Primary Care RAP May 2020 Written Summary

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INTRO: Proctalgia Fugax

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Pearls:

- **Proctalgia fugax is a condition characterized by fleeting self-limited anorectal pain not related to bowel movements; it lasts several minutes and occurs a few times a month.**
- **Diagnosis is clinical after exclusion of other conditions.**
- **Treatment is generally education and reassurance; however, topical antispasmodics may also be helpful.**
- **Mailbag question: Insomnia treatment with medications includes benzodiazepines, "Z" drugs (zopiclone, zolpidem, zaleplon), sedating antidepressants, antihistamines and melatonin.**

- **Case:** Woman in her 50's with a chief complaint of infrequent anal spasms that were extremely uncomfortable. Occurring every 5-6 times per month, lasting around 15-20 minutes. In between episodes, she was completely fine. No other associated symptoms. No precipitating, relieving or aggravating factors. Genitourinary exam was normal. Colonoscopy at age 50 was normal.
- **Proctalgia fugax:** functional anorectal disorder characterized by severe intermittent episodes of rectal pain that are self-limited
    - Pathophysiology: three theories (ie: we don't know)
        - 1. Spasm of the smooth muscle of the anal sphincter that causes pain
        - 2. Pudendal nerve compression/neuralgia
        - 3. Visceral hypersensitivity, anxiety, connection to bowel disorders
    - Symptoms:
        - Severe anorectal pain lasting from few seconds to minutes
        - Asymptomatic between episodes
        - Wide variation in episode frequency
        - May be precipitated by things like stress, bowel movement, menstruation, sex, sitting for long periods
        - Often no clear trigger
    - Studies:

        - May check CBC, CMP, inflammatory markers to rule out IBD
        - Consider imaging or endoscopy if no response to treatment
    - Exam:
        - GU exam to rule out other pathology (hemorrhoids, fissures, prostatitis, PID)
    - Diagnosis: based on clinical criteria (Rome Criteria)
        - 1. Recurrent episodes of pain in the rectum
        - 2. Episodes last from seconds to minutes, max duration 30 minutes
        - 3. Absence of anorectal pain between episodes
    - Treatment:
        - Education and reassurance
        - Yoga (downward dog particularly to help relax those muscles)
        - Warm bath during episode
        - Warm enemas or phenylephrine hemorrhoidal suppositories
        - Topical antispasmodics
            - Nitroglycerin 0.2% ointment
            - Topical diltiazem
        - Refractory treatment include pudendal nerve block
        - Pearl: For patients whose symptoms last longer than 20 minutes, inhaled albuterol has been shown to reduce duration of symptoms
- **Mailbag question:** Are certain types of medications better for certain types of sleeping problems?
    - See November 2018 segment on non-medicinal approaches to insomnia - sleep hygiene, sleep consolidation
    - Medicinal options:
        - Benzodiazepines
            - Decrease sleep latency by about 4.2 minutes
            - Increase sleep duration by about 1 hour
            - Upside: All have been shown to be effective for sleep maintenance
            - Downside: propensity to develop dependence, daytime drowsiness, CNS impairment, lightheadedness, cognitive function decline, memory impairment, rebound insomnia
        - “Z drugs” - Zoplicone, zolpidem, zaleplon
            - No difference to sleep latency vs. benzodiazepines but shorter sleep duration by about 20 minutes
            - Upside: less side effects than benzos
            - Downside: dependence, drowsiness, rebound insomnia, CNS impairment, agitation, anterograde amnesia
        - Sedating antidepressants
            - Doxepin - tricyclic antidepressant approved for treatment of insomnia characterized by difficulty of sleep maintenance
                - Lower starting dose in elderly

        - Other TCA's have fallen out of favor for insomnia due to their anticholinergic effects
    - Trazodone - watch out for anticholinergic effects at higher doses (>50mg)
        - Pearl: shown to be a bit safer in geriatric population
    - Mirtazapine - also anticholinergic effects at higher doses, raises triglycerides and can lead to weight gain
    - Atypical antipsychotics (risperidone, quetiapine, olanzapine) - watch for extrapyramidal symptoms and metabolic side effects
- Miscellaneous sedating agents
    - Antihistamines - tolerance can develop quickly after a few uses
        - Minimally effective at decreasing sleep latency
        - DECREASE sleep quality even if they increase sleep time
    - Ramelteon
        - Minimal improvement
        - Safe and non-habit forming

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Knee X-rays

Arun Sayal, MD, Neda Frayha, MD, and Matt DeClerck, MD

Pearls:

- ❏ History of injury and patient age often will narrow the differential for post-traumatic knee pain to a short list of possible diagnoses.
- ❏ Knee dislocations can occur in obese patients with very minor trauma and often spontaneously reduce resulting in 'normal' x-rays.
- ❏ Adding oblique x-ray views improves the sensitivity in diagnosis of tibial plateau fracture.
- ❏ Radiologists ability to read films in a helpful way is highly influenced by completeness of the history and the differential diagnoses of concern provided to them.

