Mastering Office GYN Procedures

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No commercial disclosures for this lecture

GYN Office Procedures: Outline

- Vulvar biopsy
  - White lesions
  - Dark lesions
  - Non-STI vulvar ulcers
- Endometrial biopsy
- Bartholin Duct abscess management
- IUC Insertion and removal

Genital Skin: White Lesions

- Lichen sclerosus
- Lichen simplex chronicus
- LS+LSC
- Tinea versicolor
- Intertrigo

- VIN/ PIN
- Depigmentation disorders
  - Vitiligo
  - Partial albinism
  - Leukoderma

1987: Vulvar Dermatoses

<table>
<thead>
<tr>
<th>Type</th>
<th>ISSVD Term</th>
<th>Old Terms</th>
</tr>
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<tbody>
<tr>
<td>Atrophic</td>
<td>Lichen sclerosus</td>
<td>Lichen sclerosus et atrophicus</td>
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<tr>
<td></td>
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<td>Kraurosis vulvae</td>
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<td>Hyperplastic</td>
<td>Squamous cell hyperplasia</td>
<td>Hyperplastic dystrophy</td>
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<td>Neurodermatitis</td>
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<td>Lichen simplex chronicus</td>
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<td>Psoriasis</td>
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<td>Premalignant</td>
<td>VIN</td>
<td>Hyperplastic dystrophy/atypia</td>
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<td>Bowen's disease</td>
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<td>Bowenoid papulosis</td>
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<td>Vulvar CIS</td>
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ISSVD: International Society for the Study of Vulvar Disease
2006 ISSVD Classification of Vulvar Dermatoses

- No consensus agreement on a system based upon clinical morphology, path physiology, or etiology
- Include only non-Neoplastic, non-infectious entities
- Agreed upon a *microscopic morphology* based system
- Rationale of ISSVD Committee
  - Clinical diagnosis → no classification needed
  - Unclear clinical diagnosis → seek biopsy diagnosis
  - Unclear biopsy diagnosis → seek clinic correlation

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**Path pattern** | **Clinical Correlates**
--- | ---
Spongiotic | Atopic dermatitis, allergic contact dermatitis, irritant contact dermatitis
Acanthotic | Psoriasis, LSC (primary or superimposed), (VIN)
Lichenoid | Lichen sclerosus, lichen planus
Dermal homogenization | Lichen sclerosus
Vesicolobullous | Pemphigoid, linear IgA disease
Acantholytic | Hailey-Hailey disease, Darier disease, papular genitocrural acantholysis
Granulomatous | Crohn disease
Vasculopathic | Apathous ulcers, Behcet disease, plasma c. vulvitis

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**Lichen Sclerosus: Natural History**

- Most common vulvar dermatosis (dystrophy)
- Cause: autoimmune condition
- Bimodal age distribution: older women and children, but may be present at any age
- Chronic, progressive, lifelong condition
- Most common in Caucasian women
- Can affect non-vulvar areas
- Predisposition to vulvar squamous cell carcinoma
  - 3-5% lifetime risk (vs. < 1% without LS)
  - LS in 30-40% women with vulvar squamous cancers

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**Lichen Sclerosus: Findings**

- **Symptoms**
  - Itching, burning, dyspareunia, dysuria
- **Signs**
  - Thin white “parchment paper” epithelium
  - Fissures, ulcers, bruises, or submucosal hemorrhage
  - Depigmentation (white) or hyperpigmentation in “keyhole” distribution: vulva and anus
  - Introital stenosis and loss of vulvar architecture
  - Reduced skin elasticity
“Early” Lichen Sclerosus

- Hyperpigmentation due to scarring
- Loss of labia minora

“Late” Lichen Sclerosus

- Agglutination of clitoral hood
- Loss of labia minora
- Introital narrowing
- Parchment paper epithelium

Lichen Sclerosus

- Thin white epithelium
- Fissures

68 year old woman with urinary obstruction
- Labial agglutination over urethral meatus
**Lichen Sclerosus: Treatment**

- Biopsy mandatory, especially in women under 50
- **Preferred treatment**
  - Clobetasol 0.05% ointment QD x4 weeks, then QOD x4 weeks, then twice-weekly for 4 weeks
  - Taper to med potency steroid (or clobetasol) 2-4 times per month for life
  - Explain “titration” regimen to patient, including management of flares and recurrent symptoms
  - 30 gm tube of ultrapotent steroid lasts 3-6 mo
  - Monitor every 3 months twice, then annually

