Overview of Vulvar Dermatology

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Disclosures

No financial relationships or conflict of interest to disclose

Learning Objectives

At the end of this lecture, the participant will gain knowledge on:

- How to perform a:
  - Basic vulvar physical exam
  - Wet prep
  - Vulvar biopsy
- Gentle vulvar skin care
- The basics of topical steroids
- An approach to recalcitrant problems

Recommended References

- Beecker J. Therapeutic Principles in Vulvovaginal Dermatology. *Dermatol Clin.* 2010 Oct;28(4):639-648.
- Black M et al. *Obstetric and Gynecologic Dermatology*, 3rd Edition. Elsevier Limited, 2008.
- Edwards L and PJ Lynch, eds. *Genital Dermatology Atlas*, 2nd Edition. Philadelphia: Lippincott Williams & Wilkins, 2011.

Outline

- **History**
- Diagnostic Tools
  - Physical examination
  - Biopsy
  - Wet prep
- Management
  - Approach
  - Gentle skin care
  - Topical steroids
  - Recalcitrant problems

History

- **<u>Chronic symptoms</u>**
  - Depression, anxiety
  - Sexual dysfunction
  - Impact on relationship
- History of hygiene practices and local topical applications used often critical
- Sexual history
- Pre-, Peri-, Post-menopausal
- ROS can be helpful
  - Oral signs and symptoms
  - Itch: Atopy (allergic rhinitis, asthma, eczema)
  - Skin disease outside of genitalia
  - PMH/FH: skin disease, autoimmune disease

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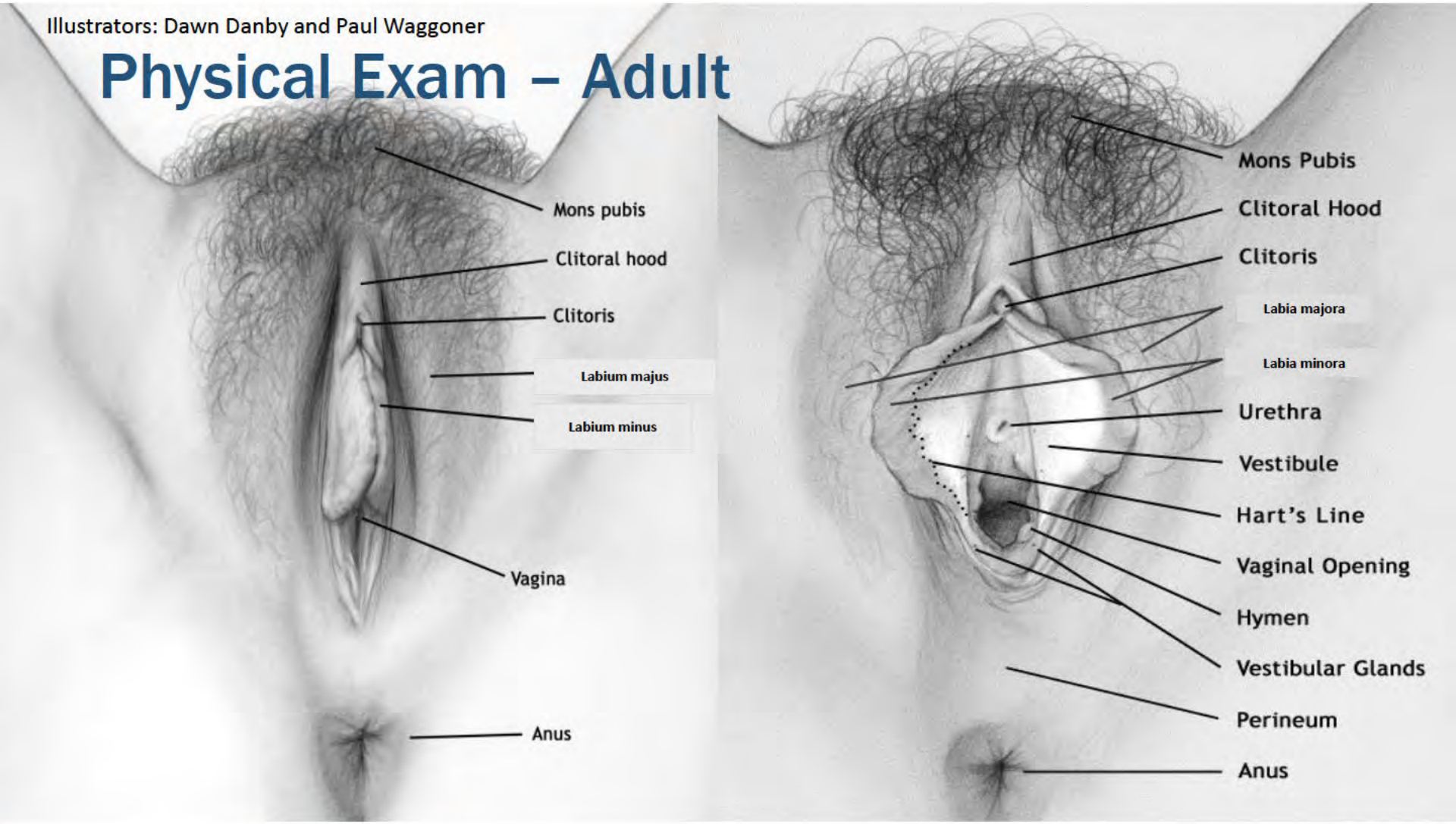
Physical Exam

- Know anatomical terms
- Know normal
- Consistent examination sequence
- Site → diagnosis

Illustrators: Dawn Danby and Paul Waggoner

Physical Exam – Adult



Physical Exam – Prepubertal

Frog-leg position – Lie on back on exam table

Knees flexed, soles resting in opposition, hips externally rotated

No stirrups required, "butterfly or frog"

Cough or blow out candles → visualize anterior vagina

Chapter 12: Pediatric and Adolescent Gynecology. Lentz. Comprehensive Gynecology, 6th edition. 2012. Available on MD Consult.

Physical Examination

- **Active disease**
- Scarring
- Wide range of normal
- Subtle abnormalities → significant symptom**s**
- Disease on macerated skin can have atypical morphology
- Look at mucosal surfaces (mouth, eyes) and skin

Physical Examination

- Active disease
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- **Wide range of normal**
- Subtle abnormalities → significant symptoms
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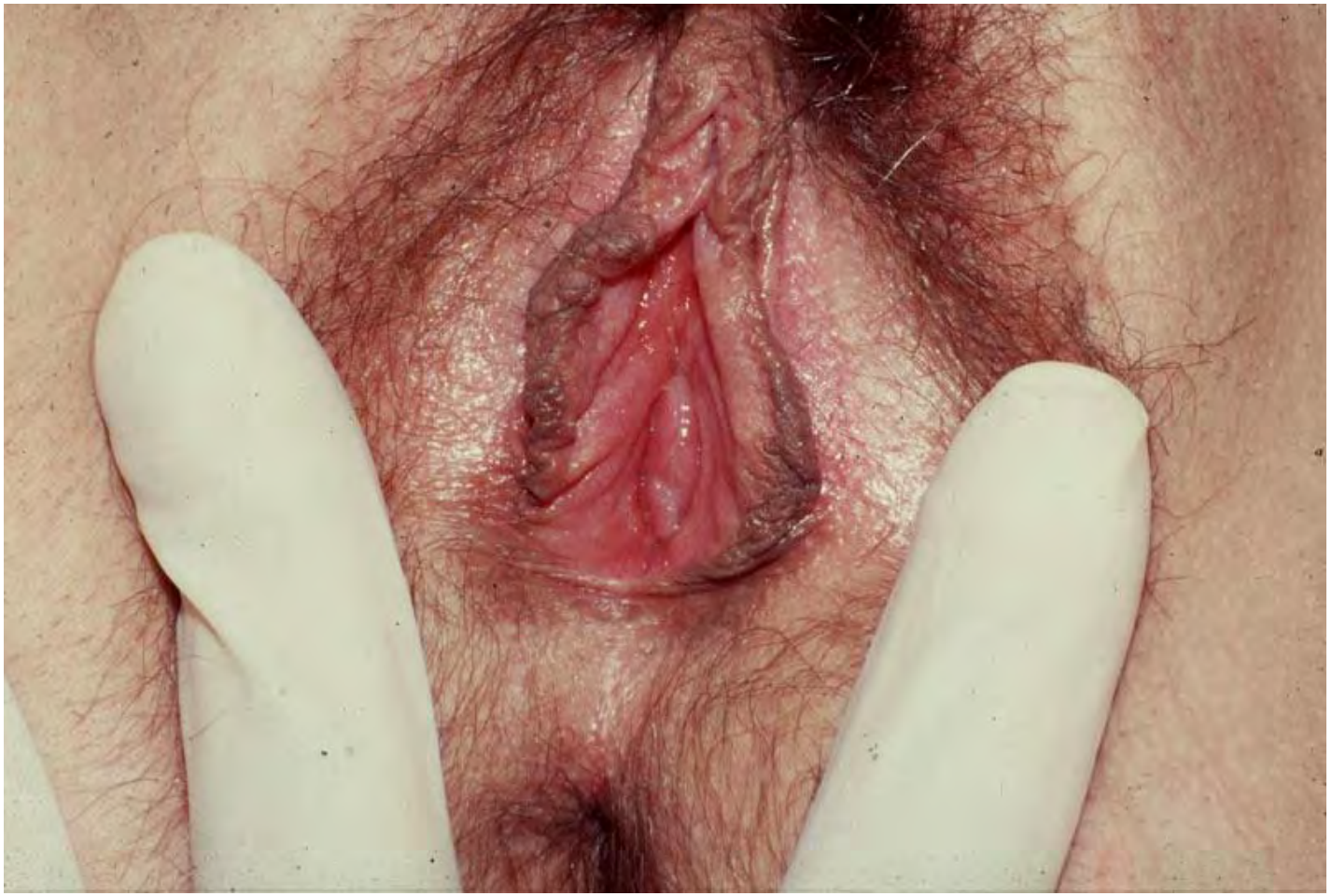
- Redness
- Papillomas
- Labia minora size



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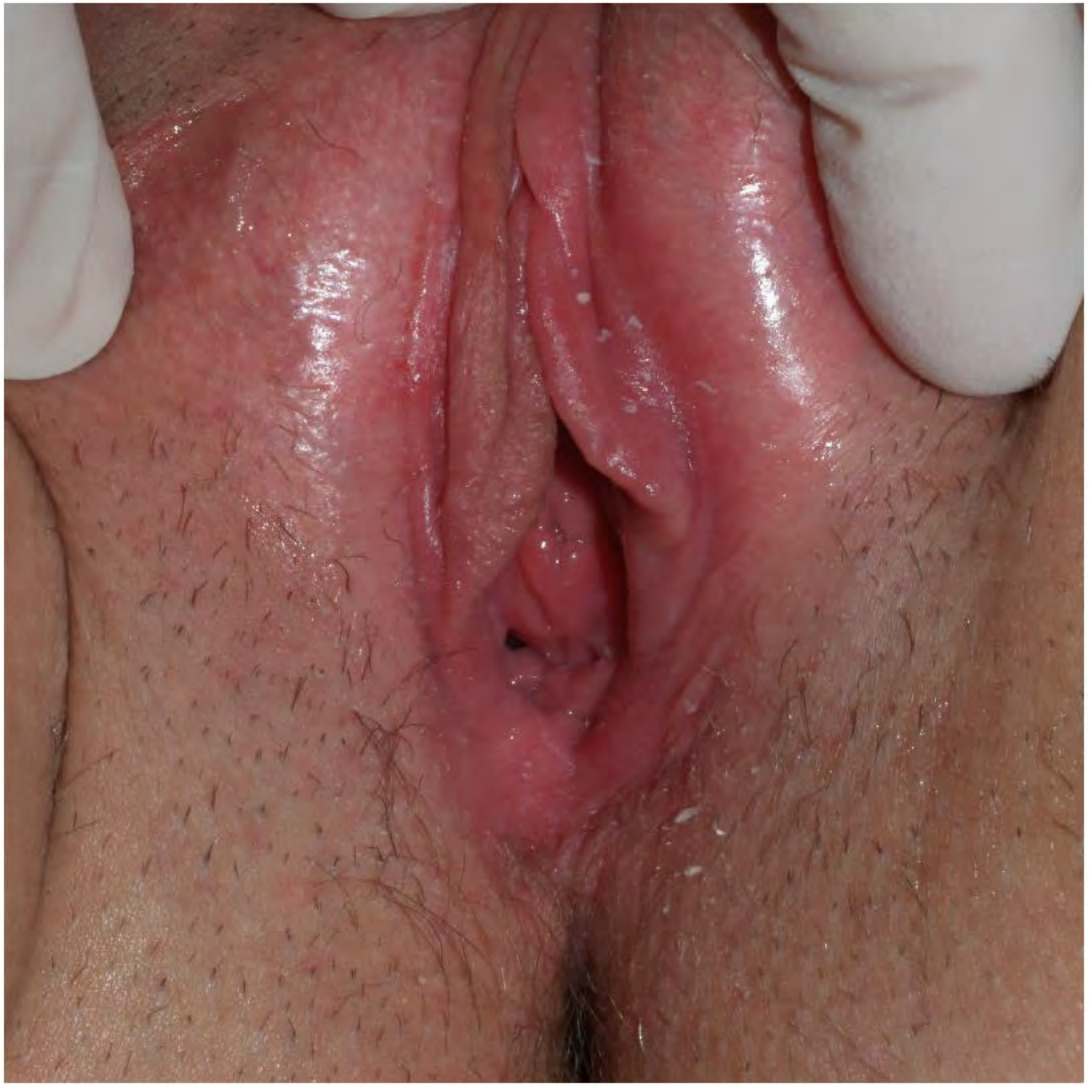

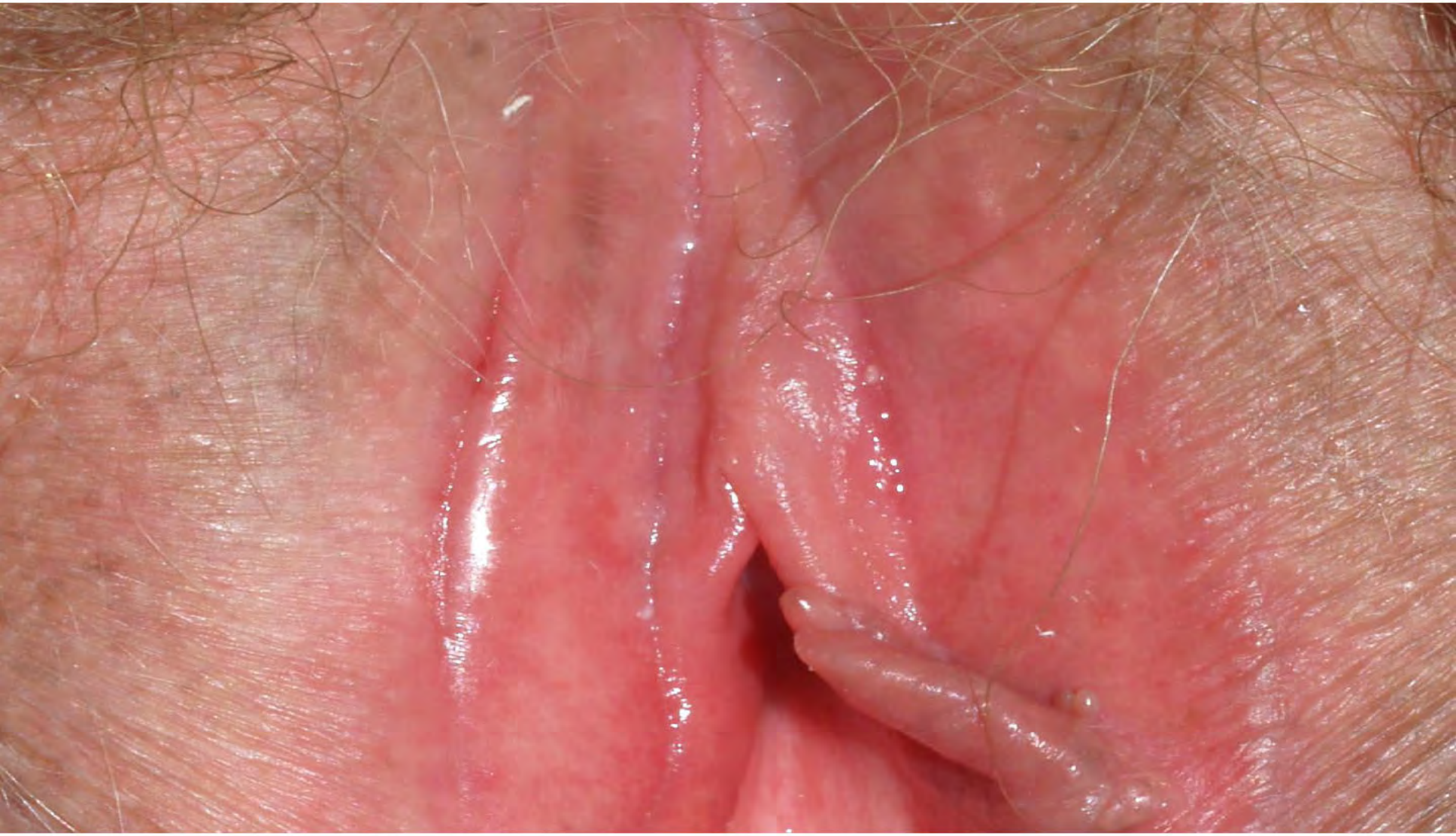

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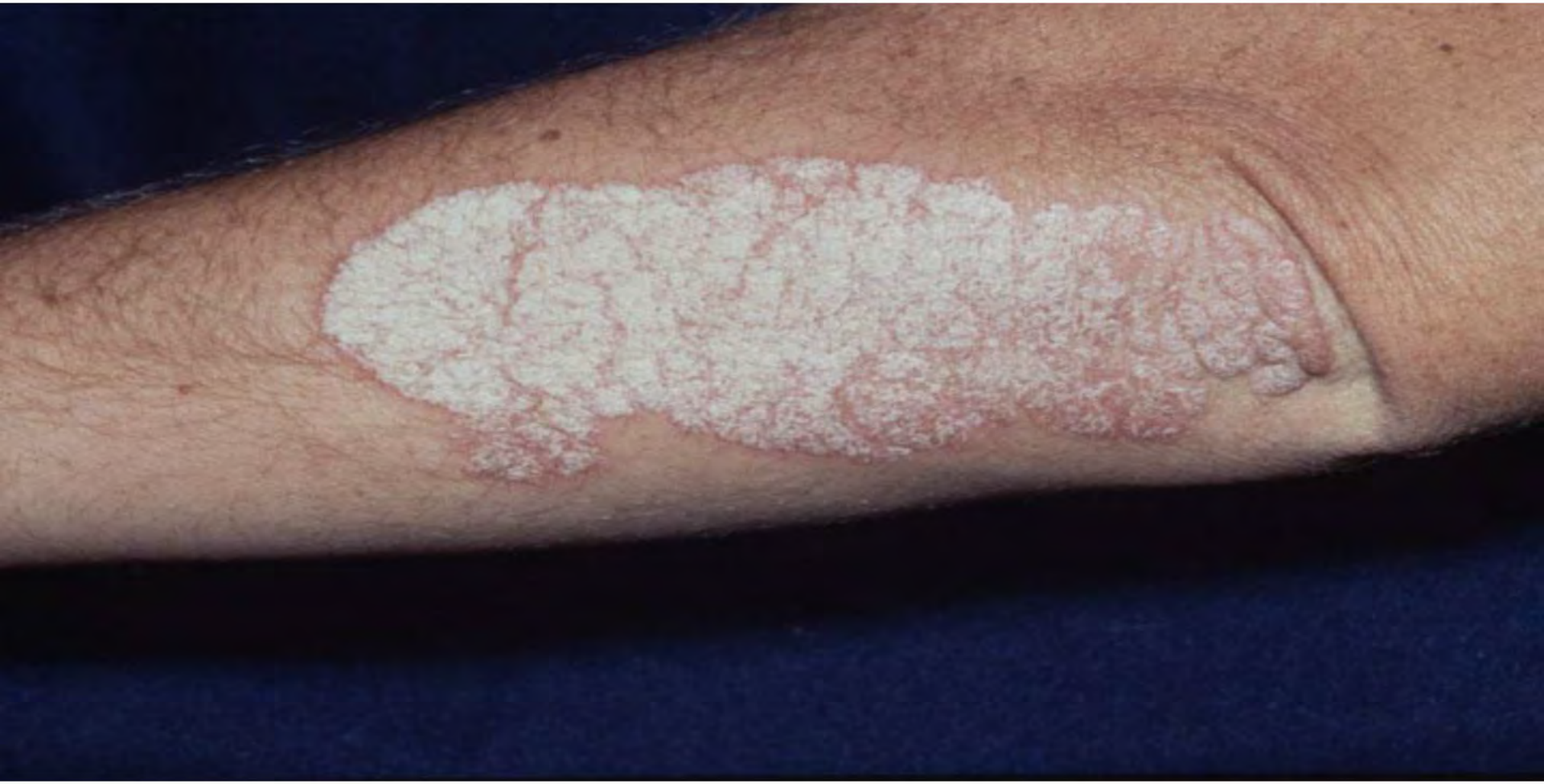

