Women’s Health
OVERVIEW:
- Dysmenorrhea
- Abnormal Uterine Bleeding (AUB)
- Amenorrhea, PCOS
- Contraception
- Cervical Cancer Screening
- STIs, Vulvovaginitis
- Osteoporosis
- Breast Mass/cancer
Primary Amenorrhea
- Absence of menses: by age 15 years
- Often secondary to: dysfunction in the hypothalamus, pituitary, ovaries (HPO axis), uterus, or vagina
- Many causes
- Refer for diagnosis and management
- Secondary: See PCOS. No menses ≥ 6 months

### DYSMENORRHEA
- Painful cramping: associated with menstruation caused by spasmodic uterine contractions
- Most common GYN problem: in adolescents, and adult females
- HISTORY: is KEY!!!
- Primary versus Secondary

Primary Dysmenorrhea: Absence of pelvic pathology
- CAUSE: Excessive Prostaglandins
- ONSET: in adolescence
- PAIN: starts 1-2 days prior to onset of menses or with menses, resolving over 12-72 hours
- ASSOCIATED: with nausea, diarrhea, dizziness, fatigue, HA, back pain
- IMPROVES: with NSAIDs, hormonal contraceptives, AGE and PARITY

Secondary Dysmenorrhea: Presence of Pelvic Pathology
- ONSET: Usually after age 25 years
- Abnormal uterine bleeding (AUB)
- Variable SX: N, V, D, back pain
- Dyspareunia: (esp. w/Endometriosis)
- Symptoms: OFTEN worsen over time
- Causes: Endometriosis, fibroids, infection/PID, adenomyosis, etc.

Dysmenorrhea Management
- Get a good history: (medical and menstrual)
- Physical exam: to identify a cause
- Pelvic exam: may defer if young, non-sexually active adolescents with mild symptoms
- Consider pelvic US: to look for adnexal masses, fibroids, other pelvic pathology
- If secondary, address underlying cause.

Once Primary Dysmenorrhea is established…

Non-Pharm Management
- HEAT: to lower abdomen = Oral Analgesics
- EXERCISE: improves symptoms
Pharm Management
- NSAIDs: 80-86% efficacy
  - Start at onset of menses for x 1-2+ days
  - If no relief, consider starting 1-2+ days before
- Combination Hormonal Contraceptives (CHC)
- Consider BOTH, if no relief with NSAIDs
- Intrauterine Contraceptive (IUC): Hormonal
  - Mirena or Skyla (smaller) with Levonorgestrel
- If NO relief, consider SECONDARY CAUSE

A Day In Clinical Practice

What is the least likely cause of secondary dysmenorrhea?

1. Endometriosis
2. Pelvic infection (PID)
3. Fibroids
4. Urinary tract infection

### ABNORMAL UTERINE BLEEDING (AUB)

- Comprehensive, focused history
- Many causes: PALM-COEIN classification
- Consider DIFFERENTIAL by AGE and HISTORY
- Post-menopausal:
  - Any bleeding beyond 12 months since LMP
  - Even “1 drop of blood” is concerning
  - Must REFER to OBGYN to R/o cancer

Classification/Differential: PALM-COEIN

<table>
<thead>
<tr>
<th>DIAGNOSIS</th>
<th>CAUSE:</th>
<th>Consider by AGE:</th>
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<tbody>
<tr>
<td><strong>Structural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>Polyps:</td>
<td>&gt; 30 years</td>
</tr>
<tr>
<td>A</td>
<td>Adenomyosis:</td>
<td>&gt; 30</td>
</tr>
<tr>
<td>L</td>
<td>Leiomyoma/Fibroids:</td>
<td>&gt; 30</td>
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<tr>
<td>M</td>
<td>Malignancy/Hyperplasia:</td>
<td>&gt; 40 (Obesity, DM, PCOS, &gt; 50 yr)</td>
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<tr>
<td><strong>Non Structural</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Coagulopathy:</td>
<td>Any age</td>
</tr>
<tr>
<td>O</td>
<td>Ovulatory Dysfunction:</td>
<td>Any age</td>
</tr>
<tr>
<td>E</td>
<td>Endometrial Disorders:</td>
<td>Any age</td>
</tr>
<tr>
<td>I</td>
<td>Iatrogenic, Medications:</td>
<td>Any age</td>
</tr>
<tr>
<td>N</td>
<td>Not Classified</td>
<td></td>
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</table>
POLYCYSTIC OVARIAN SYNDROME (PCOS): ANDROGEN EXCESS