- **Second line therapy**
  - Pimecrolimus, tacrolimus
  - Retinoids, potassium para-aminobenzoate
  - Testosterone (and estrogen or progesterone) ointment or cream no longer recommended
  - Explain chronicity and need for life-long treatment

- **Adjunctive therapy**: anti-pruritic therapy
  - Antihistamines, especially at bedtime
  - Doxypin, at bedtime or topically
  - If not effective: amitriptyline, desipramine PO
  - Perineoplasty may help dyspareunia, fissuring

**Lichen Simplex Chronicus = Squamous Cell Hyperplasia**

- Irritant initiates “scratch-itch” cycle
  - Candida
  - Chemical irritant, allergen
  - Lichen sclerosus
- Presentation: always itching; burning, pain, and tenderness
- Thickened leathery red (white if moisture) raised lesion
- In absence of atypia, no malignant potential
  - If atypia present, classified as VIN
L. Simplex Chronicus: Treatment

- Removal of irritants or allergens
- Treatment
  - Triamcinolone acetonide (TAC) 0.1% ointment BID x4-6 weeks, then QD
  - Other moderate strength steroid ointments
  - Intralesional TAC once every 3-6 months
- Anti-pruritics
  - Hydroxyzine (Atarax) 25-75 mg QHS
  - Doxepin 25-75 mg PO QHS
  - Doxepin (Zonalon) 5% crm; start QD, work up

Lichen Sclerosus + LSC

- “Mixed dystrophy” deleted in 1987 ISSVD System
- 15% all vulvar dermatoses
- LS is irritant; scratching → LSC
- Consider: LS with plaque, VIN, squamous cell cancer of vulva
- Treatment
  - Clobetasol x12 weeks, then steroid maintenance
  - Stop the itch!!

Rules for Topical Steroid Use

- Topical steroids are not a cure
  - Use potency that will control condition quickly, then stop, use PRN, or maintain with low potency
- Limit the amount prescribed to 15 grams
- Ointments are stronger, last longer, less irritating
- Show the patient exactly how to use it: thin film
- L. minora are steroid resistant
- L. majora, crural fold, thighs thin easily; get striae
- At any suggestion of 2° candidal infection, use steroid along with topical antifungal drug
Vulvar Intraepithelial Neoplasia (VIN):
Prior to 2004

- Grading of VIN-1 through VIN-3, based upon degree of epithelial involvement
- The mnemonic of the 4 P’s
  - Papule formation: raised lesion (erosion also possible, but much less common)
  - Pruritic: itching is prominent
  - “Patriotic”: red, white, or blue (hyperpigmented)
  - Parakeratosis on microscopy

ISSVD 2004: Squamous VIN

- VIN 1 is not cancer precursor; abandon the term
  - Instead, use “condyloma” or “flat wart”
- Combine VIN-2, VIN-3 into single “VIN” diagnosis
- Two distinct variants of VIN
  - **VIN, usual type**
    - Warty type
    - Basaloid type
    - Mixed warty-basaloid
  - **VIN, differentiated (simplex) type**

Vulvar Intraepithelial Neoplasia (VIN)
ISSVD 2004

- **VIN, Usual Type**
  - Includes (old) VIN -2 or -3
  - Usually HPV-related (mainly type 16)
  - More common in younger women (30s-40s)
  - Often multifocal and multicentric
- **VIN, Differentiated type**
  - Includes (old) VIN 3 only
  - Not HPV related
  - Usually in older women with LS, LSC, or LP
  - Less common than Usual Type
  - Symptomatic; long history of pruritus and burning

White VIN
VIN, usual (basaloid) type

VIN: warty-basaloid type

Vulvar Intraepithelial Neoplasia

Hyper-pigmented VIN
**Vulvar Intraepithelial Neoplasia**

- **Precursor to vulvar cancer, but low “hit rate”**
  - Greater risk of invasion if immunocompromised (steroids, HIV), >40 years old, previous lower genital tract neoplasia
- **Treatment**
  - Wide local excision (few lesions), laser ablation
  - Topical agents: 5FU cream, imiquimod
  - Skinning or simple vulvectomy
- **Recurrence is common (48% at 15 years)**
  - Smoking cessation may reduce recurrence rate

