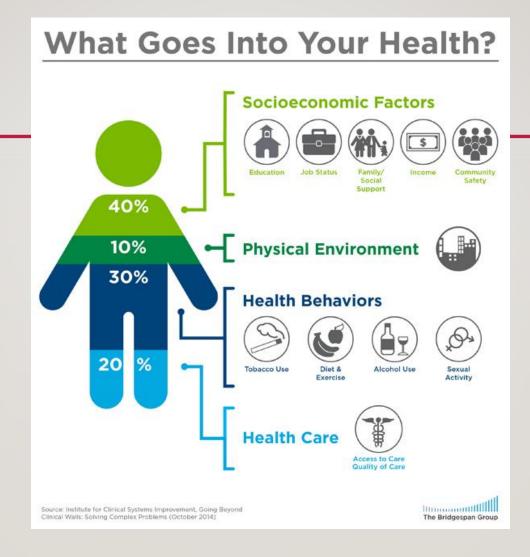
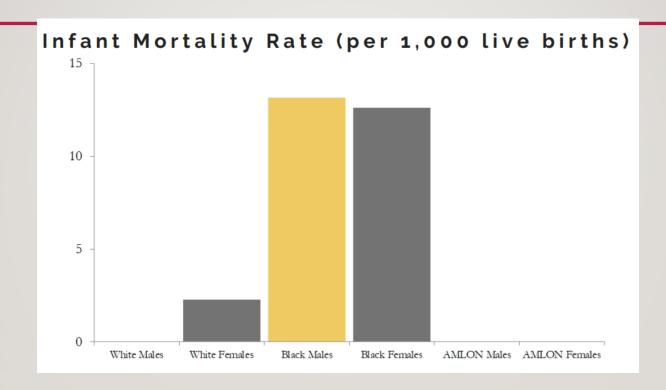
RACIAL HEALTH DISPARITIES

KRISTINA JOHNSON, MD (SHE/HER) STEPHANIE MILLER, MD (SHE/HER) FORBES FAMILY MEDICINE MARCH 6, 2025



https://www.bridgespan.org/insights/library/public-health/the-community-cure-for-health-care-(I)





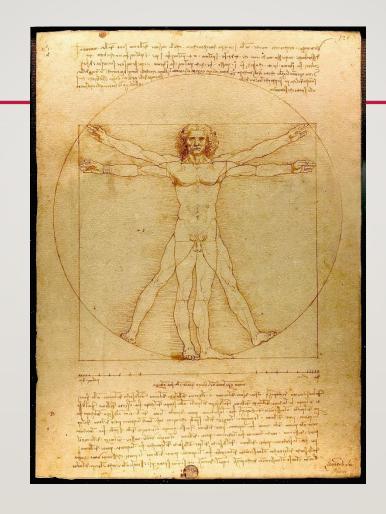


Image in Public Domain



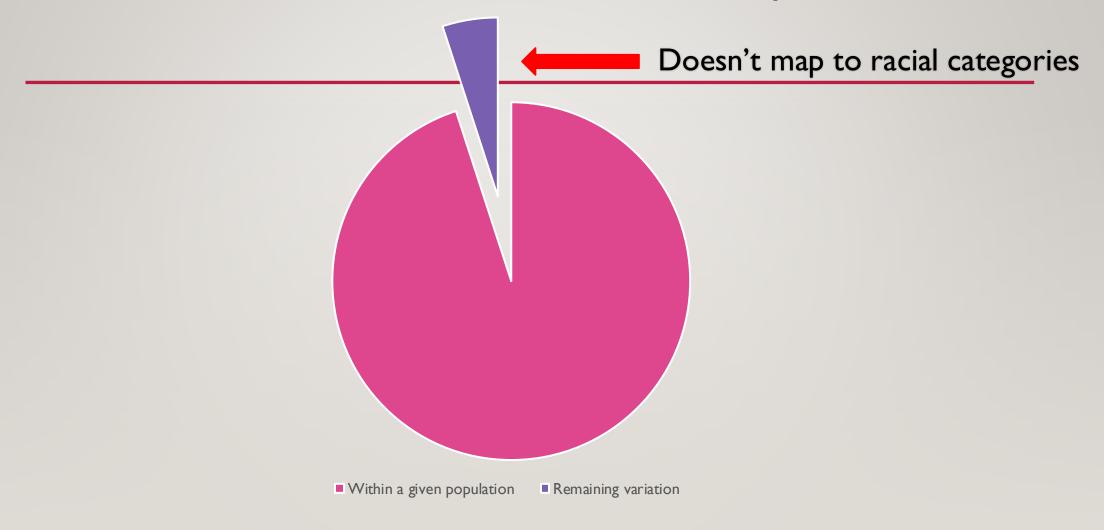
THE FOUR RACES OF MAN

Beginning at the right, the men in the picture are arranged in the same order as the races mentioned in the text, namely, Caucasian, Negro, Mongolian, and

American Indian.

From Student Handouts com

Genetic variation within the human species



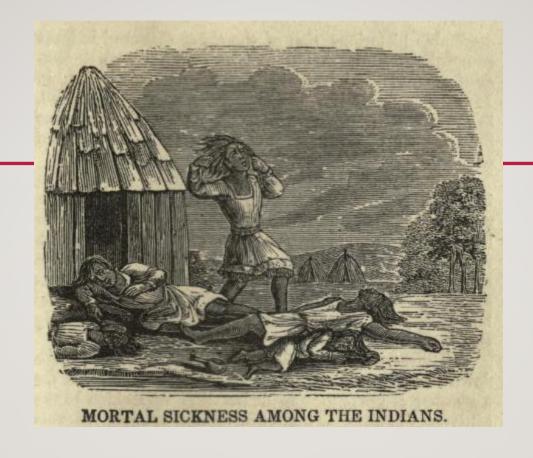
"Race and races are products of social thought and relations. Not objective, inherent, or fixed, they correspond to no biological or genetic reality; rather, races are categories that society invents, manipulates, or retires when convenient. People with common origins share certain physical traits, of course, such as skin color, physique, and hair texture. But these constitute only an extremely small portion of their genetic endowment, are dwarfed by that which we have in common, and have little or nothing to do with distinctly human, higher-order traits, such as personality, intelligence, and moral behavior."



Use of this image does not imply endorsement by the Architect of the Capitol or the United States Congress of a product, service, or point of view.



Used with permission of Meadowcroft Rockshelter and Historic Village



"We look upon them with Scorn and Disdain, and think them little better than Beasts in Human Shape"

Now, the United States acknowledge all the land within the aforementioned boundaries, to be the property of the Seneka nation; and the United States will never claim the same, nor disturb the Seneka nation, nor any of the Six Nations, or of their Indian friends residing thereon and united with them, in the free use and enjoyment thereof: but it shall remain theirs, until they choose to sell the same to the people of the United States, who have the right to purchase.

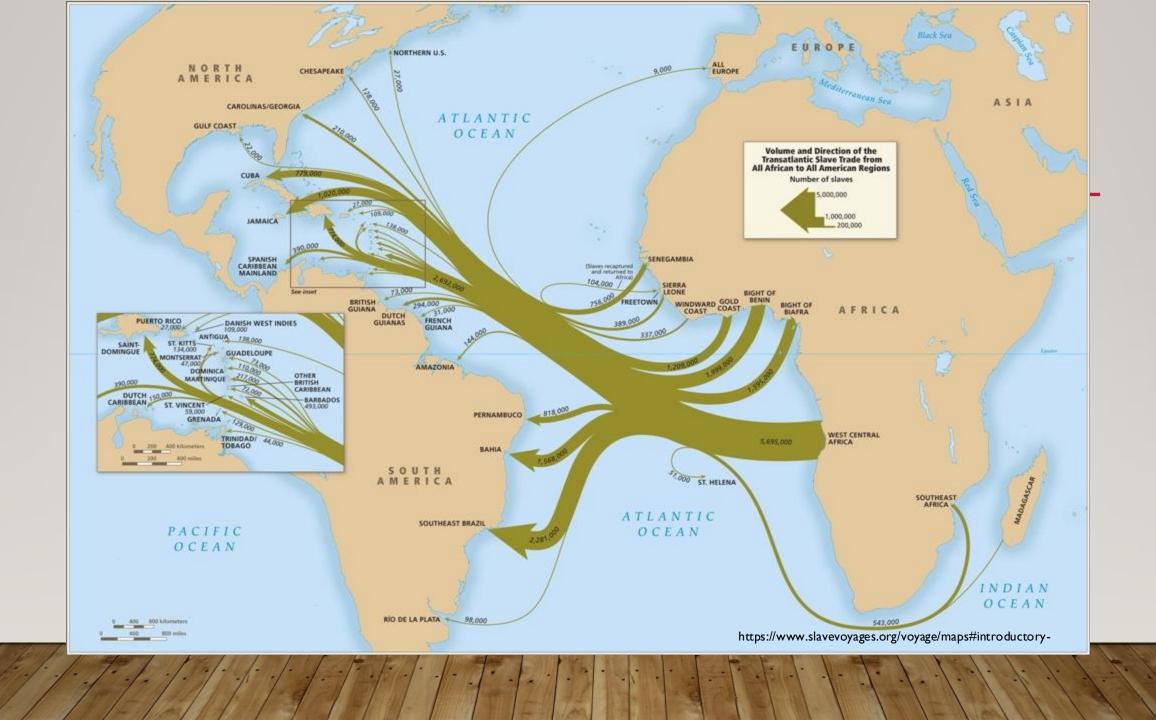




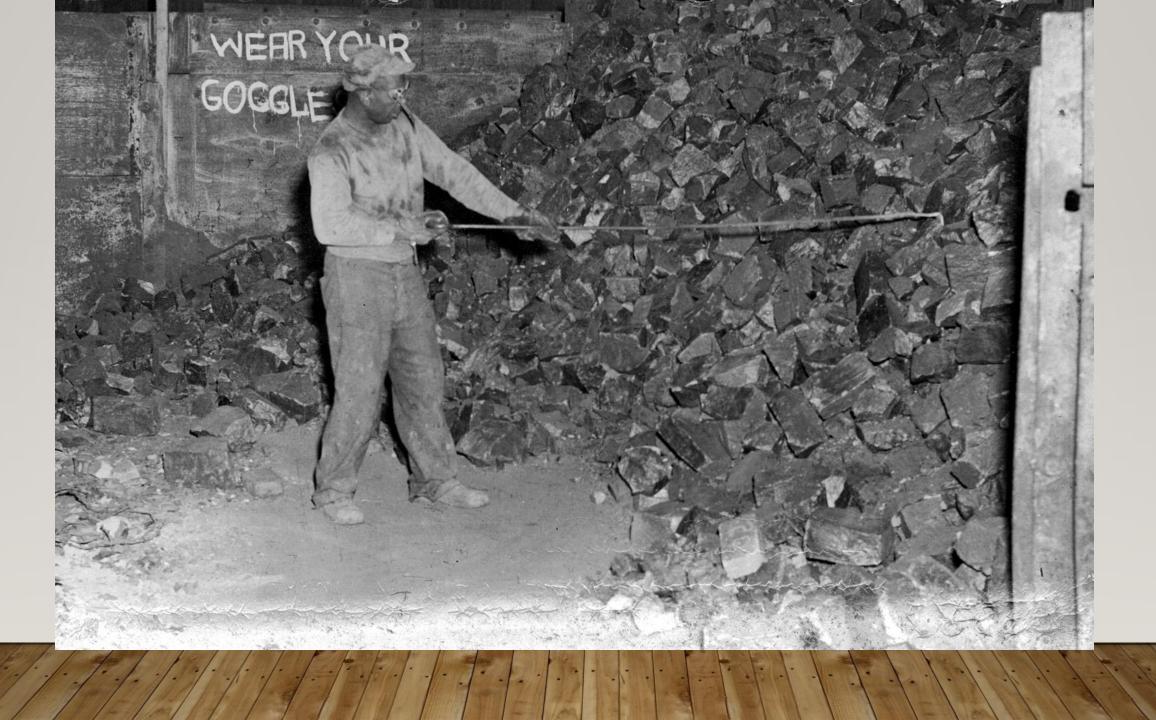




Logo used with permission



"It is unknown to our medical authorities, although its diagnostic symptom, the absconding from service, is well known to our planters and overseers... The cause in the most of cases, that induces the negro to run away from service, is as much a disease of the mind as any other species of mental alienation, and much more curable... With the advantages of proper medical advice, strictly followed, this troublesome practice that many negroes have of running away, can be almost entirely prevented..."





MEDICAL EDUCATION IN THE UNITED STATES AND CANADA

A REPORT TO

THE CARNEGIE FOUNDATION
FOR THE ADVANCEMENT OF TEACHING

BY ABRAHAM FLEXNER "The negro must be educated not only for his sake, but for ours ... ten million of them [negroes] live in close contact with sixty million whites. Not only does the negro himself suffer from hookworm and tuberculosis; he communicates them to his white neighbors."

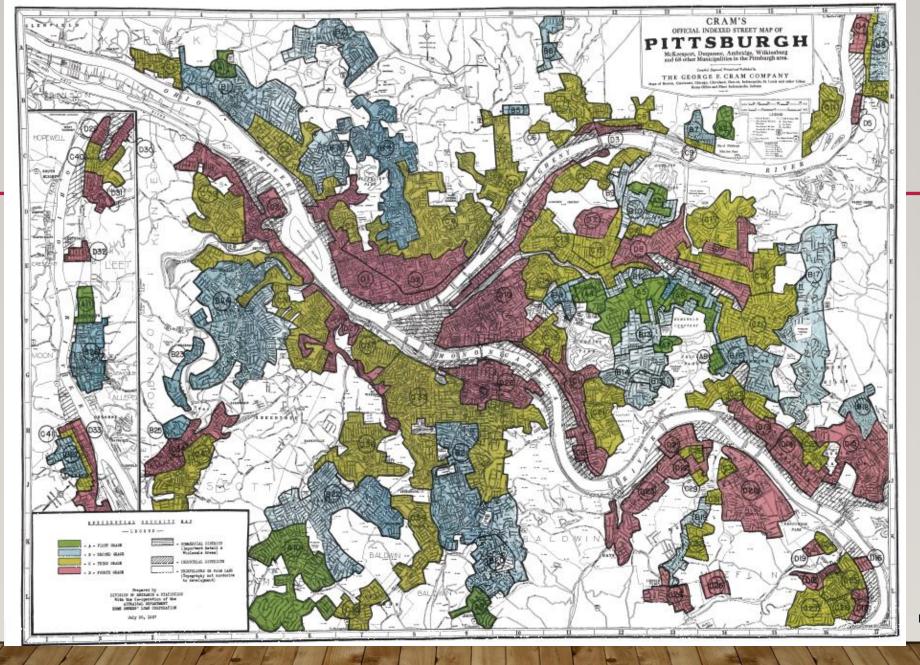
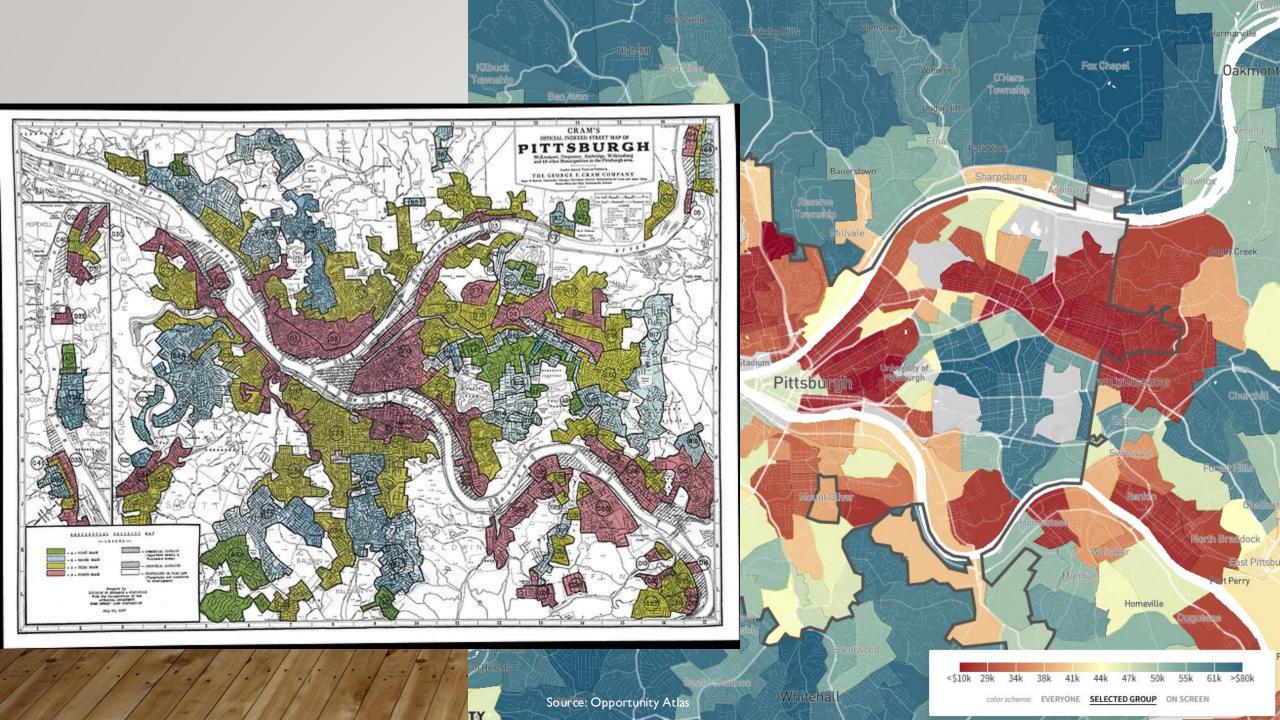
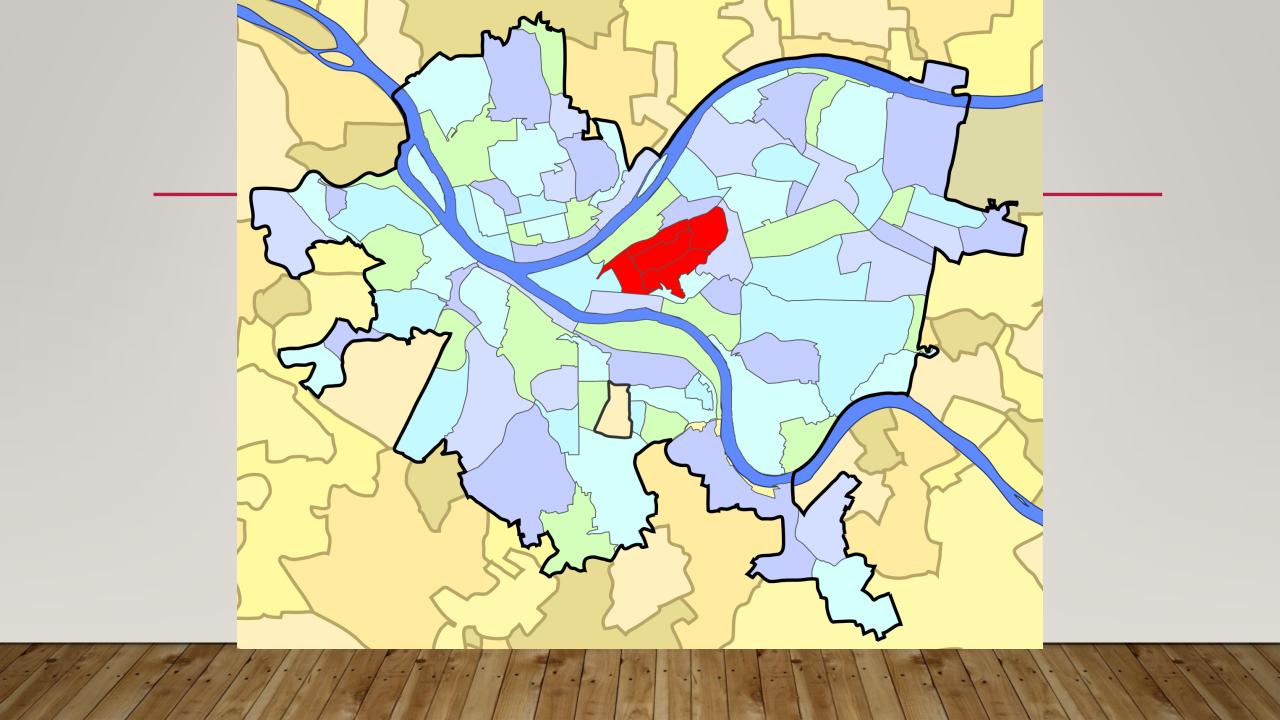


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AREA DESCRIPTION

1.	NAME OF CITY (Sub-) Fittsburgh-Braddock SECURITY GRADE D AREA NO. 14
2.	DESCRIPTION OF TERRAIN. Sloping up from the river
3.	FAVORABLE INFLUENCES. Near employment-very good local shopping center.
4.	DETRIMENTAL INFLUENCES. Old houses, Overcrowded, Topography.
5.	INHABITANTS: a. Type Steel mill workers ; b. Estimated annual family income \$1500-3000
	c. Foreign-born Mixture-Polish 60 %; d. Negro ; 30 %; (Vationality) ; 30 %;
	e. Infiltration of Polish; f. Relief families Heavy;
	g. Population is increasing; decreasing; static.
6.	BUILDINGS: a. Type or types Singles-duplexes-; b. Type of construction 1200-2500;
	c. Average age 40-60 yrs ; d. Repair Poor some fair









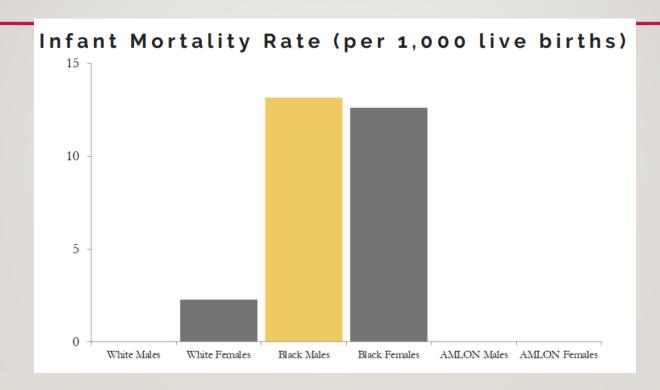




Image used with permission of SDI Diagnostics

Institutional and Systemic Racism Policies Practices

Interpersonal Racism

Explicit, intentional actions Implicit bias



"The People Mover" by Trey Ratcliff is licensed under CC BY-NC-SA 2.0.