- Common, complex GYN endocrinopathy
- Affects 6-20% of women
- S/S: oligomenorrhea, amenorrhea, AUB hyperandrogenism, (acne, hirsutism), cystic ovaries, infertility, mood/mental health problems
- Pathophysiology: Insulin resistance (50-70%)
- Associated with Risks, Complications
- Diagnosis: Rotterdam Criteria (2 of 3 criteria):
  - Oligomenorrhea
  - Hyperandrogenism
  - Cystic ovaries

(PCOS): Risks and Complications
- Endometrial cancer
- Infertility
- Diabetes
- Metabolic Syndrome
- Obesity (independent risk factor)
- Cardiovascular disease
- Hyperlipidemia

PCOS Diagnostic Work-up and Differential: Individualize
- Body weight, BMI (> 30), Waist (> 35 inches)
- BP
- Ultrasound: Ovaries/Uterus-hyperplasia > 10 mm
- CBC, Lipids q 2y (Low HDL, High trigs/LDL), LFTs, TSH
- Oral GTT (Most sensitive/specific)
- Hgb-A1c: DM = > 6.4, At risk = ≥ 5.6-6.4!!!!
- Total Testosterone: PCOS = > 60, Tumor > 150-200
  - Free T: PCOS = 2-3%
- Pregnancy test (hCG)
- Prolactin 3-27 ng/ml, consider DHEA-S?
- LH/FSH Ratio > 3, BUT may be normal in PCOS
- 17-hydroxyprogesterone (am, early follicular) < 200 ng/dl rules out NCAH = Non-classical adrenal hyperplasia


Additional Notes:
Management: Contraception or Conception?
- Discuss fertility planning
- Fast tract fertility: DO NOT wait to age 35 yr
- Letrozole preferred (NOT Clomiphene)
- Problems:
  - Infertility: 40% female associated with PCOS
  - Spontaneous Abortion (SAB): 25-73% risk
  - Gestational diabetes: 3 x increased risk
  - Preeclampsia/Hypertension


Management: Life Style Approaches – For All
- Weight loss (> 5%)
- Improves insulin sensitivity, acne, hirsutism, ovulation/return of fertility, menses, improves labs, reduces risk of uterine cancer, etc.!!!
- Exercise and Stress Reduction

Management: Not Desiring Pregnancy
- Combination Hormonal Contraceptives (CHC)
- New: Low-androgen progestins – SAFER: Levonorgestrel (LNG), Norethindrone (NE), Norgestimate (NGM)
- Helps androgen sx, prevents uterine cancer
- Insulin sensitizer (Metformin): NOT for ALL 30% reduction in IR
- Combination therapy: Metformin and CHCs

CERVICAL CANCER

Epidemiology 2015
- ~ 12,900 new cases of invasive cervical cancer
- ~ 4,100 DEATHS in US yearly from cervical cancer
  - Most under-screened or unscreened
- ~ 266,000 DEATHS Worldwide (2012)!!!
- 3rd most common CANCER in FEMALES
- 2nd most common GYN CANCER in US
- 2nd most common cancer in women Worldwide!

http://www.cancer.org/cancer/cervicalcancer/overviewguide/cervical-cancer-overview-key-statistics#top