**Leukoderma**

- Lack of pigmentation in scarred area from trauma or ulceration
- Most commonly seen after herpetic and syphylitic ulcers
- No family history, as with albinism or vitiligo
- No biopsy or treatment necessary

**Vitiligo**

- Congenital absence of pigment

**Genital Skin: Dark Lesions (% are in women only)**

- 36% Lentigo, benign genital melanosis
- 22% VIN
- 21% Nevi (mole)
- 10% Reactive hyperpigmentation (scarring)
- 5% Seborrheic keratosis
- 2% Malignant melanoma
- 1% Basal cell or squamous cell carcinoma
Lichen Sclerosus with Scarring

Vulvar Melanoma: ABCDE Rule

A: Asymmetry
B: Border Irregularities
C: Color black or multicolored
D: Diameter larger than 6 mm
E: Evolution
• Any change in mole should arouse suspicion
• Biopsy mandatory when melanoma is a possibility

Atypical Nevus
Early Melanoma

Nodular Melanoma
Metastatic Melanoma
**Genital Ulcers**

**Infections**
- Herpes simplex
- Syphilis (chancre)
- Chancroid

**Inflammatory**
- Lichen planus
- Crohn’s disease
- Behcet’s disease
- Fixed drug eruption
- Pemphigus/ Pemphigoid

**Neoplastic**
- Squamous cell carcinoma
- Basal cell carcinoma

**Lichen Planus**
- Classic form
  - Purple, well-demarcated, flat topped papules on oral, genital tissues
- Erosive form
  - Erythematous erosive lesions on vestibule or in vagina
  - Vulvar burning or pruritus
- Vaginal only: DIV (desquamative inflammatory vaginitis)
- DX: biopsy essential

**Lichen planus: Oral lesion**

**Lichen planus: Oral lesion**
Lichen Planus: Treatment

• No one satisfactory treatment exists
• Emollients, vulvar care; treat superinfection
• Vulva: clobetasol ointment with taper
• Vagina: Anusol HC 25 mg supp; ½-1 supp PV BID x4 weeks, then taper
• Short course of oral steroids if necessary
• Vaginal dilators to prevent scarring
• Other Rx: Tacrolimus 0.1% (Protopic) BID, Acitretin, methotrexate, Dapsone

Crohn’s Disease

• Vulvar ulcers may precede bowel lesions by many years
• Presentations
  – Knife cut ulcers on vulva
  – GI-cutaneous fistulae
    • Entero-vaginal
    • Recto-perineal
  – Oral ulcers often present
• Bx: sarcoid-like granulomas, sometimes eosinophilia
• If suspected, refer patient for colonoscopy to confirm diagnosis

Behçet’s Disease

• Criteria
  – Major: Relapsing oral and genital ulcerations with ocular inflammation (iritis)
  – Minor: arthritis, thrombophlebitis, acneform eruption or erythema nodosum
• Autoimmune condition; may occur with Crohn’s
• Oral: aphthous ulcers of lips, tongue, gums, palate
• Vulva: usually deep, tender ulcers
• Diagnosis
  – Bx: chronic inflammation, vasculitis
• Treatment: controversial; refer to dermatologist
Genital Ulcers: Evaluation

- **Syphilis**
  - VDRL or RPR (newer approach: treponemal serology)
- **Chancroid**
  - Test for *H ducreyi* (culture, PCR, DNA)
- **Herpes simplex**
  - Early lesion: HSV culture, PCR, or DFA
  - Late lesion: DFA or cytology
  - Type-specific HSV serology
- Biopsy if lichen planus, Bechet’s Dz, or Crohn’s suspected
- Presumptively treat for “best guess” or syphilis + chancroid

Indications for Vulvar Biopsy

- Papular or exophytic lesions, except genital warts
- Thickened lesions (biopsy thickest region) to differentiate VIN vs. LSC
- Hyperpigmented lesions (biopsy darkest area), unless obvious nevus or lentigo
- Ulcerative lesions (biopsy at edge), unless obvious herpes, syphilis or chancroid
- Lesions that don’t respond or worsen with treatment
- *In summary*: biopsy whenever diagnosis uncertain