- **History will often reveal the source of knee pain after trauma, as a full and careful exam is not generally possible due to pain, swelling, and spasm.**
    - For example, patients with an ACL tear will describe four classic historical features:
        - Deceleration mechanism
        - Swelling with in 1 hour
        - Sensation of a "pop" or shift at the knee joint
        - Inability to return to play
    - **Patients with a meniscal tear will describe a twisting mechanism.**
        - The force of twisting required to tear the meniscus decreases with age.
            - **Elderly patients can simply tear their meniscus by standing up.**
    - **Valgus (ie: knee bending inward) stress tends to cause different injuries depending on the age of the patient.**
        - Salter-Harris Femur and/or Proximal fibula in adolescents
        - MCL injury in younger patients (ie: 20-30 years old)
        - Lateral tibial plateau fractures in older patients (ie: >50 years)
- **Examining patients before reviewing their x-rays will help to determine what to suspect clinically and look for radiographically.**
    - Other advantages of performing a history and physical prior to ordering x-rays include recognizing that additional views may be helpful and providing a more complete history for the radiologist interpreting the films.
- **A mnemonic for x-ray 'negative' injuries of the knee that can prove useful is SLR-CDEF.**
    - S - *Septic joint*
    - L - *Locked knee* (ie: when the knee cannot be fully extended) from meniscal injury
    - R - *Referred pain* (e.g. hip pathology) due to Obturator nerve irritation
        - Knee pain which is not reproduced when ranging the knee is suggestive of a referred source of pain.
    - C - *Compartment syndrome*
        - This can easily excluded by palpating the compartments and, when in doubt, comparing the firmness to the contralateral, uninjured side.
    - D - *Dislocation* (ie: at least 3 of 4 collateral ligaments have been disrupted)

        - **Instability is the key finding indicating that a knee dislocation has likely occurred.**
        - Knee dislocations commonly will spontaneously reduce, however, even if reduced, patients are at high risk of popliteal artery injury and subsequent ischemia/amputation.
        - **In very obese patients, knee dislocation can occur with minimal force (e.g. stepping off a curb).**
    - E - *Extensor Disruption* (e.g. Patellar fracture, Patellar tendon rupture, and/or Quadriceps tendon rupture)
        - **Patient will be unable to extend their knee/lower leg fully against gravity.**
        - Patellar tendon rupture generally occurs in younger patients with high mechanism injury.
        - Quadriceps tendon rupture is more often spontaneous or low mechanism in older patients.
    - F - *Fracture (occult)*
        - **The most common occult fracture of knee is a lateral tibial plateau fracture.**
            - Oblique knee films can allow for better examination for tibial plateau fractures.
        - Segond fractures involve the tibial spine.
        - Osteochondral fragments from the patella can be seen radiographically after certain injuries in adolescent athletes, commonly gymnasts, and should be suspected if when there's significant knee swelling.
        - Osteochondritis desicans is caused by a twisting mechanism (similar to medial meniscal injury) in adolescents.

Peritoneal Dialysis, Parts 1&2

Neda Frayha MD, Paul Simmons MD

Pearls:

- **Peritoneal dialysis (PD) is a treatment that uses the peritoneum as an exchange membrane and is an alternative to HD for the motivated, relatively healthier and well-supported patient.**
- **The main pro of PD includes improved autonomy but can be hard to maintain the required high level of engagement beyond 10 years.**
- **As the PCP, don't forget these patients DO need antibiotic prophylaxis prior to most procedures, especially those involving the GI, GU and dental systems.**

- **Kidney disease epidemiology:**
    - 15% of US population thought to have some variation of chronic kidney disease (CKD)
    - 660,000 in US living with kidney failure