Resist the forces of dehumanization.

Use your voice.

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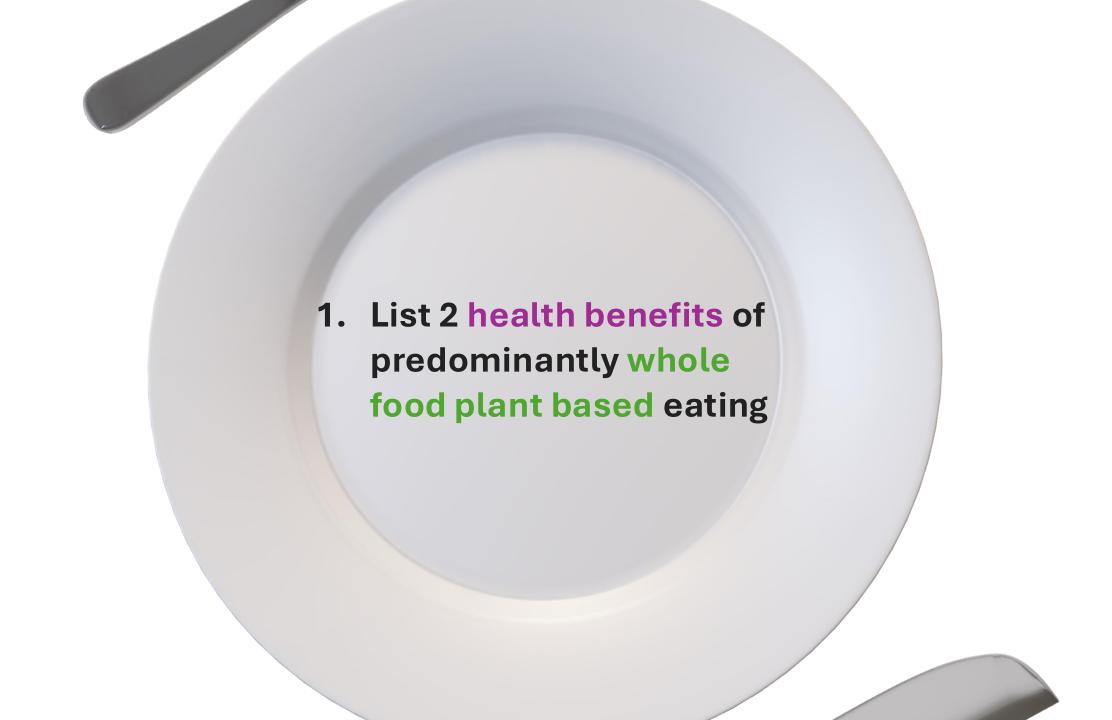
UPMC Refresher Course in Family Medicine

Pittsburgh, PA



OBJECTIVES

After active participation, you will be able to...









LIFESTYLE MEDICINE FOCUSES ON 6 AREAS TO IMPROVE HEALTH

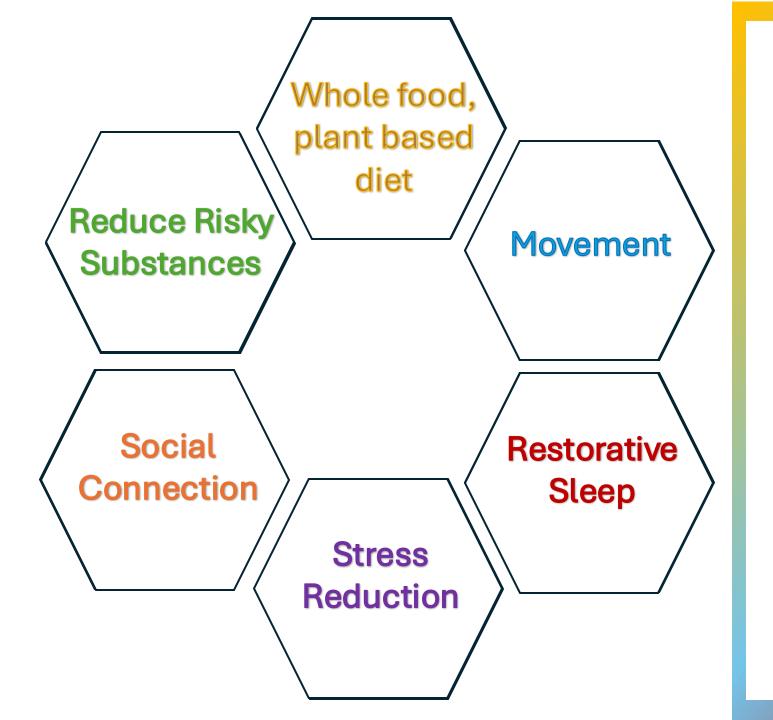


LIFESTYLE MEDICINE

Lifestyle medicine is an evidence-based approach to preventing, treating and even reversing diseases by replacing unhealthy behaviors with positive ones — such as eating healthfully, being physically active, managing stress, avoiding risky substance abuse, adequate sleep and having a strong support system.

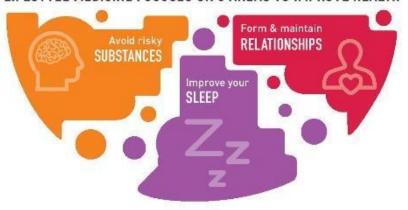


- American College of Lifestyle Medicine established in 2004
- Evidence-based
- Individuals and Communities
- Root causes of chronic diseases
- Prevent, treat, and reverse the progression of chronic diseases
- New wave of Lifestyle Medicine providers in Primary Care





LIFESTYLE MEDICINE FOCUSES ON 6 AREAS TO IMPROVE HEALTH



LIFESTYLE MEDICINE

Lifestyle medicine is an evidence-based approach to preventing, treating and even reversing diseases by replacing unhealthy behaviors with positive ones — such as eating healthfully, being physically active, managing stress, avoiding risky substance abuse, adequate sleep and having a strong support system.



Predominately Whole Food, Plant Based (WFPB) Diet

Whole Foods → Single ingredient food

Plant based → Fruits, vegetables, whole grains, legumes (beans, lentils), seeds and nuts

Minimize processed foods, oils, animal foods

Great grandparent Rule of Thumb



Lifestyle Heart Trial

Experimental group

- 20/28 (71%) made lifestyle changes for 5 years
- 1 year: Average % diameter stenosis
 decreased with
 4.5% relative improvement
- 5 years: decreased with 7.9% relative improvement
- Fewer cardiac events

JAMA Dean Ornish, MD, et. al. 1998

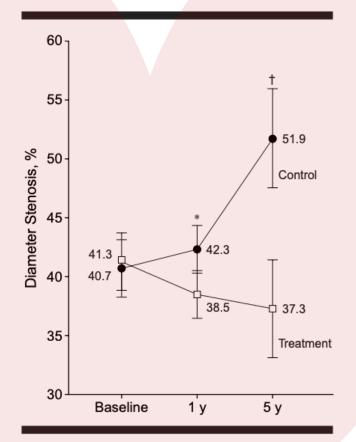


Figure 1.—Mean percentage diameter stenosis in treatment and control groups at baseline, 1 year, and 5 years. Error bars represent SEM; asterisk, P=.02 by between-group 2-tailed test; dagger, P=.001 by between-group 2-tailed test.

Control group

- 15/20 (75%) made moderate changes for 5 years
- 1 year: Average % diameter stenosis increased with
 5.4% relative worsening
- 5 years: increased with 27.7% relative worsening
- More cardiac events

Experimental Group: Intensive lifestyle changes with whole foods vegetarian (10% fat) diet, aerobic exercise, stress management, smoking cessation, group psychologic social support.

"Eat well, Move More, Stress Less"

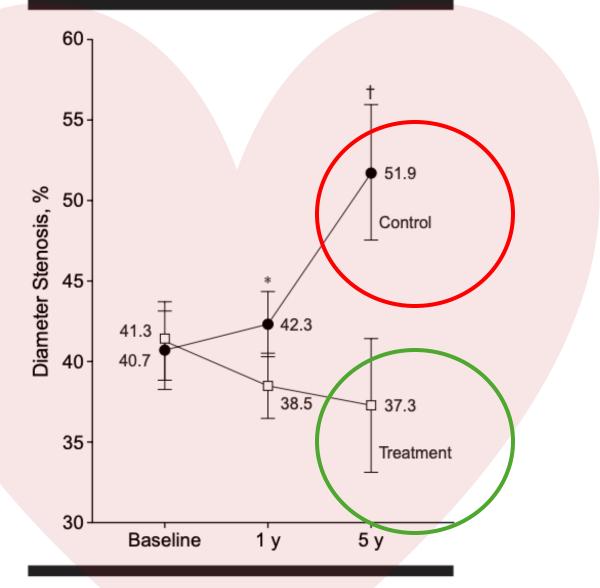


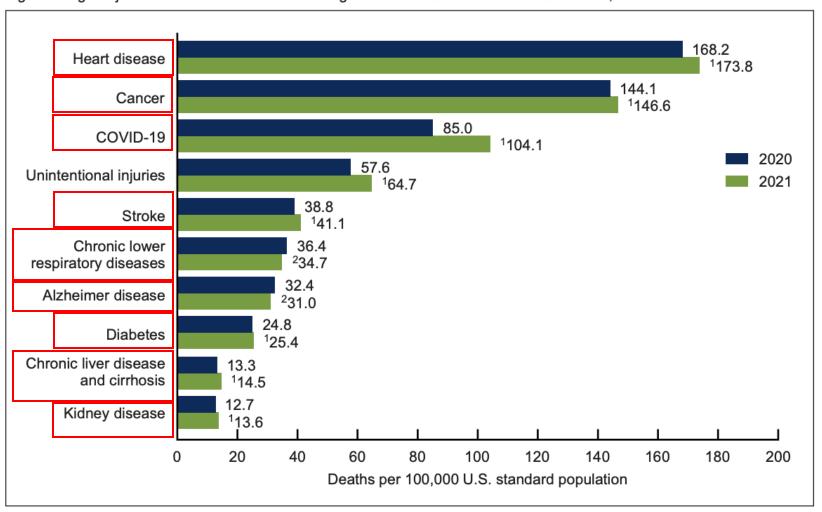
Figure 1.—Mean percentage diameter stenosis in treatment and control groups at baseline, 1 year, and 5 years. Error bars represent SEM; asterisk, P=.02 by between-group 2-tailed test; dagger, P=.001 by between-group 2-tailed test.

BROAD Study:

RCT using a whole food plant-based (WFPB) diet in the community
Nutrition & Diabetes, N Wright, et. al, 2017

- Community based dietary program on improving BMI and cholesterol at 6 months
- 35–70 yo, New Zealand, n = 65 (**75.4**% **completed** the study)
- Obesity or Overweight + at least type 2 diabetes, ischemic heart disease, hypertension and/or hypercholesterolemia
- Intervention: twice-weekly meetings for **12 weeks** and non-energy-restricted **WFPB diet** with vitamin B_{12} supplementation.
- Mean BMI reduction and cholesterol reduction greater with WFBP diet at 6 and 12 months
- Did not limit energy intake
- Did not mandate regular exercise

Figure 4. Age-adjusted death rate for the 10 leading causes of death in 2021: United States, 2020 and 2021



¹Statistically significant increase from 2020 to 2021 (p < 0.05).

NOTES: A total of 3,464,231 resident deaths were registered in the United States in 2021. The 10 leading causes of death accounted for 74.5% of all U.S. deaths in 2021. Causes of death are ranked according to number of deaths. Rankings for 2020 data are not shown. Data table for Figure 4 includes the number of deaths for leading causes and the percentage of total deaths. Access data table for Figure 4 at: https://www.cdc.gov/nchs/data/databriefs/db456-tables.pdf#4. SOURCE: National Center for Health Statistics, National Vital Statistics System, Mortality.

²Statistically significant decrease from 2020 to 2021 (p < 0.05).



- 2017 comparative risk assessment model looked at the association between **Dietary Factors** and **Mortality** from:
 - Heart Disease
 - Stroke
 - Type 2 Diabetes
- 702,308 cardiometabolic deaths in 2012 in the US
- 45.4% associated with suboptimal diet

Standard American Diet (SAD)

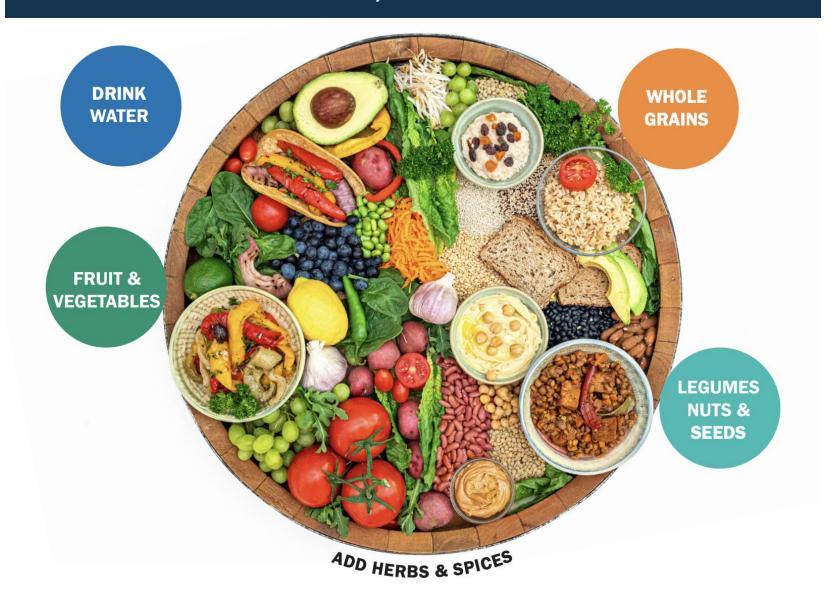


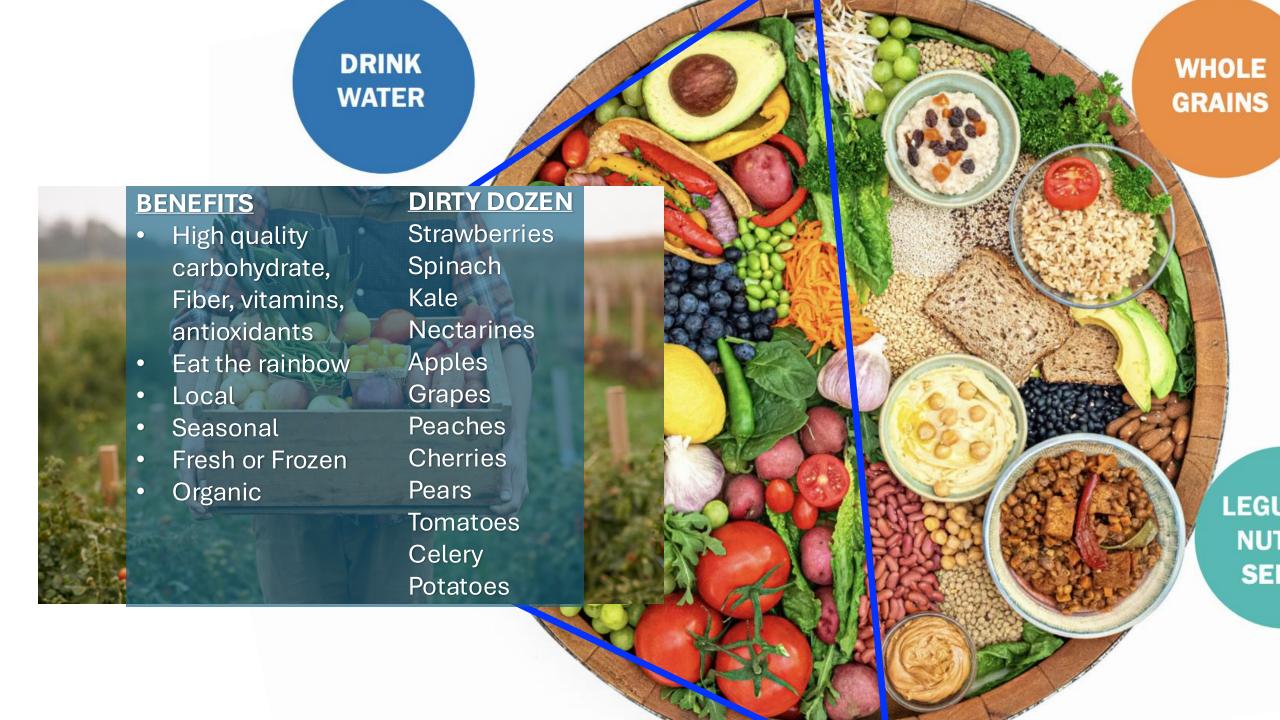
Whole Food Plant Based Diet

Standard American Diet (SAD)

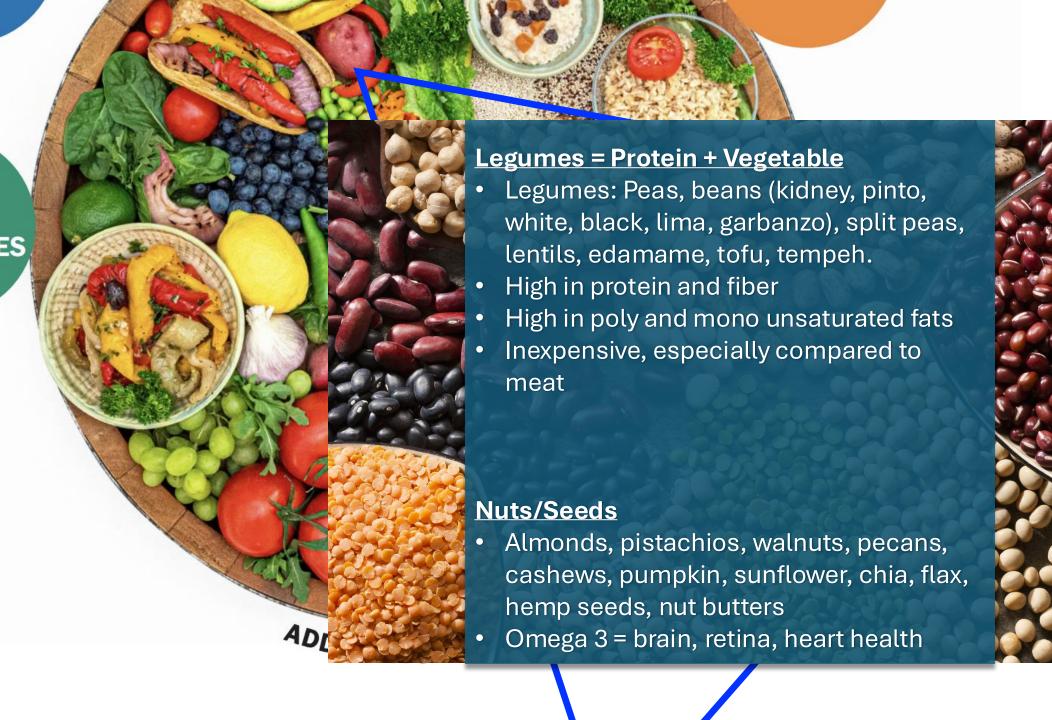


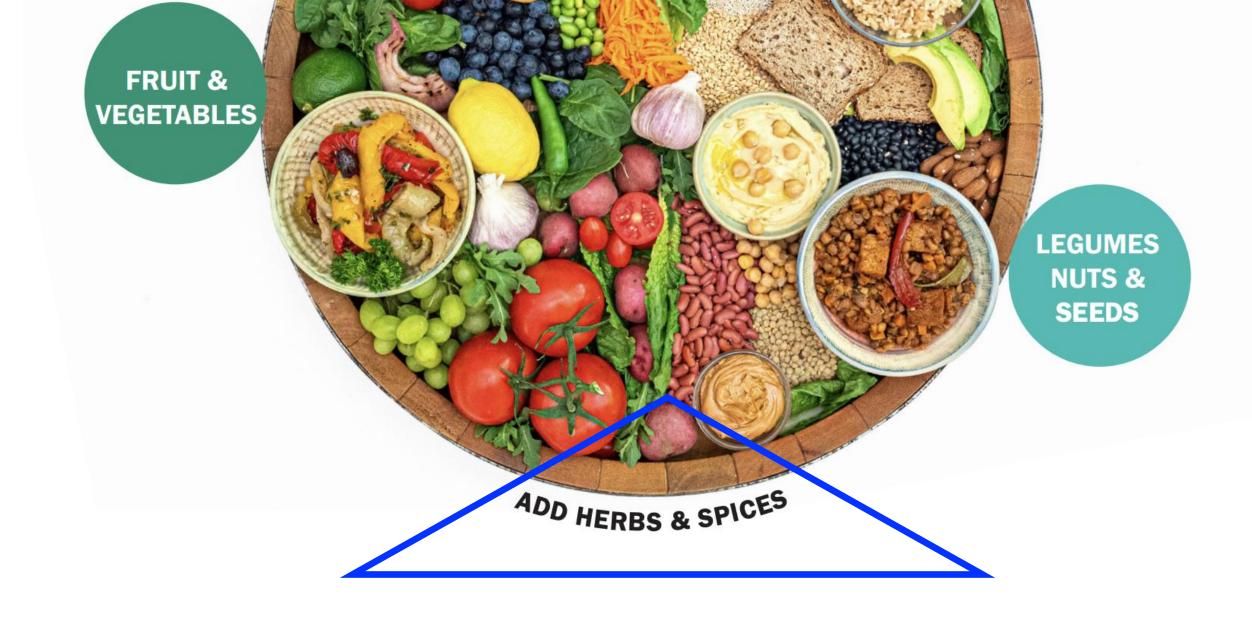
A WHOLE FOOD, PLANT-BASED PLATE





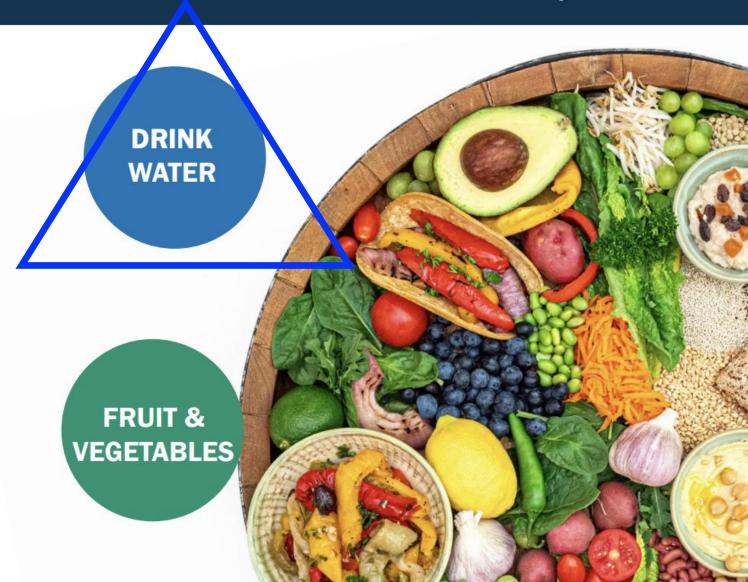








A WHOLE FOOD, PLANT-BA





A WHOLE FOOD, PLANT-BASED PLATE

THINK PAIR SHARE



Death by Ultra-processed foods (UPFs)

UPF have a long list of chemicals in the ingredients.