Cervical Cancer
- Caused by HR-HPV
- High-risk subtypes: 16, 18, 45, 31, 33, 52, 58, 35
- Cervical cancer is caused by HPV = STI
- Males AND females infected
- Ubiquitous exposure
- Most clear virus within 1 year
Cervical Cancer
- For most women…
  - HPV clears spontaneously within 8-24 months especially if < 24 years old
  - Cervical cancer develops from “persistent HPV infection” over many years
  

HPV Vaccination*
- Give prior to onset of sexual activity “Coitarche” naïve vs non-naïve
- Give routinely at 9-12 years for girls (up to 26 yrs.), and boys (21 yrs.)
- NEW: 9-14 y/o 2 doses 6 months apart
- NEW: 9vGardasil (3 doses if ≥ 15 yr)
- If series incomplete, finish w new vaccine
- May benefit if > 26 years, but NO recommendations yet
* ACIP, ACOG recommendations

Recommendations for Cervical Cancer Screening

2012 Screening Guidelines*
- Ages 21-29 years:
  - 1st Pap at age 21
  - Repeat every 3 years*
- Age > 30 years:
  - Pap and HPV = Primary screening
  - Repeat every 5 years (if both negative)
  - Pap ONLY = every 3 years
- Age 65 years:
  - MAY STOP (if negative history x 10 years)
* If Low Risk = NO history of CIN2, CIN3, HIV+, immunocompromised, DES


After Hysterectomy
- For Benign Disease: discontinue
- NOT BENIGN: 3 annual negative tests, then discontinue (ACS); ongoing screening for 20 years (ACOG) even if older than 65 years
ACS, ACOG Recommendations

What is the arrow pointing to?
- Squamo-columnar junction: “T zone” or Transformation zone

Use of the Spatula
- Used to collect cells from the ectocervix
- Usually done first to minimize bleeding
- Plastic spatula for liquid-based samples
- Wooden or plastic for conventional
- Spatula: 1 full rotation
- Broom: 3-5 rotations Samples endo/ectocervix
Use of the Cytobrush
- Used to collect cells from the endocervix
- Insert into os
- Rotate ¼ - ½ turn

Atypical Squamous Cells (ASC): by Age
- ASC-US (undetermined significance): 21-24 years
  - Repeat PAP at 12 months (no HPV or HPV+)
  - If NEGATIVE = Routine screening
  - If POSITIVE = Colposcopy
- ASC-US: > 24 years
  - Reflex HPV, if POSITIVE = Colposcopy
- ASC-H: Colposcopy and Endocervical Sampling

Follow-up: Colposcopy Indications
- ASC-H: COLPO FOR ALL
- LSIL (low grade squamous intraepithelial lesion)
  - If < 24 years – OBSERVE, REPEAT 1 year
  - If > 24 years - COLPO
- HSIL (high grade squamous intraepithelial lesion)
  - Mod or severe dysplasia, CIN 2 or 3, and carcinoma in situ: COLPO FOR ALL
- Atypical glandular cells (AGC): Favor Neoplasia
  - COLPO FOR ALL

VULVOVAGINITIS
- Bacterial vaginosis (BV): Most common
- Vulvovaginal candidiasis (VVC): 95% Candida albicans
- Trichomoniasis: COMMON in teens, and older women
- Self-diagnosis: OFTEN inaccurate!

A Day In Clinical Practice

A patient has been diagnosed with bacterial vaginosis. Which choices listed below are possible risk factors? Select all that apply.

1. New sexual partner
2. No condom use
3. Douching
4. Copper IUC
5. High Vitamin D levels
6. Inadequate dairy in take
Vulvovaginitis Assessment: Differential Diagnosis

<table>
<thead>
<tr>
<th>Symptoms and signs</th>
<th>Normal</th>
<th>VV Candidiasis</th>
<th>BV</th>
<th>Trich</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>Clear, white, odorless</td>
<td>4.0-4.6</td>
<td>4.0-4.6</td>
<td>&gt; 4.6</td>
</tr>
<tr>
<td>&quot;Whiff&quot; Test</td>
<td>Negative</td>
<td>Negative</td>
<td>Positive</td>
<td>+/- Positive</td>
</tr>
<tr>
<td>Vaginal Microscopy</td>
<td>Negative</td>
<td>Buds and pseudohyphae</td>
<td>Clue cells</td>
<td>Trichomonads</td>
</tr>
</tbody>
</table>