    - 400,000 are on dialysis
    - Globally 1.2 million people die from kidney failure
- **Dialysis:**
    - Need to start considering once GFR <30
    - Peritoneal dialysis (PD) accounts for only 7% of the diabetes-dependent population in the US. In Canada it is 50% of those patients. Other countries (China, Thailand, Hong Kong) all have a PD-first approach.
        - May be lower due to inadequate training at the primary care and specialist level in the US
        - Often dialysis is needed urgent so hemodialysis (HD) is started and then there is no discussion of PD
- **Peritoneal dialysis (PD):**
    - Good candidate:
        - Motivated
        - High health literacy
        - Home support
        - Clean, cool space
        - Good eyesight and dexterity
        - Decent residual function is better
            - Bargman et. al. study showed for those on PD, every 250ml higher urine volume per day translated to 36% lower 2-year mortality
        - Minimal or no prior abdominal surgeries
    - Contraindications (absolute):
        - Uncorrected abdominal wall hernia
        - Known peritoneal adhesions or sclerosis or pleuroperitoneal leak/shunt
    - How it works:
        - Peritoneum is acting as membrane through which fluid and dissolved substances are exchanged with the blood
    - Process:
        - 1. Placement of peritoneal dialysis catheter (surgically or percutaneously)
            - Generally percutaneous is better than surgical
            - Must be kept clean after placement with restrictions on showering and bathing
        - 2. Two to three weeks of training in nephrology office or dialysis facility
        - 3. Once catheter working and training completed, instill dialysis solution into the peritoneal cavity
        - 4. Water and solutes are exchanged between capillaries and dialysate across peritoneum
            - Solution is a combination of bicarbonate precursor and varying concentrations of osmotic agents (ie: glucose)
                - Pearl: Dialysate solution (icodextrin) can falsely elevate the sugars, alk phos and lower amylase levels

            - You can adjust the glucose concentration to draw more fluid out of the blood if patients are volume-overloaded
    - Options for infusion:
        - Continuous vs. intermittent
            - Multiple times a day
            - Hours at a time, overnight
            - Depends on personal schedule
        - Manually vs. automated
            - Depends on dexterity, eye sight
- **PD Pro's and Con's**
    - Benefits:
        - Maybe survival:
            - Conflicting data
            - Maybe better survival from 3 months to 2 years
        - Costs
            - $88,000 per year for HD, $71,000 per year for PD
        - Quality of life
            - Flexibility
            - No needles or indwelling venous lines
        - Satisfaction
            - Rubet et. al 2004 JAMA study found PD patients were overall more satisfied
    - Complications:
        - Burnout
            - Cannot skip a day
            - Few patients make it beyond 10 years of PD
        - Requires community and social supports
            - Hard for patients experiencing homelessness to make PD work for them
        - Increased risk of infection (peritonitis)
        - May lead to peritoneal sclerosis, an exaggerated fibrogenic response of the peritoneum
        - Predispose to hernias, hydroceles and genital edema
    - Characteristics of those who do well:
        - Women
        - Lower BMI
        - No diabetes or diabetic nephropathy
        - Lower incidence of peritonitis
        - Higher baseline GFR
        - Lower parathyroid levels
- **Primary care for the patient on PD:**
    - Check for catheter site infection
    - Higher index of suspicion for peritonitis if they have fever and abdominal pain

        - Bacteria may come from catheter site, intraluminal or from the bowel
        - 50% are gram-positive
        - 15-35% are gram-negative
        - Tx:
            - Vancomycin or first-gen cephalosporin for gram-positive coverage + third or fourth gen cephalosporin or aminoglycoside or aztreonam for gram-negative coverage x 2-3 weeks given in the intraperitoneal space because high risk of relapsing
            - Do not have to remove the PD cath unless there is relapse or refractory peritonitis (ie: not getting better after 5 days) or fungal or mycobacterial or abscess or perforation
    - Antibiotic prophylaxis: YES!
        - GYN, GI, GU or dental procedures warrant prophylaxis that is usually 1-2 doses given IV preoperatively
        - Pre-op they should drain the peritoneal space
- **Advances in PD:**
    - New dialysate solutions
    - IL6 may mediate inflammation and medications modulating it can lead to better dialysate transfer in PD

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Telling Pain Syndromes Apart

Molly Heublein, MD

Pearls:

- **Myofascial pain refers to pain arising from skeletal muscle fibers and can be treated with dry needling, activity modification and education.**
- **Fibromyalgia is a pain syndrome related to dysregulation of nerve processing that leads to widespread pain and significant somatic complaints.**
- **Ehlers-Danlos syndrome (hypermobile type specifically) leads to pain from problems with connective tissue and may be accompanied by postural orthostatic tachycardia syndrome (POTS), irritable bowel syndrome, headaches, insomnia and fatigue.**

