# Chief Complaint: Clinical Vignettes in Primary Care

Dr. Kathy Baldridge, DNP, FNP-BC, FAANP

## OBJECTIVES

- Recognize differential diagnosis for presenting chief complaint in primary care
- Determine appropriate assessment and diagnostic measures to narrow down the differential list.
- Develop an appropriate management plan, including pharmacologic interventions based on the working or actual diagnosis

## DISCLOSURE

This speaker has no conflicts of interest associated with this presentation.

# Clinical Vignette #1

Chief Complaint: Annual GYN Exam

## Sam: 48-year-old Hispanic Woman

- Annual GYN
- Began menses at 12 years of age
- G4P3A1L3
- Irregular menstrual cycles
- Doesn't remember date of LMP
- Last Pap 3 years ago
  - No abnormal Pap to her knowledge
- No history of mammogram

## Sam: Reported problems

- Problems:
  - Lower Abdominal Pain
  - Dyspareunia
  - Bleeding after sex
  - Burning on urination
  - Abnormal vaginal discharge
- Hx: Received acyclovir for HSV positive serum; was tested for STI's via urine, negative results.

## Physical Exam

- **Breasts:** unremarkable
- **Female Genitalia:** Vulva: no masses or atrophy.
- **Vagina:** no tenderness, cystocele, or rectocele; **abnormal vaginal discharge (frothy, yellowish discharge)**
- **Cervix:** grossly normal, no discharge, **cervical motion tenderness**.
- **Uterus: enlarged** and **tender** and mobile.
- **Adnexa/Parametria**: no parametrial tenderness or mass and no adnexal tenderness or ovarian mass.
- **Bladder/Urethra**: no urethral discharge or mass and normal meatus.

## DIAGNOSTICS

- What would you order?
  1. CBC
  2. CMP
  3. Urine Pregnancy Test
  4. Urinalysis
  5. Cervical cells (liquid based)
  6. High risk HPV
  7. Vaginal culture (STIs)
  8. TSH
  9. Mammogram
  10. Pelvic Ultrasound
  11. CT Scan of Lower abdomen

- Irregular Menses
- Lower Abdominal Pain
- Dyspareunia
- Bleeding after sex
- Burning on urination
- Abnormal vaginal discharge

## What is your immediate next step?

1. Wait for pap results to determine treatment plan
2. Treat empirically for pelvic inflammatory disease
3. Treat for urinary tract infection
4. Initiate combined hormonal contraceptives to regulate menses

Urinalysis:
- +++ Leukocytes
- + Blood

Urine pregnancy:
- Negative

## PID

**Microbiology**

- *Chlamydia trachomatis*
- *Neisseria gonorrhoeae*
- *Mycoplasma genitalium*
- Streptococci
- *Gardnerella vaginalis*

**Maintain a low threshold**

- Not related to recent sexual activity
- Laboratory findings are non-specific
- Negative NAATs for STIs do not rule out PID

**Potential complications if untreated**

- Endometritis
- Salpingitis
- Oophoritis
- Peritonitis
- Perihepatitis
- Tubo-ovarian abscess

## PID Treatment Plan

**Treat empirically**

- Maintain a low threshold for PID

**Broad spectrum antibiotic coverage**

- Doxycycline 100 mg BID x 14 days
- Metronidazole 500 mg BID x 14 days
- Ceftriaxone 500 mg IM x 1

**Evaluate/Treat partner (60 days)**

**Avoid sexual intercourse for at least one week AFTER completion of antibiotics**

**Test for other STI's**

**Test-to-cure within 3 months of treatment (NAAT preferred) – ONLY if positive for chlamydia**

## Pap Results

**Pap**

- Inflammation
- Negative HPV
- Positive Trichomoniasis Vaginalis

**Diagnosis: Pelvic Inflammatory Disease**

**Treat for Trichomoniasis?**

## Cervical Cancer Screening

- Initiate screening 21-25
- Regardless of vaccine status or sexual activity
- Primary HPV testing (with an FDA-approved test) every five years
- Co-testing (Pap and HPV testing) every five years; or
- Pap test alone every three years