Diagnostic Studies: Recurrent yeast infections
- Screen for diabetes if suspected
- Pregnancy test
- HIV
- Other tests as indicated

Management: Oral Agents
- Fluconazole (Diflucan®) orally x1
  - 72 hours duration
  - Most cost effective = $4
  - BUT delayed symptom relief x 24 hours!
  - Narrow spectrum coverage (C. albicans)
- DELAY sexual intercourse until symptoms improve!

Management: Topical Agents
- Butoconazole (Gynazole) Single Dose vaginally
  - Bioadhesive, time-released, broad spectrum!!!!
- Miconazole nitrate (Monistat®) vaginal suppository or cream
- Clotrimazole (Gyne-Lotrimin 3, 7) cream OR
- Terconazole (Terazol®) suppository or cream
- DELAY sexual intercourse until symptoms improve!

A Day In Clinical Practice

You have just diagnosed a 34 year old patient with vulvovaginal candidiasis. She states that her vaginal symptoms are making her “miserable”. What could provide relief within a few hours?

1. Vaginal anti-fungal cream
2. Fluconazole 150 mg tablet
3. Boric acid suppository
4. Yogurt douche
### ATROPHIC VAGINITIS

- Post-menopausal women
- Non-specific sign/symptoms: watery, yellow or white, malodorous vaginal discharge

**Clues: Atrophic Vaginitis**

**Genitourinary Syndrome of Menopause (GSM)**

- Symptoms:
  - Vaginal irritation or burning
  - Dyspareunia
  - Urinary tract symptoms
- Exam:
  - Thinning of vaginal epithelium, loss of elasticity, loss of rugae
  - Vaginal pH ≥ 5
- Rx: Estrogen PV, Osphena PO, DHEA PV

### OSTEOPOROSIS

- Disease of low bone mass with microarchitectural disruption

**Osteoporosis Risk Factors**

- Caucasian, Asian
- Advanced age, previous fracture
- Long-term glucocorticoid therapy
- Low body weight (< 127 lbs.)
- Cigarette Smoking
- Excess alcohol intake

### A Day In Clinical Practice

*Which T-score reflects a patient who has osteopenia?*

1. < 0.5 and 1.0
2. Between -1.0 and -2.5
3. -2.5 or less
4. > 2.5

**Osteoporosis Screening**

- DXA scan: dual x-ray absorptiometry
- Screening NOT recommended pre-menopause unless risk factors present

Additional Notes:
Osteoporosis Management
- Weight bearing exercise
- Stop cigarette smoking, excess alcohol
- Avoid corticosteroids, anticonvulsants when possible
- Calcium: Daily intake of 1200 mg/day
- Plus:
  - If Vitamin D deficient: replace with Vitamin D3
  - Vitamin D3: 1000-2000 IU/day varies according to reference
  - Preferred calcium source: FOOD!!!

Oral Bisphosphonates: Considered first line for most patients
- Inhibits bone resorption: Osteoclasts remains active in bone for weeks, months, maybe years!!!
- Increase bone mass: Osteoblasts
- Reduce risk of fracture:
  - Alendronate (Fosamax®) weekly
  - Risedronate (Actonel®) weekly
  - Ibandronate (Boniva®) monthly (does NOT reduce hip Fx risk)

Breast Masses
- Most common: Fibroadenomas, Cysts
- Benign complaints: CAN mimic breast cancer

Diagnostic Studies
- US:
  - For any female/male < 30 years, with focal mass, or symptom
  - First line in pregnancy, or < 30 years
  - To assess mass identified on mammography
- Mammography:
  - For any female/male > 30 years with a breast complaint
- Value of Breast Ultrasound???
- Differentiates fluid-filled cyst from solid mass!
BREAST CANCER