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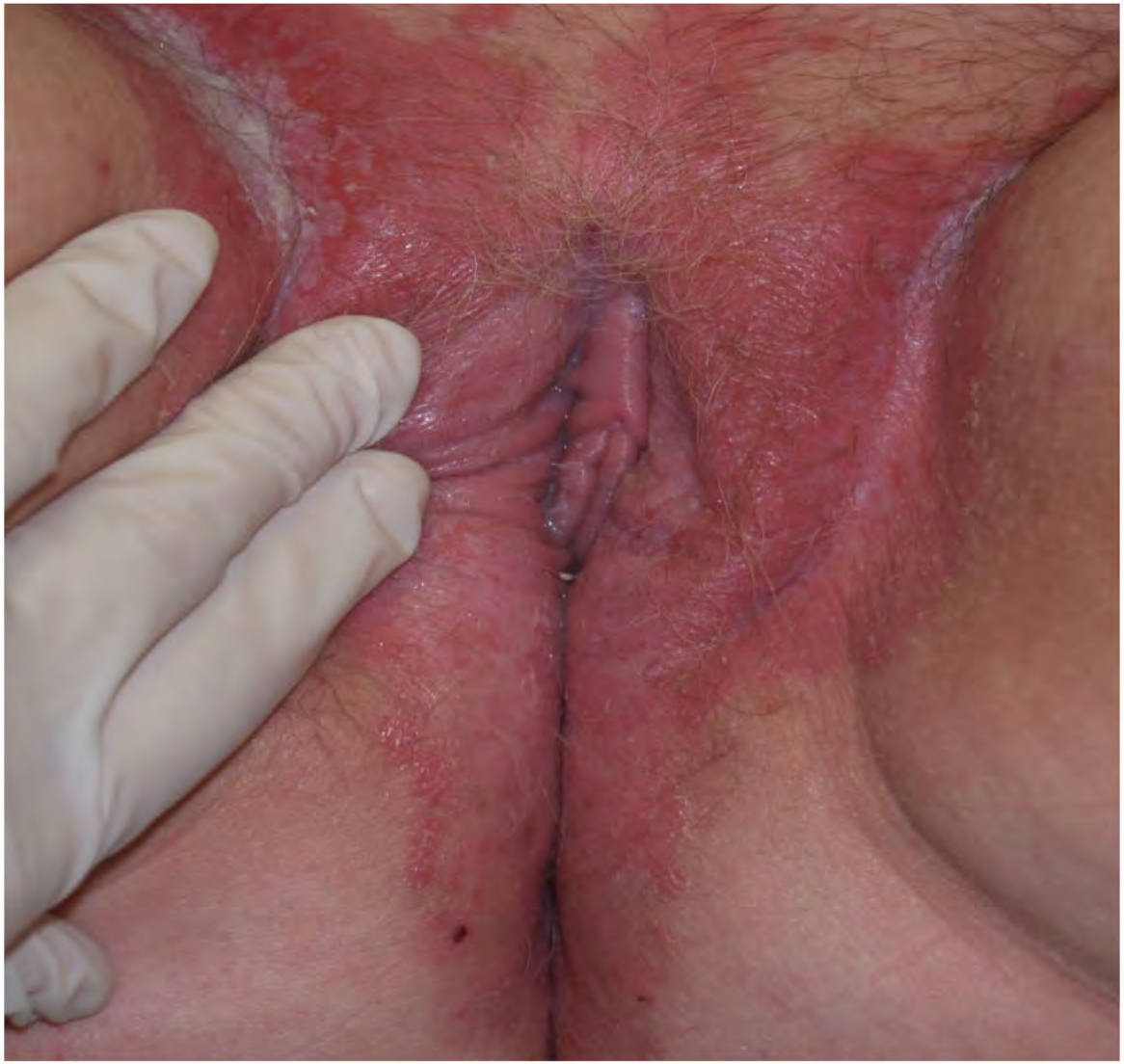
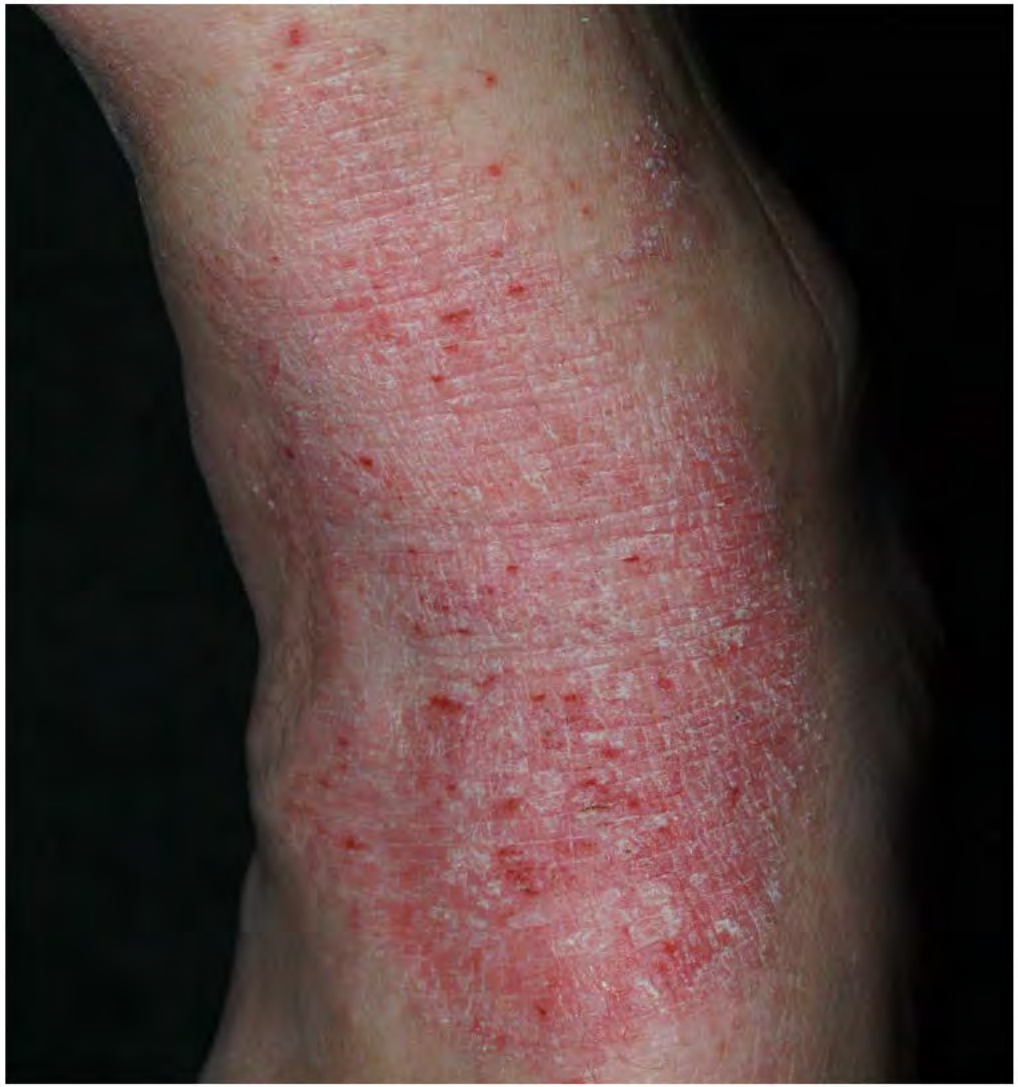
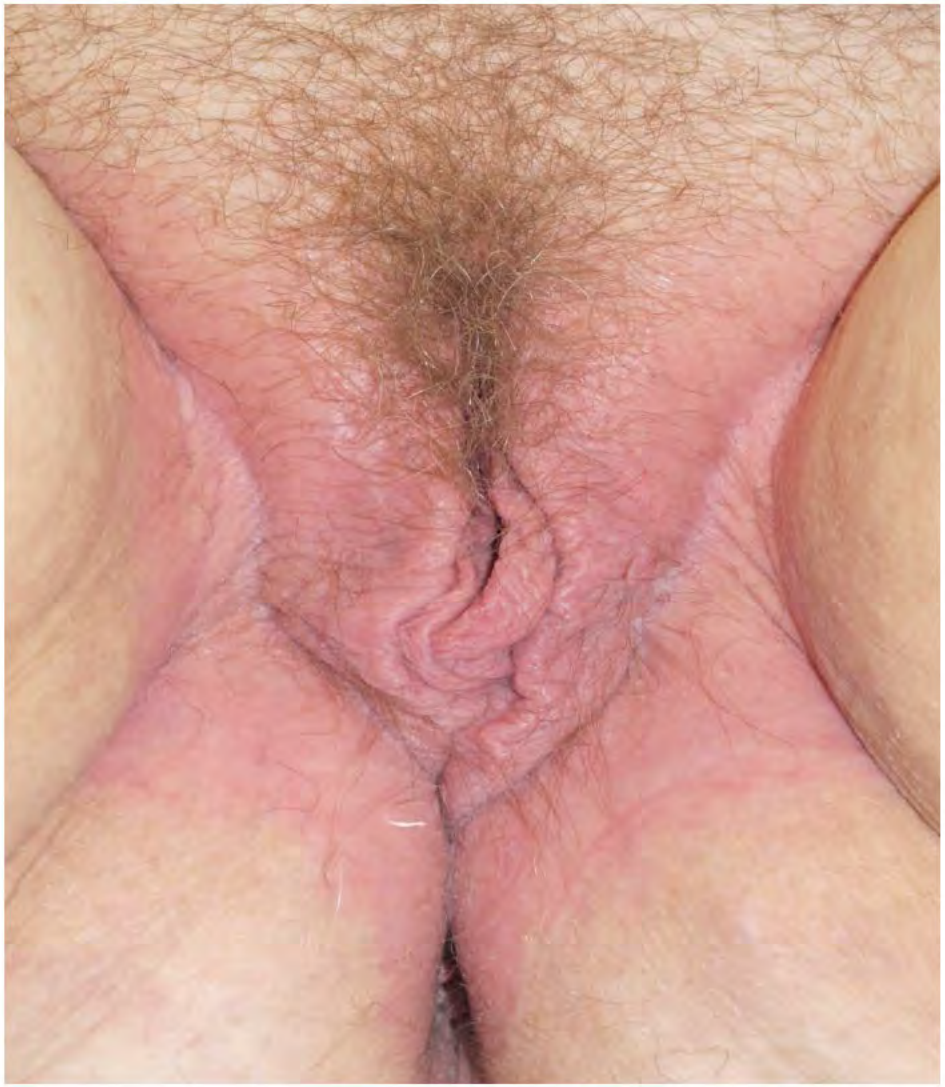


Well-demarcated, non-scaly pink plaque = Psoriasis



Poorly demarcated, lichenified and excoriated plaque =
Lichen Simplex Chronicus



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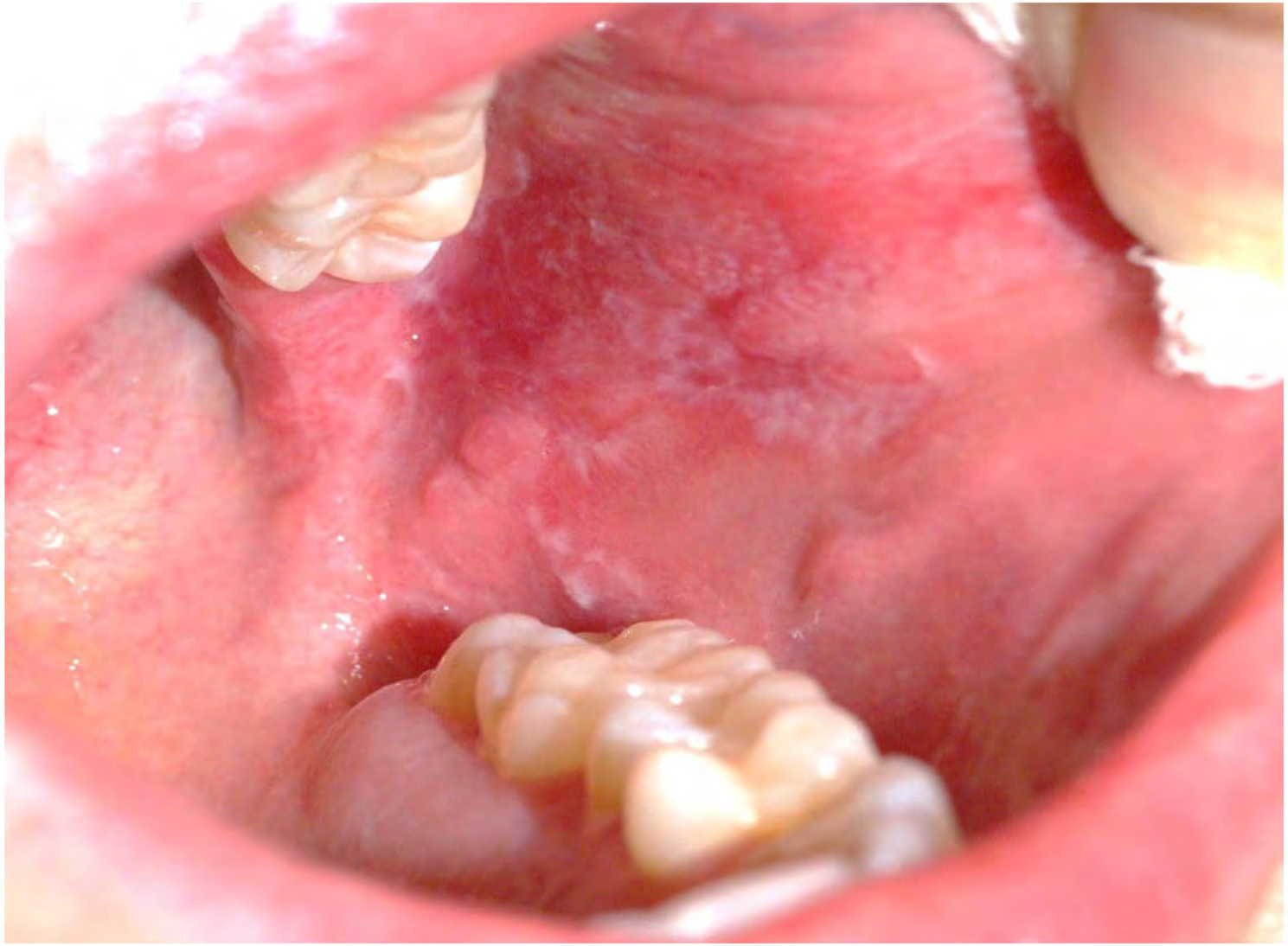
- **Look at mucosal surfaces (mouth, eyes, vagina) and skin**

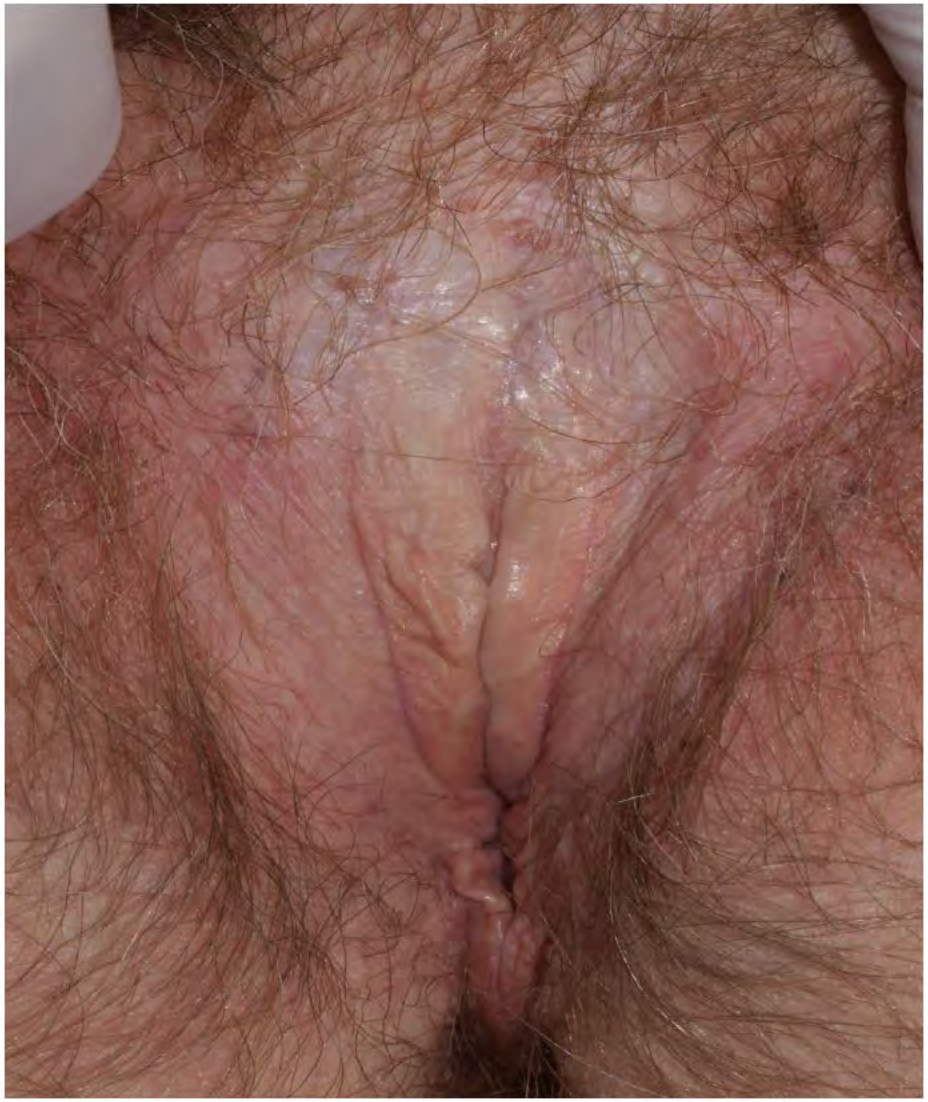


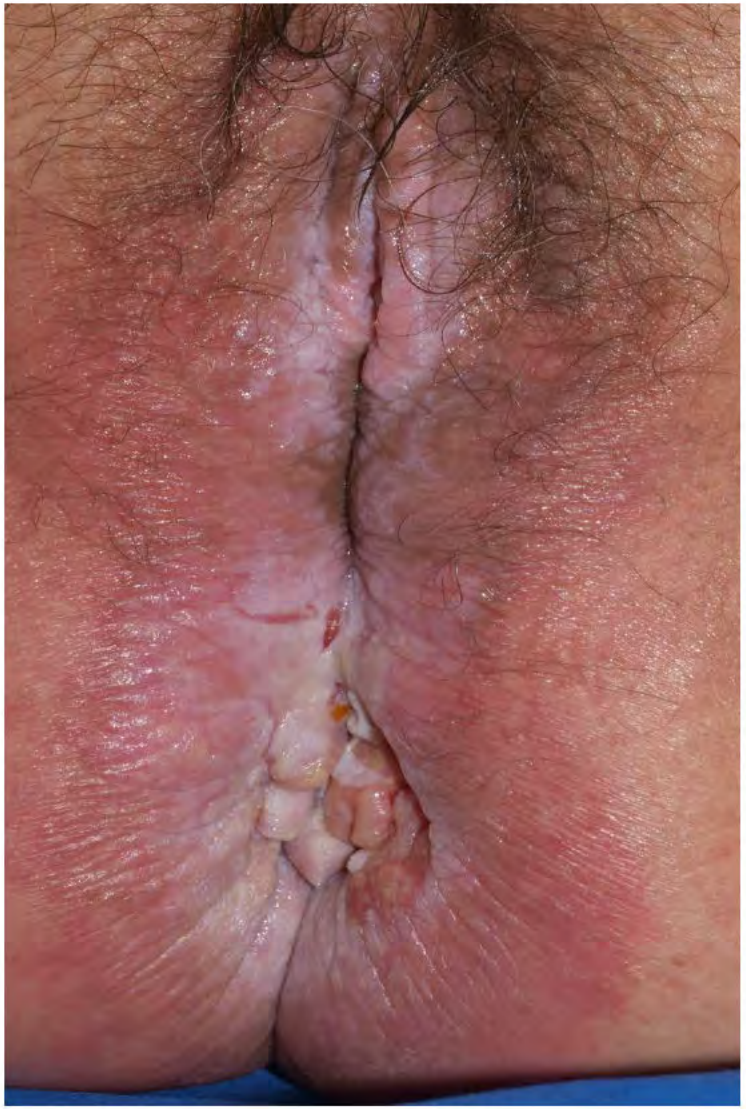
Outline

- History
- **Diagnostic Tools**
  - Physical exam
  - **Biopsy**
  - Wet Prep
- Management
  - Approach
  - Gentle skin care
  - Topical steroids
  - Recalcitrant problems