## CLINICAL VIGNETTE #2

CHIEF COMPLAINT: Vulvovaginal dryness/dyspareunia, postcoital bleeding

## Tina: 52-year-old

- Annual GYN
- Began menses at 11 years of age
- G1P1A0L1
- Sexual history: 1 partner in the last 10 years
- Post-menopausal
- Last Pap 2 years ago
  - No hx of abnormal Pap
  - No hx of HPV
- Mammogram, negative
  - Average risk for breast cancer
- PMH: PCOS
- BMI: 39

## Medications

- **Type 2 DM**
  - Metformin 1000mg BID
- **Essential hypertension**
  - Benazepril 20mg daily
- **Mixed hyperlipidemia (elevated ASCVD risk)**
  - Atorvastatin 80mg daily
- **Chronic UTIs**
  - Nitrofurantoin 50 mg daily
- History of combined hormonal contraception, stopped 8 years ago.

## Physical Exam:

- Tissue fragility
- Loss of rugae
- Vulvovaginal pallor
- Thin, white vaginal discharge

**Vaginal atrophy differentials:**

- Vaginitis/vaginosis
- Vulvar dermatitis
- Lichen sclerosis
- Lichen planus
- Vulvodynia

**Post-coital bleeding differentials:**

- Infectious
- Cervical, vaginal, endometrial neoplasia
- Cervical polyps
- Contraception
- Atrophic vaginal changes
- Vulvar skin conditions

## Endometrial Cancer Risk Factors

| | | |
|---|---|---|
| Early menarche (before age 11) | Late menopause (>55) | Nulliparity |
| PCOS | Unopposed estrogen therapy | Obesity |
| Diabetes | Chronic inflammation | Family history |

## Diagnosis/ Treatment

**Pap Results**
- No cervical cancer cells
- Negative HPV
- No evidence of STIs

**Post Coital Bleeding (AUB)**
- Transvaginal ultrasound

**Genitourinary Syndrome of Menopause**
- First line: vaginal moisturizers/lubricants
- Next: Vaginal estrogen therapy

## Vaginal Estrogen

- Low dose vaginal estrogen
  - Effective for moderate-severe symptoms of vaginal atrophy
  - Helps with dryness, dyspareunia
  - Decreased UTIs, symptoms of OAB
- Safety (Long-term observational studies)
  - No increase in:
    - Breast cancer
    - Endometrial cancer
    - Coronary heart disease
    - Stroke, venous embolism

SAME BLACK BOX WARNING AS ORAL ESTROGEN FORMULATIONS

## Choosing a Vaginal Estrogen

Low-dose vaginal estrogen
- ≤50 mcg estradiol
- ≤0.3 g conjugated estrogens

| Generic | Conjugated Estrogen | Estradiol | DHEA |
|---|---|---|---|
| Formulation/Brand | Cream (Premarin) | Cream (Estrace)<br>Softgel (Imvexxy, Vagifem)<br>Vaginal Ring (Estring) | Suppository (Intrarosa) |
| Side Effects | Endometrial hyperplasia, vasodilation, abdominal pain, mastalgia, vaginitis | Headache, vulvovaginal pruritus, candidiasis | Vaginal discharge, abnormal pap |
| Contraindications | AUB (undiagnosed), Estrogenic tumors, CVD, CVT, PE, hepatic disease antithrombin deficiency | | AUB (undiagnosed) |

**Estrogen Creams/Vaginal Insert**
- Once daily x 2 weeks, then twice weekly

**Estradiol vaginal Ring:**
- Replaced every 90 days

**DHEA Suppository**
- Daily

## Vaginal Estrogen & Estrogen Sensitive Cancers

- Endometrial, Breast
  - Shared decision making
  - Discussion with oncologist


## Other considerations

**PV may be combined with oral estrogen**

**Consider DHEA if barriers to estrogen**

- DHEA may improve libido (modest)