Ready to eat products, packaged snacks, carbonated soft drinks, etc.

2024 BMJ Umbrella review of metaanalyses (45 unique pooled analyses, n = 9,888,373)

Direct associations found between exposure of UPF and 32 health parameters including mortality, cancer, and negative mental, respiratory, CV, GI, and metabolic health outcomes.

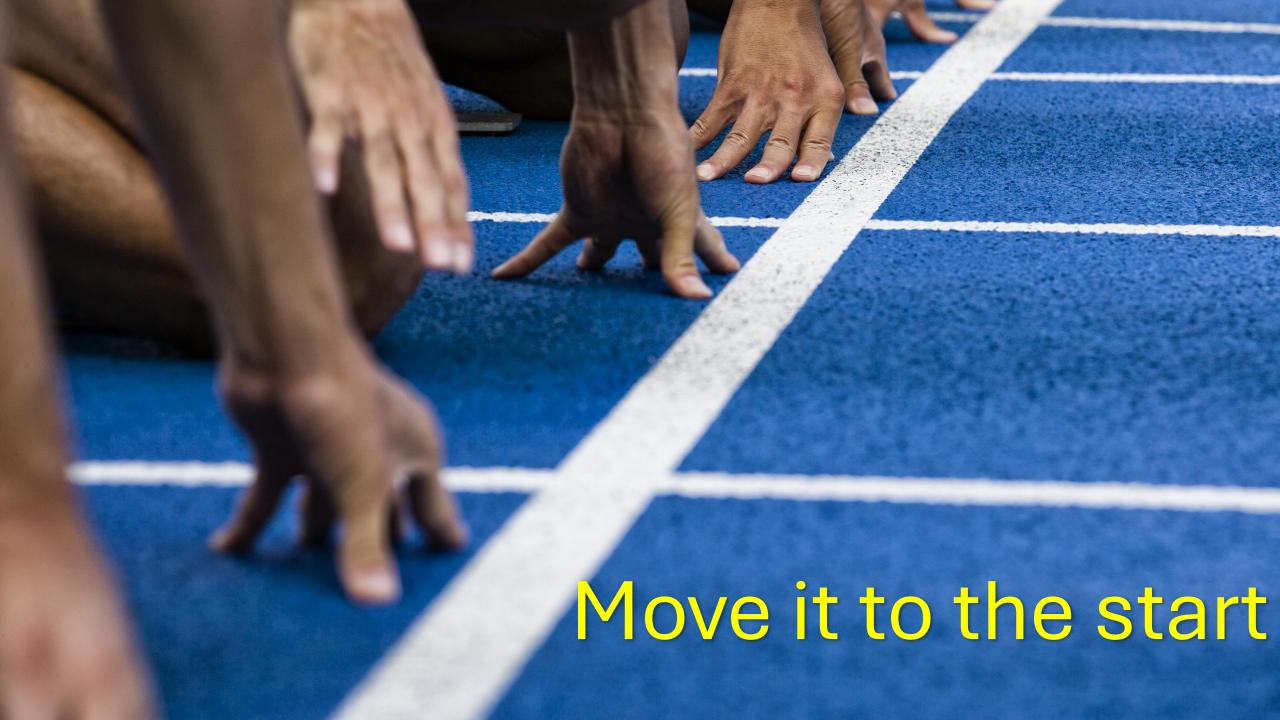




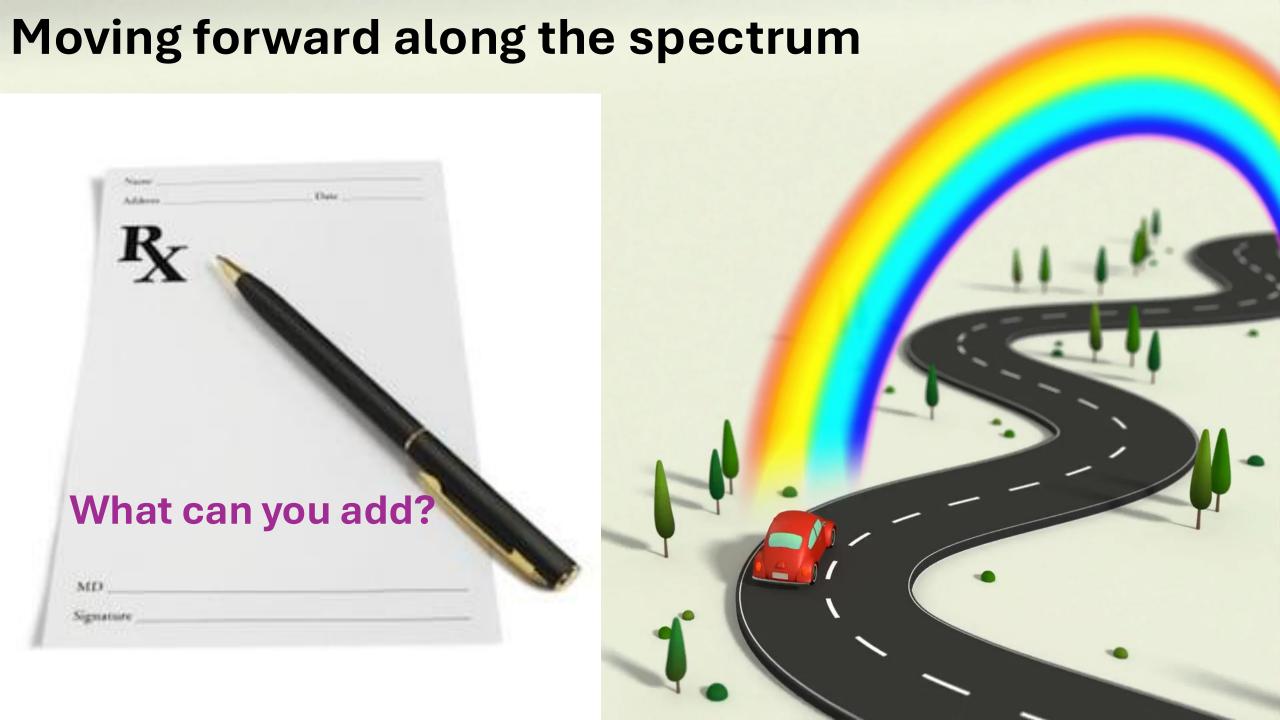
Standard American Diet













- Rather than "Eat healthy..."
- Specific
- Measurable
- Attainable
- Relevant
- Timely
- Inclusive
- Equitable

• Eat 1 more frozen vegetable per day, 3 days a week for 2 weeks.



Lifestyle
Medicine has led
to a more *joyful*personal and
professional life.



LM is evidence
based medicine
that prevents,
treats and
reverses disease
by addressing the
root of the
problem.



Whole food, plant based eating decreases the risk and severity of heart disease, stroke, diabetes, and many other chronic conditions.



Whole food, plant based eating includes fruits, vegetables, whole grains, legumes, nuts, seeds.



Start with a lifestyle HPI and prescribe a S.M.A.R.T.I.E goal.



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Whole food, plant based eating includes fruits, vegetables, whole grains, legumes, nuts, seeds.



Lifestyle Medicine and Food As Medicine Essentials Course

5.5 hours of Free CME/CE Credit

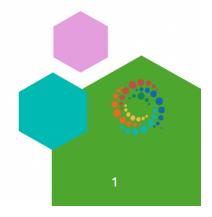
This Course provides a foundational, evidence-based introduction to the field, focusing on nutrition education for the prevention and treatment of chronic disease.

- Introduction to Lifestyle Medicine module (1 hour)
- Food as Medicine: Nutrition for Prevention and Longevity module (3 hours)
- Food as Medicine: Nutrition for Treatment and Risk Reduction module (1.5 hours)

lifestylemedicine.org/essentials

Free with code WHC22 at checkout

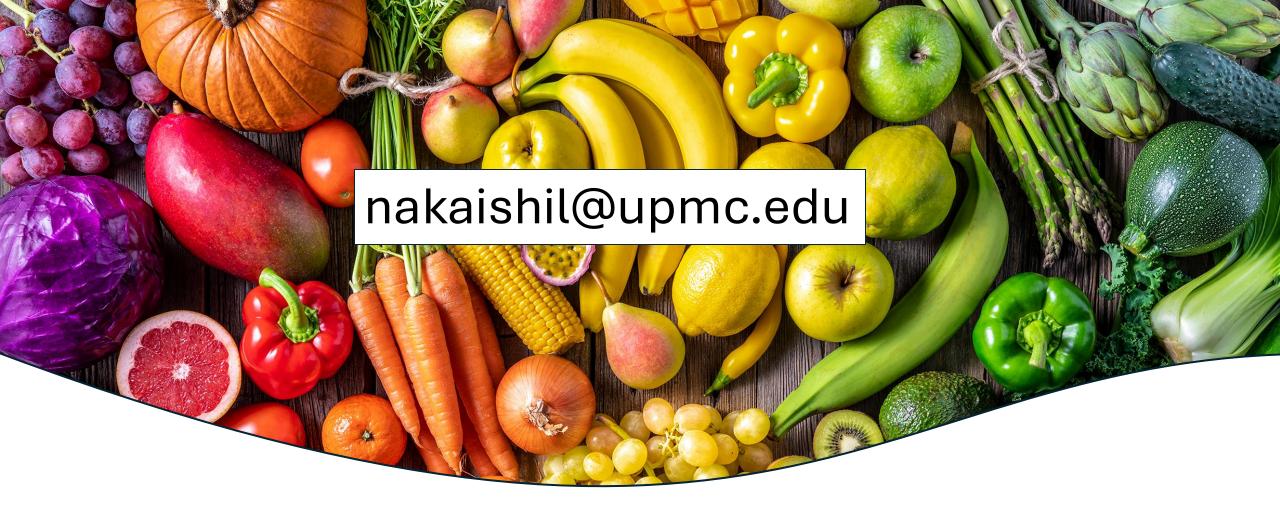




Hungry for more?

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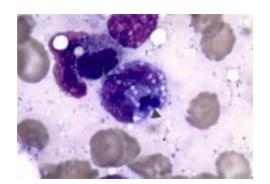
Pittsburgh, PA



Tick Borne Infections

Andy Nowalk, MD, PhD
Pediatric Infectious Diseases
UPMC Children's Hospital of Pittsburgh









Disclosures

- I have no financial or other conflicts to disclose related to the subject of this lecture
- I have previously received private and NIH funding for studies of Lyme disease
- I will discuss off label use of doxycycline
- Data is referenced and most is publicly available (CDC, PA DOH)



- Learn the changing epidemiology of vector borne infections (VBI) in the US
- Identify signs and symptoms of tick borne infections (TBI)
- Review new developments in the diagnosis and treatment of Lyme disease







Objectives

Why focus on ticks?

Vector borne infection	2023/2024 US cases
Lyme disease	89,468
Anaplasmosis	5,651
Ehrlichiosis	1,570
RMSF/SFR	1,292



Tick-

Mosquito -

For tickborne infections

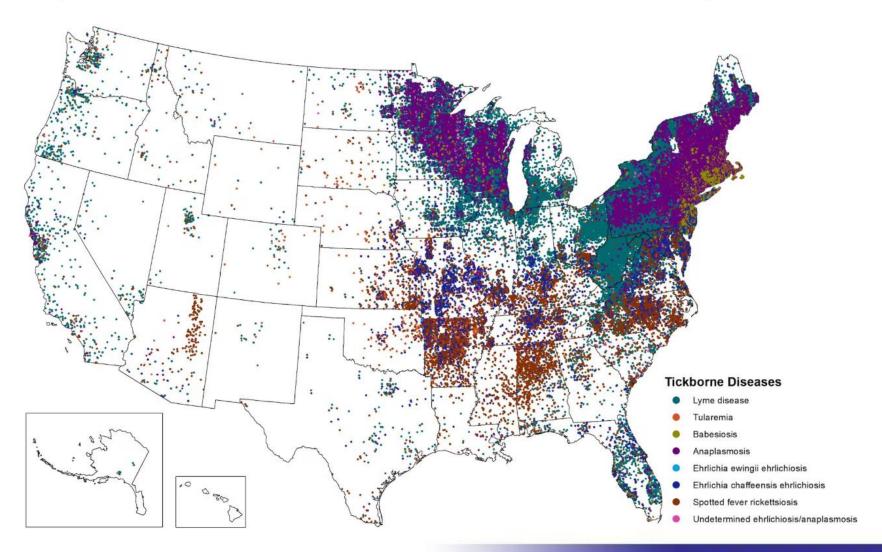


Geography is destiny



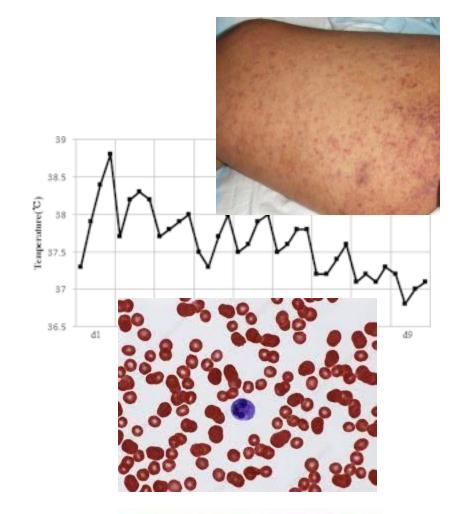
TBI are regional

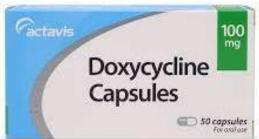
Reported Cases of Tickborne Diseases - United States, 2019-2022



Clinical Themes

- Fever and rash
- (Leukopenia)
- Vitamin
 Doxycycline







Case

- A 6-year-old presents with fever, headache, and myalgia
- His rash is petechial
- WBC 2.0, AST/ALT ~500
- He looks ill







RMSF/SFR geography

2013 16	
2010	
2014 7	
2015 16	-
2016 22	7
2017 28	
2018 25	
2019 29	
2020 *	
2021 8	m
2022 *	
The state of the s	agras .





Signs and symptoms

- Fever and chills
- Malaise
- Myalgia
- Headache
- Labs (classic triad)
 - Leukopenia
 - Hyponatremia
 - Hepatitis
- Shock, death



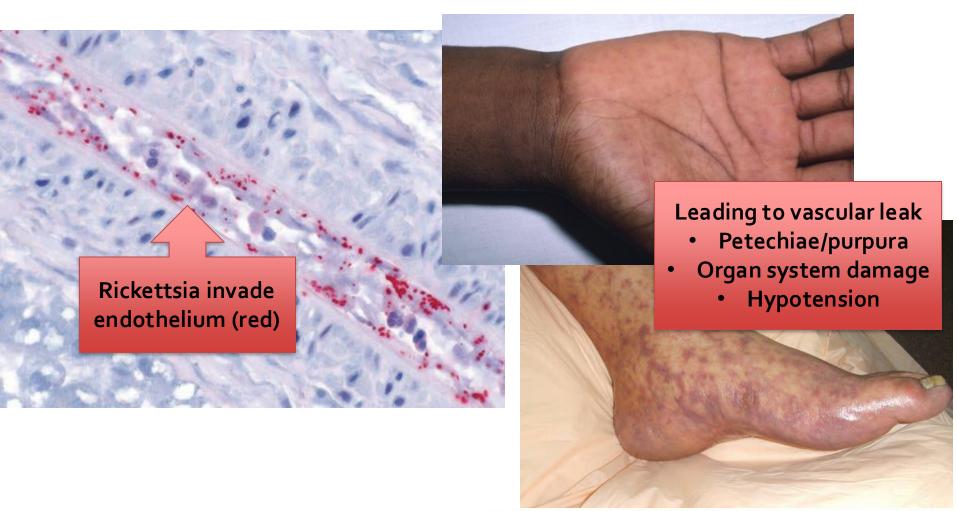
Rash

- 2-5 days after fever
- Begins as macules on wrists, ankles, forearms
- Spreads to trunk and palms/soles (centripetal)
- Becomes petechial



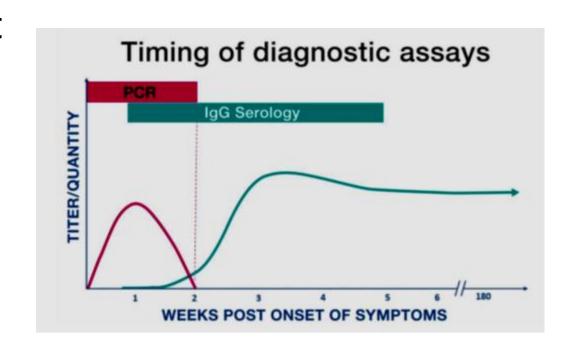


Why RMSF is so severe



Diagnosis and treatment

- Diagnosis through serum PCR (acute) or IgM/IgG (acute → late)
- Early treatment is crucial
 - Doxycycline at any age
 - Saves lives
 - (A clue about doxycycline in <8 yo)



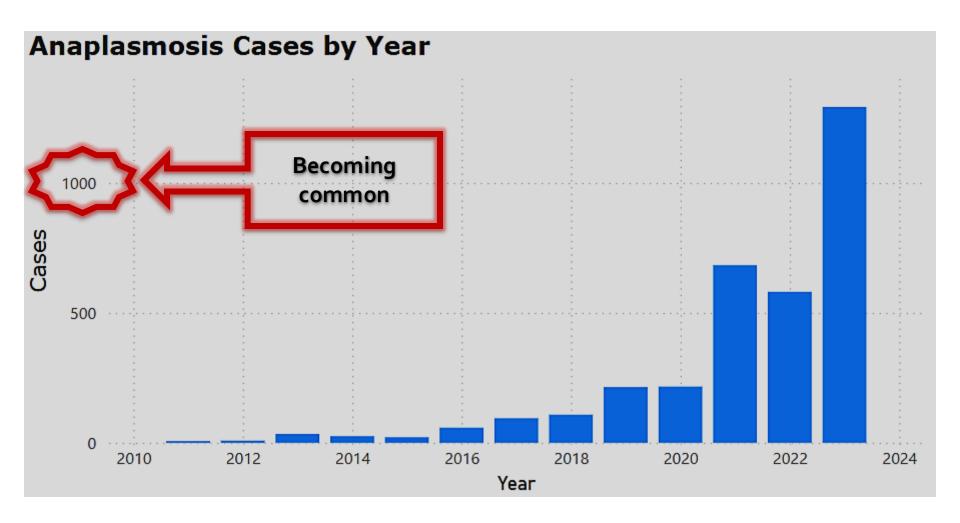


Case

- A 6 year old male presents with fever, headache, and myalgia
- He lives in a wooded area and has ticks
- Rash is scant but has some petechiae, WBC is 2.0 and AST/ALT are 100
- He looks ill but non-toxic



PA Anaplasma



Signs and symptoms

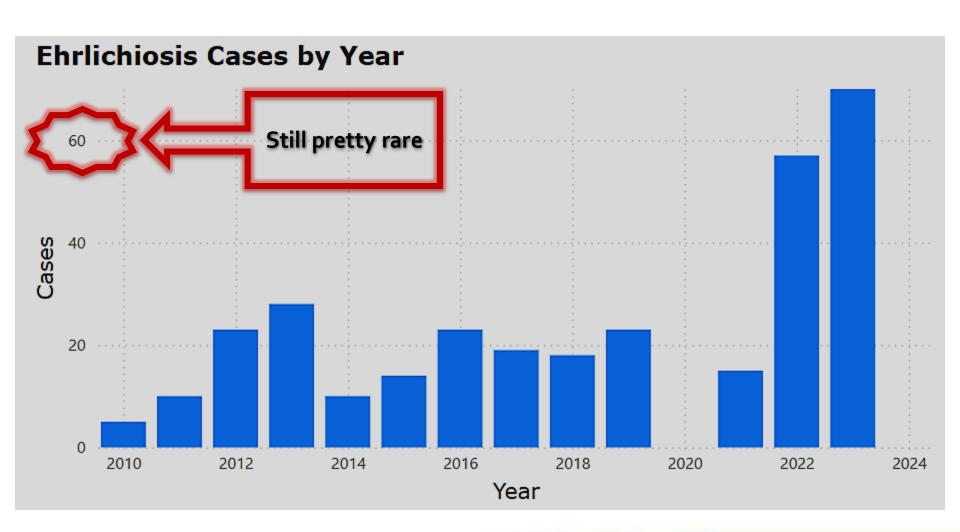
- Fever and shaking chills
- Malaise
- Myalgia
- Severe headache
- Labs
 - Leukopenia
 - Neutropenia
 - Hyponatremia
 - Hepatitis

Rash is rare

- Only 10%
- If it is seen it can suggest coinfection



PA Ehrlichia



Signs and symptoms

- Fever and shaking chills
- Malaise
- Myalgia
- Headache
- Conjunctival injection
- Labs
 - Leukopenia
 - Lymphopenia
 - Hyponatremia
 - Hepatitis