- **Myofascial pain:**
    - Pathophysiology:
        - Regionally localized pain from skeletal muscle fibers
        - Usually arises from functional or structural issues but has also been related to metabolic factors like diabetes or thyroid disease
    - Symptoms:
        - Does not have to be dermatomal or myotomal
        - Different types of referral patterns
        - Depending on where it is located, it can cause headaches, pelvic pina, neck and shoulder pain
    - Diagnosis:
        - History and physical (trigger points or tender muscle knots)
    - Treatment:
        - Dry needling
        - Ergonomic and activity modifications
        - Physical therapy
- **Fibromyalgia:**
    - Pathophysiology:
        - Nerve and pain processing issue
            - Peripheral nerves may be sensitized to trigger at a signal that normally wouldn't be considered painful
    - Diagnosis:
        - Specific criteria:
            - 3 months of pain
            - Generally widespread across the body

- Significant somatic complaints like fatigue, brain fog, bowel problems, rashes, chest pain, constipation
- Pearl: American College of Rheumatology removed the tender point exam

- Treatment:
  - Education
  - Activity pacing
  - Cognitive behavioral therapy
  - SSRI, SNRI, milnacipran, pregabalin

- **Ehlers-Danlos syndrome (EDS):**
  - Pathophysiology:
    - Genetic disorder with 13 recognized forms associated with tissue fragility, skin hyperextensibility and joint hypermobility that has to do with connective tissue
    - Hypermobile-type EDS
      - NO genetic testing available
      - Associated with normal lifespan
  - Symptoms:
    - Localized joint pains that may become more diffuse
    - Associated with postural orthostatic tachycardia syndrome (POTS), irritable bowel syndrome, headaches, insomnia and fatigue
  - Diagnosis:
    - Clinical criteria:
      - Joint hypermobility (Beigton score)
      - 2 out of 3:
        - Systemic manifestations (skin changes, hernias, pelvic or rectal prolapse, mitral valve prolapse)
        - Family history in a first degree relative
        - Joint pains or dislocations
  - Treatment:
    - Education
    - Muscle strengthening routine
    - Physical therapy focused on joint stabilization

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Alcohol Use in Pregnancy

Michael Baca-Atlas, MD

Pearls:

- **Alcohol use in pregnancy and breastfeeding should be discouraged because it crosses the placenta and breast milk.**
- **A safe dose of alcohol use in pregnancy is not known.**
- **Utilize harm-reduction strategies to reduce heavy and binge drinking episodes if a patient is unable to remain abstinent.**

- **Listener question:** I'm seeing more pregnant women having a beer or two. What is the current research behind the idea that one to two alcoholic drinks is safe during pregnancy? I want to make sure mom and baby are healthy.
- **Epidemiology:**
    - 11.5% of pregnant women report current drinking and about 4% report binge drinking during the past 30 days
    - American Indian, Alaskan native, Asian Pacific Islander, and multiracial respondents had significantly higher prevalence rates of current drinking at about 19%
    - Drinking rates as pregnancy progresses, from 18% in first trimester to 4% by third trimester without intervention
    - African American women are about three to four times more likely to die from a pregnancy related complication than non Hispanic white women
- **Effects of alcohol use in pregnancy:**
    - Teratogen at all stages of pregnancy that can result in preterm birth, low birth weight, miscarriage and even intrauterine demise
    - Also may lead to downstream issues for the infant: intellectual and learning disabilities, birth defects, fine motor skill issues and mental health issues in later childhood
    - Fetal alcohol spectrum disorders (FAS):
        - 40,000 born each year along this spectrum of preventable intellectual disability
- **Screening tools: (adapted from Cleveland Clinic)**
    - CAGE questionnaire: NOT recommended in pregnancy
        - C: Have you felt the need to cut down on your drinking?
        - A: Have you ever felt annoyed by someone criticizing your drinking?
        - G: Have you ever felt bad or guilty about your drinking?
        - E: Have you ever had an eye-opener — a drink the first thing in the morning to steady your nerves?
    - Tweak questionnaire:
        - Tolerance: How many drinks can you hold without falling asleep or passing out? (2 points if six drinks or more)