**Ospemifene**

- Selective estrogen receptor modulator (SERM)
- No estrogen effect on breast or endometrium
- Side effects: hot flashes, increased risk of thromboembolism

# CLINICAL VIGNETTE #3

CHIEF COMPLAINT: F/U ER VISIT
COVID/ASTHMA

## Kim: 43 y.o. Female

CC: F/U ER visit. Shortness of breath & cough following Covid

HPI:

- ❖Home test positive for covid
- ❖Cough & Shortness of breath persisted for 3 weeks
- ❖Ran out of rescue inhaler (Albuterol)
- ❖ER: refilled SABA; Prednisone 20mg daily x 3 days

Pt reports:

- ❖Using SABA 3-4 times weekly
- ❖Nighttime wakening 1-2 times/ week

## PMSH History

| | | |
|---|---|---|
| PTSD | Insomnia | ADD |
| Back pain | Smoking: Quit 5 years ago | History of Drug Addiction, clean for 7 years |

## Medications

**Asthma/Allergies:**

- Albuterol sulfate HFA 90mcg/actuation aerosol inhaler
- Azelastine Nasal Spray
- Fluticasone nasal spray

**Lumbar Radiculopathy:**

- Gabapentin 300mg TID
- Ibuprofen 800mg

**PTSD related depression/anxiety**

- Fluoxetine 20mg daily
- Alprazolam 0.5mg, ½ tab every 6 hours as needed
- Clonidine 0.25mg 1 tab qhs as needed for sleep

**Attention Deficit Disorder**

- Vyvanse 50mg qam

Which of the following is LEAST likely to be an asthma triggers for Kim

1. Viral infections
2. Stress
3. Benzodiazepines
4. NSAIDs

## NSAIDS & Asthma

- Can trigger bronchospasms
- Increased airway inflammation
- Aspirin-exacerbated respiratory disease (AERD)
- Risk factors
  - Severe or poorly controlled asthma
  - Nasal polyps
  - Chronic rhinosinusitis
  - Family history of NSAID sensitivity
  - Female gender
  - Age 20-50 years
  - Long-term smoking

## Two Key Factors to Achieve those goals

**Make the correct diagnosis**

**Develop an individualized treatment plan**

Level of symptom control
Risk factors for exacerbations
Phenotypic characteristics
Medication preference, availability, cost

## Individualized Treatment Plan

| Assess Symptom Control in the last 4 weeks | | | |
|---|---|---|---|
| Symptoms (Yes/No) | Well controlled | Partly Controlled | Uncontrolled |
| Daytime symptoms more than 2 x/week | None of these | 1-2 or these | 3-4 of these |
| Nighttime waking due to asthma | | | |
| SABA reliever more than 2 x/week | | | |
| Activity limited due to Asthma? | | | |
| Further Assess | Assess Risk Factors for Poor Asthma Control | | |
| | Assess comorbidities | | |
| | Inhaler technique and adherence | | |
| | Patient preferences/goals | | |

## Main goals of Asthma Management

**Long term symptom control**

- Few/no asthma symptoms, relieved quickly
- No sleep disturbance
- Productive, physically active life

**Long-term asthma risk minimization**

- No exacerbations
- Normal or near normal lung function; stable
- No requirement of maintenance oral corticosteroids
- No medication side effects

GINA, 2024

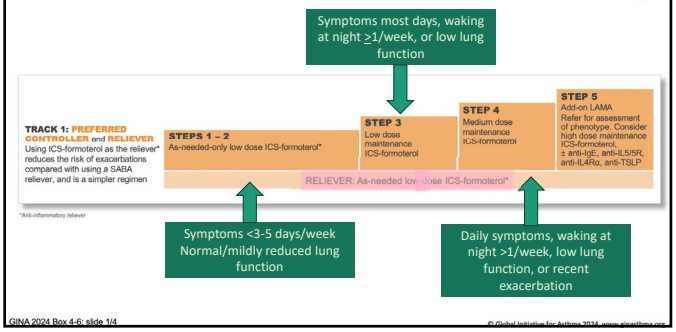
## Kim's Asthma Action Plan

- Spirometry testing to confirm diagnosis
- Stop NSAIDs
- Add a daily antihistamine