Rash

 More common in children (~2/3)

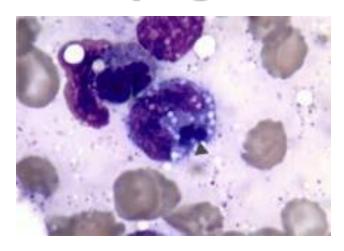


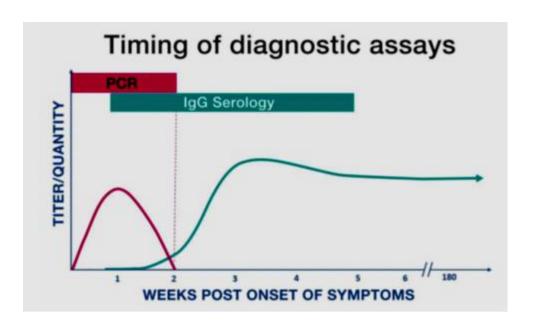




Diagnosis and treatment

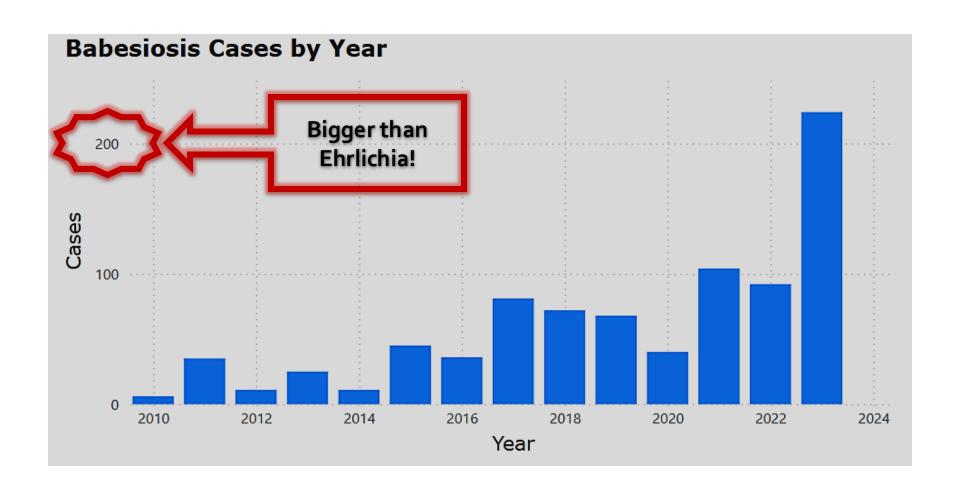
- Diagnosis through serum PCR (acute) or IgM/IgG (acute → late)
- Doxycycline at any age





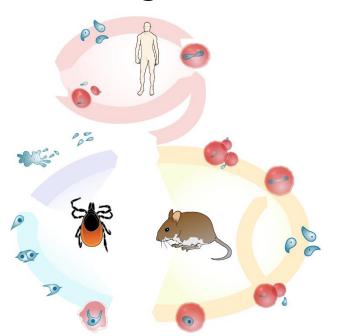


New kid on the block

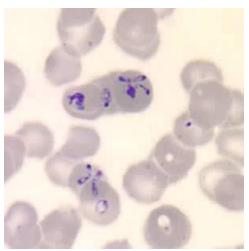


Babesia

- Flu-like symptoms after
 1-5 weeks
 - Fever, fatigue, headache pallor
 - Anemia, hemolysis, hyperbilirubinemia
- Diagnose with blood smear, PCR



- Treat with atovaquone/azithromycin
- Beware severe disease in
 - Elderly
 - Asplenic
 - Immunosuppressed



Case

- A 6-year-old presents with fever, headache, myalgia and rash
- He lives in PA
- His rash is nontender and blanching
- WBC 8.0, AST/ALT normal
- He looks well



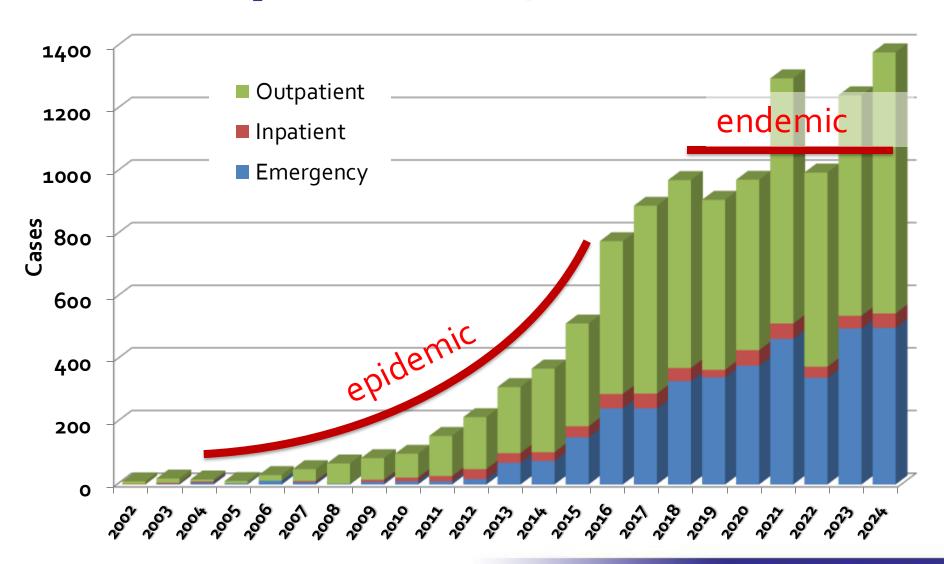
The Other Epidemic







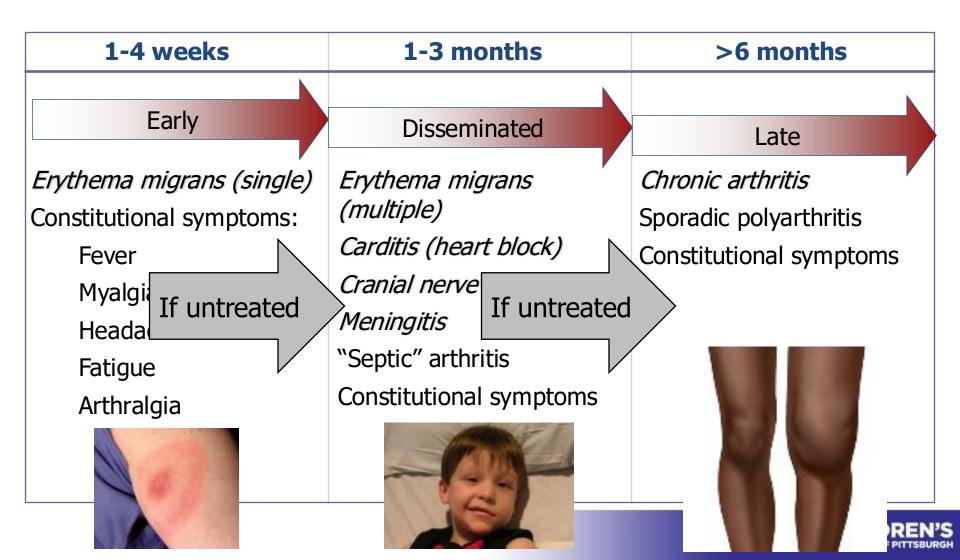
CHP Lyme cases, 2002-2024



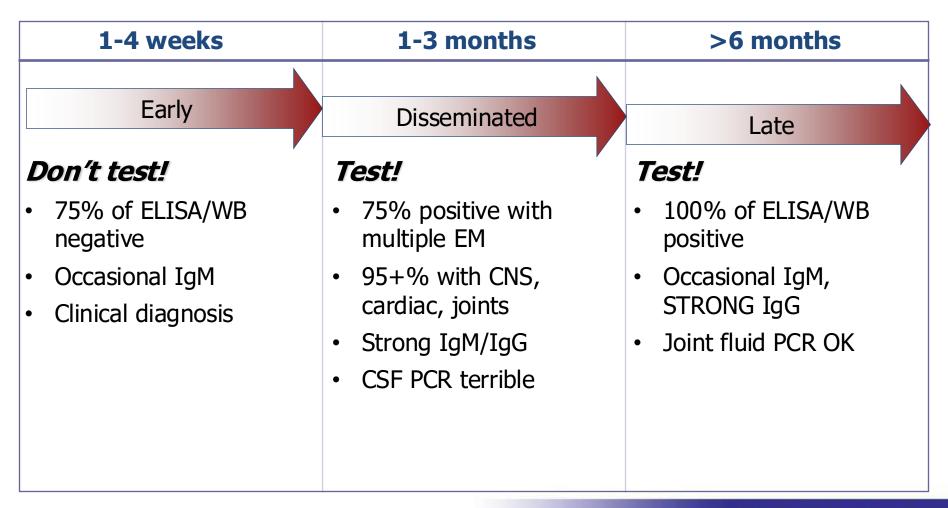
Lyme disease: Stages and Treatment



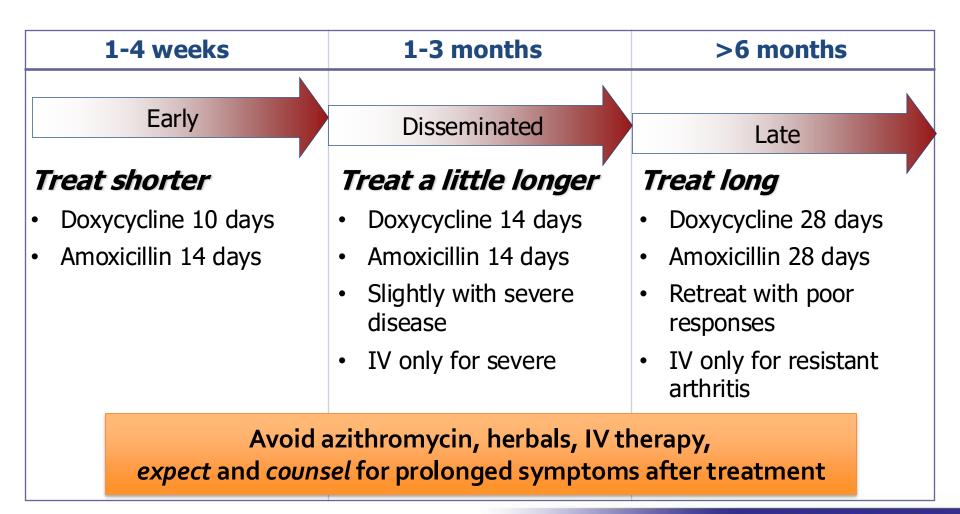
Progression of Lyme disease symptoms



Progression of Lyme disease testing



Progression of Lyme disease treatment



Erythema migrans

- Missed EM frequent, look in
 - -Hair
 - -Buttocks
- Lesions expand (hence migrans)
- We were taught "target lesions" but...





Cranial nerve palsies

- Most common neurologic Lyme in kids
- Outcomes better than Bell's palsy
- 7th >> all others (but we see them all)
- MRI not needed
- Avoid steroids or acyclovir (see data)
- Doxycycline first line for all ages



Doxycycline ≠ **Tetracycline**

- Recent studies show no staining with doxycycline
 - Asthma treatment RCT (Clin Pediatr 2007;46:121)
 - Empiric RMSF therapy(J Pediatr 2015;166:1246)
 - CNS infection
 (J Antimicrob Chemother. 2017;72:2887)
- Most say go...
 - Good news about doxycycline and dental staining (J Pediatr 2015;166:1101)
 - Revisiting doxycycline in pregnancy and early childhood (Expert Opin Drug Safe 2016;15:367)

Red Book position



Testing challenges

LVME DISEASE. (IGG, IGM). IMMUNOBLOT NEGATIVE LYME DISEA - (IIGG (IGG (IGG (IGG ale (TGG (IGG (IGG (IGG MEGATIVE (IGM) REACTIVE (IGM)BAND REACTIVE

NON-REACTIVE

(TGM)

BAND

Evolution of Lyme testing

1984 Initial antibody testing 1995
CDC
standard
Bacterial
lysate
+
WB

2003
Recombinant
protein EIA
+
WB

2019 MTTT EIA + EIA



- STTT and MTTT both work...with caveats
- MTTT easier for front line fast analysis
- MTTT confusing for difficult cases
- Continue worries about sensitivity

Serologic testing

False negative

- Early-stage disease
- Treated early stage
- Assay performance

False positive

- Prior infection
- Cross reactions (EBV, syphilis)
- IgM+ only with long symptoms



Challenge: persistence

- 10-year-old male, had Lyme FNP in 2018, resolved promptly with doxycycline
- Had recurrent fever recently, Urgent Care sent Lyme
- Screen says "positive"
- What do you do???



Prior Lyme: serologic testing

- Antibody persists with disseminated or late disease
- Treated EM makes scant antibody
 - Still susceptible
- Later stages make a TON
 - Protective for months to years
- Persistence is the rule
 - Disseminated: 12-24 months +
 - Late: 5-10 years or more +





Final thoughts

- Lyme disease and other tickborne infections are common and increasing
- Test appropriately and remember vitamin D(oxy)!
- Things change look for these infections as patterns evolve

UPMC CHANGING MEDICINE

2025 REFRESHER COURSE IN FAMILY MEDICINE



WOMEN'S HEALTH: USPSTF UPDATE Preventive Screening in Well Woman Care

Rowena D. Pingul-Ravano, MD, FAAFP

Chief of Family Medicine, UPMC Magee Women's Hospital
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Director of OB & Centering Pregnancy, Faculty, UPMC Shadyside Family Medicine Residency Program
March 6, 2025

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5 Generations of Women

International Women's Day March 8, 2025











Babiost Lingul Girls

FACULTY DISCLOSURE

All faculty in a position to control content for this session have indicated they have no relevant financial relationships to disclose.

The content of this material/presentation in this CME activity will not include discussion of unapproved or investigational uses of products or devices.

Apps

Open the Mac App Store to buy and download apps.

USPSTF Prevention TaskForce 4+
USPSTF Recommendations (ePSS)
AHRQ
Designed for iPad

****** 38 • 66 Ratings
Free

Open the Mac App Store to buy and download apps.



ASCCP Management Guidelines 17-

American Society for Colposcopy and Cervical Pathology Inc Designed for iPad

#4 in Medical

★★★★ 4.8 • 7K Ratings

\$14.99

OBJECTIVES

- I. Implement the age-appropriate screening for women *USPSTF, ACOG, and ASCCP: in a Well Woman Visit
- II. Understand the screening intervals (USPSTF):
 *Starting and Stopping Ages
- III. Understand the benefits of detection and early intervention *In Preventive Screening
- IV. Understand General Health Screening (USPSTF): *Hypertension, Diabetes, and Dyslipidemia

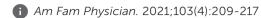
Health Maintenance for Women of Reproductive Age





PDF Print Comments

HEATHER L. PALADINE. MD. MEd. HIMABINDU EKANADHAM. MD. MS. AND DANIELA C. DIAZ. MD





The American College of Obstetricians and Gynecologists

ACOG COMMITTEE OPINION

Number 755

(Replaces Committee Opinion No. 534, August 2012)

Committee on Gynecologic Practice

This Committee Opinion was developed by the American College of Obstetricians and Gynecologists' Committee on Gynecologic Practice in collaboration with committee member Catherine Witkop, MD, MPH.

Well-Woman Visit

ABSTRACT: A well-woman visit provides an excellent opportunity to counsel patients about maintaining a healthy lifestyle and minimizing health risks. Given the shifting and complex landscape of care, in which many women may not receive all the recommended preventive services, obstetrician-gynecologists have an opportunity to contribute to the overall health and well-being of women throughout the lifespan by providing recommended preventive services and counseling. Taking a comprehensive history (specifically obtaining detailed information on symptoms and past medical and gynecologic history) will inform if certain components of the physical examination, including breast or pelvic examination, are indicated at that visit and will inform shared decision making for these examinations. Family history should be used as a risk assessment tool and should be completed and updated regularly to ensure the most comprehensive assessment of a woman's personal risk factors. Another key component of a well-woman visit for a reproductive-aged woman is the development and discussion of her reproductive life plan to ensure that medical testing and treatments provided are aligned with her current and future plans. Obstetrician-gynecologists provide care for women across the lifespan, and periodic well-woman visits are appropriate and necessary for perimenopausal women and postmenopausal women as well. This Committee Opinion has been revised to reflect updated guidance on components of the physical examination and new sources for well-woman preventive services.

Evidence behind screening recommendations

I. Age-appropriate screening:

- Cervical Cancer
 - *Uterine Cancer
 - *Ovarian Cancer
- Breast Cancer
- Colon Cancer
- Lung Cancer
- Osteoporosis
- Pregnancy:
 - Folic Acid, Hep C, Gonorrhea and Chlamydia, RPR
 - Screening: IPV and Depression

II. Age-appropriate vaccinations:

► HPV (New Guidelines)

10 &12 y/o

FR is an 12 y/o Asian teen girl who loves music, 'tik tok" and sports. She is a competitive basketball, lacrosse and volleyball player. She comes with her Mom for her Well Child Visit and to update her immunizations. Her Mom has not been updated with any recent vaccines, and is worried that her "once tween is quickly becoming a teen soon."

What should you tell her and her Mom regarding her WCC Visit with the most recent updates on HPV vaccines?



QUESTION

ACIP recommends routine vaccination of females aged 11 or 12 years with 3 doses of HPV Vaccines?

TRUE or FALSE?

What's new with HPV Vaccines???

CDC: October 7, 2016



***CDC and ACIP reviewed data from clinical trials showing two doses of HPV vaccine in younger adolescents (aged 9-14 years) produced an immune response similar or higher than the response in young adults (aged 16-26 years) who received three doses

11-12

 Recommend 11 to 12 year-olds receive two dases of HPV vaccine at least six months apart rather than the previously recommended three doses to protect against cancers caused by human papillomavirus (HPV) infections. Vaccination can be started at age 9 years old

•**HPV** #1→ **HPV** #2 @ 6-12 months

15-26

- Teens and young adults who start the series later, at ages 15 through 26 years, will continue to need three doses of HPV vaccine to protect against cancercausing HPV infection.
- •HPV#1→ HPV#2 @ 1-2 months → HPV #3 @ 6 months after 1st Vaccine
- NOTE: Shared alinical decision-making: adults ages 27-45 years

CERVICAL CANCER



20 y/o

AR is 20 y/o college student. She is relatively healthy and is active in the music and dancing scene, in addition to her love for fencing as the Captain of the Fencing Team. She is a typical college girl who eats a lot of junk food. She is not sexually active. She comes to your office for her routine well woman exam. She asks you when she should start her Well Woman Exam and PAP smear.

What is the age-appropriate screening counseling and prevention you would tell her and offer her?



CERVICAL CANCER SCREENING

USPSTF (ASCCP/ACS/ACP) March 2012

Screening for cervical cancer in women ages <u>21 to 65 years</u> with cytology (Pap smear) <u>every 3 years</u>

or

Screening for cervical cancer in women ages 30 to 65 years who want to lengthen the screening intervals screening with a combination of cytology and HPV testing every 5 years (co-testing)

***Grade: A Recommendation.

CERVICAL CANCER SCREENING

USPSTF August 21, 2018

The USPSTF recommends screening for cervical cancer (A Recommendation)

- ▶ 21 to 29 years:
 - every 3 years with cervical cytology alone
- ▶ 30 to 65 years:
 - every 3 years with cervical cytology alone
 - every 5 years with high-risk human papillomavirus (hrHPV) testing alone
 - ▶ every 5 years with hrHPV testing in combination with cytology (co-testing).

ASCCP 2021

SCREENING HPV ASSOCIATED DISEASE

The ASCCP Cervical Cancer Screening Task Force Endorsement and Opinion on the American Cancer Society Updated Cervical Cancer Screening Guidelines

Marcus, Jenna Z. MD¹; Cason, Patty RN, MS, FNP-BC²; Downs, Levi S. Jr. MD, MS³; Einstein, Mark H. MD, MS¹; Flowers, Lisa MD⁴

Author Information ⊗

Journal of Lower Genital Tract Disease 25(3):p 187-191, July 2021. | **DOI:** 10.1097/LGT.000000000000014

ASCCP 2021 RECOMMENDATIONS AND CONCLUSIONS

- The ASCCP endorses current cervical cancer screening guidelines for secondary prevention of cervical cancer and recommends that improving screening, including expanding access to those who are underscreened or unscreened, is the top priority for decreasing cervical cancer incidence, morbidity, and mortality in the United States.
- The ASCCP Cervical Cancer Screening Task Force endorses* the USPSTF cervical cancer screening recommendations and supports the ACS cervical cancer screening guidelines.
- The USPSTF recommendations *include all screening modalities*, providing flexibility that may benefit those who are marginalized, underinsured, or experiencing inequity and health disparities.
- The ASCCP recognizes the **need to move toward primary HPV-based** cervical cancer screening and acknowledges that it will take time to transition clinical and laboratory workflow and operations.
- The ASCCP no longer endorses its 2012 cervical cancer screening guidelines that do not include primary HPV screening.
- The combination of abnormal results that occur from either guidance should be managed using the 2019 ASCCP Risk-Based Management Consensus Guidelines.
- Patients with signs or symptoms **suspicious for cervical cancer** (abnormal uterine bleeding, postcoital bleeding, pelvic pain, etc.) should have a **diagnostic evaluation** even if screening tests are negative.
- Adequate prior cervical cancer screening with 10 years of negative results (3 consecutive negative cervical cytology results or 2 consecutive cotesting results) is required to exit from screening.
- Patients with spontaneous regression or prior treatment of high-grade precancerous lesions should be followed for at least 25 years even if this extends beyond 65 years of age—the upper limit for screening—as they are in active management.

CERVICAL CANCER SCEENING



CERVICAL CANCER SCREENING

USPSTF

August 21, 2018

II. The USPSTF recommends against screening for cervical cancer in women older than age 65 years who have had adequate prior screening and are not otherwise at high risk for cervical cancer.