Tips for Vulvar Biopsies

- Where to biopsy
  - Homogeneous: one biopsy in center of lesion
  - Heterogeneous: biopsy each different lesions
- Skin local anesthesia
  - Most lesions will require ½ cc. lidocaine or less
  - Epinephrine will delay onset, but longer duration
  - Use smallest, sharpest needle: *insulin syringe*
  - Inject anesthetic s-l-o-w-l-y
- Alternative: 4% liposomal lidocaine (30 minutes) or EMLA (60 minutes) pre-op

- Stretch skin; twist 3 or 4 mm Keyes punch back-and-forth until it “gives” into fat layer

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*Single-Use Keyes Punches*  
$37.95  Box of 25  
These amazing punches are especially useful for skin biopsy of the vulva. Sterile, single-use, seamless tips. Available in sizes: 2mm through 8mm.
Tips for Vulvar Biopsies

- Lift circle with forceps or needle; snip base
- Hemostasis with AgNO₃ stick or Monsel’s solution
  - Silver nitrate will not cause a tattoo
  - Suturing the vulva is almost never necessary
- Separate pathology container for each area biopsied

Endometrial Cancer: Epidemiology

- 4th most common female cancer
- Most common female genital tract cancer
  - 2000: 36,100 new cases in US; 6,500 deaths
- 5 year survival (86-93): 86% white; 55% Af-Am
- Bimodal age distribution
  - Menopausal women (mean= 61 y.o.)
  - Pre- and peri-menopausal chronic anovulators
- Developing countries (+ Japan) have rates 4-5x less than developed countries

Endometrial Cancer: Risk Factors

- Age: peak incidence 72 years old
  - 3x higher than 50-54 years old
- Chronic unopposed estrogen exposure
  - Related to E-level and duration of exposure
  - High body mass index (BMI)...obesity b
  - Menopause >52 y.o.(2.4x); low parity (2-3x)
  - E- secreting tumor (granulosa-theca tumor)
  - Exogenous sources: ET, tamoxifen
  - Chronic anovulation (PCOS)

Endometrial Cancer

<table>
<thead>
<tr>
<th>Type I</th>
<th>Type II</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Low grade</td>
<td>- Aggressive</td>
</tr>
<tr>
<td>- Estrogen related</td>
<td>- Unrelated to estrogen</td>
</tr>
<tr>
<td>- Perimenopausal</td>
<td>- Older &amp; thinner women</td>
</tr>
<tr>
<td>- Exogenous estrogen</td>
<td>- Genetic basisPoten</td>
</tr>
<tr>
<td>- Younger and heavier patients</td>
<td>» Lynch syndrome</td>
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<tr>
<td></td>
<td>» Familial trend</td>
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</tbody>
</table>
Endometrial Cancer: Risk Factors

- Diabetes (RR= 2.8)
- Hypertension (RR= 1.5)
- Personal or family history of breast or colon cancer
- **HNPCC** (Hereditary Non-Polyposis Colon Cancer)
  - 5% of all endometrial cancers
  - HNPCC women have 22-50% lifetime risk of endometrial cancer
  - ACS endometrial cancer screening guidelines (2001)
    - Annual EMB starting at 35 years old
    - Prophylactic hysterectomy and BSO after childbearing

Screening for Endometrial Cancer

- **Routine screening** not recommended for
  - Asymptomatic peri-, postmenopausal women
  - Asymptomatic chronic anovulation
  - Women initiating menopausal hormone therapy
- **Testing** for endometrial cancer is indicated for
  - Post-menopausal bleeding or pyometra
  - Endometrial cells on Pap (postmenopause)
  - Menometrorrhagia in chronic oligo-anovulator
  - Intermenstrual bleeding in perimenopause

Screening Tamoxifen Users for Endometrial Cancer

- Tamoxifen may be a weak promoter of endometrial cancer
  - RR= 0.5-15; most studies have significant biases
  - Greater risk of endometrial cancer if breast cancer present
- Endometrial changes in tamoxifen users
  - PM users often have thickened endometrium (x=6-7 mm)
  - May be stromal; high rate of false positive vaginal UTZ
- Most do not support screening asymptomatic women
- All articles recommend testing those with post-menopausal bleeding