- Malignant tumor of the breast
- 85% of breast cancer occurs in women > 50 years

**Incidence**

<table>
<thead>
<tr>
<th>Age of woman</th>
<th>Risk of Developing Breast Cancer</th>
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<tbody>
<tr>
<td>By age 30</td>
<td>1 in 2,212</td>
</tr>
<tr>
<td>By age 40</td>
<td>1 in 235</td>
</tr>
<tr>
<td>By age 50</td>
<td>1 in 54</td>
</tr>
<tr>
<td>By age 60</td>
<td>1 in 23</td>
</tr>
<tr>
<td>By age 70</td>
<td>1 in 14</td>
</tr>
<tr>
<td>By age 80</td>
<td>1 in 10</td>
</tr>
<tr>
<td>Ever</td>
<td>1 in 8</td>
</tr>
</tbody>
</table>

**Risk Factors**

- Gender and age: especially > 65 years
- Genetic predisposition: BRCA 1, 2 genetic mutations
- Family history
- Reproductive history (low parity)
- Estrogen exposure:
  - Early menarche < 12 years
  - Late menopause > 55 years
  - Estrogen medications

**Screening: Average Risk**

- Mammogram:
  - ACS: Start age 45, (may begin ages 40-44)
    - Then yearly
  - Age 55+ every 2 years*
    - Yearly screening may be offered
  - USPSTF: Start age 50, then every 2 years
- Clinical Breast Exam and Self-breast Exam:
  - ACS: Not recommended
* If life expectancy is at least 10 years

ACS, USPSTF, ACOG, NCI, AMA

CONTRACEPTION

**Contraception: Overview**

- Long acting reversible contraceptives (LARC):
  - Copper IUC (Paragard),
  - LNG IUC (Mirena, Skyla)
  - Great option, all ages
  - Few contraindications
- Combination Hormonal Contraceptives (CHC):
  - Pills, Patch, Ring: contain estrogen, progestin
Contraception: Initial Selection

- Progestin only: Good for Higher risk women
- App: CDC Contraception 2016

Oral Contraceptives: Initial Selection

- **Estrogen:** cycle control primarily
  - Heavy periods: Higher estrogen 30-35 mcg
  - “Normal” menses: Lower estrogen 20-25 mcg
- **Progestin:** contraceptive effects primarily
  - Levonorgestrel: Safe, less BTB*
  - Norethindrone: Safe, more BTB
  - Drospirenone: Avoid if unknown family history, family history of clots, or coagulopathies

MPR = Prescribers Reference, * BTB = breakthrough bleeding

Thank you!

- Mimi@MimiSecor.com
- www.MimiSecor.com
- Facebook:
  - Mimi Secor
  - Mimi Secor NP Speaker, Consultant
  - “Coach Kat and Dr Mimi”
- Secor Initiative: A Year-long Online Program to help MPs become healthy, happy and fit

Resources for Women’s Health

- *Advanced Health Assessment of Women*; Helen A. Carcio, MS, MEd, ANP-BC and R. Mimi Secor, MS, MEd, FNP-BC, NCMP, FAAP; (2015)
- *Fast Facts About the Gynecologic Exam For Nurse Practitioners*; R. Mimi Secor, MS, MEd, FNP-BC, NCMP, FAAP and Heidi Collins Fantasia, PhD, RN, WHNP-BC; (2012)
- CareOnPoint (COP): www.careonpoint.com
- *Clinical Guidelines in Primary Care*; Amelie Hollier, DNP, FNP-BC, FAANP (2016)
- “CDC Contraception 2010”, CDC.gov
- Medications/contraceptives: “MPR”
- Pap F/u: “ASCCP mobile”, ASCCP.org
- CDC: “STD 2015”
- Menopause: “Menopro”, Menopause.org
- Osteoporosis: “FRAX”, NOF.org
- Breast Cancer: ACS.org