Grade: D Recommendation

- II. The USPSTF recommends **against** screening for cervical cancer in women who have had:
 - I. Hysterectomy with removal of the cervix and
 - II. Who do not have a history of a high-grade precancerous lesion i.e. cervical intraepithelial neoplasia [CIN] grade 2 to 3) or cervical cancer

Grade: D Recommendation

ANNUAL GYNE EXAM PELVIC EXAM (USPSTF 2017→ CURRENT)

JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT

Screening for Gynecologic Conditions With Pelvic Examination US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force

IMPORTANCE Many conditions that can affect women's health are often evaluated through pelvic examination. Although the pelvic examination is a common part of the physical examination, it is unclear whether performing screening pelvic examinations in asymptomatic women has a significant effect on disease morbidity and mortality.

OBJECTIVE: To issue a new US Preventive Services Task Force (USPSTF) recommendation on screening for gynecologic conditions with pelvic examination for conditions other than cervical cancer, gonorrhea, and chlamydia, for which the USPSTF has already made specific recommendations.

EVIDENCE REVIEW The USPSTF reviewed the evidence on the accuracy, benefits, and potential harms of performing screening pelvic examinations in asymptomatic, nonpregnant adult women 18 years and older who are not at increased risk for any specific gynecologic condition.

FINDINGS Overall, the USPSTF found inadequate evidence on screening pelvic examinations for the early detection and treatment of a range of gynecologic conditions in asymptomatic, nonpregnant adult women.

CONCLISIONS AND RECOMMENDATION The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of performing screening pelvic examinations in asymptomatic, nonpregnant adult women. (distanement) This statement does not apply to specific disorders for which the USPSTF already recommends screening (ie, screening for cervical cancer with a Papanicalous unsers, screening for gonomies and thalmysids).

JAMA. 2017;317(9):947-953. doi:10.1001/jama.2017.0807

- ▶ **USPSTF** has decided **not to review the evidence and update its recommendations** for this topic. The previous evidence review and recommendation may contain information that is outdated.
- ▶ USPSTF encourages primary care clinicians to consult other sources for current evidence regarding this topic. If new evidence becomes available, the USPSTF may elect to update this topic.
- ▶ ACOG: It is recommended by the American College of Obstetricians and Gynecologists that pelvic examinations be performed when indicated by medical history or symptoms.
- ▶ ACOG: Limited data on benefits and harms...Should be a shared decision between the patient and her obstetrician—gynecologist or other gynecologic care provider.

UTERINE CANCER



UTERINE CANCER SCREENING

ACOG

There are NO screening tests to detect endometrial cancer in asymptomatic women.

AMERICAN CANCER SOCIETY (ACS)

- ▶ The ACS recommends that at the time of menopause:
 - All women should be told about the risks and symptoms of endometrial cancer
 - Women should report any unexpected bleeding or spotting
 - No evidence, to support the screening of asymptomatic women and some evidence against screening

OVARIAN CANCER



OVARIAN CANCER SCREENING

USPSTF February 2018

The USPSTF recommends <u>against</u> routine screening for <u>ovarian cancer</u> in asymptomatic women.

Grade: D Recommendation

BREAST CANCER



BREAST CANCER

Most common cancer in women worldwide

Leading cause of cancer death in women

•Black women and Hispanic women

Second, after lung cancer, as a cause of cancer death in women in the United States

Breast cancer-related mortality—> decreasing since 1990, reflecting both earlier detection of breast cancer and improved treatment

In 2024, an estimated 310,720 women were diagnosed with invasive breast cancer.

The American Cancer Society estimates that 316,950 new cases will be diagnosed in women in 2025

USPSTF: BREAST CANCER

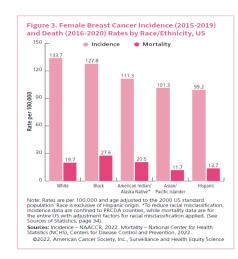
Black women

- Slightly lower incidence rates
- 40% more likely to die from breast cancer than White women
- More likely to be diagnosed in their 40's
- More aggressive breast cancer

New ACS Report: Breast Cancer Mortality Continues Three Decade Decline Overall, but Steeper Increases in Incidence for Women <50 & Asian American, Pacific Islanders of all Ages

Oct 1, 2024

American Cancer Society researchers also report alarming disparities remain for underserved populations, including Native American women



$45 \times 55 \text{ y/o}$

TM is a 45 y/o Asian Female relatively healthy woman presents to the office for her routine Well Woman Exam. She has not had any gynecological visit since the birth of her 6 y/o daughter in 2006. In 2000, at age 30 y/o, she had a h/o ASCUS (correlated with her first trimester pregnancy with a subsequent normal PAP 6 weeks post-partum, as expected). Otherwise, no h/o abnormal PAP. She had a ? Dx: Diverticulitis in 2010, and was advised by the Surgeon to get a Colonoscopy (which she has not yet done). She has no FHx of Colon or Breast CA. She asked you about the most recent updated guidelines re: Breast Cancer Screening and Colon Cancer Screening (as she has heard different ages from her friends).

What are the age-appropriate screening tests you would tell her and offer her?



ACOG 2017→2021

ACOG 2017:

- Women at average risk of breast cancer should be offered screening mammography starting at age 40 years of age
- If they have not initiated screening in their 40s, they should begin screening mammography by **no later than** age 50 years. The decision about the age to begin mammography screening should be made through a shared decision-making process. This discussion should include information about the potential benefits and harms

ACOG 2021

- Recommend screening mammography at 40 years of age
- ▶ Continues to recommend screening mammography every one or two years
 - based on an informed, shared decision-making process between patients and their clinicians

ACS

December 2023

OLD:

▶ Women with an average risk of breast cancer should undergo regular screening mammography starting at age 45 years. (Strong Recommendation)

NEW:

- Women between 40 and 44 have the option to start screening with a mammogram every year
- Women 45 to 54 should get mammograms every year
- **Women 55 and older** can switch to a mammogram every other year, or they can choose to continue yearly mammograms. Screening should continue as long as a woman is in good health and is expected to live at least 10 more years
- All women should understand what to expect when getting a mammogram for breast cancer screening – what the test can and cannot do

USPSTF 2002 (40 y/o) \rightarrow December 2009 \rightarrow 2016 (50 y/o)

The USPSTF recommends **biennial screening mammography** for women aged <u>50</u> to 74 years

Grade: <u>B Recommendation</u>

USPSTF

April 30, 2024

USPSTF recommends *biennial screening mammography* for women aged <u>40 to 74 years</u>

Grade: B Recommendation

BREAST CANCER SCREENING



COLON CANCER



COLON CANCER SCREENING

USPSTF October 2008

The USPSTF recommends screening for colorectal cancer using **fecal occult blood testing, sigmoidoscopy, or colonoscopy** in adults, beginning at <u>age</u> <u>50 years</u> and continuing until age <u>75 years</u>

Grade: <u>A Recommendation</u>

COLON CANCER SCREENING May 2021

- Recommended screening strategies include:
 - High-sensitivity guaiac fecal occult blood test (HSgFOBT) or fecal immunochemical test (FIT) every year
 - Stool DNA-FIT every 1 to 3 years
 - Computed tomography colonography every 5 years
 - Flexible sigmoidoscopy every 5 years
 - Flexible sigmoidoscopy every 10 years + annual FIT
 - Colonoscopy screening every 10 years

Colorado Cancer Coultion

USPSTF Guidelines (Final)

Stool-Based Tests

Screening Method	Frequency
gFOBT	Every year
FIT	Every year
FIT-DNA	Every 1 or 3 years

*Although a serology test to detect methylated SEPT9 DNA was included in the systematic evidence review, this screening method currently has limited evidence evaluating its use. It is therefore not included in this table.

Direct Visualization Tests

Screening Method	Frequency
Colonoscopy	Every 10 years
CT Colonography	Every 5 years
Flexible Sigmoidoscopy	Every 5 years
Flexible Sigmoidoscopy w FIT	Flexible Sigmoidoscopy every 10 years plus FIT every year

IAMA: 2016;315(23):2564-2575; doi:10.1001/jama-2016.5930

UPDATE COLON CANCER SCREENING

USPSTF: 2008→ 2018 → May 18, 2021

- Released final recommendation statement on screening for colorectal cancer
 - ▶ 45-49 years old (Grade: B Recommendation)
 - start screening
 - ▶ 50 to 75 years old (Grade A: Recommendation)
 - strongly recommend screening
 - ▶ 76 to 85 years old (Grade C: Recommendation)
 - recommend that the decision to screen be made on an individual basis

COLORECTAL CANCER SCREENING



80 y/o

MD is an 80 y/o Asian Female who has not seen a physician in about 20 years after her TAHBSO in 1992 for a Uterine Prolapse and a "benign" finding on the biopsy. Otherwise, she has been relatively healthy without any significant FHx of Colon Cancer or Breast Cancer. She loves to cook gourmet "international" dishes (as she pursued her 5th career at 67 y/o with her passion for international cooking as a Chef at Le Cordon Bleu). She has a significant FHx: HTN, DM and Hyperlipidemia. But, she was quite active and was a workaholic who refused to retire until almost 70 y/o.

She asks if she should still get a mammogram or colonoscopy?

USPSTF concludes that the current evidence is **insufficient** to assess the balance of benefits and harms of screening mammography in women 75 years or older.

*Grade: I Recommendation



ITE #74

74. A 67-year-old female presents for an annual health maintenance examination. She has a history of GERD, asthma, and hypothyroidism. Her last colonoscopy revealed tubular adenomas. She has smoked 1 pack of cigarettes per day since age 20.

She does not have any current medical concerns. Which one of the following would be most appropriate for this patient?

- A) Urinalysis screening for bladder cancer
- B) Stool DNA testing (Cologuard) for colon cancer
- C) Cytology and HPV co-testing for cervical cancer
- D) Annual EKG screening for coronary artery disease
- E) Annual low-dose CT screening for lung cancer

ITE #74: ANSWER

Item 74 ANSWER: E

The U.S. Preventive Services Task Force recommends annual screening for lung cancer with low-dose CT for patients between the ages of 50 and 80 who have more than a 20-pack-year smoking history and either currently smoke or quit smoking within the past 15 years.

This patient has a 47-pack-year smoking history, so screening is appropriate.

Neither screening urinalysis nor screening EKG is recommended in this asymptomatic patient.

This patient has a history of **tubular adenomas** so additional colon cancer screening should be with a **colonoscopy**, not stool DNA testing.

Cervical cancer screening occurs until age 65.

LUNG CANCER SCREENING



LUNG CANCER SCREENING

USPSTF December 2013

Annual screening for lung cancer with low-dose computed tomography (LDCT) in adults aged **55 to 80 years** who have a **30 pack-year** smoking history and currently smoke or have quit within the past **15 years**.

Screening should be **discontinued** once a person has **not smoked for 15 years** or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.

Grade: B recommendation

UPDATE LUNG CANCER SCREENING

USPSTF (July 2020) → March 9, 2021 Final Recommendation

Recommends **annua**l screening using a low-dose computed tomography (CT) scan for people aged <u>50</u> to 80 years old who are at high risk for lung cancer because of their smoking history

Grade: B recommendation

*High risk are people who have smoked at least <u>20</u> pack-years over their lifetime, and still smoke or have quit smoking within the last **15** years

AAA SCREENING

The USPSTF concludes that the current evidence is to perform 1-time screening for abdominal aortic aneurysm (AAA) with ultrasonography in women aged 65-75 y/o who have ever smoked.

TRUE or FALSE?

101 y/o

FD "APU" is a 101 y/o G10P100010 Amazing Filipina "Matriarch" who was a survivor of WWII. She had a history of Hypertension, Hyperlipidemia, Rheumatoid Arthritis and BPPV who comes to your office for her routine AWE. She has no FHx of Colon CA or Breast CA and no GI symptoms. She is compliant with her meds and follows up regularly with her PCP. She had 10 beautiful children (1 girl and 9 boys), 21 Grandchildren, 37 Great Grandchildren and 8 Great Great Grandchildren. One of her Great Grandchildren and 8 Great Great Grandchildren one of her Great Grandchildren swa happily named after her "Felicity." She lived the Legacy of 5 Generations of strong, resilient and intelligent women who was God Loving, as she would always say "To God Be The Glory!" She lived a beautiful and an active life until she was 100 y/o and traveled to back home to her country at 101 y/o. And she was loved by ALL!

What should you explain to APU what screening tests she does not need?

All her cancer screenings should have stopped by now:

- Cervical Cancer 65 v/c
 - *Uterine Cancer N/A
- *Ovarian Cancer N/A
- ▶ Breast Cancer 7
- Colon Cancer 75 y/o
- Lung Cancer 80 y/o





LUNG CANCER SCREENING



GENERAL HEALTH SCREENING & COUNSELING

GENERAL HEALTH SCREENING

- I. HYPERTENSION
- II. DIABETES
- III. DYSLIPIDEMIA

► GENERAL COUNSELING

I. PRE-CONCEPTION TO PREGNANCY

GENERAL HEALTH SCREENING & COUNSELING HYPERTENSION

USPSTF

April 27, 2021

I. Recommends screening for hypertension in adults 18 years or older with office blood pressure measurement (OBPM)

II. Recommends obtaining blood pressure measurements outside of the clinical setting for diagnostic confirmation before starting treatment.

Grade: A Recommendation

GENERAL HEALTH SCREENING & COUNSELING DIABETES

What does the USPSTF recommend? August 24, 2021

Adults aged 35 to 70 years who have overweight or obesity

- Screen for prediabetes and type 2 diabetes, and
- Offer or refer patients with prediabetes to effective preventive interventions

Grade: B Recommendation

LIPID DISORDERS IN ADULT: ARCHIVED

USPSTF

December 30, 2013

- ▶ The USPSTF **strongly** recommends screening women **aged 45 and older for lipid disorders** if they are at increased risk for coronary heart disease.
 - ► Grade: A Recommendation

GENERAL HEALTH SCREENING & COUNSELING DYLIPIDEMIA

LIPID DISORDERS IN ADULTS

December 30, 2013

Statin Use for the Primary Prevention of Cardiovascular Disease in Adults: Preventive Medication
August 23, 2022

What does the USPSTF recommend?

For adults aged 40 to 75 years who have:

*1 or more cardiovascular risk factors (ie, dyslipidemia, diabetes, hypertension, or smoking) AND

*An estimated 10-year cardiovascular disease (CVD) risk of 10% or greater

*Initiate a statin

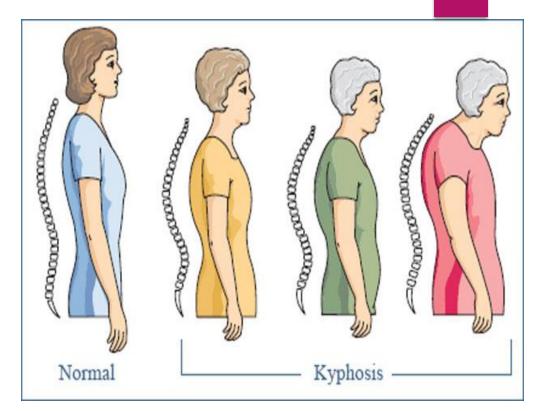
Grade: B Recommendation

GENERAL HEALTH SCREENING & COUNSELING
OSTEOPOROSIS

USPSTF January 14, 2025

Recommends screening for **osteoporosis** to prevent osteoporotic fractures in women **65** years or older

Grade: B Recommendation



SPECIAL POPULATION PRE-CONCEPTION TO PREGNANCY

Folic Acid: USPSTF August 1, 2023

All persons planning to or who could become pregnant take a daily supplement containing 0.4 to 0.8 mg (400to 800 mcg) of folic acid.

Hep C:

NEW: Hepatitis C virus (HCV) infection in adults aged 18 to 79 years: March 2, 2020

Grade: B

ACOG: Hepatitis C screening early in each pregnancy: August 18, 2023

Grade: B

RPR: US PSTF September 4, 2018→ November 19, 2024 "Update in Progress"

ACOG: At the first prenatal visit, during the third trimester, and at delivery (Magee)

DEPRESSION: USPSTF June 2023

IPV: USPSTF October 29, 2024

Grade B

TAKE HOME POINTS

Guidelines esp. for Women's Health are constantly changing, and as Primary Care Physicians, we need to keep up with the most evidenced based guidelines (esp. keeping up with the USPSTF as clinicians and educators to our patients, residents and medical students)



Treat each woman who comes to your office as if they are the women in your family...and educate each woman to prevent diseases and screen for cancers "One Woman At A Time."



In this digital world of connection, know the evidenced based resources to use, like the USPSTF and the ASCCP Apps (2019).

Elizabeth BLACKWELL

1821 - 1910

National Women
Physicians Day

First woman graduate Medicine in United States



eponymictionary

Women's History Month

"If society will not admit of a woman's free development, then society must be remodeled."

▶ Dr.Blackwell

January 3, 1849

The Medical Institution of Geneva, NY

Kudos to all the WoMBMAN (Working Mother Balancing Medicine And Nurturing)

WIM (Women In Medicine) who have paved the way for many of us!

THANK YOU! HAPPY INTERNATIONAL WOMEN'S DAY

March 8, 2025





TAKE HOME USPSTF REVIEW QUESTIONS

Open the Mac App Store to buy and download apps.



USPSTF Prevention TaskForce 4+

USPSTF Recommendations (ePSS)

AHRQ

Designed for iPad

**** 3.6 • 66 Ratings

Free

ITE #141

141. A healthy 15-year-old female is brought to your office for a well adolescent visit. She does not have any health concerns or preexisting medical conditions.

Based on the guidelines from the U.S. Preventive Services Task Force, which one of the following would be most appropriate for this patient?

- A) A vision examination
- B) Depression screening
- C) A CBC
- D) A lipid panel
- E) HPV testing

ITE #141: ANSWER

Item 141 ANS WER: B

The U.S. Preventive Services Task Force (USPSTF) recommends depression screening for adolescents beginning at age 12 (B recommendation).

The American Academy of Pediatrics (AAP) recommends routine vision screening from 12 months to 5 years of age and only risk-based vision screening in adolescents as vision conditions are less likely to be gin in older children.

The USPSTF recommends vision screening at least once in all children ages 3-5 (B recommendation).

Iron deficiency screening is not recommended in adole scents; however, the AAP recommends universal hemoglobin or hematocrit screening at 12 months of age while the USPSTF states that there is insufficient evidence (I recommendation).

While the AAP recommends dyslipidemia screening in children ages 9–11, the USPSTF currently states there is insufficient evidence for screening for ≤20 years of age (I recommendation).

The **USPSTF** recommends **against cervical cancer screening before age 21 (D recommendation).** Furthermore, cytology is recommended for those age 21 and older while high-risk HPV testing is not recommended until age 30.

ITE #68

68. An asymptomatic 20-year-old female who is sexually active with a new male partner requests testing for sexually transmitted infections. She has had 2 sex partners and uses the subdermal etonogestrel implant (Nexplanon) for contraception.

Based on U.S. Preventive Services Task Force guidelines, she should be screened for which one of the following?

- A) Bacterial vaginosis
- B) Infection with Chlamydia trachomatis and Neisseria gonorrhoeae
- C) Infection with genital herpes simplex virus
- D) Infection with HPV
- E) Infection with Mycoplasma genitalium

ITE #68: ANSWER

The USPSTF recommends screening for **chlamydia/gonorrhea** in all **sexually active** women **24 years or younger** and in women **25 years or older who are at increased risk** for infection. (B Recommendation)

Item 68 ANSWER: B

According to recommendations from the U.S. Preventive Services Task Force (USPSTF), <u>females <24 years of age</u> who are sexually active should be screened for <u>Chlamydia trachomatis and Neisseria gonorrhoeae infections.</u>

A urine nucleic acid amplification test (NAAT) is recommended for screening.

The USPSTF does not recommend asymptomatic screening for bacterial vaginosis or infection with Mycoplasma genitalium.

The USPSTF recommends **against** routine serologic screening for infection with **genital herpes simplex virus** in asymptomatic adolescents and adults.

HPV testing screens for cervical cancer but is not recommended for patients under 21 years of age.

ITE# 59

59. A 16-year-old female presents for a routine checkup. During the visit, she discloses that she is sexually active and wants to discuss contraceptive options. However, she is hesitant to inform her parents, fearing their disapproval.

Which one of the following is the most ethical course of action?

- A) Providing the patient with contraception without informing her parents, and respecting her confidentiality by not noting this discussion in her medical record
- B) Offering confidential counseling and contraceptive options while encouraging open communication with her parents
- C) Insisting on parental involvement in the decision-making process, emphasizing the importance of open communication
- D) Referring the patient to a mental health professional to address her concerns about parental disapproval before discussing contraception
- E) Refusing to discuss contraception without parental consent, citing the patient's age

ITE# 59: ANSWER

Item 59 ANSWER: B

While respecting the patient's autonomy and confidentiality is important, ethical obligations also extend to ensuring her well-being and safety, and accurately maintaining the medical record.

Encouraging open communication with parents can foster trust and support, but forcing it might create a harmful environment.

Offering counseling and contraceptive options while advocating for open communication allows the physician to foster patient autonomy as well as uphold responsible guidance.

This approach aligns with ethical guidelines from the American Academy of Pediatrics that emphasize respect for minors' confidentiality while considering parental involvement in sensitive situations.

ITE #187

187. A 65-year-old female with no chronic medical problems presents for an annual Medicare wellness visit. You initiate a discussion regarding cervical cancer screening.

According to current clinical guidelines, which one of the following would be an indication for <u>additional cervical cancer screening</u> in this patient?

- A) A family history of cervical cancer in a first-degree relative
- B) Loop excision of a high-grade precancerous lesion 15 years ago, with consecutive normal results since then
- C) Three consecutive normal cytology results within the past 10 years, most recently 3 years ago
- D) Two consecutive normal cytology results with negative high-risk HPV co-testing within the past 10 years, most recently 4 years ago
- E) Unprotected intercourse with a new sex partner

ITE #187: ANSWER

Item 187 ANSWER: B

The U.S. Preventive Services Task Force (USPSTF) recommends against cervical cancer screening for women >65 years of age with normal Papanicolaou (Pap) smears, who have had adequate prior screening, and who otherwise are not at increased risk for cervical cancer (D recommendation).