## Criteria for Diagnosis

| | | |
|---|---|---|
| **Variable Respiratory Symptoms** | Wheeze, SOB, Chest tightness, Cough | More than one<br>Occur variably over time/intensity<br>Worse at night or upon waking<br>Triggered<br>Worsen with viral infections |
| **Variable expiratory airflow limitation (Spirometry or Peak Expiratory Flow)** | FEV1: decreased at least once during diagnostic process | |
| | FEV1: increases after inhaling a bronchodilator (bronchodilator reversibility >12%)<br>• Greater the variation, more confident of diagnosis | |
| | Absent bronchodilator reversibility may be evident with: | |
| | severe exacerbations; long-term symptoms; comorbid COPD | |

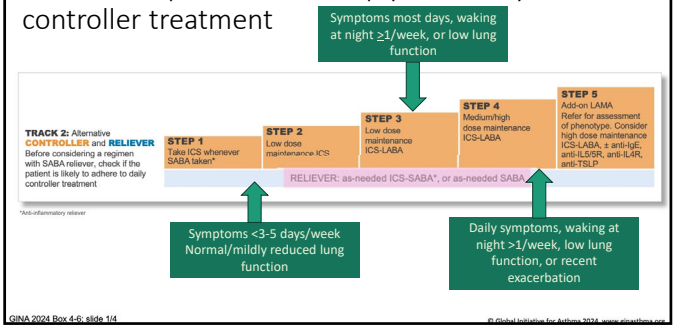
## TRACT 1: Preferred by GINA




GINA 2024 Box 4-6; slide 1/4



## TRACT 2: IF patient can comply with daily controller treatment




GINA 2024 Box 4-6; slide 1/4

## Anti-inflammatory reliever (AIR) therapy: ICS + LABA

| Generic/Brand | Delivery/Dosing | Rescue | Max formoterol |
|---|---|---|---|
| Budesonide-formoterol MDI (Symbicort, Breyna) | 80/4.5 mcg/actuation<br>160/4.5 mcg/actuation | 1-2 puffs prn; repeat q 20 minutes up to 6 inhalations in 1 hour | MAX: 12 inhalations/day |
| Budesonide-formoterol DPI (Symbicort Forte) | 100/6 mcg/actuation<br>200/6 mcg/actuation | | |
| Beclometasone-formoterol | 100/6 mcg/actuation (DPI or pMDI) | 1 puff prn<br>Repeat in a few minutes if needed | |

## Corticosteroid dosing (≥18 years)

| Inhaled Corticosteroid | Step 3: Low | Step 4: Medium | Step 5 High |
|---|---|---|---|
| Budesonide-formoterol DPI 200/6 (Max 12 inhalations/day) | 1 inhalation QD or BID plus 1 as needed | 2 inhalations BID plus 1 as needed | 2 inhalations BID plus 1 as needed |
| Budesonide-formoterol pMDI 100/3 (Max 24 inhalations/day) | 2 inhalations QD or BID plus 2 as needed | 4 inhalations BID plus 2 as needed | 4 inhalations BID plus 2 as needed |
| Beclometasone-formoterol p MDI or DPI (Max 12 inhalations/day) | 1 inhalation QD or BID plus 1 as needed | 2 inhalations BID plus 1 as needed | 2 inhalations BID plus 1 as needed |