Postmenopausal Bleeding: Differential Diagnosis

- Exogenous estrogens
  - HT (therapy formerly known as HRT)
- Endogenous estrogens
  - Acute stress
  - Estrogen-secreting ovarian tumor
- Atrophic vaginitis
- Endometrial hypoplasia (atrophy)
- Endometrial hyperplasia/ adenocarcinoma
- Uterine corpus sarcoma
Postmenopausal Bleeding: Evaluation

• If *not* using HT, endometrial evaluation is required by either
  – Endometrial biopsy (EMB), or
  – Endovaginal ultrasound (normal stripe is < 5 mm)
• If *using* HT, EMB to evaluate
  – CC-EPT: persistent bleeding for more than 3 months after HT initiation
  – CS-EPT: persistent unscheduled bleeding

Ultrasound Diagnosis of Endometrial Hyperplasia

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>&lt;5mm</th>
<th>6-10mm</th>
<th>11-15mm</th>
<th>&gt;15mm</th>
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<tr>
<td>Atrophy</td>
<td>93%</td>
<td>7%</td>
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<td>Hyperplasia</td>
<td>58%</td>
<td>42%</td>
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<tr>
<td>Polyp</td>
<td>53%</td>
<td>47%</td>
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<tr>
<td>Cancer</td>
<td>18%</td>
<td>41%</td>
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Grigoriou: Maturitus 23:9-14,1996

Who Needs an EMB?

• Purpose: detect endometrial hyperplasia or cancer
• Menopausal woman
  – Any postmenopausal bleeding, if not using HT
  – Unscheduled bleeding on continuous-sequential hormone therapy
  – Bleeding > 3 mo after start of continuous-combined hormone therapy
  – Endometrial stripe > 5 mm (applies to postmenopausal woman only)
  – Pap smear: *any* endometrial cells or AGC Pap

Who Needs an EMB?

Premenopausal Women

• Prolonged *metrorrhagia*
• Unexplained post-coital or intermenstrual bleeding
• Endometrial cells on Pap smear in anovulatory premenopausal woman
• Atypical Glandular Cells (AGC) Pap
  – Abnormal endometrial cells, or
  – Older than 35 years old
  – Under 35 yo with abnormal bleeding
Technique of EMB

- Bimanual exam to evaluate uterine axis, size
- Cleanse cervix with antiseptic
- Slowly apply tenaculum (+ local anesthetic)

Use of the sampling device
- Choose correct type (rigidity) of sampler
- “Crack” stylet to ensure easy movement
- Gently advance to fundus; expect resistance at internal os
- Note depth of sounding with side markings
- Pull back stylet to establish vacuum

Tips for Internal Os Stenosis

- Pain relief
  - Use para-cervical or intra-cervical block
  - Intrauterine instillation of lidocaine
- Cervical dilation
  - Freeze endometrial sampler to increase rigidity
  - Grasp sampler with ring forceps 3-4 cm from tip
  - Use cervical “os finder” device
  - Use small size Pratt or Hegar dilators
  - Give vaginal misoprostol to soften cervix 4 hours before procedure

EMB Result: Non-Neoplastic

- Proliferative: E-induced growth, but no ovulation
- Secretory: ovulatory or recent progestin exposure
- Menstrual: glandular breakdown, non-neoplastic
- Disordered: out-of-phase glands (often anovulation)
- Chronic endometritis: plasma cells + wbc
- Atrophic: hypoplastic glands and stroma
- Cystic hyperplasia: hypoplastic glands and stroma

**Insufficient:** not enough tissue for interpretation
- If adequate sampling, atrophic endometrium likely
- If sounding <5 cm, may not have entered cavity
EMB Result: Neoplasms

- Endometrial polyp
- **Simple** endometrial hyperplasia
  - Gland proliferation and crowding, but no atypia
  - Reversible with continuous progestin exposure
- **Atypical** endometrial hyperplasia
  - Hyperplasia with nuclear atypia of gland cells
  - Premalignant; often not reversible with progestin
- Endometrial carcinoma
  - Stromal invasion of malignant glands

Postmenopausal Bleeding: Management

- Atrophic vaginitis: topical estrogen
- Chronic endometritis: ± antibiotics
- **Cystic** hyperplasia or endometrial atrophy
  - Observe, or
  - Very low estrogen dose CC-EPT
- **Simple** endometrial hyperplasia
  - Continuous high dose progestin, then re-biopsy in 3-4 months
- **Atypical** endometrial hyperplasia: hysterectomy
- Endometrial cancer: hysterectomy ± XRT