Biopsy

- Where?
  - **<u>Within lesion itself</u>**
    - Thick area to rule out HSIL or cancer
    - Scaly area to look for eczema, tinea, psoriasis
  - At border of lesion
    - Erosion or ulcer
    - Vesicle or bulla
  - On normal skin adjacent to lesion
    - Immunofluorescence (auto-immune bullous disorder)





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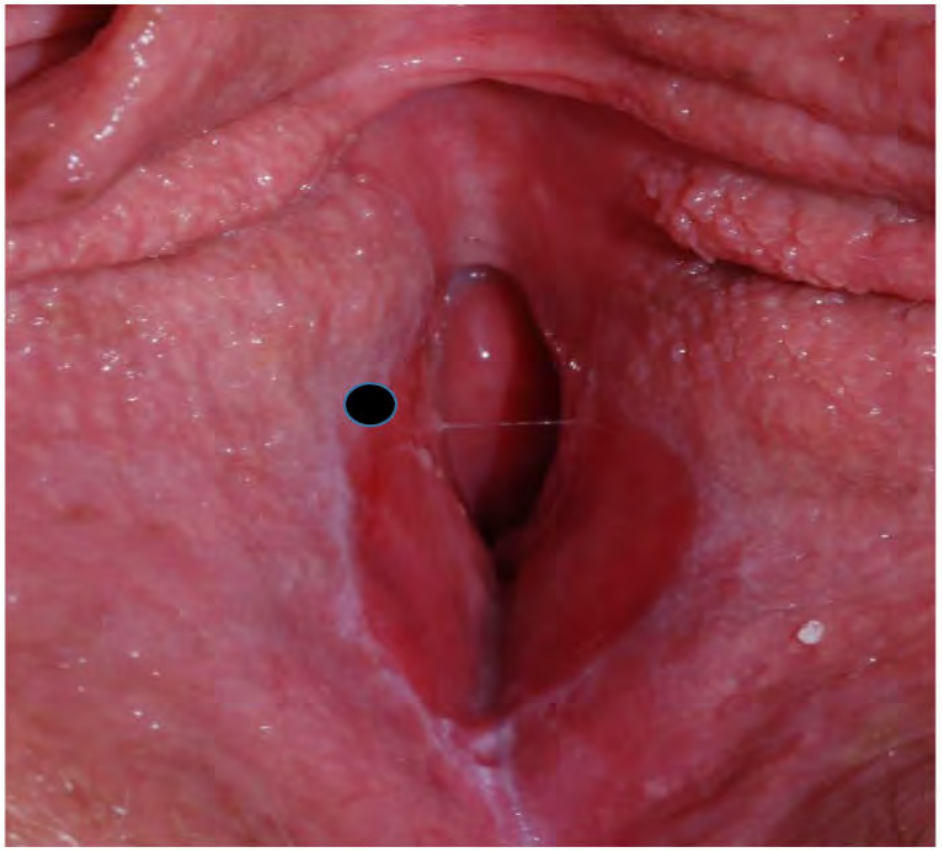
Biopsy

- Site
  - Edge of erosion



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Biopsy

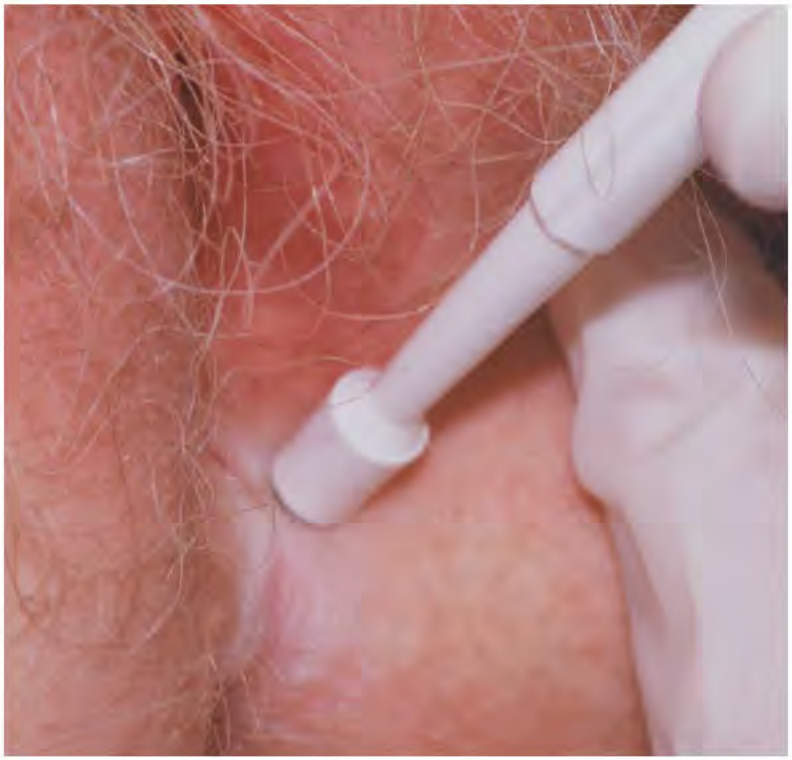
- Apply LMX (lidocaine 4% cream) x 15 min, wipe off
- Inject lidocaine 1% with 1:100,000 epinephrine
- Shave or punch biopsy that includes dermis/submucosa
  - Option 1:

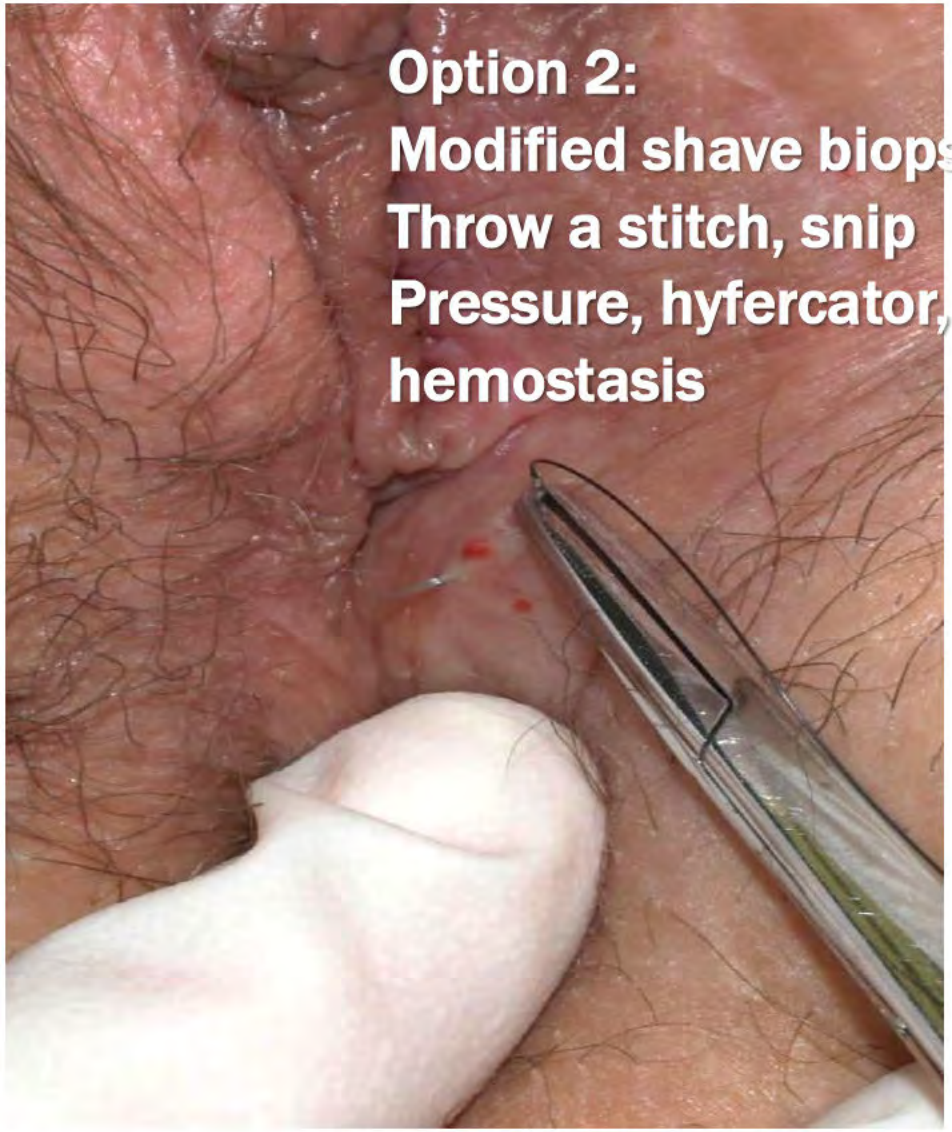
4mm punch biopsy, twist

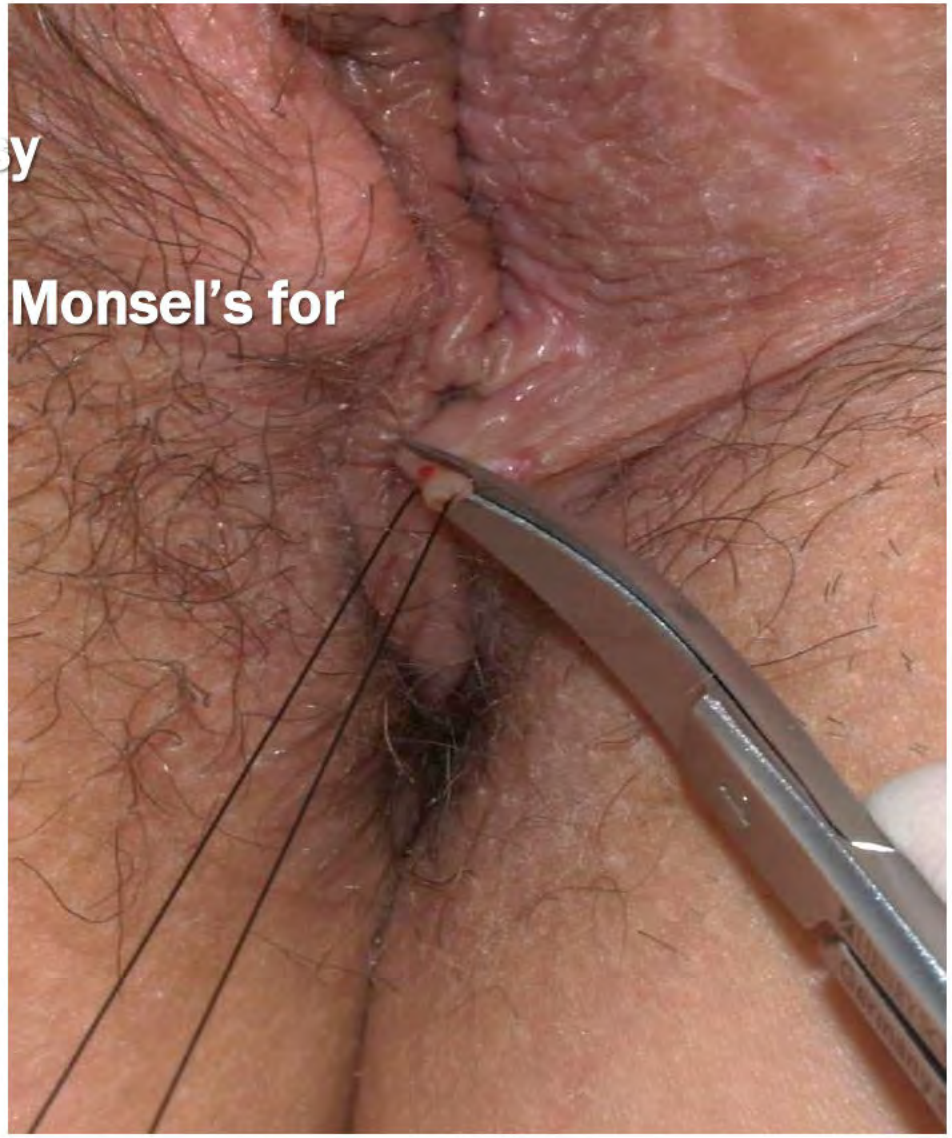
Adjust depth based on your ddx

Forceps (needle) + scissors to remove

5-0 silk or pressure for hemostasis

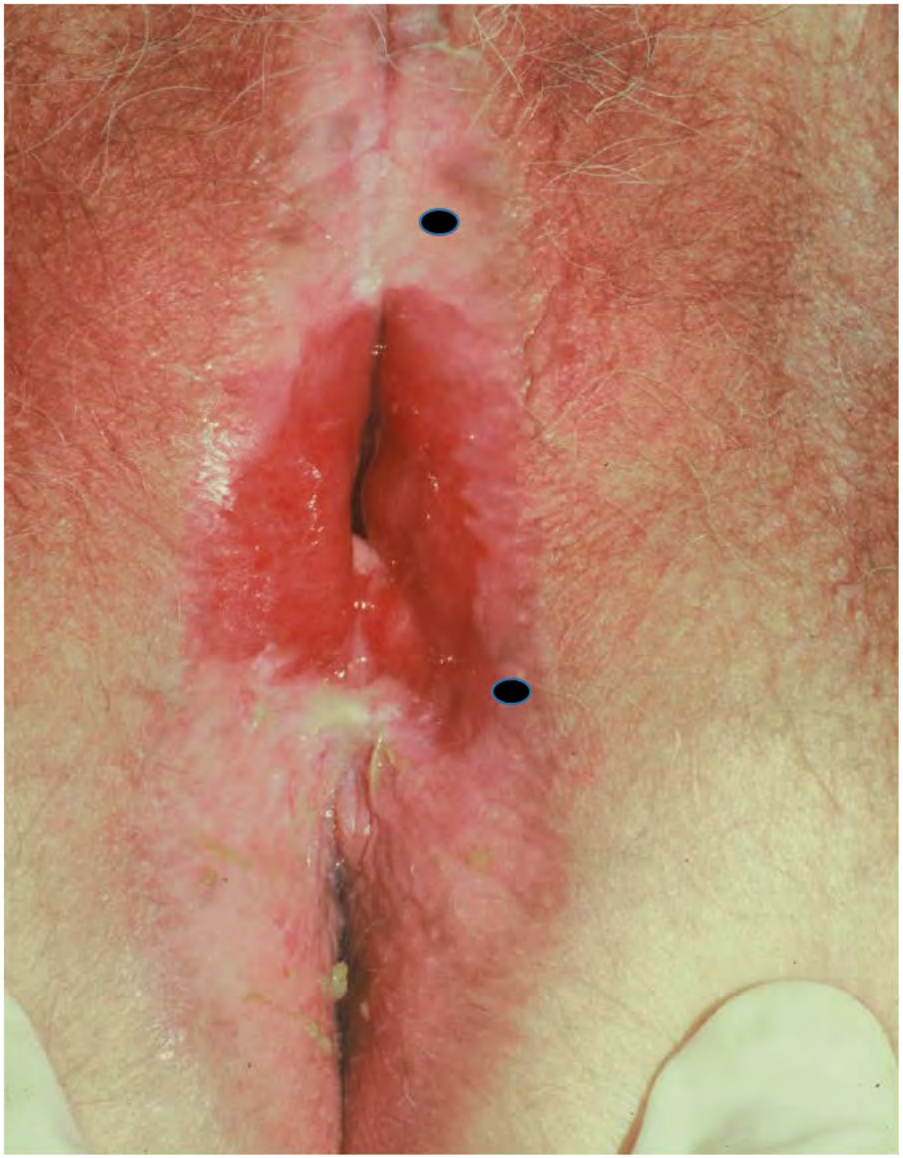



Option 2:
Modified shave biopsy
Throw a stitch, snip
Pressure, hyfercator, Monsel's for
hemostasis



Biopsy

- Avoid midline when possible
- **Biopsy multiple morphologies if diagnosis in doubt**
- Dermatopathology and Gyne Pathology analysis can complement each other



Biopsy

- Avoid midline when possible
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Outline

- History
- **Diagnostic Tools**
  - Physical exam
  - Biopsy
  - **Wet Prep**
- Management
  - Approach
  - Gentle skin care
  - Topical steroids
  - Recalcitrant problems

Wet Prep

- Evaluating the vagina
  - Infections
    - Yeast
    - Bacterial vaginosis
    - Trichomonas
  - Inflammation
    - Atrophic vaginitis
    - Erosive lichen planus
    - Desquamative inflammatory vaginitis (DIV)
    - Atrophic vaginitis
    - Etc.