        - Worried: Have friends or relatives worried about your drinking? (2 points if yes)
        - Eye-opener: Do you sometimes take a drink in the morning when you first get up? (1 point if yes)
        - Amnesia: Have friends or relatives told you about things you said or did while drinking that you could not remember? (1 point if yes)
        - Cut down: Do you sometimes feel the need to cut down on your drinking? (1 point if yes)
    - AUDIT-C:
        - How often do you have a drink containing alcohol? Answer choices: never; monthly or less often; 2 to 4 times a month; 2 to 3 times a week; 4 or more times a week.
        - How many standard drinks containing alcohol do you have on a typical day when you are drinking? Answer choices: one or two; three or four; five or six; seven to nine; 10 or more.
        - How often do you have six or more drinks on one occasion? Answer choices: never, less than monthly; monthly; weekly; daily or almost.
- **What is a safe level of alcohol intake?**
    - BMJ 2017 article was a meta-analysis of randomized control trials concluded that there were was insufficient data but showed a higher odds of small gestational age and preterm infants in mothers who consumed 32g or more of alcohol per week (>2 drinks per week)
    - There is no consensus on the specific volume of consumption that increases risk
    - Important to also consider the mother - genetic background, nutritional status
- **How to counsel patients?**
    - Non-judgemental tones
    - Harm-reduction strategies
        - If someone isn't interested in being completely abstinent, focus on reducing heavy drinking and targeting behaviors that lead to stressors that contribute to that drinking
    - Motivational interviewing and the 5 A's
        - Ask, advise, assess, assist and arrange
    - Offer alternatives to alcohol as a relaxant like music, massage therapy, warm baths and exercise
- **Treatment:**
    - See March 2019 on medications for the treatment of alcohol use disorder → little evidence exists, unfortunately, for their use in pregnancy
    - No slam dunk data that one behavioral intervention is better than another

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Ode to the Node: Pediatric Lymphadenopathy

Solomon Behar MD & Matthieu DeClerck MD

Pearls:

- Most pediatric lymphadenopathy (LAD) is in the cervical chains in the neck
    - Bilateral cervical LAD is usually reactive or infectious
    - Unilateral cervical LAD that persists >2 weeks can be given a trial of antibiotics
- Differential diagnosis of pediatric LAD includes infections, and rarely malignancy or rheumatologic processes
- Localized regional lymph node enlargements are usually a reaction to a nearby local inflammatory or infectious process
- Concerning features for possible malignancy are : Rapidly enlarging nodes, size >2 cm, fixed/matted nodes, systemic "B" symptoms, firm nodes, "cold" nodes, and supraclavicular nodes

CASE: 7 yo F brought to the urgent care with R cervical lymph node enlargement x4 weeks, URI weeks ago. 2cm, no skin changes, not warm, no other LAD. Normal vital signs. What history and exam focus on?

- How has it progressed? Is it growing or stable/shrinking? Are there systemic symptoms (fever, night sweats, weight loss).

    - **Less concerning features for malignancy**: Size of node <1cm, mobile, after a URI, bilateral, "hot" node (red, warm, tender)
    - **More concerning features for possible malignancy**: Rapidly enlarging, >2 cm, fixed/matted nodes, systemic symptoms, firm nodes, "cold" nodes