Bartholin Duct (BD) and Gland (BG)

- Bartholin duct and gland at 5, 7 o’clock cephalad (deep) to hymeneal ring
- Makes serous secretion to “lubricate” introitus
- If BD is transected or blocked, fluid accumulates
  - Non-infected: BD cyst
  - Infected: BD abscess or BG cellulitis
- All surgical treatments are designed to drain fluid and create a new duct

Bartholin Gland: Infectious Conditions

- **Bartholin gland cellulitis**
  - Painful red induration of lateral perineum at 5 or 7 o’clock, but no palpable abscess
  - Most commonly due to skin streptococcus
  - Treatment: oral cephalosporin, moist heat
  - Will either resolve or point as abscess
  - Admit immunocompromised women (especially diabetics) for IV antibiotics and close observation
  - May develop necrotizing fasciitis
**Bartholin Duct: Infectious Conditions**

- **Bartholin duct abscess**
  - Usually due to Staph, but may contain anaerobes
  - Fluctuant painful abscess; if uncertain, needle aspiration will confirm pus
  - Treatment: I&D, then insert Word catheter for 6 weeks
  - Antibiotics usually not needed, unless
    - Cellulitis (cephalosporin)
    - Anaerobic smell with drainage (metronidazole)

- **BD Abscess: I&D**
  - Retract abscess laterally to select incision site... inside the hymeneal ring if possible
  - Inject 3 cc. lidocaine
  - 1 cm incision with #15 blade perpendicular to abscess
  - Lyse loculations with clamp
  - Irrigate cavity with saline
  - Insert Word catheter; inflate until snug fit in cavity
  - Tuck nipple into vagina

**Bartholin Duct: Non Infectious**

- **Bartholin duct cyst**
  - Nontender cystic mass
  - Treat only if symptomatic or recurrent
  - Tx: marsupialize or insert Word catheter x 6 weeks

- **Bartholin duct carcinoma**
  - Most common in women over 40
  - Can be adenoca, transitional cell, or squamous cell
  - Firm non-tender mass in region of Bartholin gland
  - Suspect if recurrent BD cyst or abscess with firm base after drainage
“Politically Correct” Terminology

Old name
• IUD: Intrauterine Device

New names
• IUS: Intrauterine System
  – Applied to LNG-IUS (Mirena®)
• IUC: Intrauterine Contraception
  – Applied to Cu-T380 (ParaGard®)
  – Generic term for both types

Intrauterine Contraception in the U.S.

<table>
<thead>
<tr>
<th></th>
<th>Copper T-380</th>
<th>LNG-IUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mechanism</td>
<td>Spermicidal effect of copper</td>
<td>Thickening of cervical mucus</td>
</tr>
<tr>
<td>Duration</td>
<td>10 years</td>
<td>5 years</td>
</tr>
<tr>
<td>Efficacy</td>
<td>0.8 failures/hwy</td>
<td>0.2 failures/hwy</td>
</tr>
<tr>
<td>Benefit</td>
<td>No hormones</td>
<td>Less bleeding</td>
</tr>
</tbody>
</table>
| Non-contraceptive use| None         | Menorrhagia
|                      |              | Menstrual pain |
| Retail price 4/10*   | $494         | $703    |

* Pricing may differ by contract and in the 340B program

Indications for IUC Use

• Both IUC products
  – Long term contraception in fertile women
• WHO-MEC for IUD Use
  ▪ Menarche to age 20  WHO-2
  ▪ Age 20 and older   WHO-1
  ▪ Nulliparity       WHO-2
  ▪ Parous            WHO-1

WHO Medical Eligibility Criteria for Contraceptive Use, 2009

Both IUC Products: US MEC 2010

<table>
<thead>
<tr>
<th>Category 4</th>
<th>Category 3</th>
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<tbody>
<tr>
<td>Distorted uterine cavity</td>
<td>Benign GTD with ↑ hCG</td>
</tr>
<tr>
<td>Post-partum endometritis</td>
<td>Increased risk of STIs **</td>
</tr>
<tr>
<td>Post-abortion endometritis</td>
<td>– Initiate: 3; Continue: 2</td>
</tr>
<tr>
<td>Malignant GTD or ↑ hCG</td>
<td>Pelvic TB</td>
</tr>
<tr>
<td>Cervical/endometrial cancer</td>
<td>– Initiate: 4; Continue: 3</td>
</tr>
<tr>
<td>Current GC/CT/purulent cervicitis/PID</td>
<td>** very high individual risk of exposure</td>
</tr>
<tr>
<td>– Initiate: 4; Continue: 2</td>
<td></td>
</tr>
<tr>
<td>Parous</td>
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WHO Medical Eligibility Criteria for Contraceptive Use, 2009
US Medical Eligibility Criteria 2010