The most recent definition of "adequate prior screening" given by the American Cancer Society (ACS) is 3 consecutive negative cytology results, 2 consecutive negative co-testing results, or 2 consecutive negative high-risk HPV tests in the 10 years prior to discontinuation of screening, with the most recent test having occurred within the relevant recommended testing interval. The recommended interval is every 3 years for cytology, and 5 years for both high-risk HPV and co-testing.

Importantly, USPSTF guidelines do not apply to individuals who are at increased risk for cervical cancer, including women with a history of high-grade precancerous cervical lesions or cervical cancer.

The ACS and the American Society of Colposcopy and Cervical Pathology (ASCCP) guidelines recommend continuation of cervical cancer screening for women with a history of a high-grade precancerous lesion (defined as cervical intraepithelial neoplasia [CIN] grade 2 or higher) for a minimum of 25 years beyond the treatment of the lesion, even if this extends beyond 65 years of age.

Thus, if this patient had a history of treatment for a high-grade lesion 15 years ago, this would warrant continued screening for an additional 10 years. The presence of a new sex partner should not impact the decision to discontinue screening for women who otherwise are eligible for cessation of screening.

In fact, ACS recommendations apply to all asymptomatic people with a cervix, without regard to their sexual history.

In contrast to several other common cancer types, cervical cancer risk is not associated with a familial/genetic inheritance pattern; therefore, a family history of cervical cancer, even in a first-degree relative, should not impact a cervical cancer screening decision.

ITE #147

147. A 46-year-old female with a BMI of 36 kg/m2 and a history of bilateral tubal ligation presents with intermenstrual bleeding. An endometrial biopsy reveals endometrial hyperplasia with atypia.

Which one of the following should you recommend at this time?

- A) Oral progesterone
- B) Combined oral contraceptives
- C) A levonorgestrel IUD (Mirena)
- D) Uterine MRI
- E) Hysterectomy

ITE #147: ANSWER

Item 147 ANSWER: E

This patient's age and elevated BMI put her at risk for endometrial cancer.

Appropriate evaluation includes an **endometrial biopsy.** Patients who have **endometrial hyperplasia** <u>with</u> **atypia** should be referred for **hysterectomy**, as it is the treatment of choice.

Oral progesterone may be offered to a patient who desires a future pregnancy.

Endometrial hyperplasia without atypia may be treated with a levonorgestrel IUD or oral progesterone.

Uterine MRI would not offer any additional information for diagnosis and would not change the need for hysterectomy.

ITE #109

109. A 26-year-old nulliparous female presents for an evaluation after she discovered a breast mass while showering. An examination confirms a 4×3 -cm nonpainful mass in the upper outer quadrant of the right breast.

Which one of the following should you recommend?

- A) Screening mammography of the breast
- B) Diagnostic mammography of the breast
- C) Ultrasonography of the breast
- D) MRI of the breast
- E) Surgical referral for excision and biopsy

ITE #109: ANSWER

Item 109 ANSWER: C

Diagnostic mammography is typically the preferred imaging modality for a palpable breast mass.

However, <u>ultrasonography</u> is more sensitive in <u>women younger than 30 years</u> of age and is preferred.

Screening mammography should be performed biennially for asymptomatic women ages 40–74.

MRI is not appropriate for this patient at this time.

Surgical excision and biopsy would be necessary if abnormalities are found on imaging.

ITE #9

9. A 65-year-old female is found to have a T-score of -3.3 on a DEXA scan that is performed as part of her Welcome to Medicare evaluation. She has a 30-pack-year smoking history but quit smoking 5 years ago. An examination reveals a thin female but is otherwise unremarkable. A CBC, a comprehensive metabolic panel, and thyroid studies are unremarkable. X-rays reveal evidence of an old compression fracture of the thoracic spine.

Which one of the following would be the most appropriate initial treatment?

- A) Oral alendronate (Fosamax)
- B) Oral raloxifene (Evista)
- C) Subcutaneous denosumab (Prolia)
- D) Subcutaneous teriparatide (Forteo)
- E) Intravenous zoledronic acid (Reclast)

ITE #9: ANSWER

Item 9 ANSWER: D

The diagnosis of osteoporosis can be made with a prior fracture of the hip or spine, or a T-score \leq -2.5. A FRAX score \geq 3% for hip fracture or \geq 20% for major osteoporotic fracture is also diagnostic.

The usual **first-line** treatment is an **oral bisphosphonate** such as **alendronate** or **intravenous zoledronic acid. Denosumab** would be preferred if the creatinine clearance were less than 30–35 mL/min/1.73 m².

Patients such as this one would be considered at **very high fracture risk**. Diagnostic criteria for this risk category include a **T-score**, a **FRAX score** ≥4.5% for **hip fracture or** ≥30% for major osteoporotic fracture, multiple fractures, fracture within 12 months, or fracture during treatment for osteoporosis.

The initial treatment recommendation would be a parathyroid hormone analogue such as teriparatide daily for 2 years.

Raloxifene is indicated for the prevention of vertebral fractures only. It is useful in patients with a history of breast cancer to help decrease the risk for recurrence.

ITE # 177

177. A 59-year-old female asks when she should consider screening for osteoporosis. Her last menstrual period was at age 53.

According to the U.S. Preventive Services Task Force, which one of the following risk factors, if present, should lead to a calculation of osteoporosis risk with a screening tool and consideration of screening for osteoporosis now?

- A) Low caffeine consumption
- B) High alcohol consumption
- C) Body weight >100 kg (220 lb.)
- D) A maternal aunt with a history of hip fracture
- E) Nonsmoking status

ITE #177: ANSWER

Item 177 ANSWER: B

In **postmenopausal** women **younger than age 65**, the U.S. Preventive Services Task Force recommendations for osteoporosis screening include assessing for **osteoporosis risk factors**

*parental history of hip fracture, **smoking**, **high alcohol consumption**, or low body weight

*and use of a clinical risk assessment tool if 1 or more risk factors are present.



03/06/2025

Advancing Health Equity in Pennsylvania

Debra L. Bogen, MD, FAAP Secretary of Health

47th Annual Family Medicine Refresher Course

Disclosures

 Debra Bogen, MD, FAAP has NO relevant financial relationships with the manufacturer(s) of any commercial product(s) and/or provider(s) of commercial services discussed in this CME activity

• She does NOT intend to discuss an unapproved or investigative use of a commercial product/device in this presentation.



Learning objectives

- 1. Describe the structure of public health governance in the US and PA.
- 2. Describe health disparities in PA related to infant mortality, maternal mortality, and overdose deaths.
- 3. List one way each that the Department of Health works to address health inequities for infants, mothers, and substance use.
- 4. Explain at least two challenges impacting rural health care in PA.



More than 8 years...

73.4

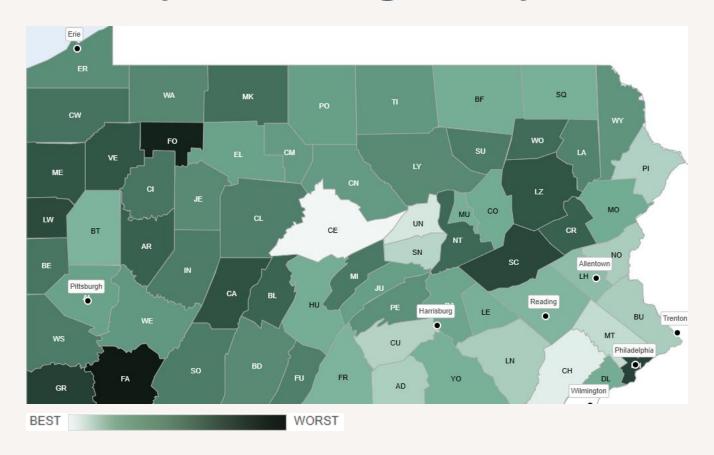
Fayette County life expectancy

81.6

Centre County life expectancy



Life expectancy varies greatly across PA

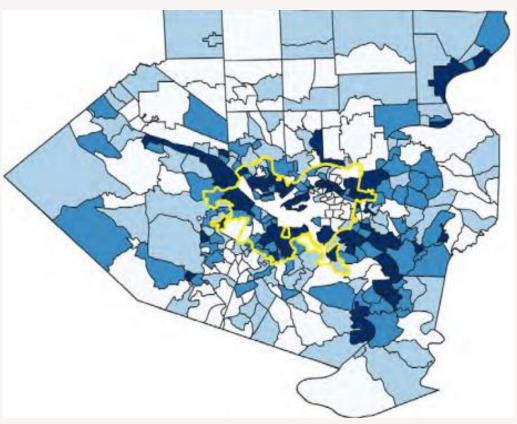


Average life expectancy in PA = 77.3 years (2019-21)



Differences by census tract even more pronounced





- LE = 78.1 yrs
- LE ~6.5 years longer for White than Black residents
- LE by census tract ranges 62–86 years



Our mission and vision at DOH

Mission

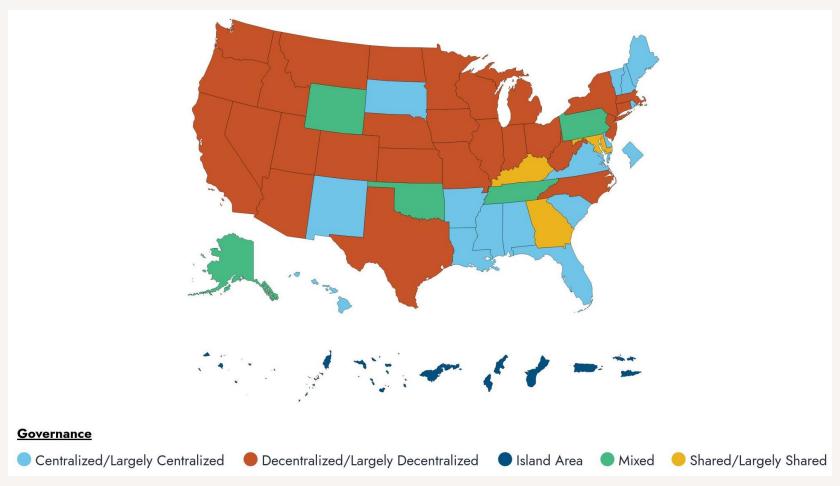
Promote healthy behaviors, prevent injury and disease, and to assure the safe delivery of quality health care for all people in Pennsylvania.

Vision

A healthy Pennsylvania for <u>ALL</u>.



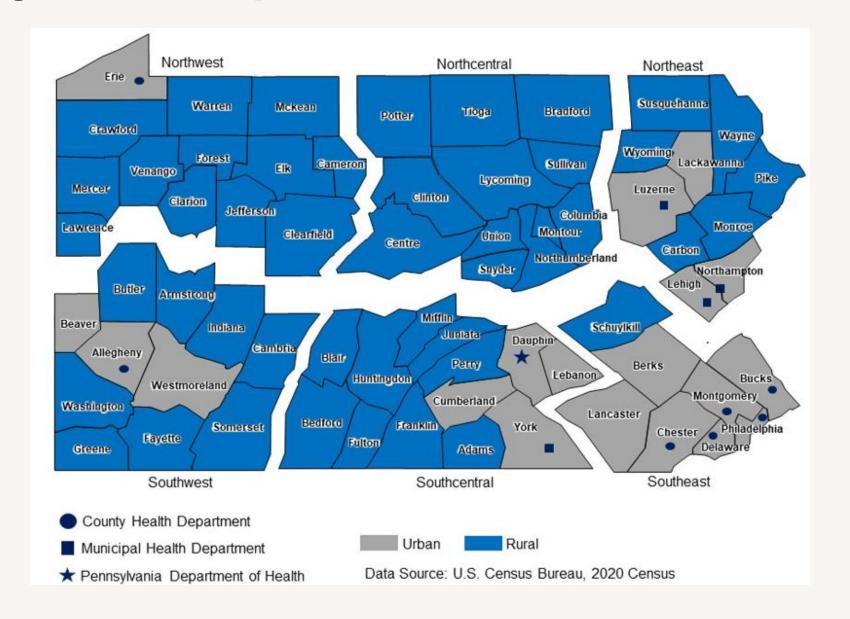
Diverse range of public health governance structures across U.S.





Source: ASTHO

Pennsylvania's public health structure





These are local health departments in PA

County

- 1. Allegheny County
- 2. Bucks County
- 3. Chester County
- 4. Delaware County
- 5. Erie County
- 6. Montgomery County
- 7. Philadelphia Dept of Public Health

Municipal

- 1. Allentown
- 2. Bethlehem
- 3. Wilkes-Barre
- 4. York City

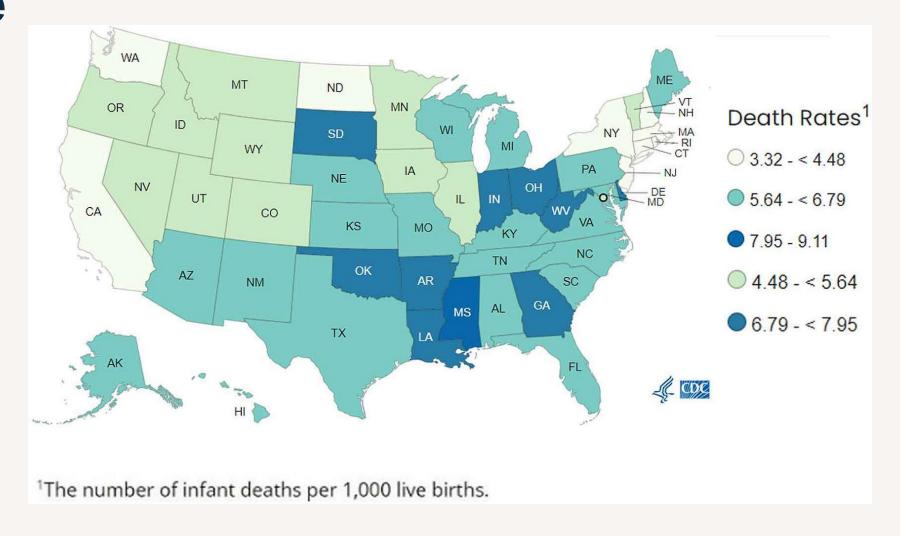


How DOH is working to address health inequities



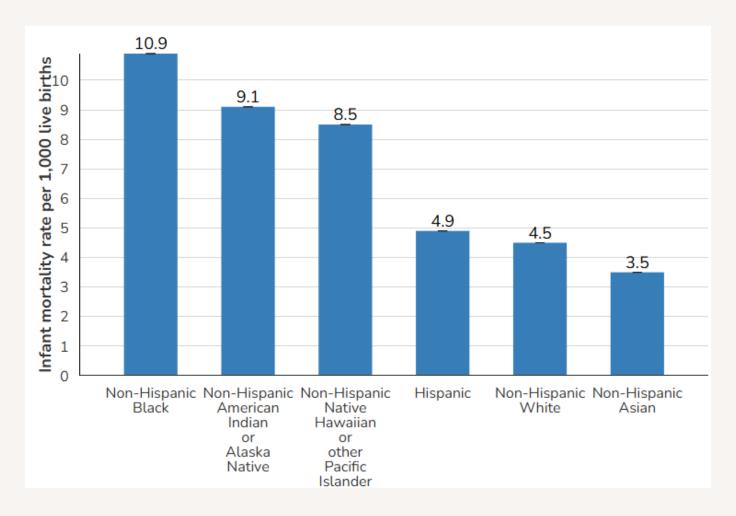
Disparities in infant mortality rate (IMR) by

state





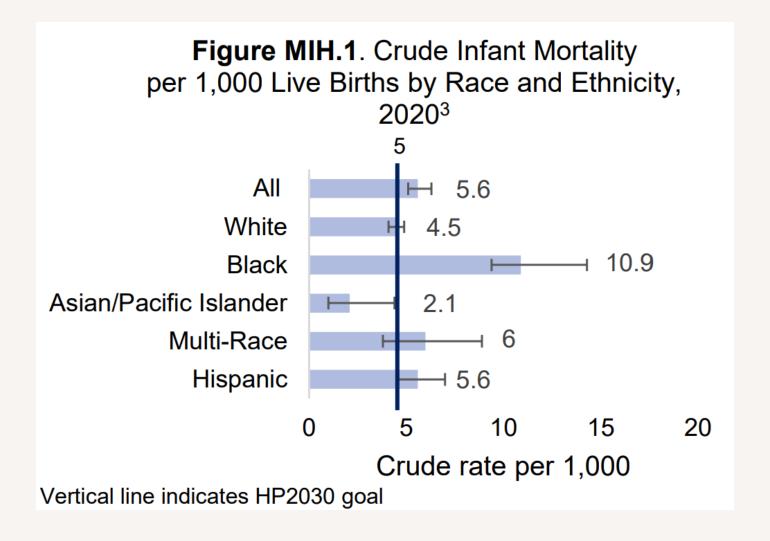
Black Americans have highest IMR in US





Source: CDC, 2024

Similar IMR disparities by race/ethnicity in PA





How DOH prioritized using our HRSA Title V MCH Block Grant



- 1. Reduce and improve maternal morbidity and mortality
- 2. Reduce rates of infant mortality (all causes)

...plus 5 others priority goals



Strategies we're using to decrease infant mortality

National performance metrics:

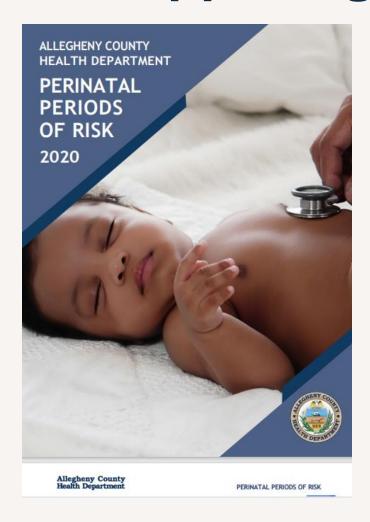
- 1. % of infants ever breastfed
- 2. % of infants exclusively breastfed through 6 months
- 3. % of infants placed to sleep on backs
- 4. And other safe sleep strategies

Examples of state strategies/metrics:

- % Keystone 10 facilities increase ≥1 step/year
- Award 15 mini-grants to CBOs for breastfeeding support
- Number CDR recommendations implemented each year
- % birthing facilities that implement model safe sleep program



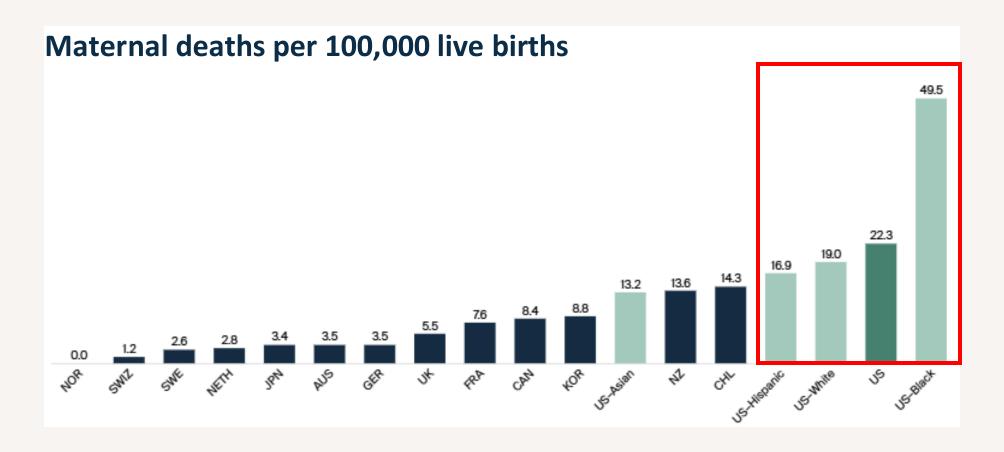
Work happening locally to address IMR



- Provide funding to support work in local communities
- Local example
 - The Advancing Birth Equity Strategies Together (BEST) Allegheny Coalition

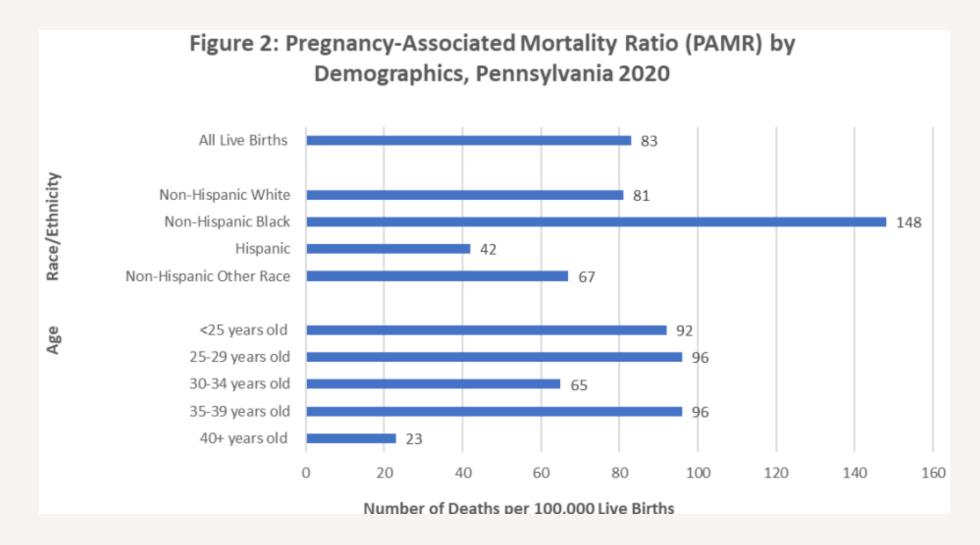


US has highest maternal death rate, and rate for Black women is highest by far



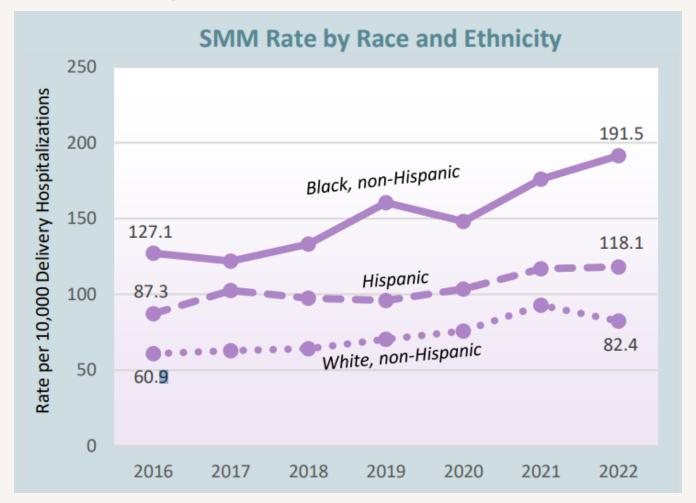


PA maternal mortality by race and age





Black women in PA suffer increased severe maternal mortality (SMM) rate

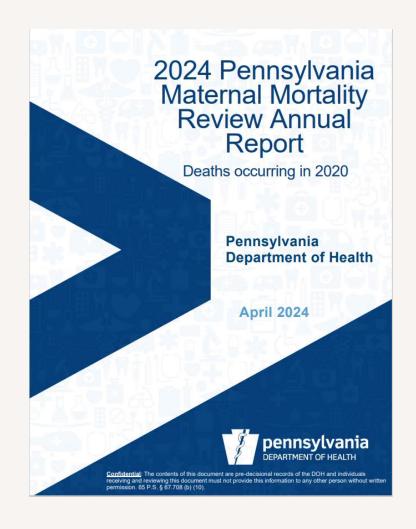




Maternal Mortality Review Committee (MMRC)