## Corticosteroid dosing (12-17 years)

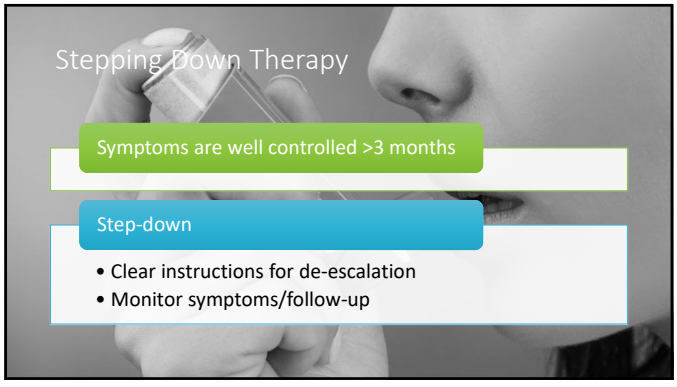
| Inhaled Corticosteroid | Step 3: Low | Step 4: Medium | Step 5 High |
|---|---|---|---|
| Budesonide-formoterol DPI 200/6 (Max 12 inhalations per day) | 1 inhalation QD or BID plus 1 as needed | 2 inhalations BID plus 1 as needed | 2 inhalations BID plus 1 as needed |
| Budesonide-formoterol pMDI 100/3 (Max 24 inhalations/day) | 2 inhalations QD or BID plus 2 as needed | 4 inhalations BID plus 2 as needed | 4 inhalations BID plus 2 as needed |
| Beclometasone-formoterol p MDI or DPI | Not studied in this age group | | |

## Corticosteroid dosing (6-11 years)

| Inhaled Corticosteroid | Step 3: Low | Step 4: Medium | Step 5 High |
|---|---|---|---|
| Budesonide-formoterol DPI 100/6 (Max 8 inhalations/day) | 1 inhalation QD plus 1 as needed | 1 inhalations BID plus 1 as needed | Not recommended |
| Budesonide-formoterol pMDI 50/3 (Max 16 inhalations/day) | 2 inhalations QD plus 2 as needed | 2 inhalations BID plus 2 as needed | Not recommended |
| Beclometasone-formoterol p MDI or DPI | Not studied in this age group | | |

## Kim's Asthma Action Plan

- Spirometry testing to confirm diagnosis
- Stop NSAIDs
- Add a daily antihistamine
- Switch from albuterol to ICS-Formoterol
  - Step 3: Low dose MART



## Stepping Down Therapy

Symptoms are well controlled >3 months

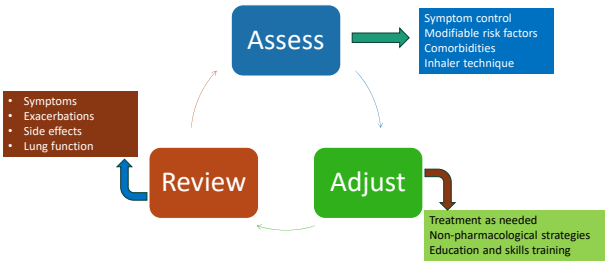
Step-down

- Clear instructions for de-escalation
- Monitor symptoms/follow-up

## Step Down Plan

| If only on an ICS | If on ICS-LABA | If on ICS/Formoterol maintenance |
|---|---|---|
| • Switch to ICS/Formoterol | • Switch to ICS/Formoterol | • Reduce ICS daily dose (e.g. from medium to low)<br>• Continue prn |

## Follow Up Visits




# CLINICAL VIGNETTE #4

CHIEF COMPLAINT: Cough, fever, chest pain

## Dale: 26 y.o. Male

CC: Non-productive cough, fever, chest pain

HPI:
- No medications
- Recent upper respiratory tract infection
- No significant medical/surgical history
- Dips skoal, social alcohol
- Works in the ER as a tech

## Physical Exam

- Ill appearing
- Dry mucous membranes
- BP: 125/85
- Pulse: 114
- Temp: 101.2
- RR: 24

Which diagnostic should be obtained?

- CBC: Leukocytosis, Bands
- BMP: BUN/Cr
- CXR: Left lower lobe infiltrates

## Dx: Community Acquired Pneumonia

What is the first line management of Dale, 26-year-old male?

1. Supportive management
2. Levofloxacin oral
3. Amoxicillin oral
4. Unasyn IV

## Otherwise, Health Adults

Most common causative bacteria?