- Bilateral cervical lymph nodes:
    - Reactive LAD: tends to be bilateral from viral URIs
        - Post cervical bilateral enlargement: typical for EBV
        - Anterior tender bilateral LAD: typical for group A strep (along with these following: high fever, minimal/absent cough or rhinorrhea, school age child, fevers, throat pain)
- Ddx of unilateral cervical LAD:
    - Lymphadenitis: usually unilateral swelling of the lymph node, usually bacterial (strep, staph, anaerobes, H influenza)
    - Malignancy- screen for "B" symptoms- night sweats, fevers, weight loss, hepatosplenomegaly
    - Bartonella/cat scratch disease- history of kitten exposures
    - Tuberculosis (scrofula)- TB exposures, chronic cough, hemoptysis, weight loss
    - Atypical mycobacteria: cold, violaceous, pus from lesion
    - Congenital remnants (branchial cleft cyst, thyroglossal duct cysts, lymphangiomas): same location of recurrent infections
    - Kawasaki disease: fever, red eyes, rash, extremity changes, mucous membrane changes, unilateral cervical LAD >1.5 cm
- Regional LAD locations:
    - Supraclavicular LAD- drains the chest, if present RED FLAG, concerning for lymphoma (esp if teen with "B symptoms", mediastinal mass), other chest masses (thymoma, neuroblastoma)
        - Labs: CBC, LDH, uric acid, electrolytes, CXR, emergent workup
    - Other regional LAD:
        - Preauricular LAD: typical for adenovirus
        - Scalp LAD: common with tinea capitis
        - Inguinal LAD: common with sexually transmitted infections
        - Axillary LAD: arm and breast pathology
- Systemic LAD:
    - Seen in malignancy, rheumatological diseases (e.g. sarcoid, IBD, SLE), HIV
- Timing of LAD: How long is too long?
    - If > 4 weeks, biopsy may be warranted
    - Look at overall pattern- if LAD shrinking over 2 weeks: observe, if stable or growing: trial of antibiotics (cephalexin (50 mg/kg/day divided TID or QID), clindamycin 30 mg/kg/day divided TID or amox/clavulanic acid 40-50 mg/kg/day divided BID) and ultrasound to image to evaluate nature of lymph node
        - Ultrasound: can distinguish abscess, lymphadenitis, malignancy
        - Neck CT or MRI: if concern for airway compromise, surgical planning
    - If seems like abscess, Sol involves ENT and does not drain them himself due to important nearby neurovascular structures
- Kawsaki disease is a "do not miss" on Ddx of LAD
    - Fever >5d
    - Rash

    - Mucous membrane changes (cracked, red lips)
    - Red eyes (limbic sparing, non-purulent)
    - Extremity changes (edema, peeling)
    - Cervical LAD: unilateral, >1.5 cm
- PFAPA (periodic fever, aphthous ulcers, pharyngitis, adenitis) is another less common cause of bilateral cervical LAD
    - Toddler age
    - Recurrent pharyngitis with oral sores, fevers and cervical LAD
    - Tonsillectomy is curative (as it tincture of time- spontaneously ends by age 5 years)

Scribes In Health Care

Sam Ashoo MD & Neda Frayha MD

Pearls:

❑ **Scribes can not only increase job satisfaction for providers but also increase efficiency.**

- Scribes are non-licensed employees who follow the physician around and serve to place documentation into the electronic medical record, keep task lists, notify the physician when tests results are back, track different screens on an electronic medical system and logging in and out of different systems for the physician, etc.
- **The goal of implementing a scribe program is provider job satisfaction and increasing efficiency.**
- There are two ways of implementing scribes in your urgent care - hire them from a reputable company or create your own scribe program and start from the ground up.
- If you are interested in starting to hire scribes, consider getting counsel from a physician or administrator with experience doing so.
- There is a lot of turnover in medical scribes which is a natural product of the population of people who tend to work these positions (i.e. they are college students, medical students with variable schedules).
- The best method to deal with turnover is to have a larger pool of people than you need and to be constantly drawing from them and filling the schedule as far in advance as possible.
- **The provider is still ultimately responsible for what the scribe has written and the onus is on the physician to make sure that what is in the chart is accurate.**

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The Breast Exam

Rebecca Zendel Berliner, MD, Neda Frayha MD

Pearls:

- **The most important part of the breast history and physical exam is to differentiate between a benign breast complaint and a cancerous breast complaint.**
- **Remember the 6 S's: size of the breast and nipple, shape of the breast and nipple, symmetry of the breast and nipple, skin changes on the breast and nipple, any supernumerary nipples and any spontaneous discharge.**
- **The most important lymph node that you need to palpate is the anterior axillary lymph node because those are the first to drain the breast.**

- **History:**
    - Risk factors:
        - Female >> Male
        - Age > 50
        - Increased exposure to hormones
            - Menstruation before 11
            - First pregnancy after 30
            - Menopause after 55
            - Hormone therapy longer than 5 years
            - Breastfeeding history → breastfeeding DECREASES risk of breast cancer
        - Exposure to mantle radiation (Hodgkin's lymphoma) before the age of 30
    - Medical history:
        - Personal cancer history, particularly breast or ovarian cancer
            - Genetic predisposition - BRCA 1/2, Li-Fraumeni syndrome
        - Breast biopsy history with findings of atypical hyperplasia
        - Imaging of breast that shows increased breast density particularly if over age of 30