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<tr>
<th>Category 4</th>
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<tbody>
<tr>
<td>LNG-IUS only</td>
<td>Current breast cancer</td>
</tr>
<tr>
<td><strong>Breast cancer (&gt; 5 yrs NED)</strong></td>
<td><strong>Liver tumors, severe cirrhosis</strong></td>
</tr>
<tr>
<td><strong>Current MI or angina</strong></td>
<td><strong>Migraines with aura</strong></td>
</tr>
<tr>
<td><strong>AIDS (ARV drug interactions)</strong></td>
<td><strong>Complicated transplant</strong></td>
</tr>
<tr>
<td><strong>Lupus with anti-PL antibody</strong></td>
<td><strong>Copper IUC only</strong></td>
</tr>
<tr>
<td><strong>Lupus with thrombocytopenia</strong></td>
<td></td>
</tr>
</tbody>
</table>

Pre-IUC Insertion Screening

- Evidence supports *no* routine screening tests
  - Ct, GC: if high risk sexual behaviors or <26 yo and annual screening Ct not yet performed
  - Pregnancy test: only if pregnancy suspected
  - Pap smear: if due for a scheduled Pap (in her case, Pap unnecessary since < 3 years from sexual debut)
  - Hematocrit: only if anemia suspected
- Any indicated screening test can be done on the day of IUC insertion

Pre-Insertion Guidelines

- **Prophylactic antibiotics**
  - No value based on randomized clinical trials
- **Premedication**
  - NSAID 1 hour before; cervical block if stenotic
- **Timing of insertion**
  - Copper: anytime, “as long as not pregnant”
  - LNG-IUS: insertion recommended by day 7
  - Back-up method if “off-cycle” insertion
- May insert after delivery or abortion, but slightly higher expulsion rate

Post-IUC Insertion Counseling

- Post-insertion visit is optional
  - Only value is to detect “asymptomatic” expulsion
- Patient should call the office afterward if
  - String cannot be located
  - Menstrual bleeding is more than pre-insertion pattern or duration
  - Symptoms suggesting pregnancy occur
  - Sudden unexplained pelvic pain occurs
Steps for Insertion: Technique Varies According to Product

1. Pelvic exam: assess uterus size & position
2. Apply tenaculum…always
3. Sound the uterus…always
4. Load the device
5. Place the device
6. Cut the threads

Steps for IUC Insertion

- Perform bimanual pelvic exam to determine anterior or retro-flexion
- Inspect cervix for mucopus
- Cleanse cervix with antiseptic
- “No-touch” technique is preferred; sterile gloves are unnecessary
  - Both LNG-IUS and Copper IUC can be loaded without touching the devices
  - Do not touch portion of sound that will pass through cervix

Steps for IUC Insertion

- Routine vs. selective local anesthetic injection at tenaculum site
- Apply a single tooth tenaculum
  - Horizontal or vertical application
  - Anterior or posterior lip of cervix
  - Hold hand in palm-up position
  - “Squeeze” ratchet closed to first clasp; avoid abrupt “snap”
- Selective use of cervical block

Steps for IUC Insertion

- Sound the uterus
  - Purposes
    - Determine the “pathway” to the fundus
    - Preliminary dilation of the internal os
    - Establish depth to fundus to set flange
    - Ensure depth within 6-10 cm limits
  - Bend sound to mimic uterine flexion
  - Brace fingertips on speculum to achieve control of force while advancing the sound
  - EMS* device can be used instead of metal sound

EMS*: endometrial sampling
Steps for IUC Insertion

• Open the IUC package after sounding is completed
• Load the IUC into the inserter
• Insert the IUC into the uterus according to manufacturer’s instructions (see package inserts)
• Remove tenaculum
• Trim strings at most horizontal angle possible (to avoid puncture of partner’s penis)
• If concerns regarding location of IUC placement, palpate external os or perform pelvic ultrasound