Recommendations for:

- Patients
- Providers
- Health care facilities
- Health care systems
- Community





Source: MMRC Report, 2024

Regional maternal health coalitions launched

- \$3.6 million investment
- 4 regional coalitions
- Analyze data and determine local factors contributing to maternal morbidity and mortality
- With partners, implement MMRC recommendations to improve health





Clinton County maternity care pilot



- Clinton County State Health Center, \$1.3 million over 2 yrs
- Partnership with UPMC and other partners
- Goal: increase access to maternal health services in this rural community



PA DOH: Bureau of Family Health

- Serves ~ 2.6 million individuals annually
- Uses ~\$76 million includes Title V, state match, other federal funding
- Support programming, state-level program management, and public health systems
- Partners with >45 grantee and stakeholder groups

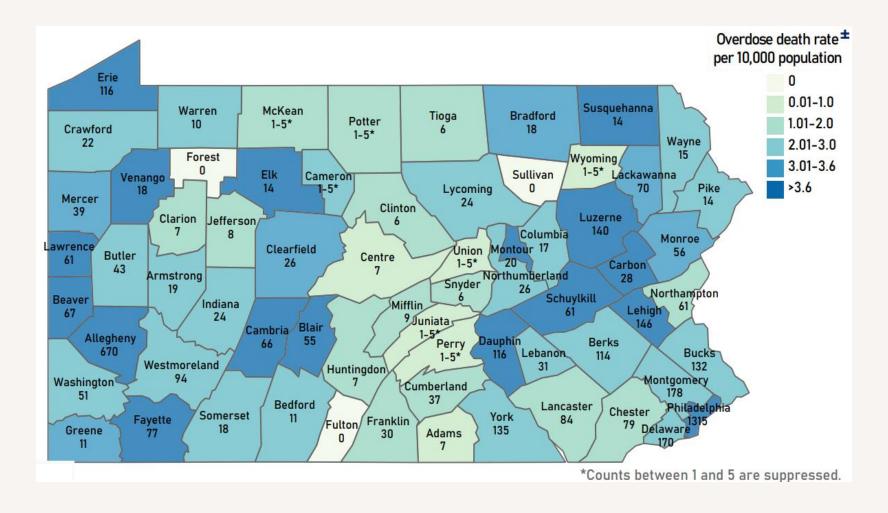


Other maternal health initiatives in PA

- PA Perinatal Quality Collaborative
- DOH Division of Maternal Health Services
- National Governor's Assoc.: Improving Maternal and Child Health in Rural America: State and Territory Policy Learning Collaborative
- State government maternal health strategic planning

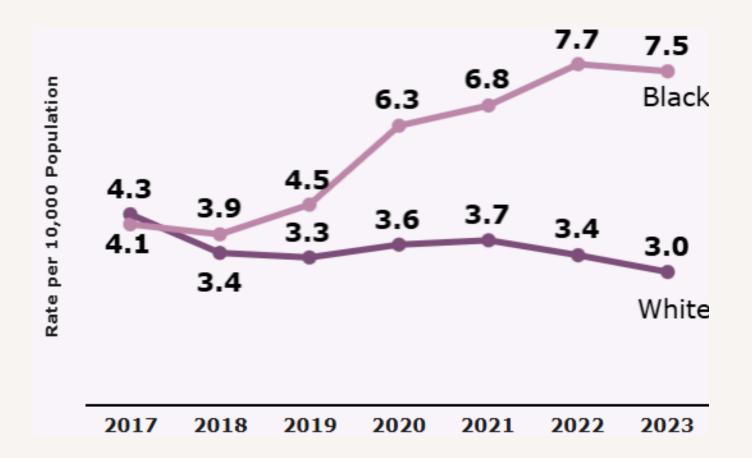


Fatal overdose rate by county, 2023





Black Pennsylvanians have higher rate of fatal overdose compared to White Pennsylvanians



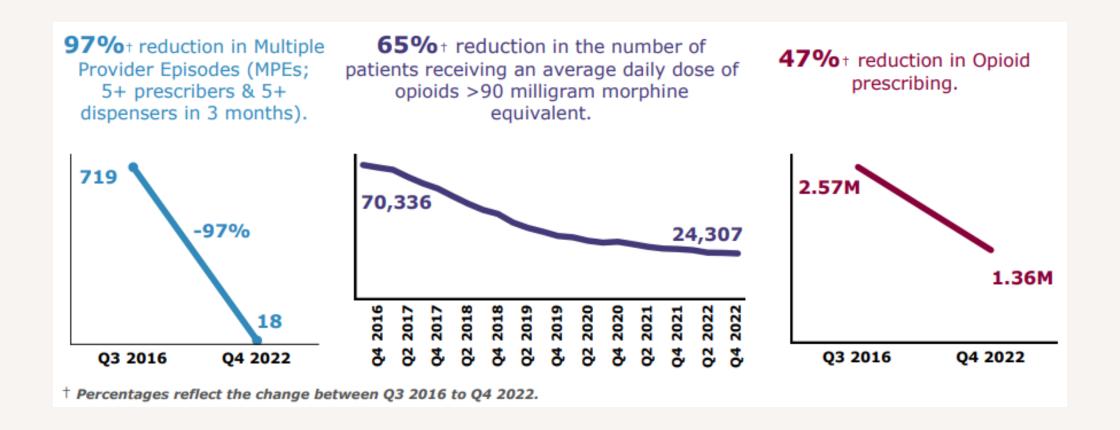


Addressing substance use and opioid epidemic

- Substance use navigation and education program
 - Pennsylvania Substance Use Navigation Program (PA-SUN)
 - Harm reduction organizations
 - Community based organizations
- Clinician education
- Naloxone kits and xylazine wound care kits
- Conduct research to inform practice



Prescription Drug Monitoring Program (PDMP) has decreased risky opioid prescribing





Rural health challenges in PA

Workforce

Financial models

EMS

Opioid epidemic

Behavioral health

Distance to care



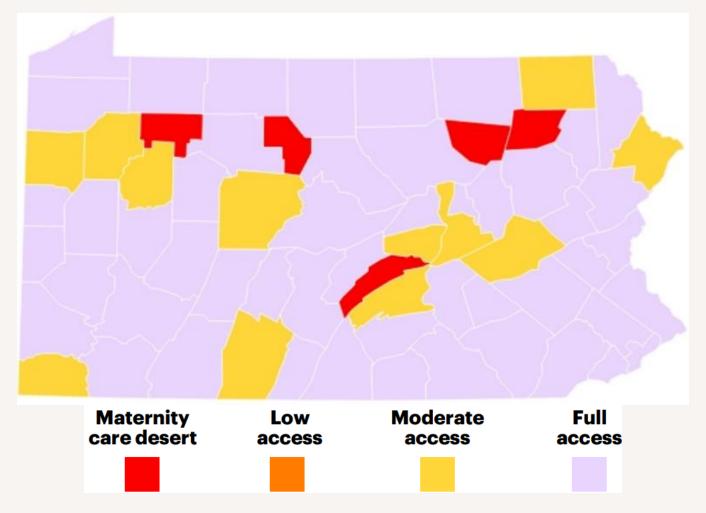
A picture of rural health disparities

- Lower income
- Higher disease burden
- Fewer health care professionals
- Longer waits for EMS
- Longer travel times
- Health care deserts





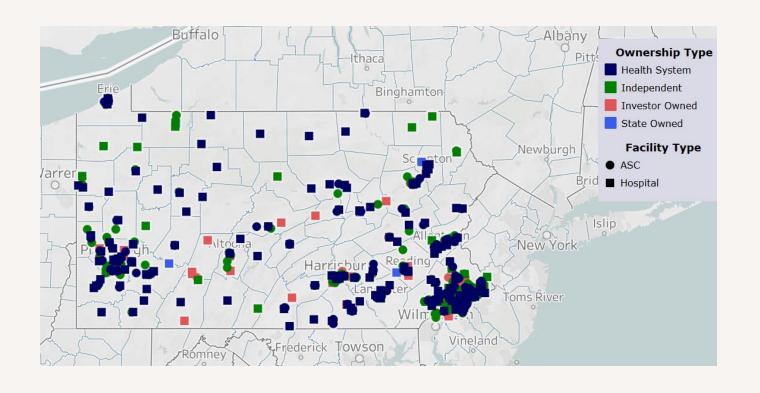
Maternity care deserts are scattered across rural PA





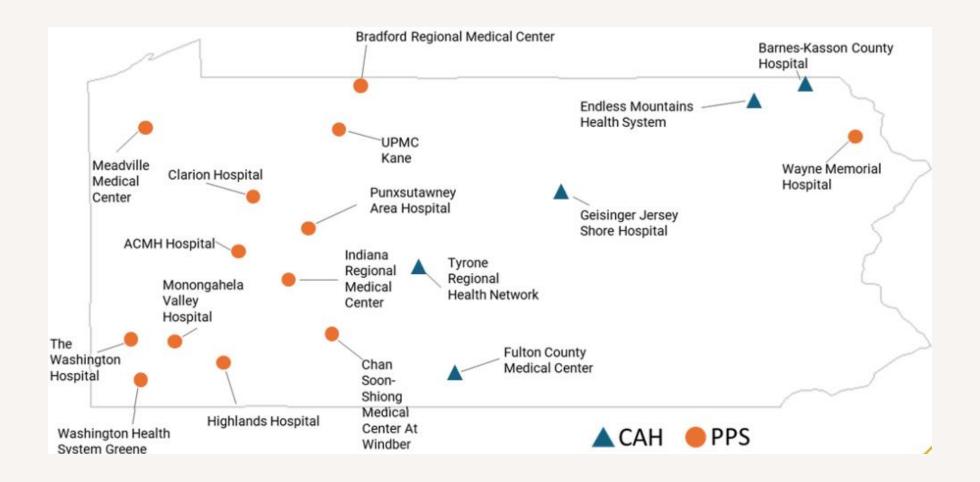
Improving rural health in PA

- DOH Primary Care Office
- EMS workforce
- Hospital regulations and flexibilities
- Regional rural health care summits



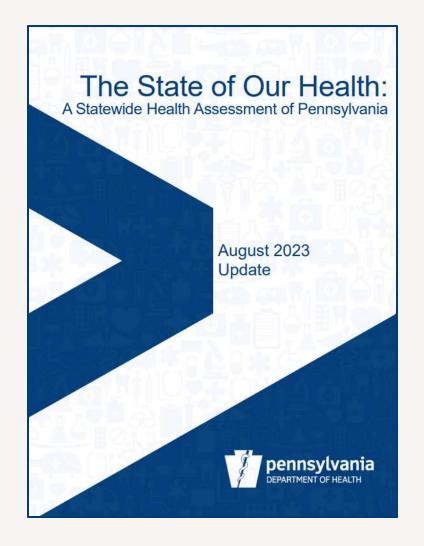


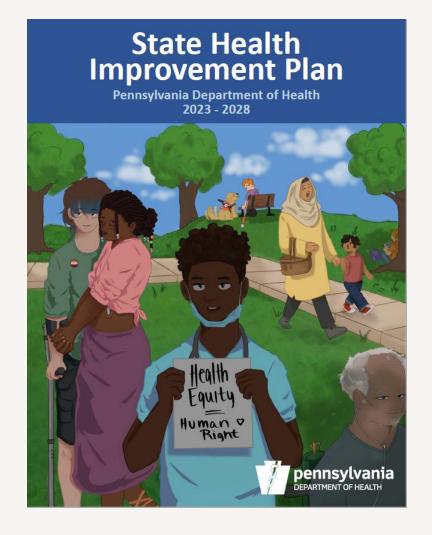
PA Rural Health Model (PARHM)





Getting SHIP done







Join the SHIP!

To join the SHIP, please scan the QR code below to complete the membership form!



Questions about SHIP? Contact RA-ship@pa.gov



Conclusions

- Must continue to advance health equity if we are to fulfill the vision of a healthy Pennsylvania for ALL
 - All levels of government must work together
 - Engage with and listen to diverse voices and perspectives
 - Keep long-term goals, mission and vision in focus





Questions?





Effective LLM Prompting for Family Medicine

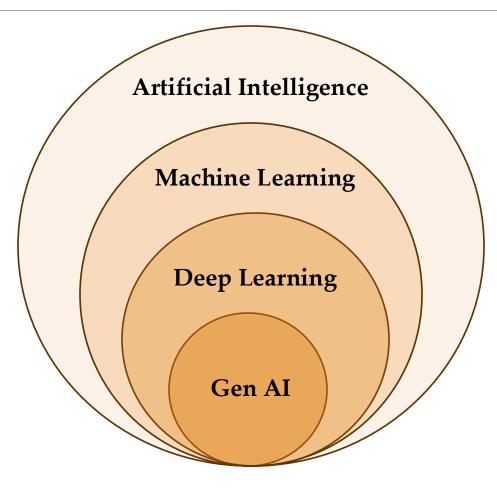
KEVIN KINDLER, MD MARCH 6, 2025

Objectives

- Construct and execute a basic prompt within a chosen LLM interface
- 2. Propose at least one strategy to mitigate bias in the use of LLMs in healthcare
- 3. Identify and articulate at least two key ethical implications associated with the use of AI and machine learning in family medicine



Important Terms



Examples of Gen Al

Large Language Models

Ambient Al Dictation

Precision/Personalized Medicine

Synthetic Patient Records

Drug Discovery

Patient Simulations

CDS Predictive Modeling

Mental Health Chatbot

Assistive Devices













What is needed for an effective prompt?

PLEASE SHARE YOUR THOUGHTS

"Help me think of 5 loves playing with balls birthday present ideas for -vs- and cars and building. We my son" want to focus on toys

"Help me think of 5 birthday present ideas for my 18-month-old son. He loves playing with balls want to focus on toys without sounds and batteries and spend less than \$150"

1. Interactive STEM Toys

 If he loves science, technology, engineering, or math, consider a robotics kit, a coding game, or a building set like LEGO Technic or a magnetic tile set.

2. Outdoor Adventure Gear

 For an active child, think about a new bike, skateboard, or a camping kit (like a tent, flashlight, or binoculars). A sports-themed gift, like a soccer ball or basketball, could also be a hit.

3. Creative Kits

 If he enjoys arts and crafts, consider a DIY kit like a model car, a painting set, or a 3D puzzle. For older kids, a beginner's musical instrument (like a ukulele or keyboard) could spark a new hobby.

4. Gaming or Tech Gadgets

 If he's into gaming, a new video game, gaming accessories (like a headset or controller), or even a VR headset could be exciting. Alternatively, a kid-friendly smartwatch or tablet could be both fun and practical.

5. Experience-Based Gifts

 Instead of a physical gift, plan a special outing or experience, like a trip to an amusement park, a sports game, or a movie marathon night at home with his favorite snacks and films.

1. Wooden Building Blocks Set

 A classic set of wooden blocks is perfect for building and stacking. Look for sets with different shapes and colors to encourage creativity and fine motor skills. Melissa & Doug or Hape offer great options under \$50.

2. Push-and-Pull Cars or Trucks

Choose simple, durable wooden or plastic cars or trucks that he can push around. Brands like
 Green Toys or Plan Toys have eco-friendly, non-toxic options that are perfect for little hands.

3. Ball Pit or Soft Play Balls

 A small ball pit with soft, lightweight balls can provide hours of fun. Alternatively, a set of textured or sensory balls (like those from Edushape) can be great for rolling, throwing, and exploring.

4. Shape Sorter or Stacking Toy

A wooden shape sorter or stacking toy helps with problem-solving and hand-eye coordination.
 Look for ones with chunky pieces that are easy for toddlers to grasp, such as those by Melissa & Doug or Brio.

5. Toddler-Friendly Construction Set

 A simple construction set with large, easy-to-connect pieces (like Mega Bloks or Duplo) is ideal for little builders. These sets are durable and encourage imaginative play without needing batteries.



Task

- Format
- Role

Context

- Necessary details
- Reason for task

References

- Supporting Documentation
- Examples

Revise

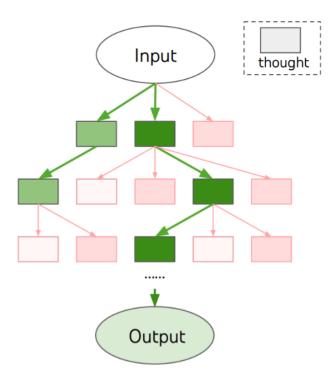
- Evaluate
- Iterate

Prompting Techniques

Tree-of-thought prompting	Allow Gen AI to consider and suggest multiple options reasoning strategies	
Chain-of-thought prompting	Break down a complex problem into smaller, less complicated steps	
Prompt chaining	Asking a series of prompts, using the previous output to provide context for the following prompt	
Meta-prompting	Prompt to ask what type of prompt would best suit your needs	

What does these techniques look like?

Tree-of-Thought



Chain-of-Thought

Input

Q: Roger has 5 tennis balls. He buys 2 more cans of tennis balls. Each can has 3 tennis balls. How many tennis balls does he have now?

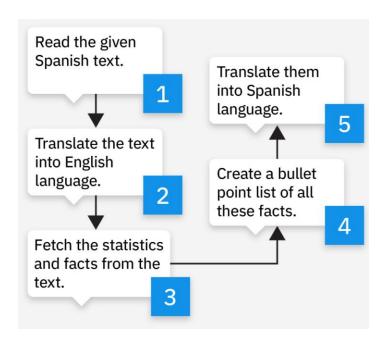
A: Roger started with 5 balls. 2 cans of 3 tennis balls each is 6 tennis balls. 5 + 6 = 11. The answer is 11.

Q: The cafeteria had 23 apples. If they used 20 to make lunch and bought 6 more, how many apples do they have?

Model Output

A: The cafeteria had 23 apples originally. They used 20 to make lunch. So they had 23 - 20 = 3. They bought 6 more apples, so they have 3 + 6 = 9. The answer is 9.

Prompt Chaining



Responsible Prompting

Poorly designed prompts = biased output

Best practices:

- Use inclusive language
- Avoid race, ethnicity, gender, sex, sexuality if not relevant
- Avoid stereotypes or generalizations
- Limit colloquialisms or idioms ("think outside the box")
- Start a new prompt to reset "memory"
- Validate output



Ethical Implications of AI and ML

Autonomy	Nonmaleficence	Beneficence	Justice
 Prevent individual decision making Interfere with shared decision making Impaired consent process: incomplete information (limited explainability) 	 Automation bias & complacency Privacy Environmental impact 	 Tools may not actually be beneficial May be beneficial, but use rejected 	 Use of race Bias in data Bias amplification Accessibility

Let's Try Prompting Together

Choose whichever Gen AI you would like and navigate to their website:















...or Try Medical LLMs

Choose whichever Gen AI you would like and navigate to their website:













Prompt #1 – Exploring Possibilities

I am a Family Medicine Physician learning about how to use LLMs for my work. I have little experience with AI and I am not sure what you are capable of or how to ask questions. Can you help me?

Try Additional Prompts

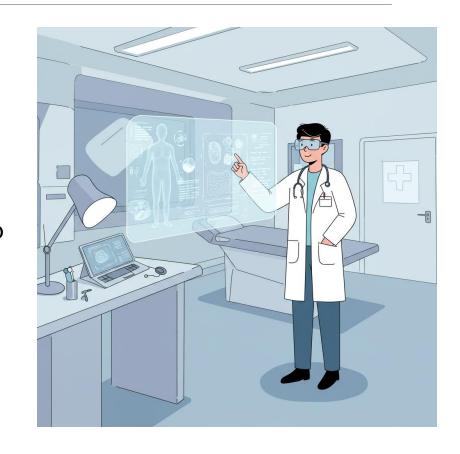
Medical Education

- Creating educational content
- Learning more about your patients
- Patient Interaction
 - Patient simulation
 - Letter drafting
- Career Advisor
 - Contract negotiation
 - Career mentoring

bit.ly/llmprompts

Going Forward

- What role do you see Gen Al playing in medicine?
- What are your concerns about use of Gen Al in medicine?
- Do you plan to use Gen Al in your practice?
- If there is not equity in accessibility, should we be using Gen AI at all?



Want to learn more Al?