Wet Prep

- Insert cotton swab→ pool of vaginal secretions
- Have ready: two glass slides + two cover slips + small glass test tube with few drops normal saline
- Roll onto first glass slide
  - 1-2 drops KOH + cover slip
- Stick qtip into normal saline glass test tube
  - Roll onto second glass slide + cover slip

Wet Prep

- Analyze with microscope
  - 10x
    - Epithelial cells
    - WBCs
    - Bacteria
    - Buds, Pseudohyphae
    - Trichomonas
  - 40x: Bacteria, yeast buds (brief)

Normal Wet Mount

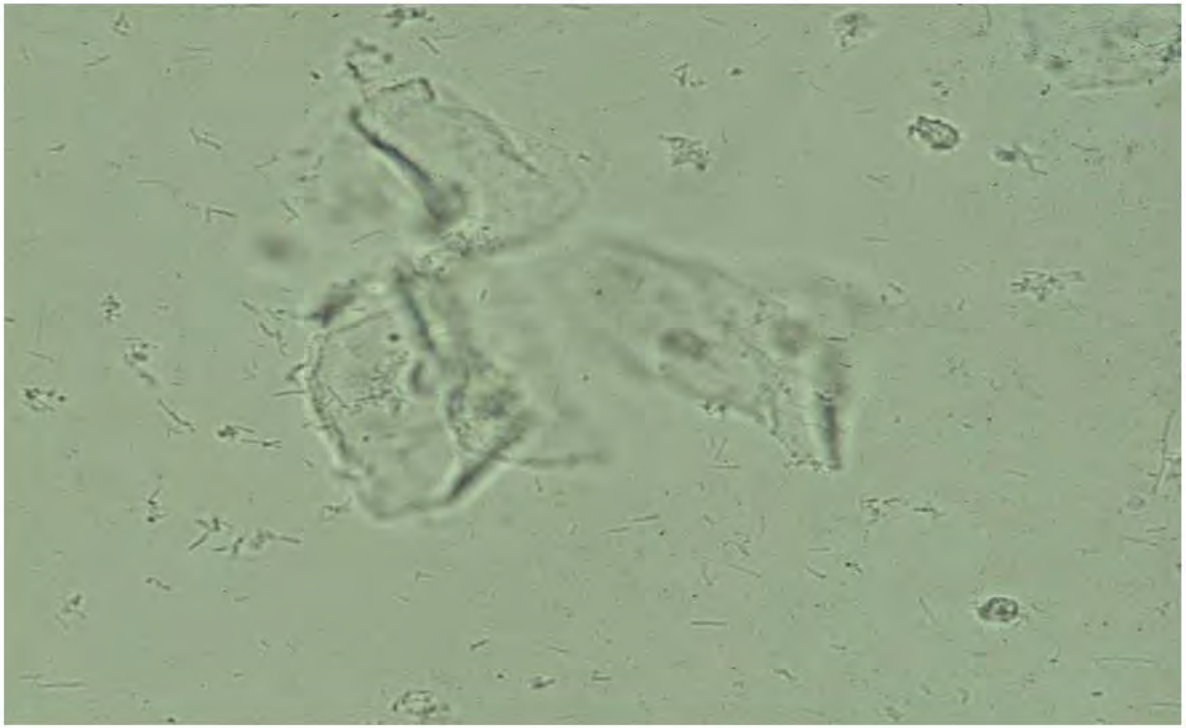
Mature epithelial cells (no parabasals)

More epithelial cells than WBCs

+ lactobacilli

- yeast, clue cells, trich

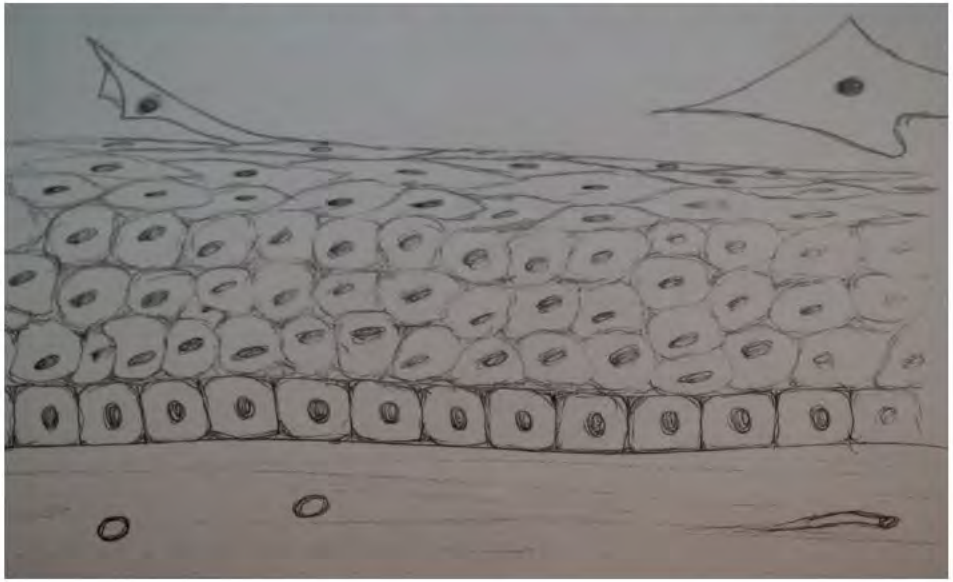
+/- Foreign bodies



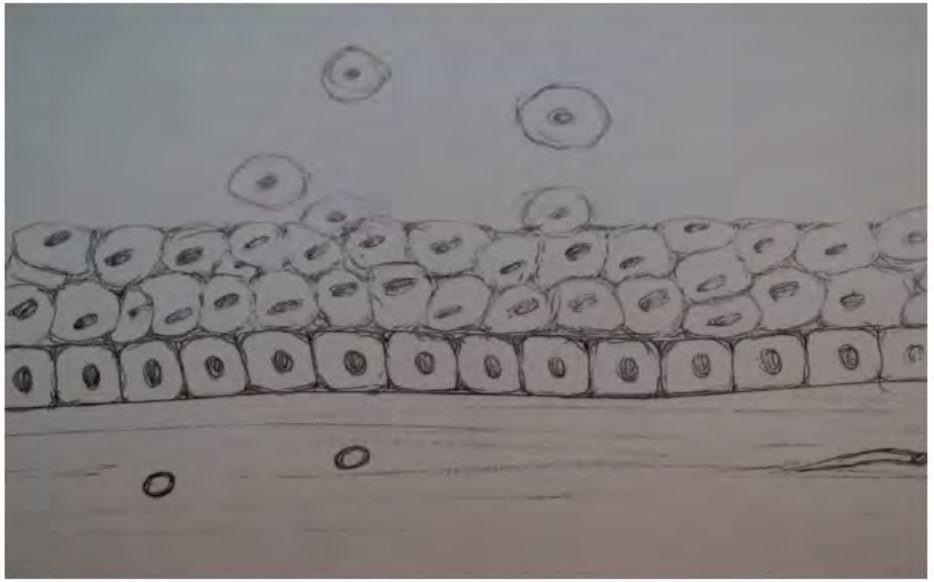
Epithelial Cells

Mature vs. Immature (Parabasal) Cells

- Many causes for increased parabasal cells
  - Estrogen deficiency, erosive lichen planus, DIV



Normal epithelium



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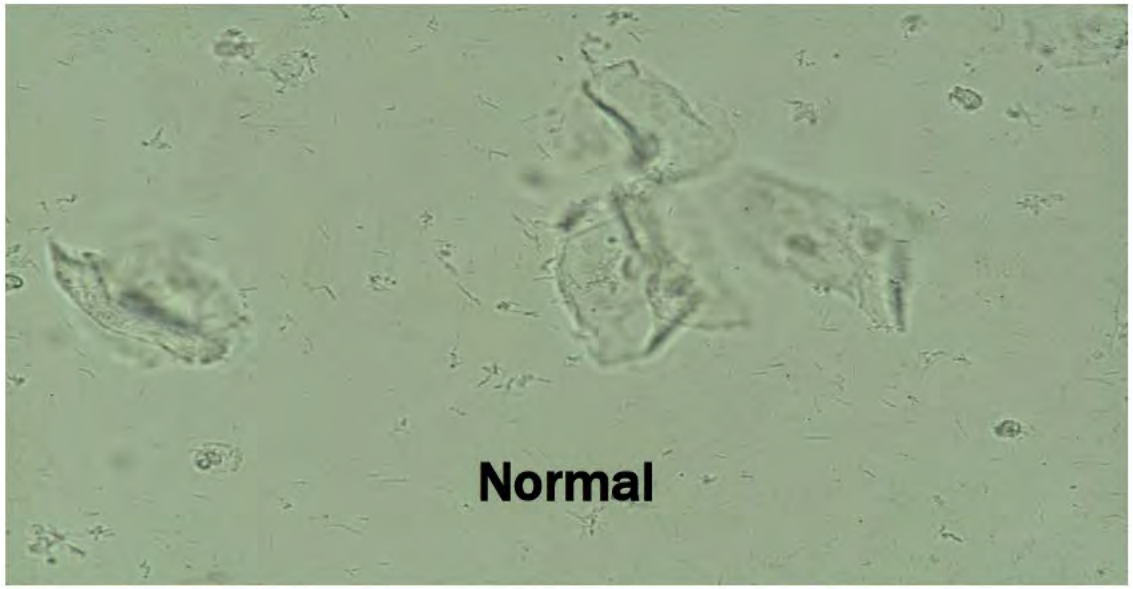

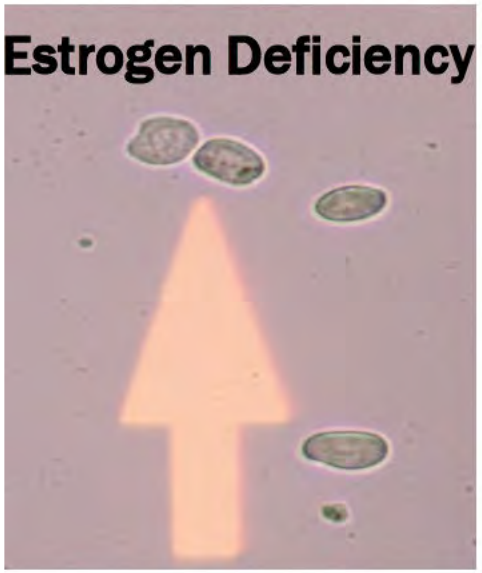

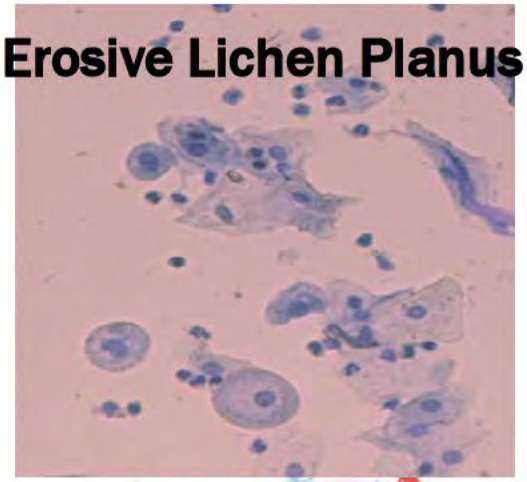

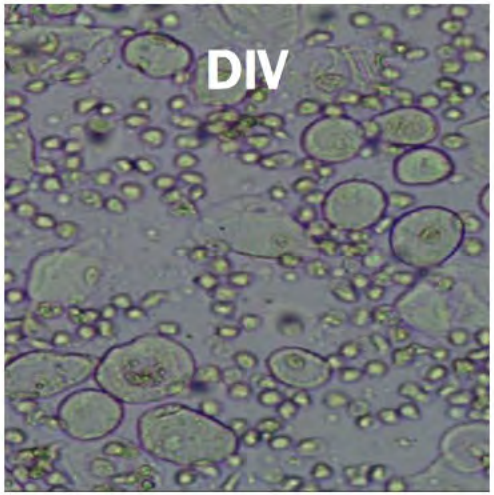

White Blood Cells

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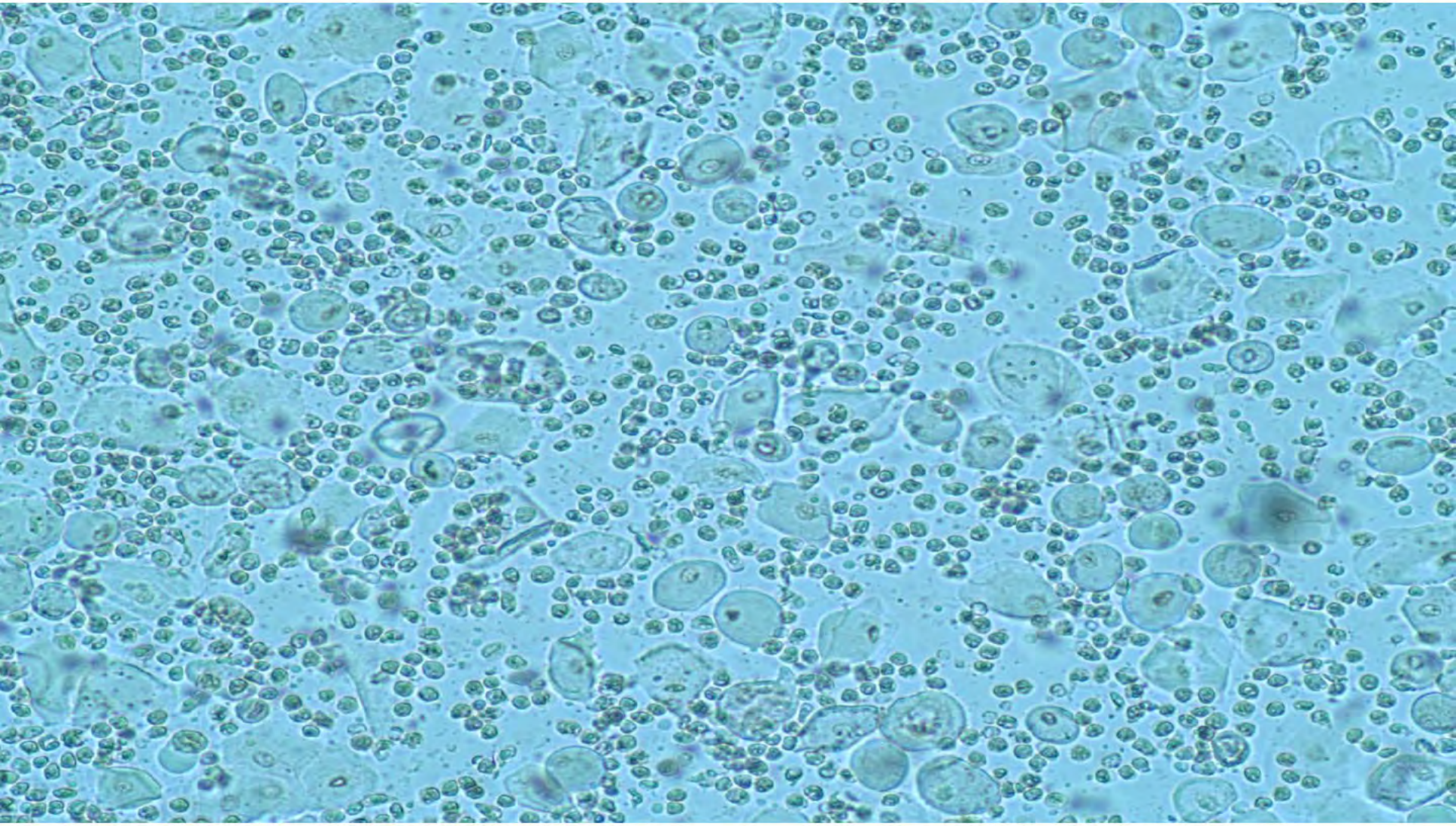
White Blood Cells

- Normal
  - More epithelial cells than WBCs (i.e. ≤1:1 ratio WBC:epi)
- Abnormal (inflammation)
  - >1:1 ratio WBC:epithelial cells
- Inflammation from myriad of causes
  - Infection (e.g. trichomonas)
  - Irritation (e.g. foreign body, estrogen deficiency)
  - Inflammation (e.g. lichen planus, DIV, immunobullous disease)



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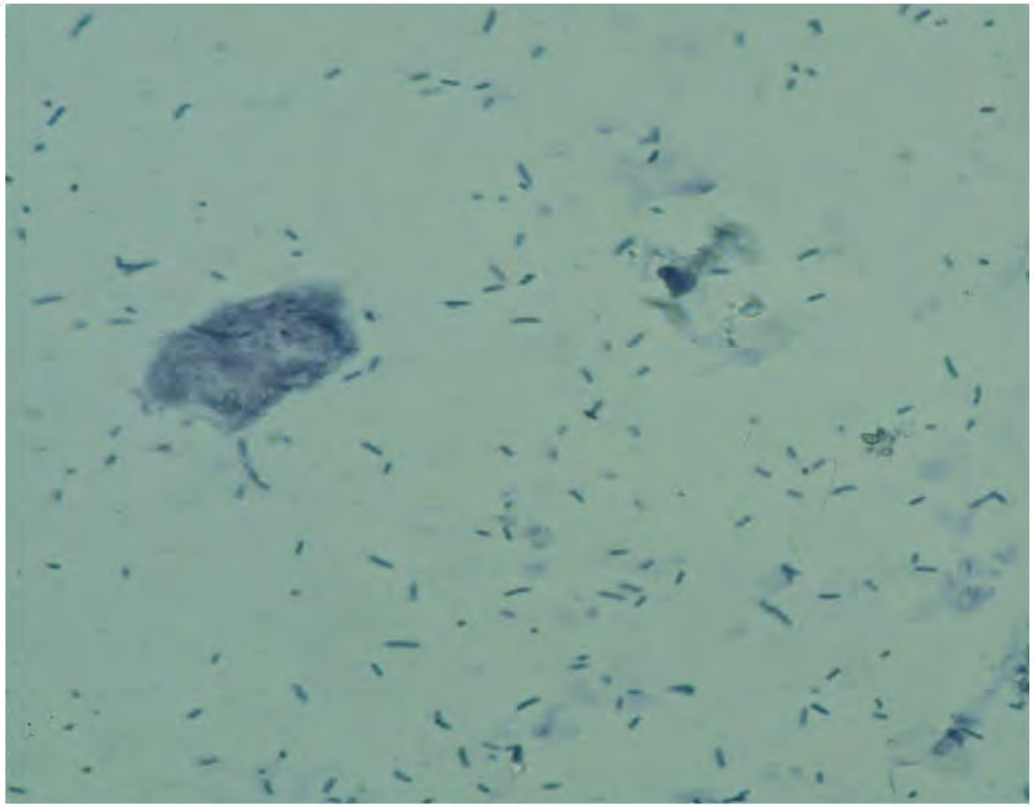
Bacteria

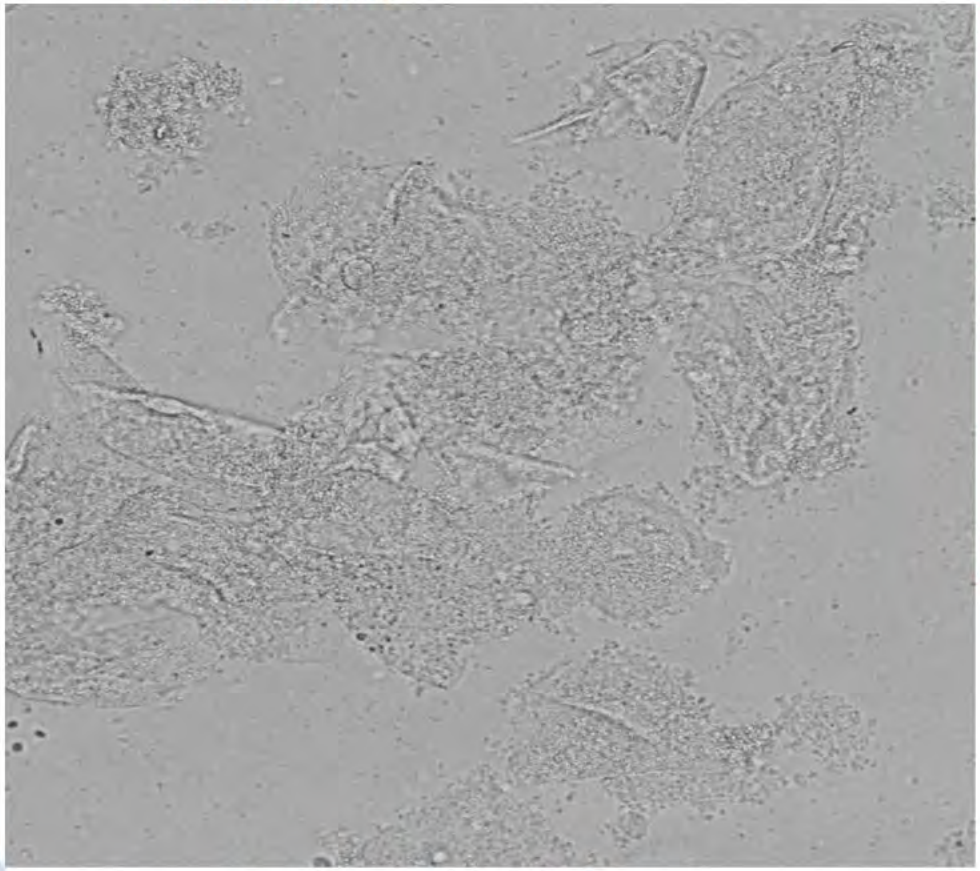
Bacteria

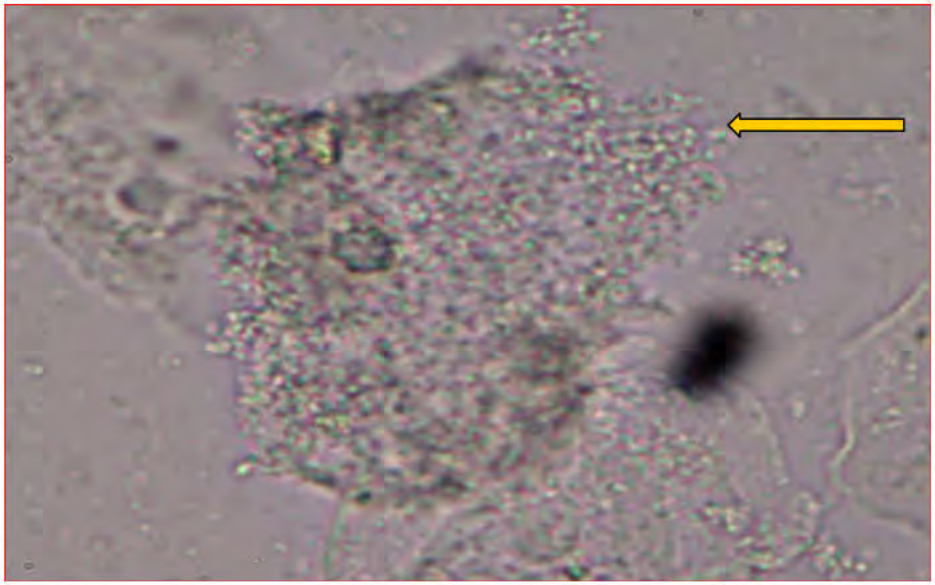
- Lactobacilli >>> others
- Normal pH ≤4.5
- If pH>4.5
  - No lactobacilli
  - Decrease estrogen
  - Inflammation