        - Obesity
    - Social history:
        - Alcohol intake
        - Decreased physical activity
    - The " O-P-Q-R-S-T-U-V" method
        - O - Onset, timing (relation to period, nipple discharge)
            - Nipple discharge more associated with cancer
                - Surrounding skin changes
                - Uniductal
                - Bloody
                - Constant
        - P - Precipitating
        - Q - Quality
        - R - Radiation
        - S - Severity
        - T - Timing
        - U - What are YOU worried about?
        - V - Deja Vu - Have you had this before?
    - The 6 "S's" of the breast history
        - Size
        - Shape
        - Symmetry
        - Skin changes
        - Supernumerary nipples
        - Spontaneous secretions
- **Physical Exam:**
    - Inspection (6 S's)
        - Size
        - Shape/contour
        - Symmetry
            - Pearls: Breasts are sisters, not twins, so they shouldn't be exactly alike
        - Skin changes
            - Remember peau d'orange
        - Supernumerary nipples
        - Spontaneous secretions
    - Palpation
        - Lymph Nodes
            - Cervical
            - Supraclavicular
                - Don't forget Virchow's node
            - Infraclavicular
            - Axillary → these are the first nodes that drain a breast cancer

        - Pearl: Abduct the patient's arm yourself so they are relaxed, giving you full access to the patient's axilla
    - Breast
        - Exam both sitting and supine (better exam)
        - Life ipsilateral hand above head to move out excess tissue and gives access to both breast tissue and the chest wall
        - Palpate from clavicle to bra line to mid axilla back to clavicle
            - Spoke and wheel
            - Vertical strip method (make sure to overlap the strips)
        - Two exams on each side - light and deeper palpation exam on each side
        - Describe: size, shape, tenderness, discreteness, texture, fluid-filled
- Description of the exam
    - Describe as though each breast were a block with the superior aspect being 12 o'clock
    - Measure from the nipple the area of concern

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Paper Chase #1 - Oseltamivir plus usual care versus usual care of influenza-like illness in primary care: an open-label, pragmatic, randomised controlled trial

Tom Robertson MD, Steve Biederman MD

Butler CC, Velden AW van der, Bongard E, et al. Oseltamivir plus usual care versus usual care for influenza-like illness in primary care: an open-label, pragmatic, randomised controlled trial. The Lancet. 2020;395(10217):42–52. doi:10.1016/S0140-6736(19)32982-4

Pearls:

- **Primary care patients with influenza-like illness treated with oseltamivir recovered one day sooner on average than those managed by usual care alone.**

- **Objective:** To determine whether adding antiviral treatment for patients with an influenza like illness reduces time to recovery

- **Method:** open label, pragmatic, randomized controlled trial of patients presenting to their primary care office in 15 European countries with flu-like symptoms (not confirmed flu) for less than three days. Randomized to either usual care or usual care plus oseltamivir. Kept symptom diary for 2 weeks and recorded when they returned to normal activities.
- **Results:**
    - 3300 patients were randomized
    - 18 hour benefit for return to normal activities
    - Benefit greater for older people and those with greater severity of symptoms
- **Bottomline:** Primary care patients with influenza-like illness treated with oseltamivir recovered one day sooner on average than those managed by usual care alone.=

Paper Chase #2 - Prevalence of Potentially Unnecessary Bimanual Pelvic Examinations and Papanicolaou Tests Among Adolescent Girls and Young Women Aged 15-20 Years in the US

Tom Robertson MD, Steve Biederman MD

Qin J, Saraiya M, Martinez G, Sawaya GF. Prevalence of Potentially Unnecessary Bimanual Pelvic Examinations and Papanicolaou Tests Among Adolescent Girls and Young Women Aged 15-20 Years in the United States. JAMA Intern Med. 2020;180(2):274–280. doi:10.1001/jamainternmed.2019.5727

Pearls:

- **More than half of BPEs and almost three-quarters of Pap tests performed among young women aged 15 to 20 years during the years 2011 through 2017 were potentially unnecessary.**

- **Objective:** To identify prevalence and risk factors associated with unnecessary bimanual pelvic exams (BPE) and pap smears in young women less than 21 years old
- **Method:** Cross-sectional analysis of a national survey over a 6 year period looking at the prevalence of women, aged 15 to 20, who received a bimanual pelvic exam or pap smear and what percentage of those were deemed potentially unnecessary
    - Questions:
        - In the past 12 months have you received a pelvic examination where a doctor or nurse puts one hand in the vagina and the other on the abdomen?
        - If they answered “yes”, they were asked if it was for a routine exam or another medical problem
- **Results:**
    - 3400 responses
    - 20% reported bimanual pelvic exam and over half were deemed unnecessary → Extrapolated that over 1.4 million unnecessary bimanual exams occur
    - 19% reported pap smears and 75% were unnecessary → extrapolated that over 1.6 million unnecessary paps occur

- **Bottomline:** More than half of BPEs and almost three-quarters of Pap tests performed among young women aged 15 to 20 years during the years 2011 through 2017 were potentially unnecessary.