*STREPTOCOCCUS PNEUMONIAE*
*GRAM POSITIVE*

*FIRST LINE: AMOXICILLIN 1GM TID*

## 5 DS: ANTIBIOTIC STEWARDSHIP

**DIAGNOSIS**
- DOES IT REQUIRE ANTIBIOTICS?

**DRUG**
- RIGHT DRUG FOR THE RIGHT ORGANISM
- RESISTANCE RATES

**DOSE**
- RECOMMENDED DOSE TO COVER ORGANISM
- ROUTE

**DURATION**
- EFFICACY
- COMPLIANCE

**DE-ESCALATION**
- PATHOGEN DIRECTED THERAPY

## If the patient has COPD, what is the most common causative bacteria?

*Gram Positive: S. pneumoniae*
*Gram Negative: H. Influenzae*
*Atypicals: Moraxella catarrhalis, Chlamydia pneumoniae*

*FIRST LINE:*
*AUGMENTIN + A MACROLIDE*

## Benefits of Dual Therapy

- Broadens coverage
- Improved treatment outcomes
  - Addition of Macrolides reduces hospitalization by 35%
- Reduced resistance

| | |
|---|---|
| Extended Spectrum PCN | • Beta-lactamase coverage<br>• *Strep Pneumonia*<br>• *H. influenzae* |
| Macrolides | • *S. pneumoniae*<br>• *H. influenzae*<br>• *K. pneumoniae*<br>• *Bordetella pertussis*<br>• *M. pneumoniae*<br>• *Chlamydia pneumonia*<br>• *Legionella pneumophihila* |
| Levofloxacin | • *Strep Pneumonia*<br>• Pseudomonas aeruginosa<br>• H. Influenzae<br>• Moraxella catarrhalis<br>• Legionella spp<br>• Mycoplasma spp<br>• Chlamydia pneumonia |

## If the patient smokes, what is the most common causative bacteria?

*H. Influenzae*

*FIRST LINE:*
*AUGMENTIN + A MACROLIDE*

## COMMUNITY ACQUIRED PNEUMONIA PATHOGENS

| Patient Characteristic | Likely Pathogens | Empiric treatment |
|---|---|---|
| Influenza active in the community | Influenza, *S. pneumoniae*, *Staphylococcus aureus*, *H. influenzae* | Antiviral + Amoxicillin, Augmentin, 3rd gen cephalosporins, levofloxacin, moxifloxacin |
| HIV infection (early disease) | *S. pneumoniae*, *H. influenzae*, *M. tuberculosis* | Amoxicillin, Augmentin, 3rd gen cephalosporins, levofloxacin, moxifloxacin |
| HIV (late disease) | *Same as early PLUS Pneumocystis jirovecii*, *Cryptococcus*, *Histoplasma* | Trimethoprim-sulfamethoxazole Itraconazole |
| Exposure to farm animals or parturient cats | *Coxiella burnetti* (Q fever) | Doxycycline |
| Hotel/Cruise Ship (last 2 weeks) | *Legionella* species | Macrolides; Resp Fluoroquinolones |

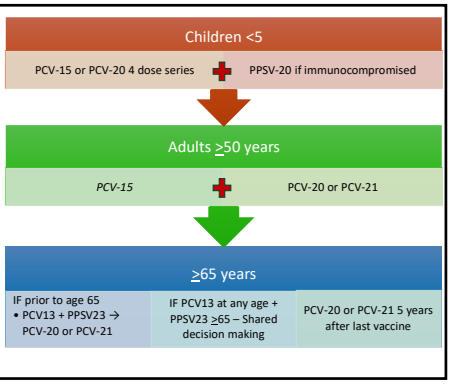
## If the patient is pediatric, what is the most likely causative organism?

***Viral pathogens***

***S. Pneumoniae (3-5 years): Amoxicillin***

***Mycoplasma pneumoniae (>5 years): Azithromycin***

## Pneumococcal Vaccine

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