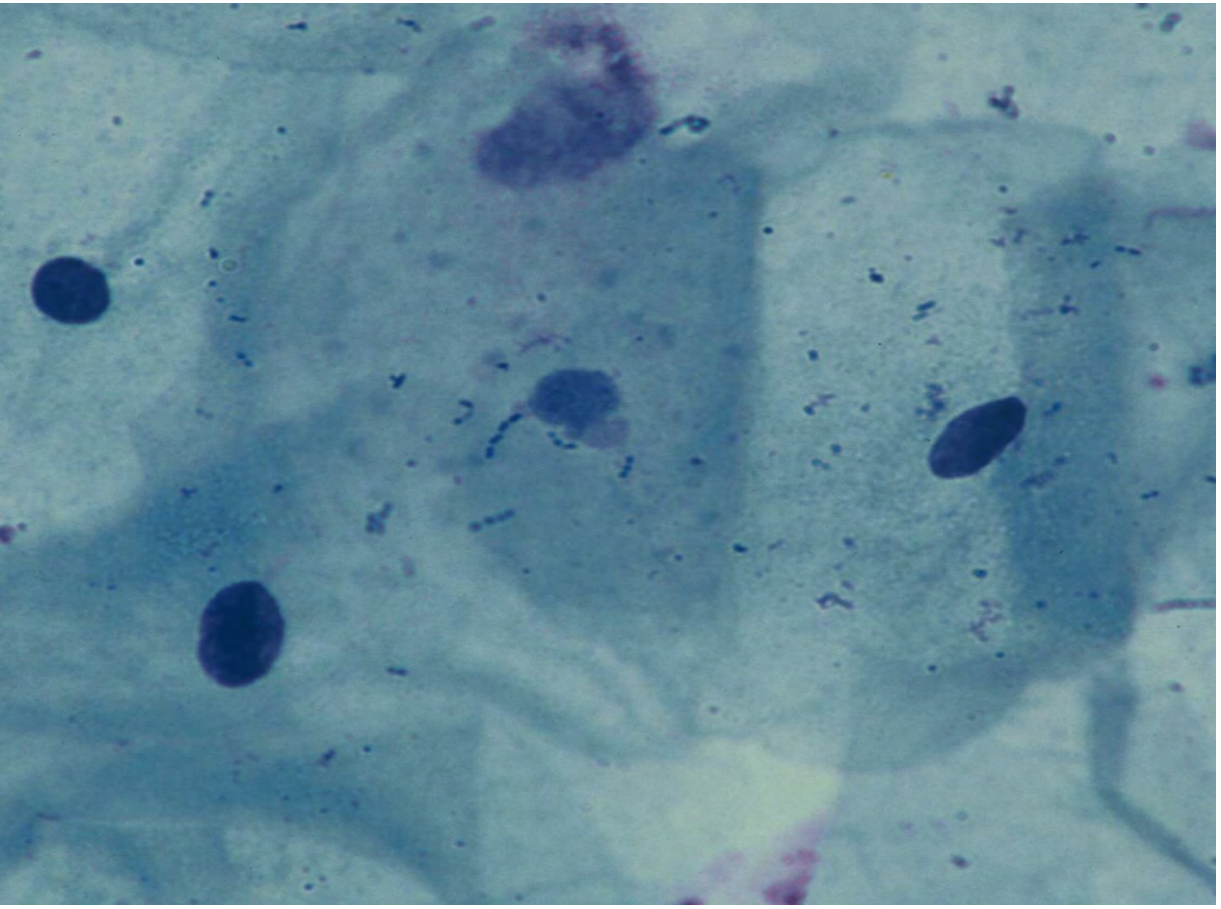
Clue Cells a.k.a. Bacterial Vaginosis

- Epithelial cells swathed in bacteria → ragged borders

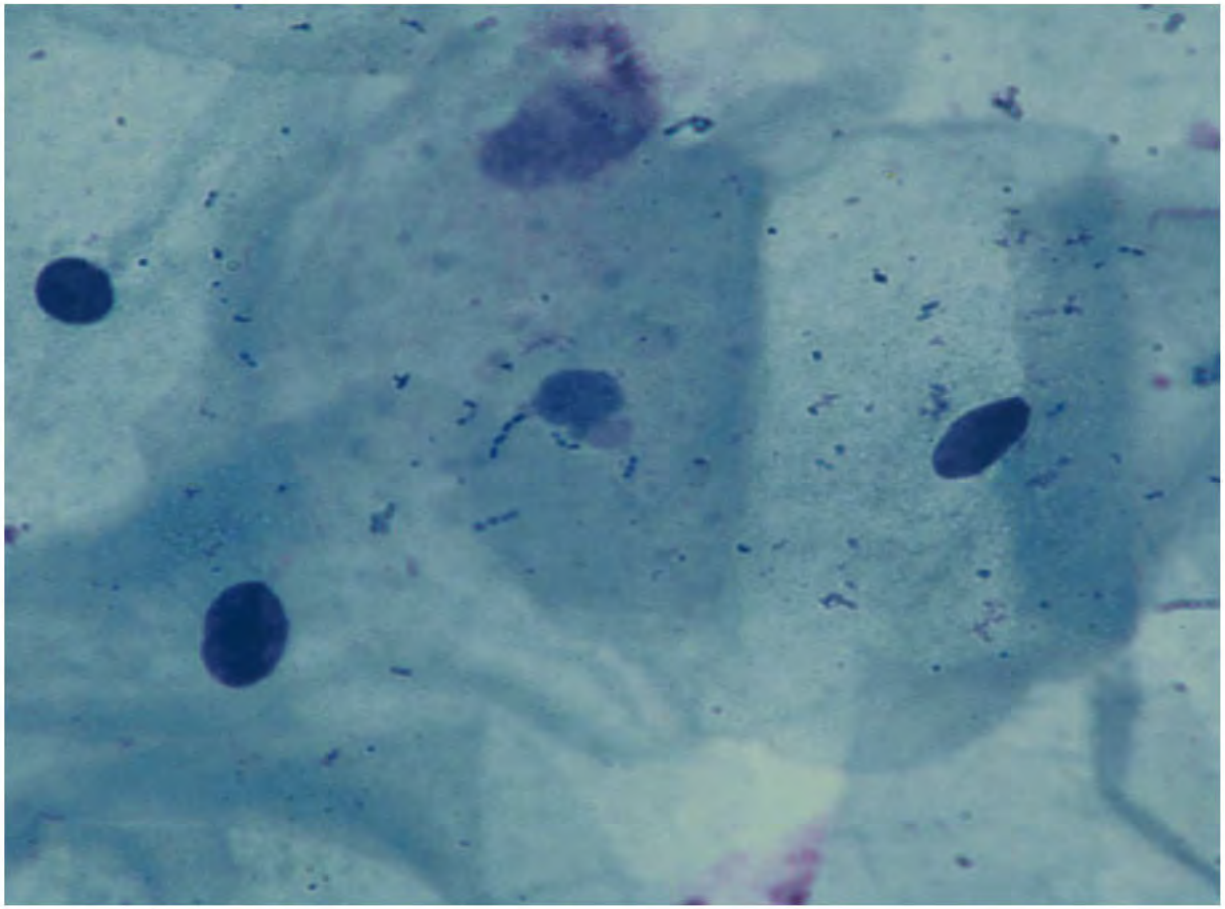




Ragged cell edges due to bacteria



Chains of cocci – Streptococci



Chains of cocci – Streptococci

Yeast

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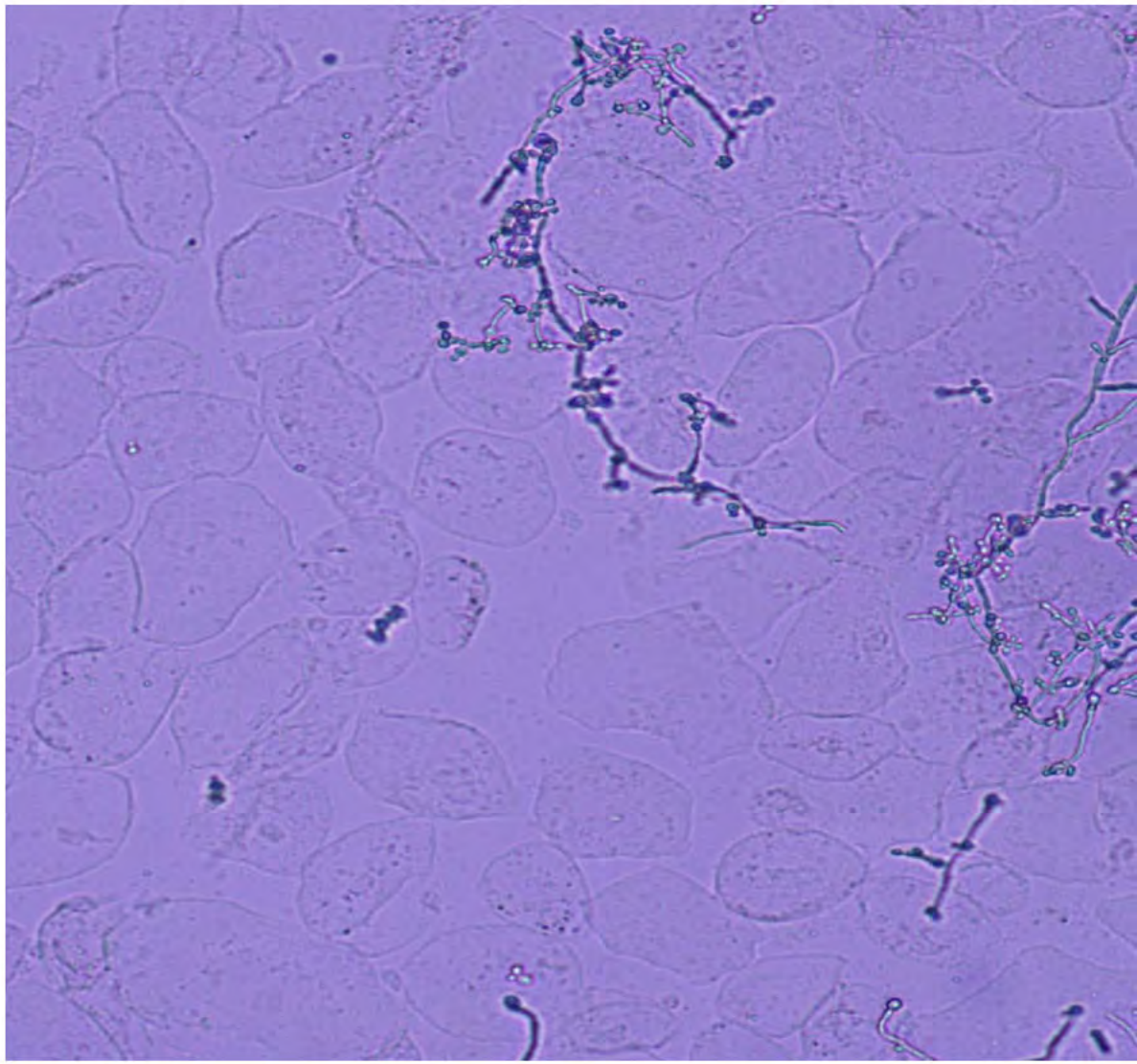
Pseudohyphae and budding yeast of Candida albicans



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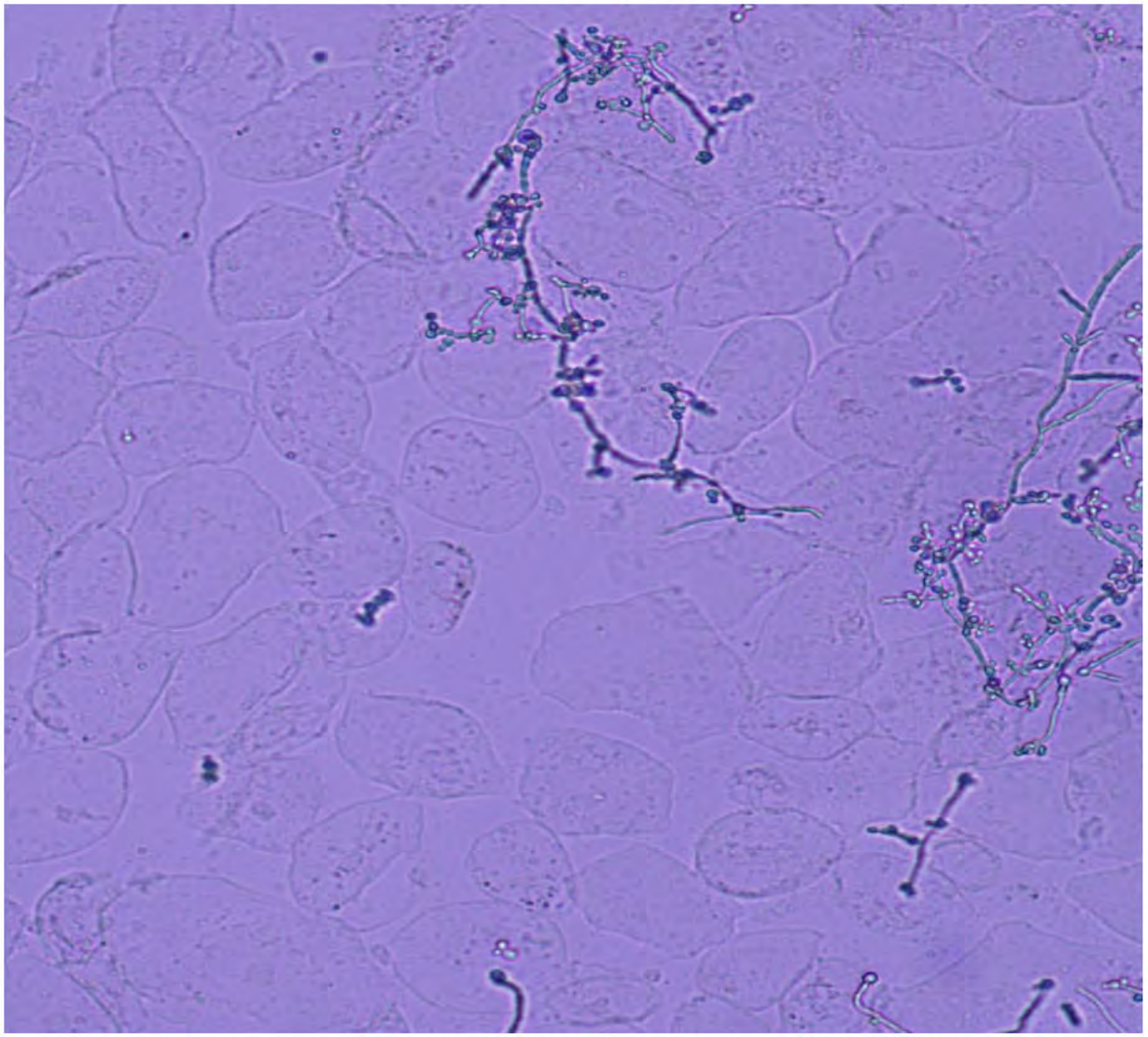

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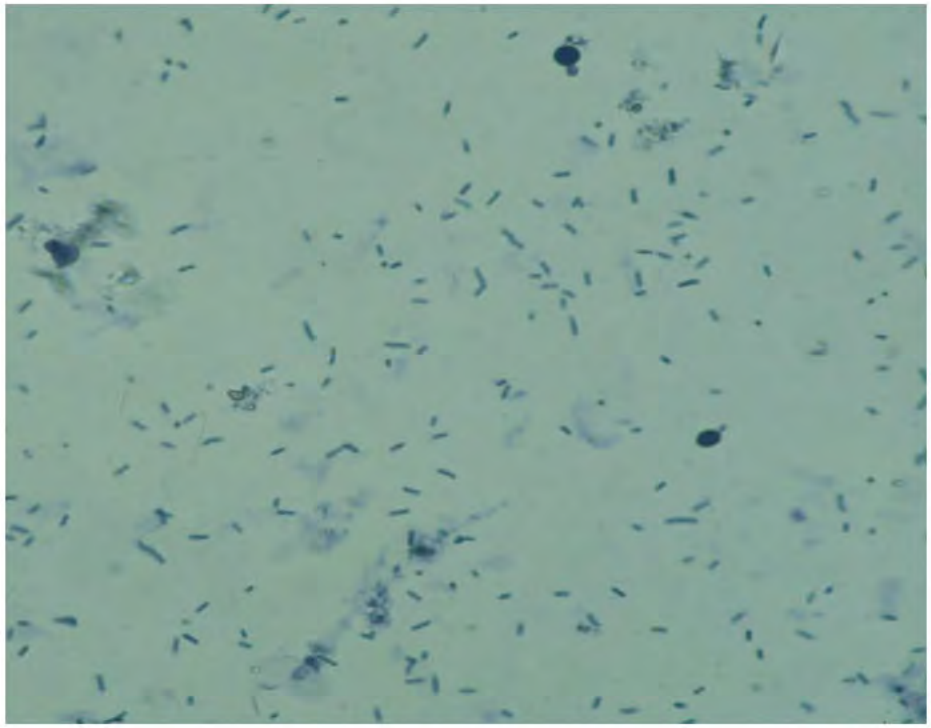
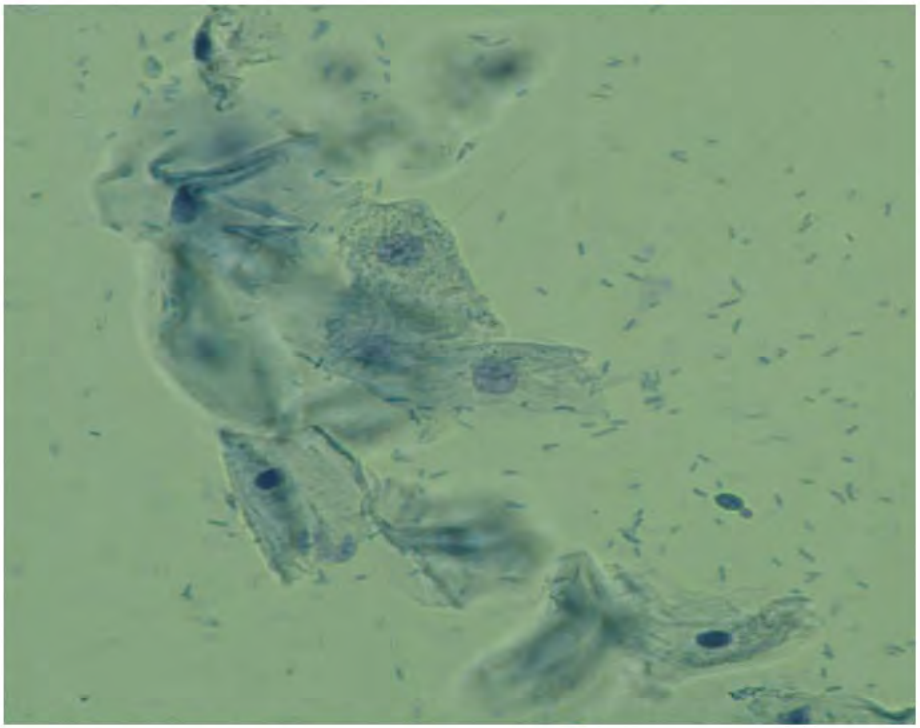
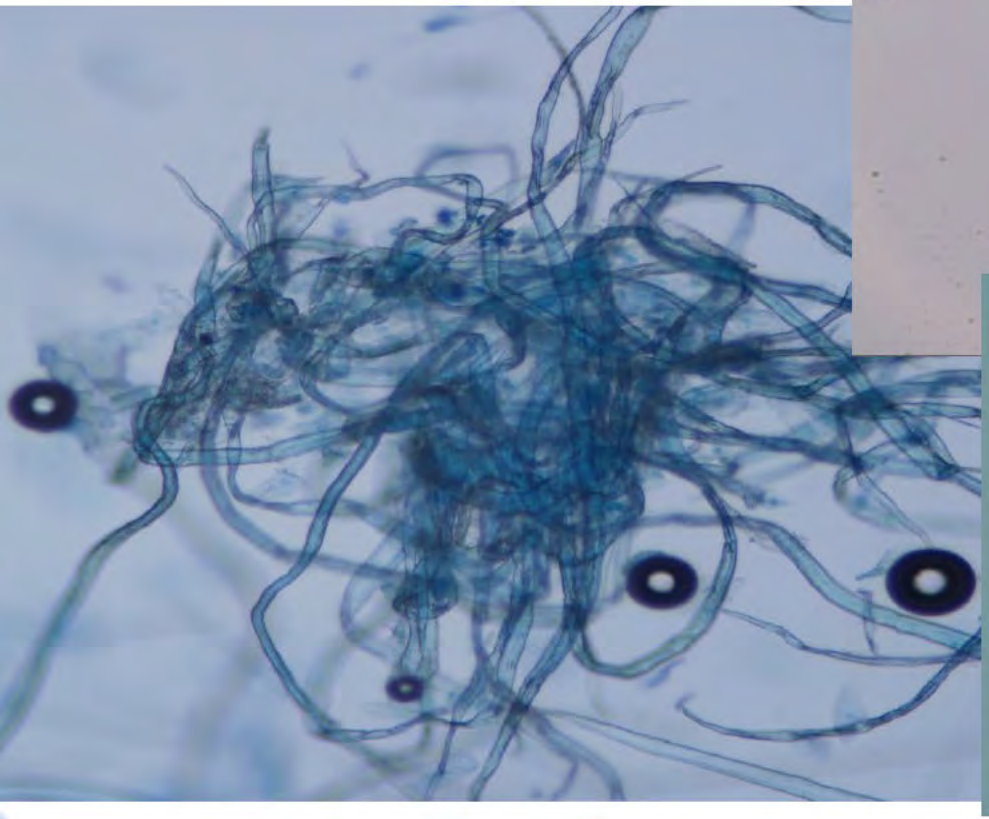