Paper Chase #3 - Alcohol Abstinence in Drinkers with Atrial Fibrillation

Tom Robertson MD, Steve Biederman MD

Voskoboinik A, Kalman JM, De Silva A, et al. Alcohol Abstinence in Drinkers with Atrial Fibrillation. The New England Journal of Medicine. 2020;382(1):20–28. doi:10.1056/NEJMoa1817591

Pearls:

- **Abstinence from alcohol reduced arrhythmia recurrences in regular drinkers with atrial fibrillation.**

- **Objective:** To investigate the effect of abstinence from alcohol on secondary prevention of atrial fibrillation
- **Method:** Prospective open label, multicenter, randomized controlled trial that took adults who had experienced symptomatic paroxysmal AFib or persistent AFib on rhythm control who also drank regularly, 10 or more drinks weekly. People with alcohol dependence were excluded. Randomized to either abstinence or continued drinking.
- **Results:**
    - 70 patients randomized to each group
    - AFib recurrence occurred in 53% of abstinence group and 73% in control group
    - Time to recurrence and AFib burden lower in the abstinence group
- **Bottomline:** Abstinence from alcohol reduced arrhythmia recurrences in regular drinkers with atrial fibrillation

Paper Chase #4 - Comparative Effectiveness of Different Treatment Pathways for Opioid Use Disorder

Tom Robertson MD, Steve Biederman MD

Wakeman SE, Larochelle MR, Ameli O, et al. Comparative Effectiveness of Different Treatment Pathways for Opioid Use Disorder. JAMA Netw Open. 2020;3(2):e1920622–e1920622. doi:10.1001/jamanetworkopen.2019.20622

Pearls:

- **Buprenorphine and methadone were associated with reduced opioid related complications than naltrexone, or behavioral interventions alone.**

- **Objective:** To examine different OUD treatment pathways and associations with overdose or opioid-related acute care

- **Method:** Retrospective comparative effectiveness study using claims database on ICD codes for opioid use disorder. Stratified into 6 groups: no treatment, inpatient detox, outpatient behavioral health, buprenorphine therapy, methadone therapy, naltrexone therapy
- **Results:**
    - 40,000 patients over a 2 year period
    - Only suboxone and methadone were associated with significant decreases in overdoses or acute care need
- **Bottomline:** Buprenorphine and methadone were associated with reduced opioid related complications than naltrexone, or behavioral interventions alone.

Paper Chase #5 - Vitamin D and Calcium for the prevention of Fracture - A systematic review and meta-analysis

Tom Robertson MD, Steve Biederman MD

Yao P, Bennett D, Mafham M, et al. Vitamin D and Calcium for the Prevention of Fracture: A Systematic Review and Meta-analysis. JAMA Netw Open. 2019;2(12):e1917789. doi:10.1001/jamanetworkopen.2019.17789

Pearls:

- **In this systematic review and meta-analysis, neither intermittent nor daily dosing with standard dose of vitamin D alone was associated with reduced risk of fracture but daily supplementation with both vitamin D and calcium was a more promising strategy.**

- **Objective:** To assess the risks of fracture associated with differences in concentrations of 25-hydroxyvitamin D in observational studies and the risks of fracture associated with supplementation with vitamin D alone or in combination with calcium
- **Method:** meta-analysis of observational studies looking at fracture and 25-hydroxyvitamin D levels, randomized control trials of vitamin D for prevention of fracture, and randomized control trials of vitamin D plus calcium for prevention of fracture
- **Results:**
    - Total of 11 large scale observational studies that overall showed with an increase of 10 ng/mL of 25-hydroxyvitamin D you decreased risk of fracture by 7%
    - Total of 11 randomized control trials of vitamin D showed no decrease in fracture risk
    - Total of 6 randomized control trials of both calcium and vitamin D showed over 6 year period a 6% lower fracture risk (RR of 0.89-0.99)
- **Bottomline:** In this systematic review and meta-analysis, neither intermittent nor daily dosing with standard dose of vitamin D alone was associated with reduced risk of fracture but daily supplementation with both vitamin D and calcium was a more promising strategy