *Atopobium vaginae*
 - Other possible causes – menstrual flow, intercourse, douching, female partner
- Complications
 - Preterm labor
 - Pelvic inflammatory disease
 - Urinary tract infections
 - Acquisition/transition of STIs including HIV

Available Tests for Diagnosis of BV

Test	Time for Results	Description
Amsel Criteria	<30 minutes	Meets 3 out of 4: <ul style="list-style-type: none"> • Homogeneous white/gray thin discharge • Vaginal pH >4.5 • Positive amine (whiff) test • Wet prep – 20% or more clue cells seen
Affirm VP III test	<1hr	Automated DNA probe assay for detecting <i>G. vaginalis</i>
OSOM BV Blue system	10 minutes	Chromogenic diagnostic test based on presence of elevated sialidase enzyme activity
Vaginal Culture	3 days	Not recommended by the CDC due to decreased viability of bacteria after 24 hours and failure to distinguish pathogens from normal flora

Challenging Vaginitis

- Treatment options
 - New option – Secnidazole 2g oral granules single dose
 - Metronidazole 500mg PO BID x 7 days
 - Metronidazole 0.75% gel, 1 applicator PV daily for 5 days (not for use in the first 13 wks of pregnancy)
 - Clindamycin 2% cream, 1 applicator PV daily for 7 days
 - Alternative therapies
 - Tinidazole 2g PO daily x 2 days
 - Tinidazole 1g PO daily x 5 days
 - Clindamycin 300mg PO BID x 7 days
 - Clindamycin ovules 100g PV QHS x 3 days
- Other considerations
 - Recurrence is high! Consider higher doses and longer courses of medications used for initial therapy
 - Routine testing of partner or partner treatment is not recommended
 - Oral and vaginal probiotics are currently being studied
 - Condom use after treatment to allow the vaginal ecosystem time to heal
 - Clean sex toys after each use and avoid sharing
 - Avoid douching, multiple sex partners, spermicides

Challenging Vaginitis

Vaginal Microbiome

- Undergoes dramatic shifts that coincide with hormonal and lifestyle changes.
- Lactobacilli in the vagina produce lactic acid and create a low pH environment to protect against pathogens
 - *L. crispatus*, *L. iners*, *L. gasseri* and *L. jensenii*
 - Although otherwise healthy individuals have vaginal microbiota lacking significant numbers of *lactobacilli* and harbor other anaerobes
- Relationship between mother and baby
- Disruption of ecological equilibria is believed to increase the risk to invasion by infectious agents
 - Hormonal contraceptives
 - Antibiotics
 - Sexual activity
 - Vaginal products and douching

Genitourinary Syndrome of Menopause

- Lack of testosterone AND estradiol in the vulvovaginal tissues
- Why does this happen?
- Lubricants have been shown to aid in vaginal dryness and increase sexual satisfaction
- Most women use a lubricant during self pleasure vs partnered pleasure
- Apply the lubricant to the entire genital area – not just the vagina
- Lubricant safety
 - Avoid glycerin, parabens, fragrances, menthol
 - Silicone, water-based, hybrid
 - No silicone lubes with silicone toys
 - Brands: Uberlube, Good Clean Love, Sliquid, Aloe Cadobora
 - Avoid KY Jelly, Astroglide, Durex

Genitourinary Syndrome of Menopause

Symptoms	Signs
Genital dryness	Decreased moisture
Decreased lubrication with sexual activity	Decreased elasticity
Discomfort or pain with sexual activity	Labia minora resorption
Post-coital bleeding	Pallor/erythema
Decreased arousal, orgasm, desire	Loss of vaginal rugae
Irritation/burning/itching of vulva or vagina	Tissue fragility/fissures/petechiae
Dysuria	Urethral eversion or prolapse
Urinary frequency/urgency	Loss of hymenal remnants
	Prominence of urethral meatus
	Introital retraction
	Recurrent UTIs