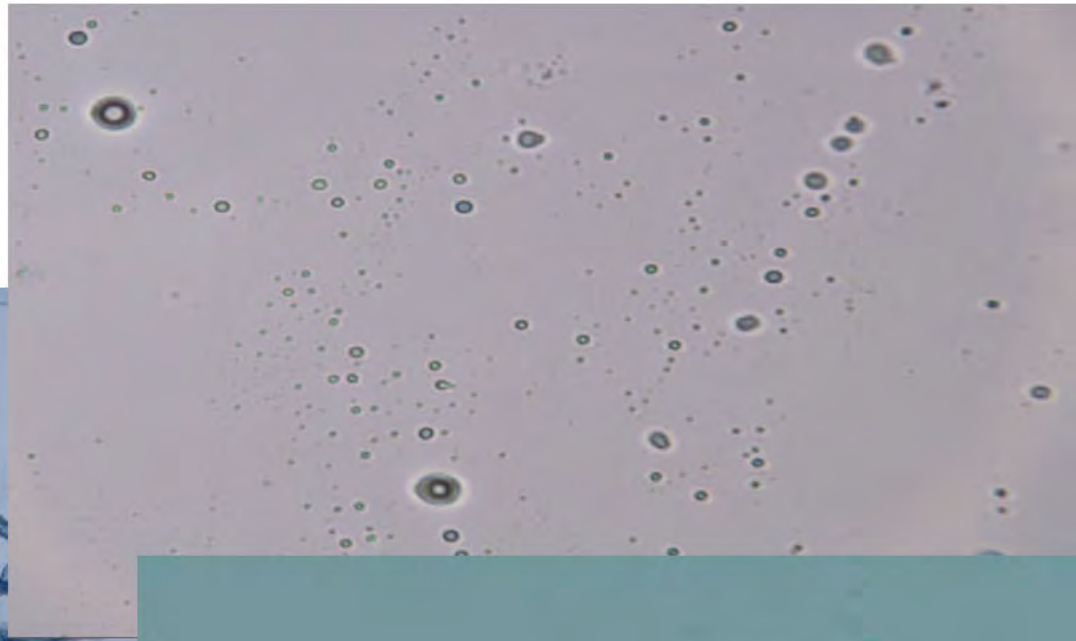


Buds of non-albicans Candida species

Foreign Materials

Artifacts





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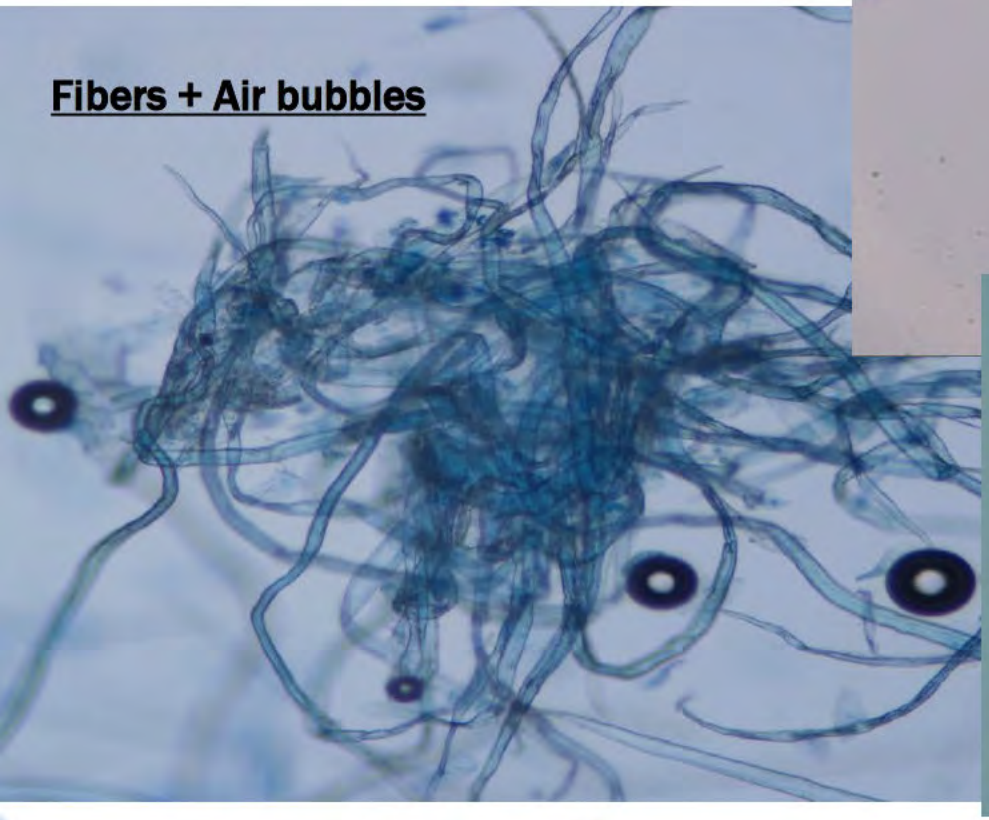
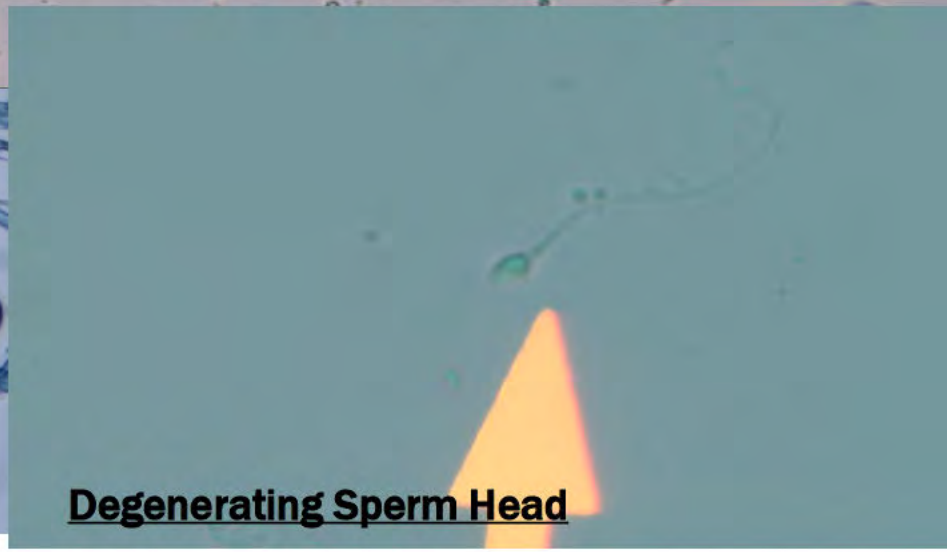

Fibers + Air bubbles


Lipid droplets


Degenerating Sperm Head

Consistent Wet Mount

- Checklist or chart

Finding	Normal	None	Slight	Mod	Marked	Comments
WBCs						*(estimate # per epithelial cell)*
Immature epithelial cells						*(estimate %)*
Clue cells						
Hyphae/ Pseudohyphae						
Budding yeast						
Lactobacilli						*(comment on other bacteria when relevant)*
Other						

Wet Prep Limitations

- Sensitivity user and sample dependent
- Laborious
- Supplemental tests for detection
  - Trichomonas
    - In office rapid antigen tests (10 min), high sensitivity and specificity
    - Nucleic Acid amplification tests (done in lab), high sensitivity specificity
  - Yeast
    - Fungal culture can speciate

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  - **Approach**
  - Gentle skin care
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Management— Approach

- Isolation
  - Vulvar symptoms common
  - Most patients feel alone
  - Websites: www.ISSVD.org, ww.NVA.org
- Less is more
  - Society of cleanliness
  - Do NOT need to scrub, spray, douche, sterilize the vulva!
- Disorders often multifactorial, sometimes iatrogenic
- Use ointments on inflamed skin
- Referral to other specialties can help!

Management— Approach

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  - Vulvar symptoms common
  - Most patients feel alone
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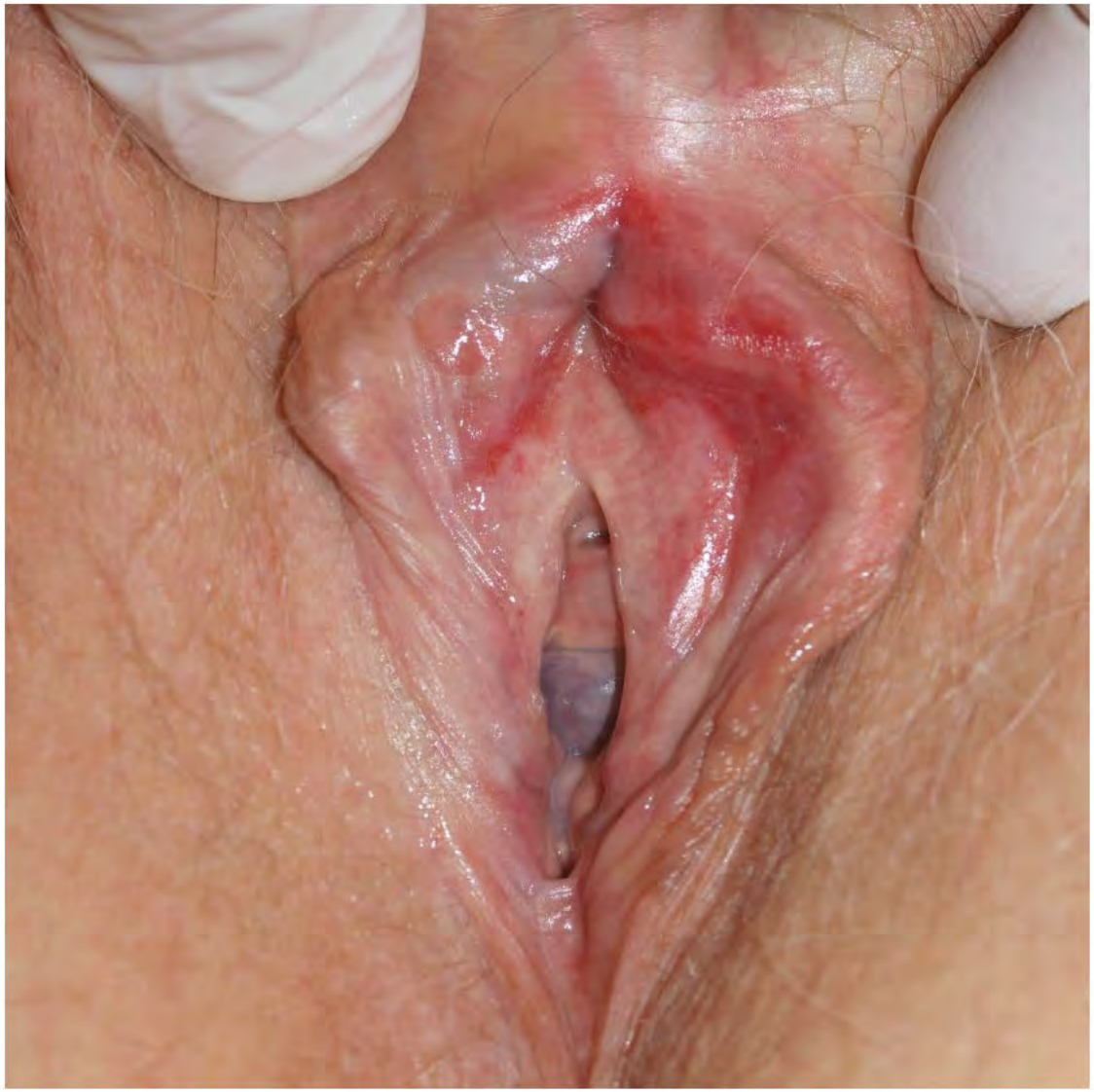
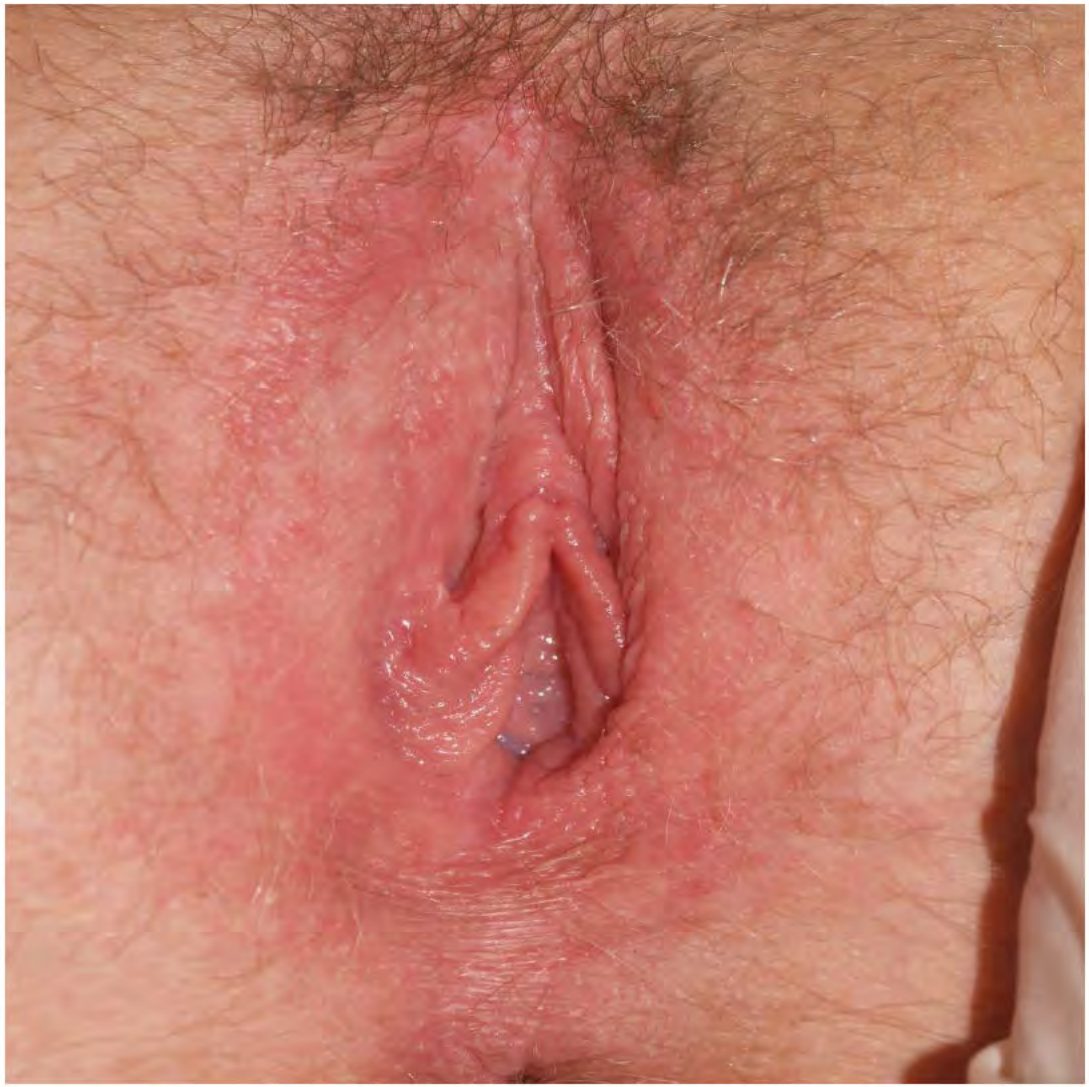


Lichen planus +

Atrophic vulva/vagina



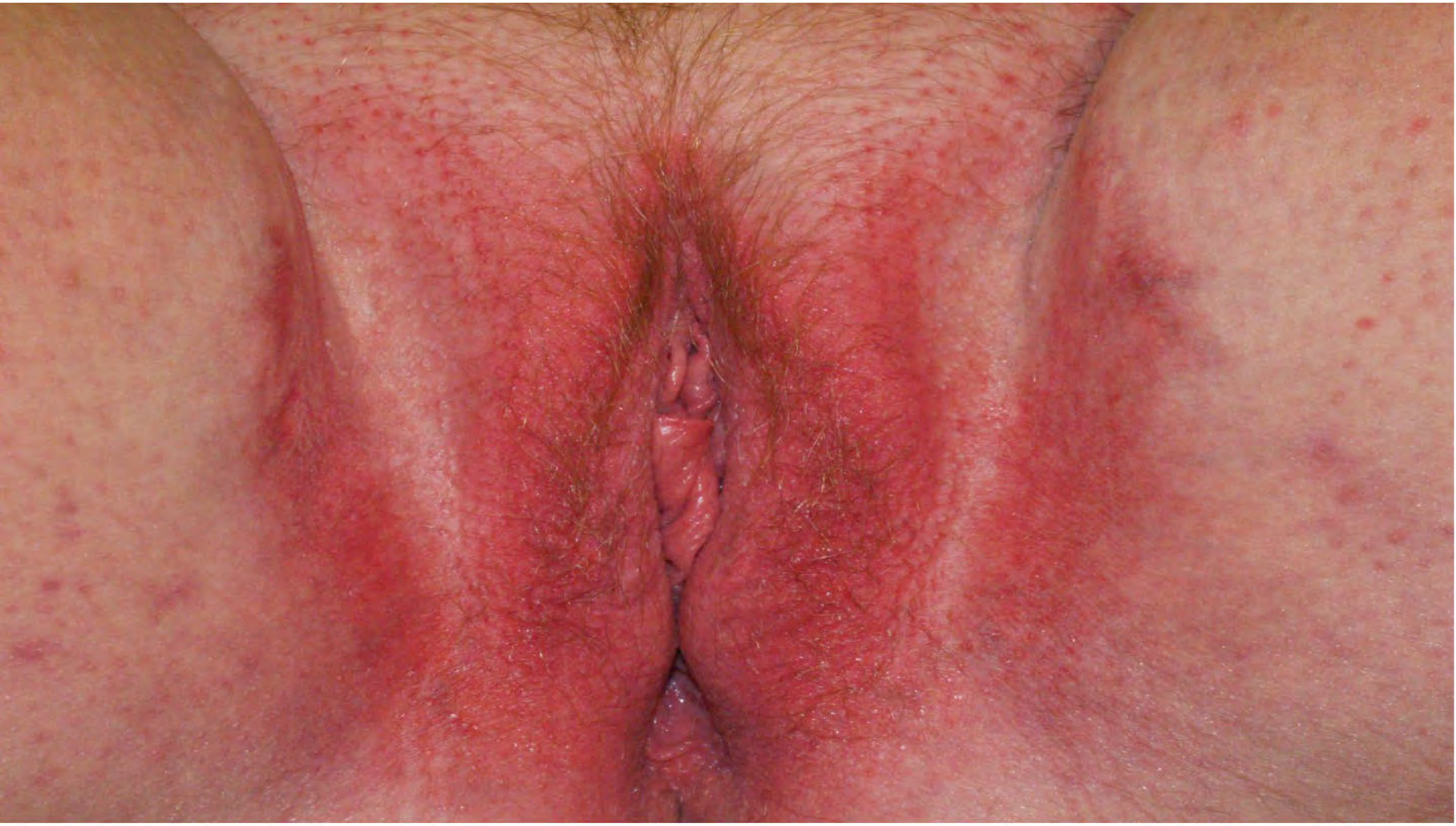
Lichen Simplex Chronicus
+
Candida albicans infection