IUD Insertion: Tricks of the Trade

• For women with narrow cervical canal
  – Prime cervix with misoprostol 400 mcg a few hours before insertion
• For pain management
  – Oral NSAID 400 mg PO and/or
  – Instill lidocaine in uterine cavity with an endometrial sampler
  – The sampler can be used instead of sound to measure depth of uterus

IUD Insertion Tricks of the Trade (continued)

• To visualize cervix
  – Use large speculum
  – If vaginal walls obscure cervix, cut off end of condom and slip over metal speculum
  – Get better light

Os Finder          Metal dilators

Cervical Os Finders (Disposable Box/25) $49.00
Cervical Os Finder Set (Reusable Set of 3) $69.00
• 80 nulliparas treated 1 hour prior to IUD insertion
  – Misoprostol 400 mcg SL and diclofenac 100 mg
  – Diclofenac 100 mg PO alone (control group)
• Findings
  – Insertion easier with misoprostol than control group
  – Pain scores no different in the two groups
  – Most side effects equal
    • Shivering, diarrhea more common with MPL

Saav I et. al., Human Reproduction 2007; 22, (10): 2647

干预步骤：
“狭窄的宫颈管”

干预步骤：
“狭窄的宫颈管”

• Use greater outward traction on the tenaculum to minimize canal-to-cavity angulation
• Place paracervical or intracervical block to relax cervical smooth muscle and reduce pain
• Use os finder device, if available
• Dilate internal os with Pratt dilators to #13F (4.1 mm)
• If unsuccessful, return at a later date with use of misoprostol cervical priming

Misoprostol for IUC Insertion

<table>
<thead>
<tr>
<th>Estimation of difficulty of insertion</th>
<th>Misoprostol group, n = 39 (%)</th>
<th>Control group, n = 40 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy</td>
<td>29 (74.4)</td>
<td>22 (55.0)</td>
</tr>
<tr>
<td>Intermediate or difficult</td>
<td>10 (25.6)</td>
<td>18 (45.0)</td>
</tr>
</tbody>
</table>

P = 0.039; Fisher’s Exact test, mid-P-value. Degrees of freedom = 1.

• Conclusion
  – Misoprostol facilitates IUD insertion and reduces the number of difficult and failed attempts of insertions in women with a narrow cervical canal

Uncomplicated IUC Removal

• Indications
  – Patient desires pregnancy
  – Expiration date reached
  – Unacceptable side effects
  – Failure (pregnancy)
• Menopause
  – Strings seen: remove
  – No strings: weigh benefit vs. hazard of removal
  – Tail-less IUC (e.g., stainless steel ring) does not require removal unless requested by patient
Missing IUC String: Diagnosis

- Possibilities...
  - Expulsion, pregnancy, embedment, translocation
- Initial management
  - Probe for strings in cervical canal
    - Cytology brush to tease from canal
    - Endocervical speculum or forceps
  - Rule out pregnancy
  - Prescribe back-up contraceptive method until intrauterine location is confirmed

Missing IUC String: Management

- No IUC string in canal
- Pregnancy test negative

- Initial management
  - Probe for strings in cervical canal
  - Cytology brush to tease from canal
  - Endocervical speculum or forceps
  - Rule out pregnancy
  - Prescribe back-up contraceptive method until intrauterine location is confirmed

- Rule out pregnancy
- Prescribe back-up contraceptive method until intrauterine location is confirmed

Missing IUC String: Treatment

- In situ (intrauterine) placement: desires continuation
  - Leave in place for remainder of IUC lifespan
  - Option: annual pelvic ultrasound in lieu of string check
- Translocation (IUC in peritoneal cavity)
  - Since copper IUC may cause more adhesions, must extract via operative laparoscopy
  - LNG-IUS is less reactive, but most experts recommend laparoscopic removal

Missing IUC String: Treatment

- In situ placement; desires removal
  - Attempt extraction with small “polyp” or “alligator” forcep, ± simultaneous real time pelvic ultrasound
  - Crochet hook best for circular IUCs; less helpful with T-shaped IUCs
  - If unsuccessful, suspect embedment and extract via operative hysteroscopy