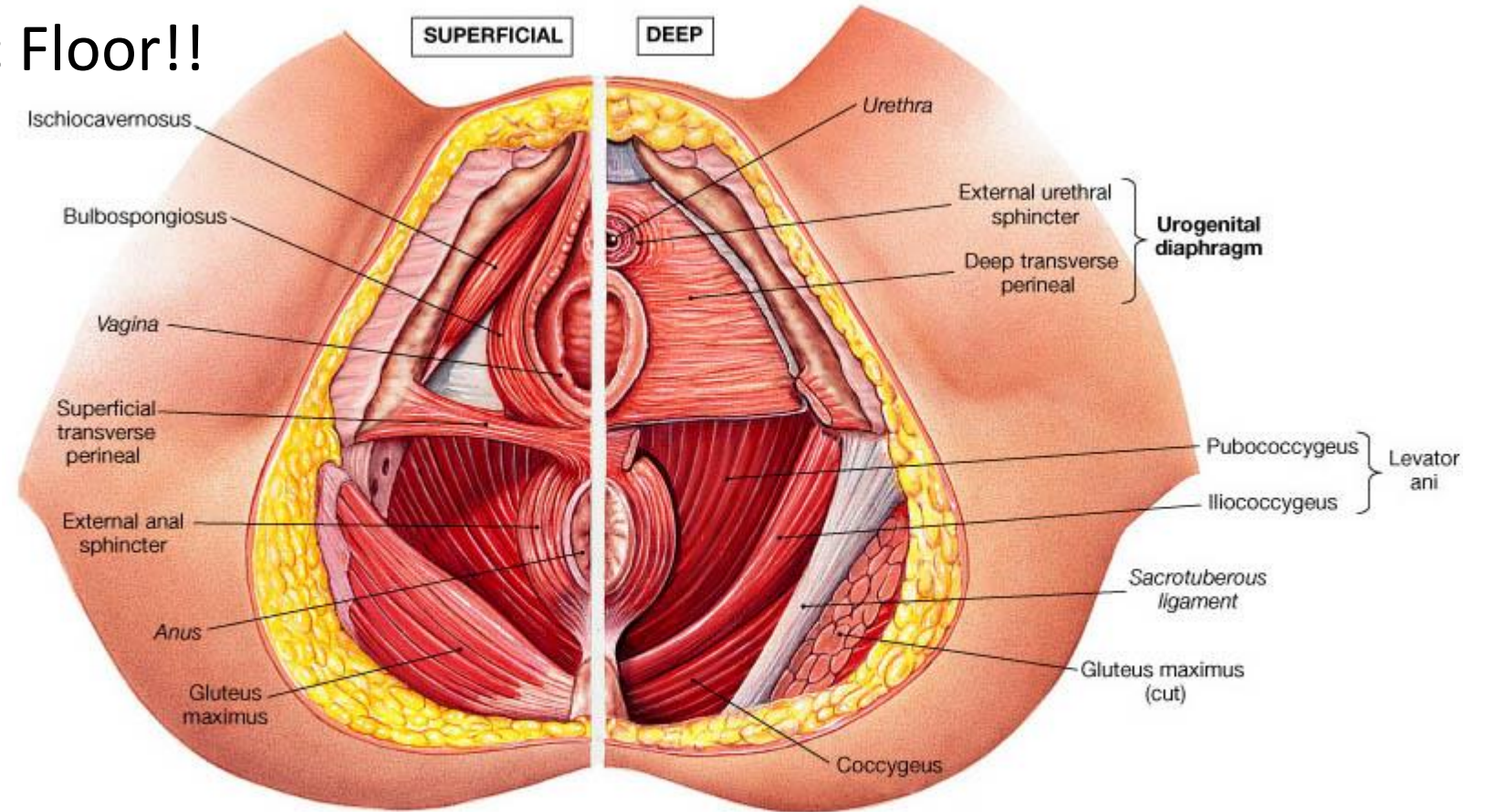
Genitourinary Syndrome of Menopause

- Treatment options
 - Localized estradiol
 - Localized DHEA
 - Ospemifene
 - Laser's

The Pelvic Floor Muscles

Pelvic Floor Muscles

- Let's Find Our Pelvic Floor!!



(a) Female

Thank you!

Questions?

- Aleece Fosnight, MSPAS, PA-C, CSC-S, CSE, NCMP, IF, HAES
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