Remember:

Topical steroids +

Topical estrogen =

<u>Field day for yeast</u>



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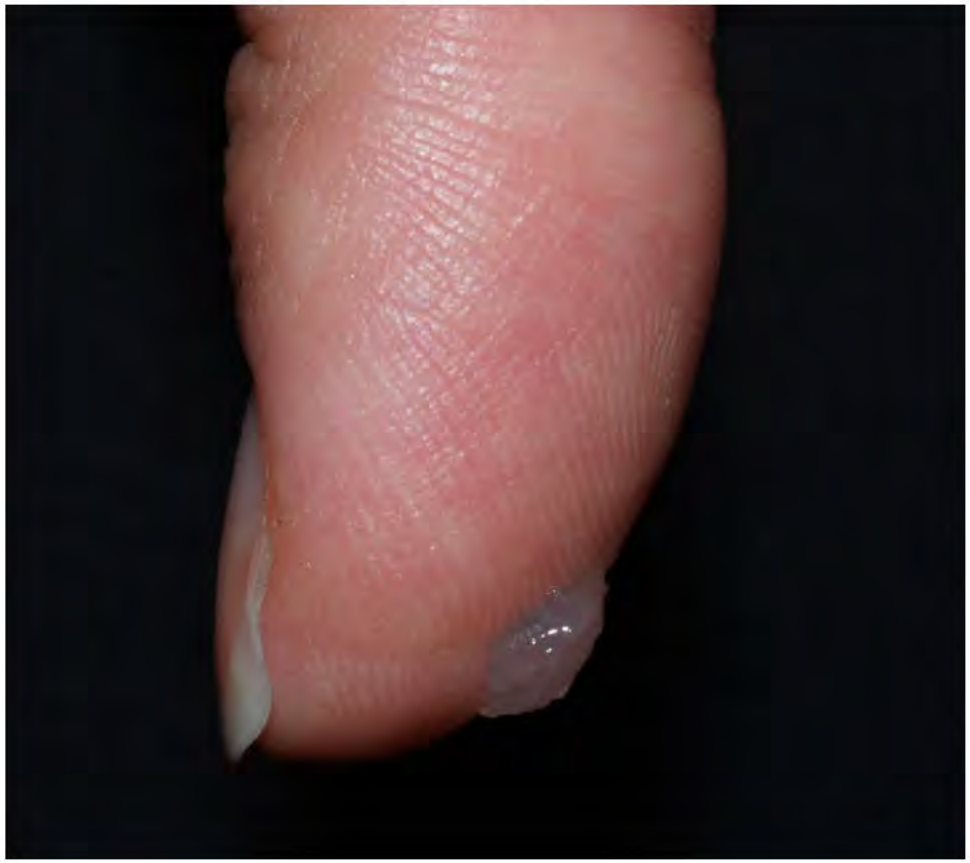
Topical Applications

- Use a mirror or diagram
  - Where to put the medicine
  - How much



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Outline

- History
- Diagnostic Tools
  - Physical exam
  - Biopsy
  - Wet Prep
- **Management**
  - Approach
  - **Gentle skin care**
  - Topical steroids
  - Recalcitrant problems

Gentle Skin Care

- Gentle washing with hands only (no scrubbers!)
- No soap or mild cleanser
  - e.g. Dove unscented sensitive skin, Cetaphil cleanser
- Eliminate potential irritants/allergens
  - Wipes, douches, strong soaps, OTC medications, anesthetics

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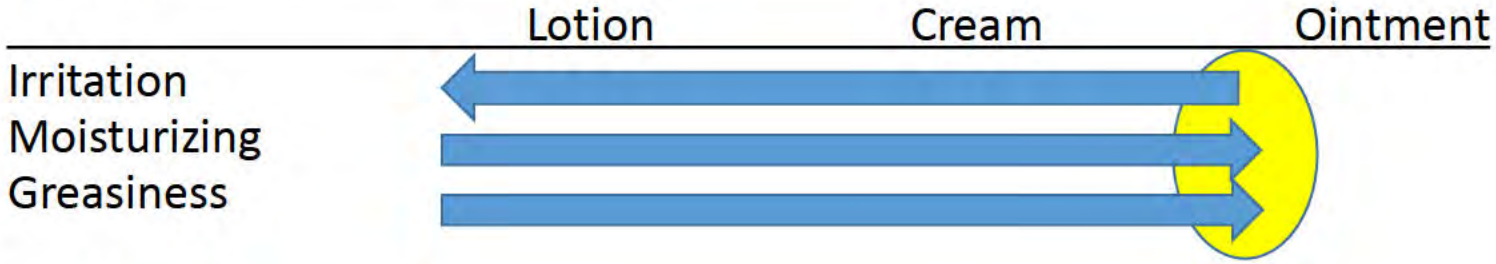
Topical Corticosteroids

- USA Classification System
  - Group I = **Clobetasol propionate 0.05%**
    Betamethasone diproprionate 0.05%, augmented
  - Group II = **Fluocinonide 0.05% (Lidex)**
  - Group IV = **Triamcinolone acetonide 0.01% (TAC) oint**
  - Group V = Triamcinolone acetonide 0.01% (TAC) cream
  - Group VII = **Hydrocortisone** 1%, **2.5%**

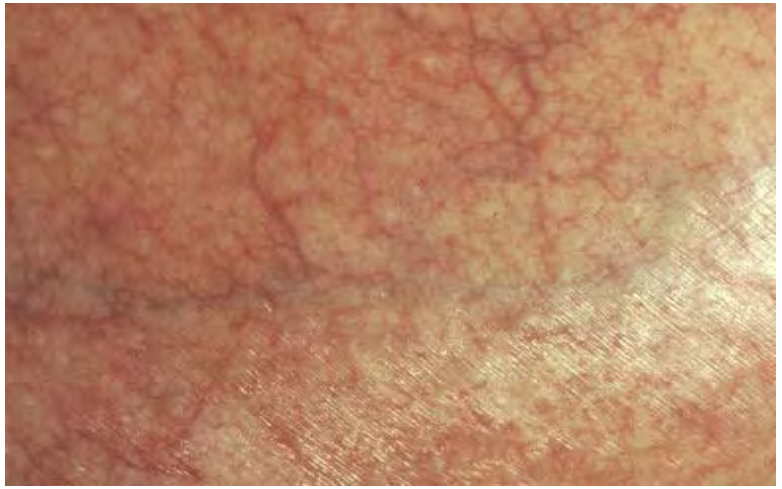
- Vehicle

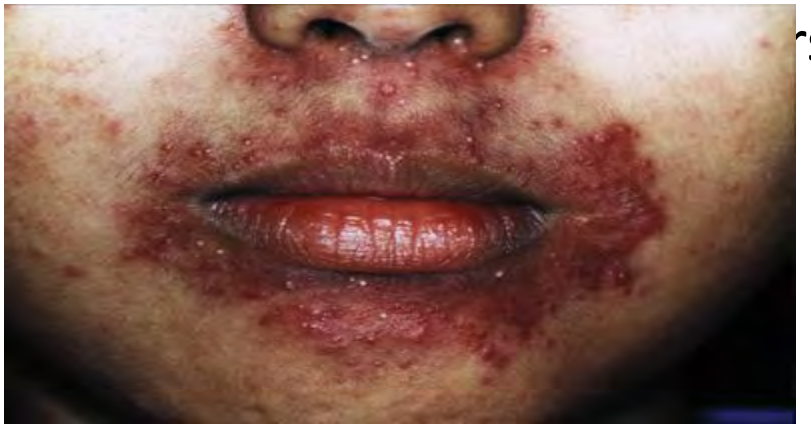


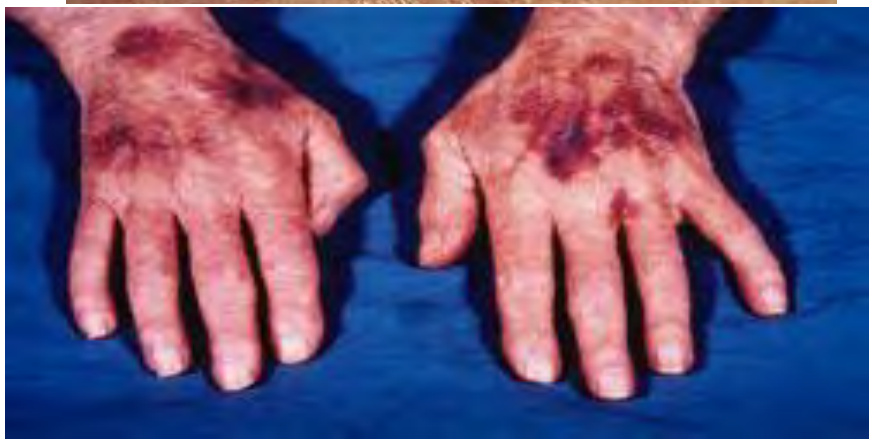
Topical Corticosteroids – Side Effects

Local (vast majority)

- Skin atrophy/thinning
- Telangiectasias
- Purpura/bruising
- Acne







Topical Corticosteroids – Side Effects

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- Telangiectasias
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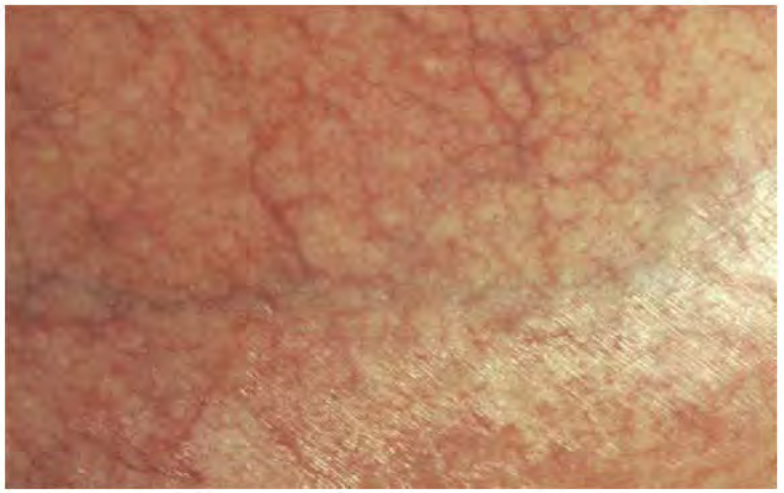
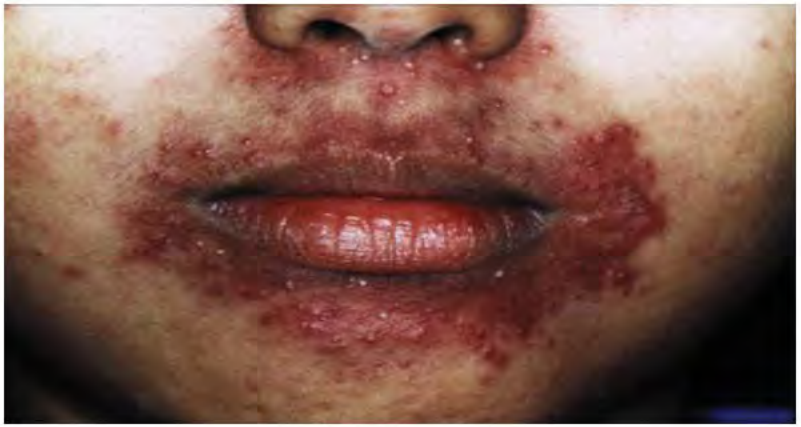
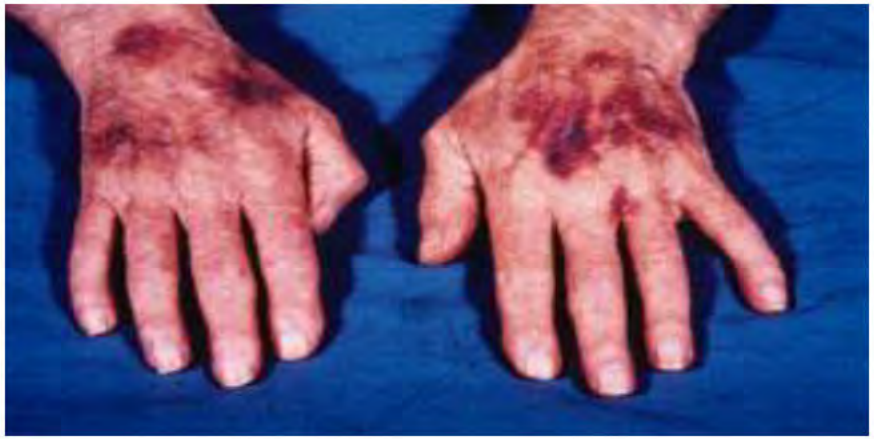
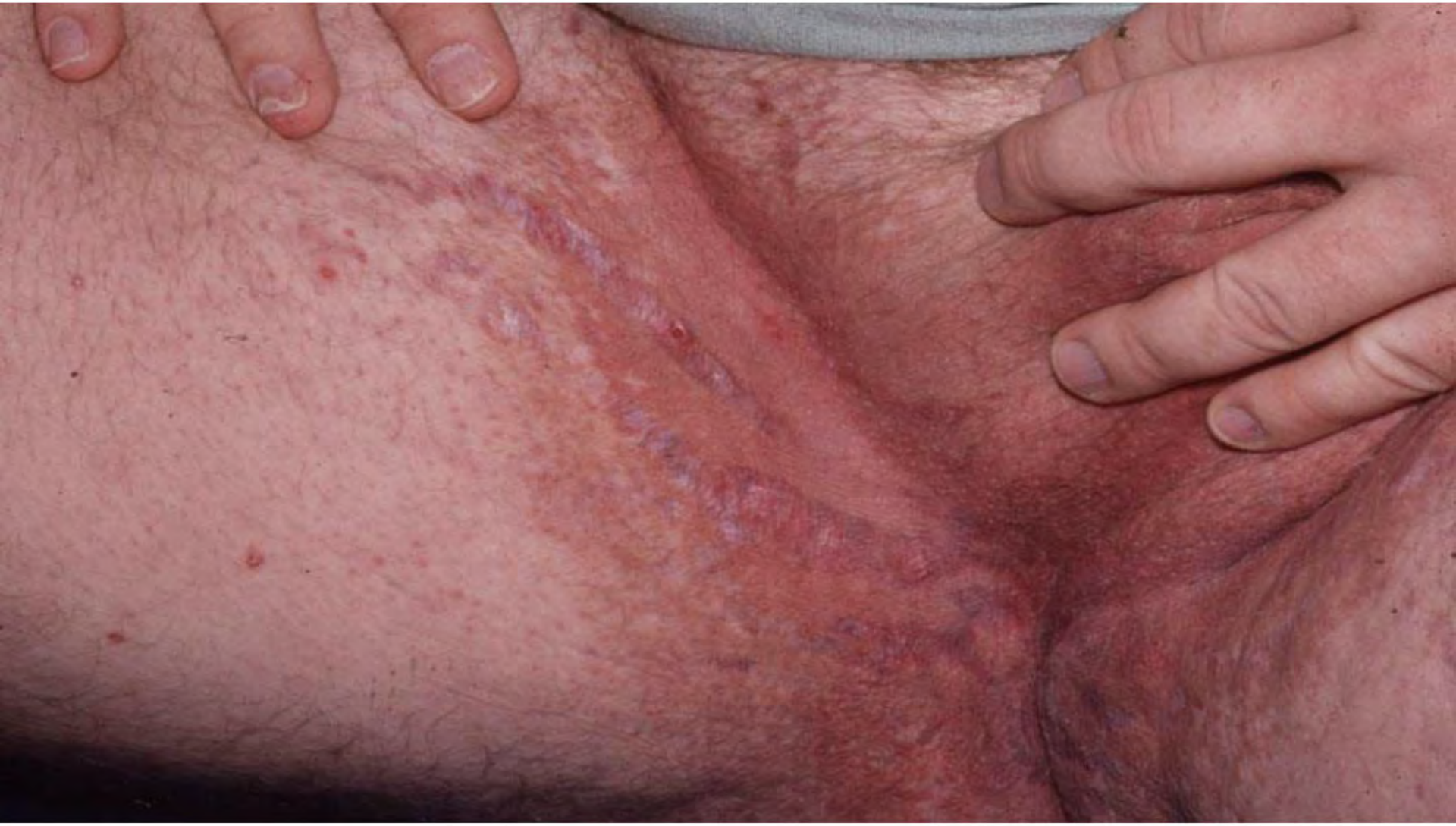
- Acne
- Striae/stretch marks = irreversible





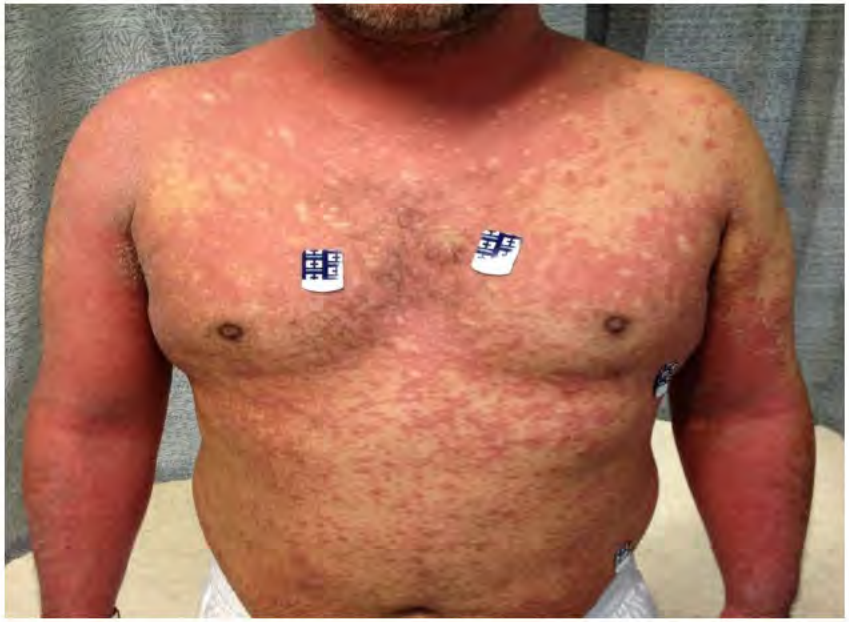




ASCCP2016

Topical Corticosteroids– Side Effects

- Systemic (rare) // prednisone
  - (1)Mucous membrane application
    - E.g. Dexamethasone swish and spit
    - E.g. Intravaginal clobetasol
  - (2)Large body surface area + Skin barrier compromise
- Take care around eyes
  - Glaucoma
  - Cataracts



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Recalcitrant Problems

- Consider poor adherence
- Re-evaluate for infection (yeast, herpes, bacteria)
- Re-evaluate for steroid or contact dermatitis
- Re-evaluate for wrong diagnosis
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Lichen sclerosus, controlled but now with HSV

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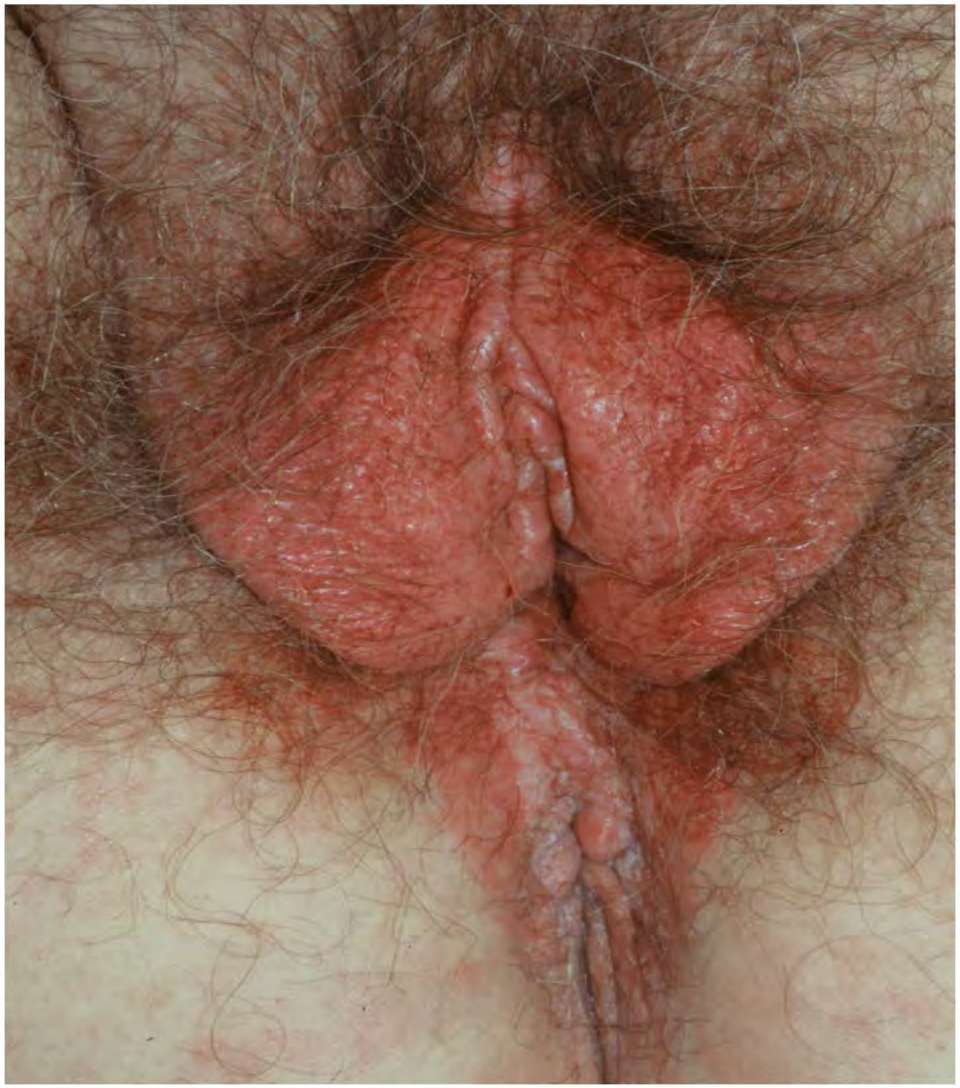
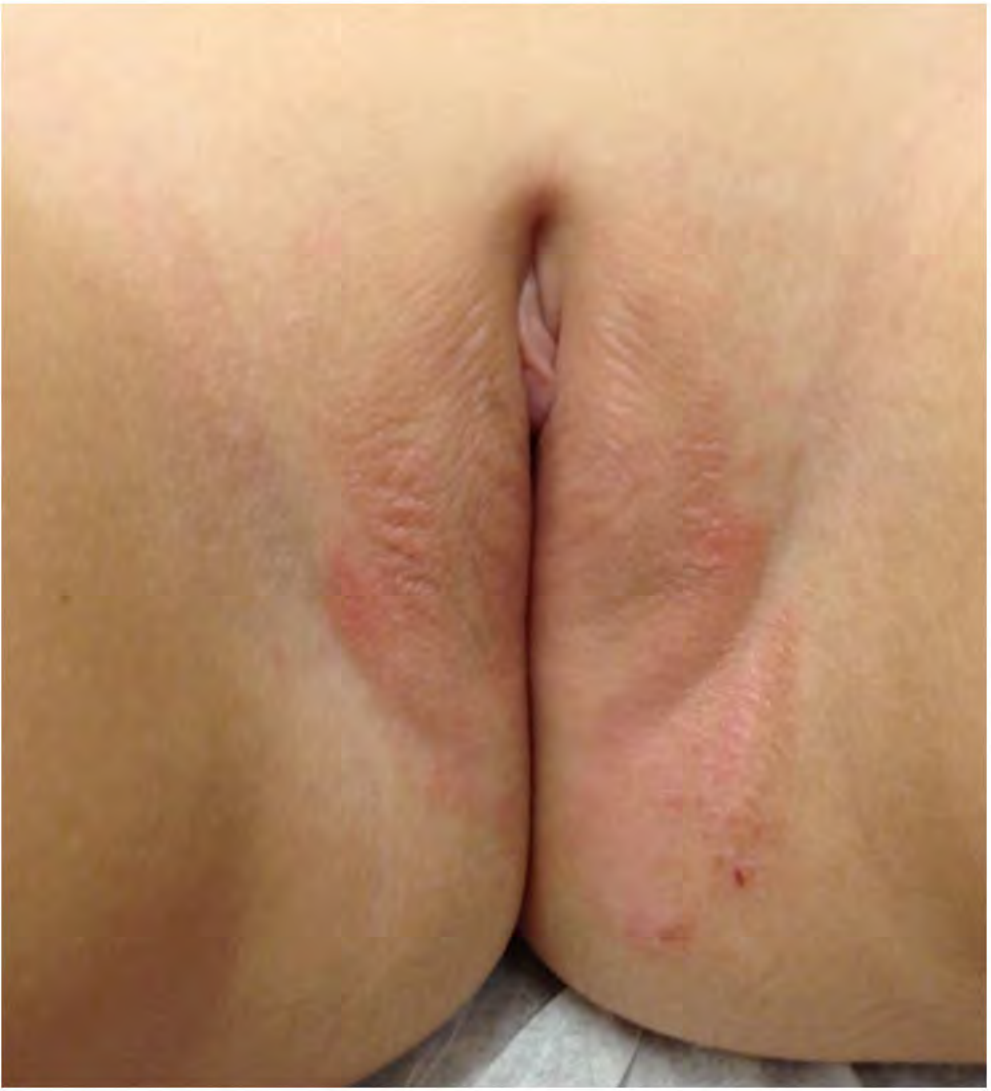


Steroid dermatitis

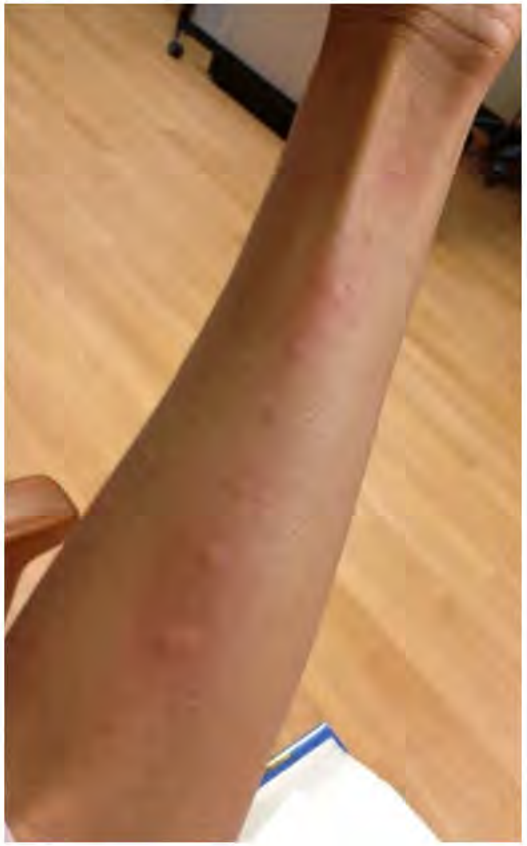


Allergic contact dermatitis

Methylchloroisothiazolinone (MCI)
Preservative in baby wipes

Allergen of the Year 2013
American Contact Dermatitis Society

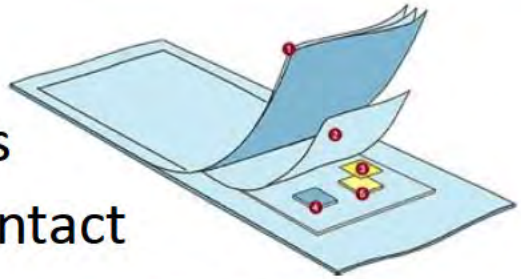
Allergic Contact Dermatitis

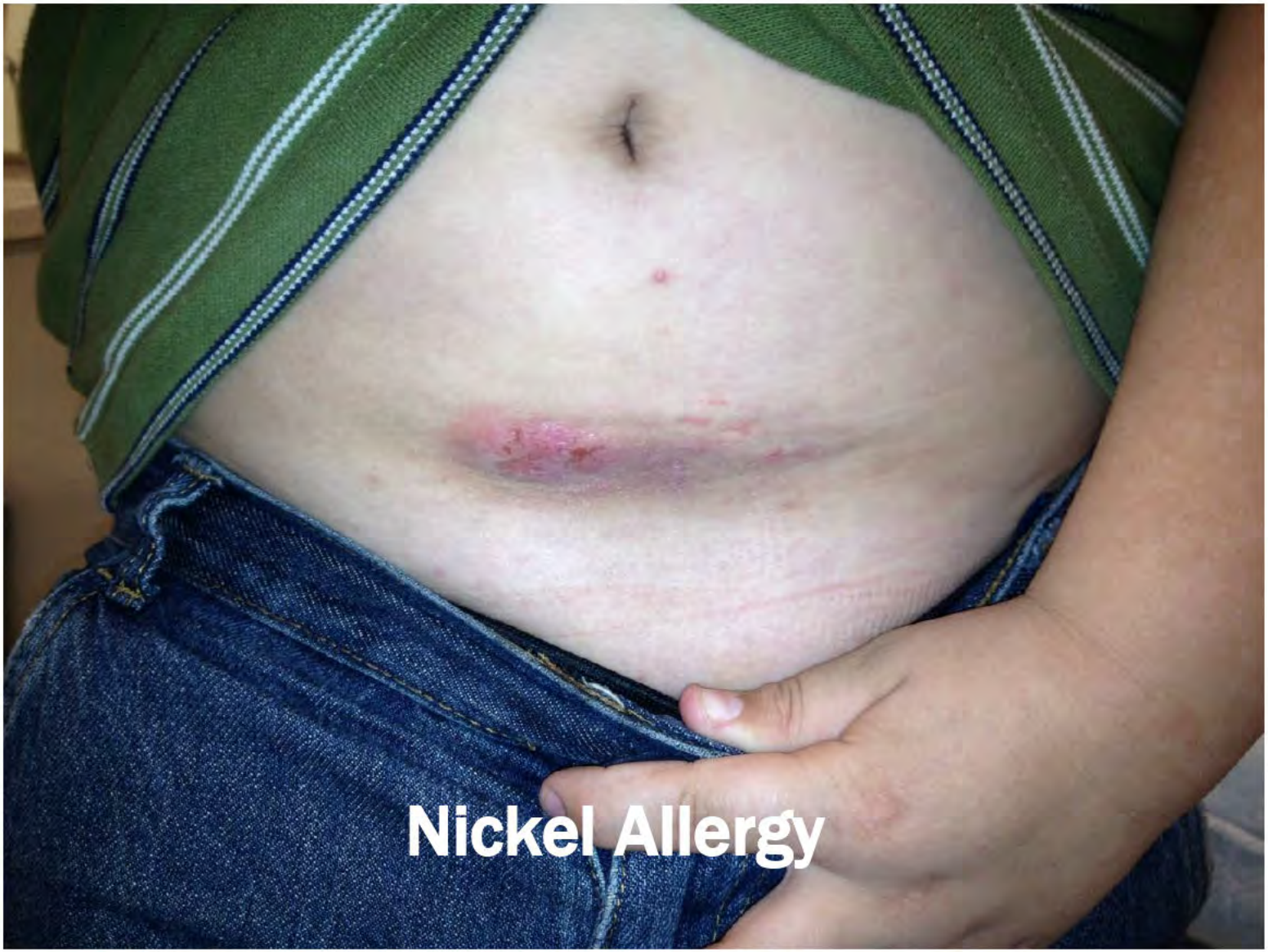


- Developed sensitization to an allergen
  - Type IV hypersensitivity reaction
    - Delayed hypersensitivity reaction
    - Cell-mediated reaction
  - Testing: Patch testing
- Different than Type I immediate hypersensitivity
  - IgE mediated reactions
    - e.g. anaphylaxis to food allergen
    - e.g. allergic rhinoconjunctivitis
  - Testing: RAST (blood, specific IgE), Prick testing →
- Patients with one type are more likely to have the other

Allergic Contact Dermatitis

- Patch testing
  - Performed by dermatologists, allergists
    - Ask before refer
  - T.R.U.E. test performed by most dermatologists
  - Expanded series performed by specialists in contact allergies
  - Allergens applied and taped to back on Day 1
  - Removed on Day 3
  - Read on Day 3, Day 5
  - Look for reactions to specific *likely* allergens

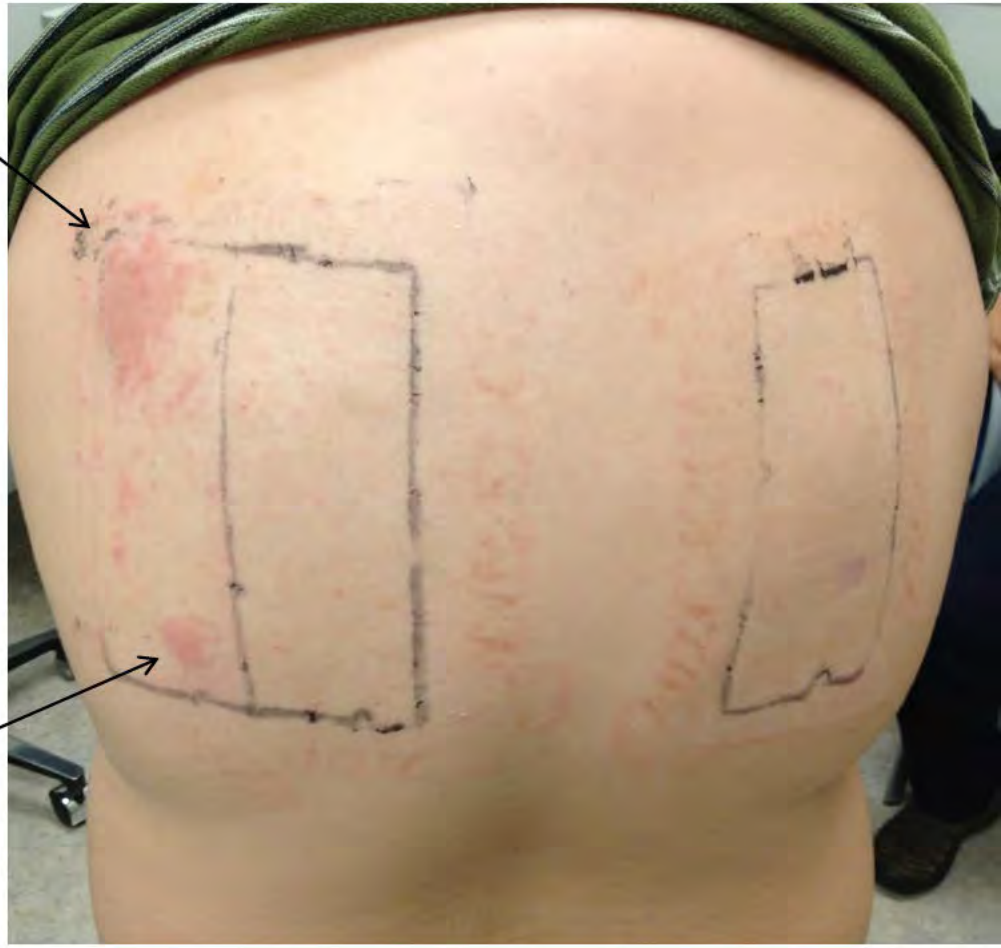



Nickel Allergy

1 Nickel Sulfate	7 Colophony
2 Wool Alcohols	8 Paraben Mix
3 Neomycin Sulfate	9 Negative Control
4 Potassium Dichromate	10 Balsam of Peru
5 Caine Mix	11 Ethylenediamine Dihydrochloride
6 Fragrance Mix	12 Cobalt Dichloride

Nickel Allergy

Cobalt Allergy



Allergic Contact Dermatitis

- Vagisil (benzocaine)
- Antibiotics (neomycin, polymyxin, bacitracin)
- Preservatives
  - Formaldehyde releasers (Quaternium 15, Bronopol, Diazolidinyl urea, etc.)
  - Non-releasers (Methylchloroisothiazolinone/Methylisothiazolinone in baby wipes – 2013 Allergen of the Year)
- Clothing dyes (inguinal vault)
- Carbamates (released from rubber post-bleaching—underwear bands)
- Sanitary napkins (acetyl acetone, formaldehyde, fragrance, methacrylates)
- Corticosteroids
- Lanolin containing products (Desitin max strength, A&D oint)
- Fragrance (Balsam of Peru, eugenol)
- Spermicides (Nonoxynol, Hexylresorcinol)

Schlosser, B. "Contact Dermatitis of the Vulva. *In "Vulvovaginal Dermatology*." Guest Editor: Libby Edwards, MD. *Dermatol Clin.* 2010 Oct;28(4).

Allergic Contact Dermatitis

- Pearls for treatment
  - Bring in all products → ingredients
  - **<u>Stop all topical exposures– creams, wipes, sprays, douches, spermicides, pads</u>**
  - **Use petroleum jelly only +/- topical/oral steroid**
  - Barrier before/after bathroom use
  - Urinate with water poured against skin
  - Sitz baths

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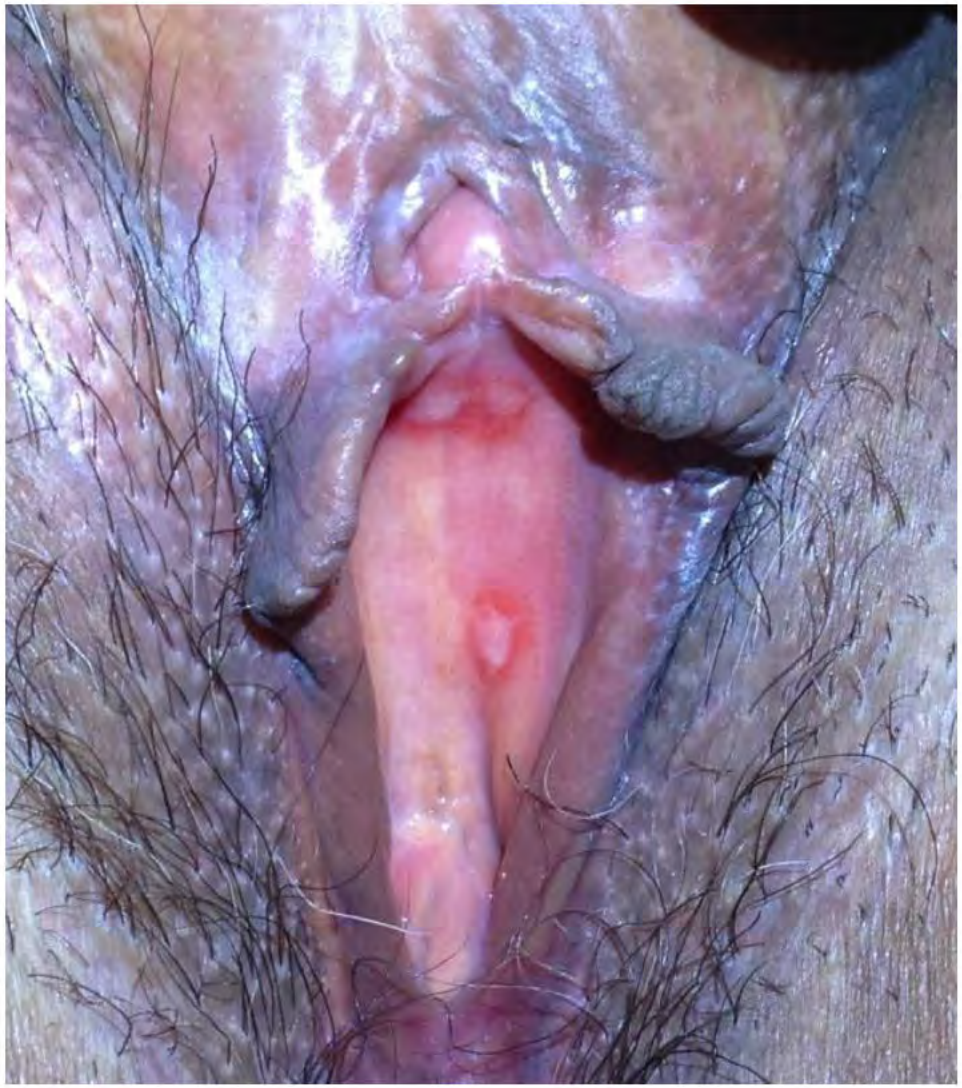

Pemphigus vulgaris initially diagnosed as aphthous ulcers of Behçet's Disease

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