AROUT

PUBLICATIONS & RESEARCH

CONFERENCE

FACULTY DEVELOPMENT

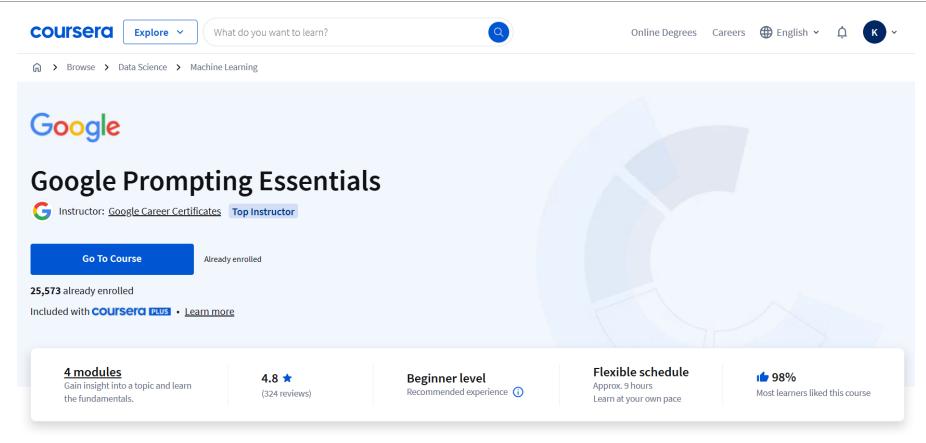
TEACHING RESOURCES

AWARDS & SCHOLARSHIPS

CURRICULUM

Artificial Intelligence and Machine Learning for Primary Care Curriculum

Want to learn more about prompting?



https://www.coursera.org/learn/google-prompting-essentials

Medicine and Vaccines for the Traveler

MaryBrooke U. Burval, MD
UPMC St. Margaret Faculty Development Fellow
Refresher Course in Family Medicine
March 6, 2025

Objectives

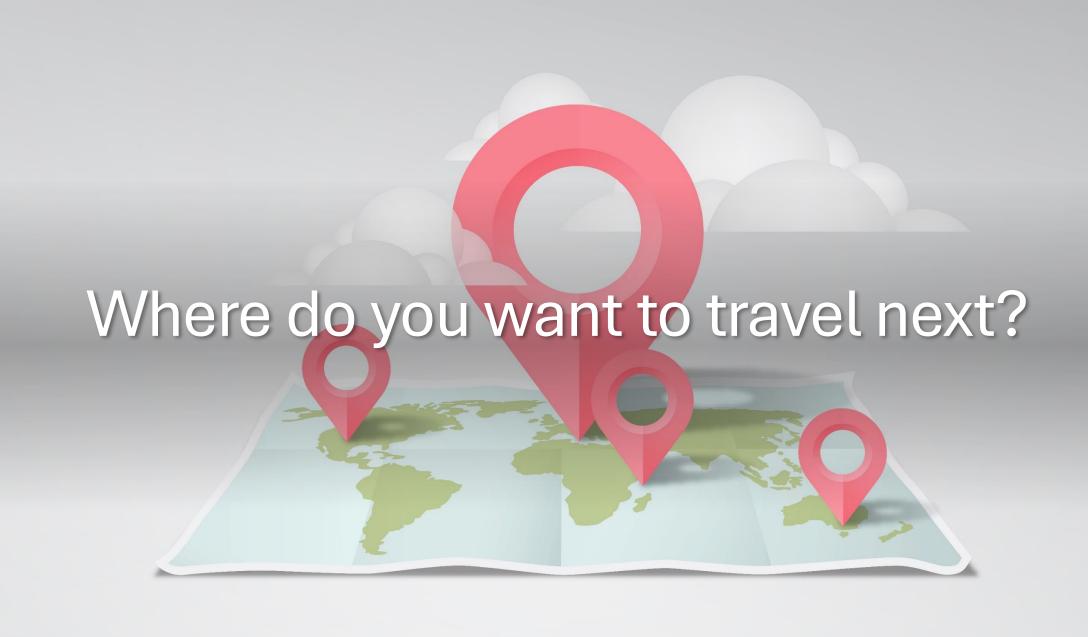
Engaged participants will:

- Demonstrate where to find information about travel medicine
- Practice using tools for patient care cases









What is travel medicine?

The field of medicine concerned with the promotion of health for the peoples, cultures, and environment of regions being visited in addition to the prevention of disease or other adverse health outcomes in the international traveler.

It generally focuses on pre-travel preventive care.



Why is Travel Medicine important?

90% of Americans plan to travel in 2025

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Staying healthy while traveling means a better experience

Why is Travel Medicine important?

90% of Americans plan to travel in 2025

Staying healthy while traveling means a better experience

Many travel-related illnesses and injuries can be prevented

Pre-Travel Consultation Topics

Table 1. Recommended Components of the Pretravel Consultation

Assessment

Upcoming trip: dates, itinerary, reason for trip, travel style, special activities (e.g., mountain climbing, diving, rafting)

Medical history: medications, allergies, surgeries, hospitalizations, special conditions (e.g., pregnancy, breastfeeding, recent myocardial infarction or cerebrovascular accident, immunocompromise, psychiatric condition), immunizations, prior experience with malaria prophylaxis, illnesses related to travel

Immunizations

Routine (eTable A)

Travel-specific (e.g., typhoid fever, yellow fever, Japanese encephalitis, rabies, cholera)

Arthropod-borne disease risk reduction

Personal protection measures (applying insect repellent, such as DEET or picaridin, to exposed skin and permethrin to clothing; sleeping under a permethrin-impregnated bed net)

Malaria prophylaxis

DEET = diethyltoluamide.

Information from references 5 and 6.

Traveler's diarrhea

Risk reduction (e.g., hand washing, cautious food and drink selection)

Carry-along medication, such as an antibiotic and antimotility agent (e.g., loperamide [Imodium]), for as-needed self-treatment

Counseling for further risk reduction

Avoidance of motor vehicle crashes, deep venous thrombosis, high-altitude illness, drowning

Crime, security

Emergency evacuation insurance

Safe sex practices

Sun protection

Traveler resources

Pre-Travel Consultation Topics

Upcoming trip

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- Medical history and medications

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- Immunizations routine and travel specific

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travel Consultation

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Traveler resources

- Upcoming trip
- Medical history and medications
- Immunizations routine and travel specific
- Malaria
- Traveler's diarrhea
- Minimize risk

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Emergency evacuation insurance

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Sun protection

Traveler resources



Important Notes about Medications

Many medicines available in the U.S. are not available in other countries

Some medications available in the other countries are not available in the U.S.

Over-the-counter availability differs significantly

Some medications require special documentation or limited quantities

Some medications are not legal in other countries

What vaccines are needed for travel?

Routine vaccines and any travel-specific vaccines!

eTable A. Immunizations for International Travelers					
Vaccine	Indication	Administration			
Routine, domestic in Haemophilus influenzae type B	All infants; older children and adults with asplenia or sickle cell disease; sometimes administered to those older than 5 years who have received a bone marrow transplant or to those 5 to 18 years of age with human immunodeficiency virus infection	nittee on Immunization Practices 2- or 3-dose primary series, and a booster dose (dose 3 or 4, depending on vaccine used in the primary series) at 12 to 15 months of age to complete the full series			
Hepatitis A	All travelers older than one year	2 doses separated by at least 6 months			
Hepatitis B	All travelers	3 doses at 0, 1, and 6 months of age			
Herpes zoster virus	Adults older than 60 years	Single dose			
Human papillomavirus	All children and young adults	3-dose series is advised for girls and boys starting at 11 or 12 years of age, but may be given as young as 9 years; it may be given up to 26 years of age in men and women			
Influenza	Virtually all travelers older than 6 months, regardless of destination	IM (inactivated) or intranasal (live); annual boosters required			
Measles, mumps, rubella	All travelers	2 doses separated by at least 28 days for those older than 1 year; may be given to infants 6 to 11 months of age, but 2 more doses at least 28 days apart are needed Those born in the United States before 1957 are assumed to be immune			
Meningococcal	Those in crowded living conditions (e.g., a dormitory): routine immunization at 11 or 12 years of age with the conjugate vaccine, and a booster dose given at 16 years of age	A 1-dose primary series of Menactra is licensed for those 2 to 55 years of age Menveo is licensed for those 2 months to 55 years of age Menomune, the polysaccharide vaccine, is licensed for those older than 2 years			
Pneumococcal	All infants, and adults older than 65 years	4 doses of the conjugate vaccine (Prevnar 13) are given to infants at 2, 4, 6, and 12 to 15 months of age; it is also advised for adults older than 65 years and for those 6 to 64 years of age with certain medical conditions The polysaccharide vaccine (Pneumovax 23) is advised for adults older than 65 years, and those 2 to 64 years of age with underlying medical conditions			
Poliovirus	All infants and children	Primary series: 4 doses at 2, 4, and 6 to 18 months of age, and 4 to 6 years of age			
Rotavirus	All infants	3 doses of Rotateq (monovalent) at 2, 4, and 6 months of age, or 2 doses of Rotarix (pentavalent) at 2 and 4 months of age			
Tetanus, diphtheria, pertussis (Td, Tdap)	All travelers	Td is given every 10 years for adults Tdap should be given to adolescents at 11 to 18 years of age instead of Td; adults 19 years and older should receive a single dose of Tdap instead of Td if they did not receive Tdap as an adolescent Tdap is recommended in each pregnancy between 27 and 36 weeks of gestation			

What tools can I use to find the answers I need?

CDC Traveler's Health Website

CDC Yellow Book: Health Information for International Travel

Pre-Travel Providers' Rapid Evaluation Portal

WHO Travel Resources

International Narcotics Control Board Website

Where to get vaccinated?

Allegheny County Health Department

UPMC Travel Health Clinics

UPMC Employee Health

Pitt Student Health/Travel Clinic

Your local pharmacy

Time to Practice!



CDC Traveler's Health



CDC Yellow Book



Pre-Travel PREP



Case #1







A 55-year-old teacher is traveling to Mexico for his son's destination wedding. It's being held a resort in Cancun. There are multiple days of activities planned as part of the wedding festivities, including snorkeling, ziplining, and a food tour. He has completed all required vaccinations.

What recommendations do you have for him before he travels?

Medical history and medications	
Immunizations	
Malaria	
Traveler's diarrhea	
Minimize risk	

Medical history and medications

Immunizations

• Typhoid, Hepatitis A

Malaria

• Avoidance only, no chemoprophylaxis needed

Traveler's diarrhea

• Azithromycin and loperamide

Minimize risk

• Food and water safety, sunscreen, water safety, travel safety

Traveler's Diarrhea

Severity	Definition	Treatment
Mild	Tolerable, not distressing; does not interfere with planned activities	Not recommended
Moderate	Distressing or interferes with planned activities	Antibiotics can be used Consider antimotility agent
*All dysentery is considered severe	Incapacitating or completely prevents planned activities	Antibiotic treatment is advised Antimotility agents not recommended with bloody diarrhea or diarrhea plus fever

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Azithromycin Treatment for Traveler's Diarrhea

1000 mg PO once or divided

500 mg PO BID for 3 days



Recommendations to Prevent Traveler's Diarrhea

- Clean hands frequently
- Avoid ice and tap water; bottled water is generally preferred
- Eat foods that have been fully cooked and kept at an appropriate temperature
- Be careful of fresh produce

Persistent Diarrhea After Travel

- Treat diarrhea that persists post-travel
- Consider and evaluate for causes of diarrhea notrelated to travel
- Stool evaluation:
 - 3 stool samples needed for ova and parasite exam
 - PCR testing is comprehensive
- Treat what you find





Case #2

45-year-old Somali patient with T2DM is returning to Kenya to visit her family after 10 years in the U.S. She plans to stay for 4 months. She was vaccinated against yellow fever during her immigration process and received all vaccines required for entry into the U.S.

What recommendations do you have for her health prior to travel?



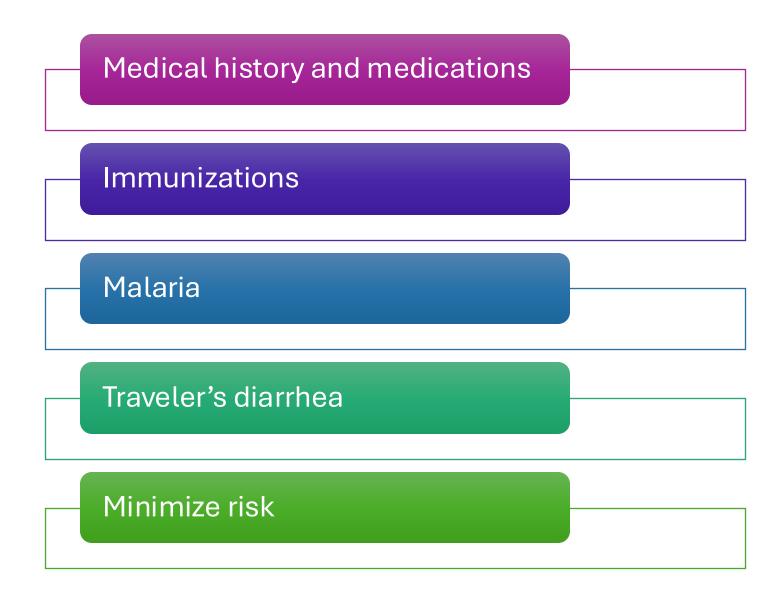
DC Traveler's Health



CDC Yellow Book



Pre-Travel PREP



Medical history and medications

Take her diabetes meds with her

Immunizations

- Hepatitis A, typhoid, cholera, polio booster
- May need meningitis and varicella vaccines

Malaria

• Prophylaxis required

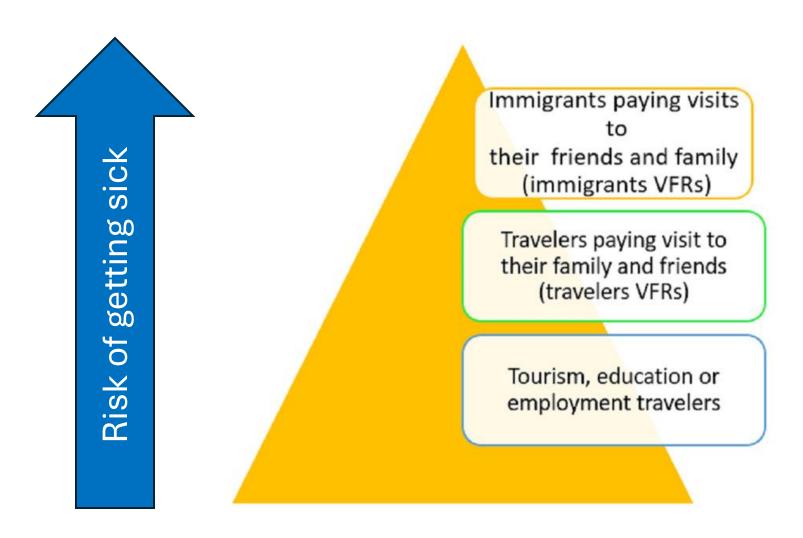
Traveler's diarrhea

Food and water safety

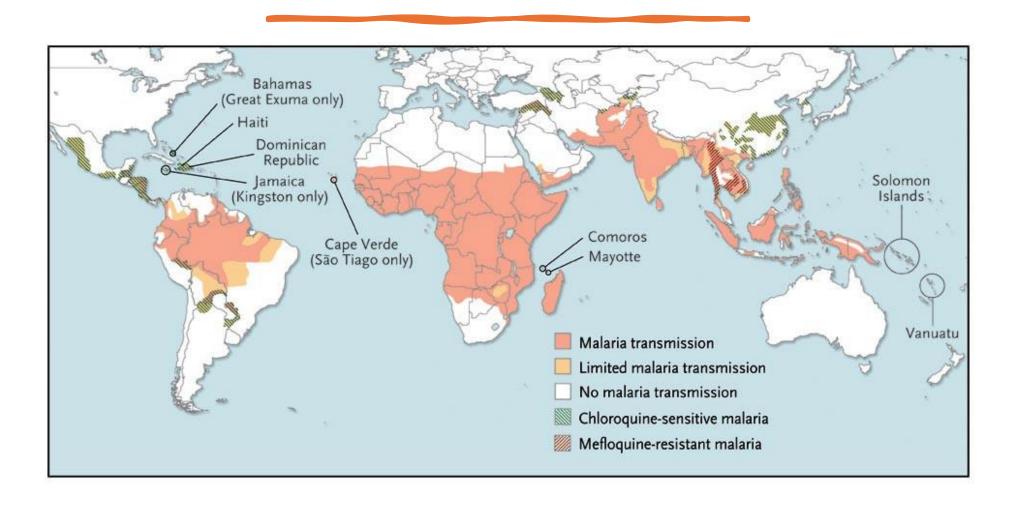
Minimize risk

• MVA safety, sun safety

Visiting Friends and Relatives



Malaria Prophylaxis



Medications

First line prevention: Atovaquoneproguanil (Malarone) 1 tablet PO daily starting **2-3 days before** travel and continuing for **7 days after** travel

Other options: doxycycline, chloroquine, hydroxychloroquine, mefloquine, primaquine, tafenoquine

Drugs for Malaria Prophylaxis

Drug*	Timing	Adult dosing and cost†	Child dosing	Comments		
Chloroquine-s	Begin one to two weeks before travel and continue for four weeks after leaving malaria-endemic area	500 mg salt (300 mg base) once per week \$50 (—) for six weeks	8.3 mg salt (5 mg base) per kg once per week, up to adult dosage	Used for prophylaxis in Mexico and Central America (west of the Panama Canal) and the island of Hispaniola (Haiti and the Dominican Republic) In the United States, hydroxychloro-		
Hydroxy- chloroquine (Plaquenil)	Begin one to two weeks before travel and continue for four weeks after leaving malaria-endemic area	400 mg salt (310 mg base) once per week \$25 (\$180) for eight weeks	6.5 mg salt (5 mg base) per kg once per week, up to adult dosage	quine may be better tolerated Chloroquine may exacerbate psoriasis May be used in all trimesters of pregnancy		
Chloroquine-I Atovaquone/ proguanil (Malarone)	resistant malaria Begin one to two days before travel and continue for one week after leaving malaria-endemic area	250 mg/100 mg once per day \$55 (\$220) for four weeks	Daily dose (one children's tablet is 62.5 mg/25 mg): < 5 kg: not recommended 5 kg to 8 kg: one-half of children's tablet 9 kg to 10 kg: three-fourths of children's tablet 11 kg to 20 kg: one children's tablet 21 kg to 30 kg: two children's tablets 31 kg to 40 kg: three children's tablets ≥ 40 kg: one adult tablet	Useful in regions of mefloquine resistance Do not use in patients with severe renal impairment (creatinine clearance < 30 mL per minute per 1.73 m² [0.50 mL per second per m²]) Do not use in patients who are pregnant or in breastfeeding infants weighing < 5 kg Should be taken with food or a milky drink High cost makes this drug less practical for longer trips		
Doxycycline	Begin one to two days before travel and continue for four weeks after leaving malaria-endemic area	100 mg once per day \$20 (varies by brand) for four weeks	2.2 mg per kg per day, up to the adult dosage	Useful in regions of mefloquine resistance Do not use in children younger than eight years or in patients who are pregnant or breastfeeding May cause nausea, photosensitivity, vaginal yeast infections, and esophageal ulceration		
Mefloquine	Begin two weeks or more before travel and continue for four weeks after leaving malaria-endemic area	250 mg salt (228 mg base) once per week \$25 (—) for six weeks	Weekly dose: ≤ 9 kg: 5 mg salt (4.6 mg base) per kg > 9 kg to 19 kg: one-fourth of 250-mg tablet 20 kg to 30 kg: one-half of 250-mg tablet 31 kg to 45 kg: three-fourths of 250-mg tablet ≥ 45 kg: one 250-mg tablet	Contraindications include epilepsy, psychiatric conditions (e.g., anxiety, depression), and cardiac conduction disorders May be used in all trimesters of pregnancy		



Case #3

A 21-year-old college student with ADHD on Adderall is going to spend a semester in Japan studying business. He is staying in Tokyo, but he is excited to explore different areas of the country on the weekends.

What recommendations do you have for him before he travels?

You might want to use this tool!









V II . B . I

Medical history and medications	
Immunizations	
Malaria	
Traveler's diarrhea	
Minimize risk	

Medical history and medications • Stimulants are not legal in Japan **Immunizations** • Hepatitis A, Japanese encephalitis Malaria • Not needed Traveler's diarrhea • Food and water safety Minimize risk • MVA safety, safe sex practices, wilderness safety

Medication Legality

Any medication containing amphetamine is **illegal** in Japan, **even with** appropriate prescription and documentation from a physician

TRAVEL SMART — TRAVEL SAFE

TO THE PARTY OF TH

Drugs that are prohibited in Japan may surprise you!

Any form of marijuana, including CBD oil that may contain THC, even for medical use is

ILLEGAL



Any medication that contains amphetamines is

ILLEGAL



Many over-the-counter and prescription medications common in the United States, including ones for pain, depression, ADHD, and many kinds of decongestants and allergy medications are

ILLEGAL



YOU RISK ARREST

in Japan for bringing in banned substances, even with a valid U.S. prescription!



CHECK BEFORE YOU GO, IT'S YOUR RESPONSIBILITY!

Some medications are legal but only in limited quantities or with advance permission from the Japanese Government. Contact Japan's Ministry of Health, Labour, and Welfare *yakkan@mhlw.go.jp* or visit *https://is.gd/gUXdin.*





International Narcotics Control Board

Monitoring and supporting Governments' compliance with the international drug control treaties



	Home	About	News and Media	Conventions	Contact		Gearch	ρ
Narcotic Drugs			ountry Regu	lations for	Travelle	ers Carrying N	Medicines	
Psychotropic Su	bstances	INCB P	NCB PContaining Controlled Substances					
Precursors	Precursors				•	ns regarding travellers can		•
Global Programi	Global Programmes		Please note that INCB may not have information from some countries or territories. Where possible information is provided					
Treaty Compliance			in all six official languages of the United Nations. Last Update: 31 May 2024					
Annual Report Publications		li <u>t</u>	The responsibility for updating information regarding the regulations for travellers carrying medicines containing controlled substances lies entirely with the Governments concerned. Thus, INCB cannot confirm the correctness and accuracy of regulations for travellers published on this website, and strongly recommends prospective travellers to contact the embassy/consulate of the intended country of visit, or their competent national authority, regarding enquries or clarifications regarding these regulations.					
Guidelines					V I M	N O D O D S	T 11 V W	V V 7
Travellers Regulations by Co	Travellers Regulations by Country		A B C D E F G H I J K L M N O P Q R S T U V W X Y Z					
Tools		- F	1					
Links	Links		Afghanistan Information not yet provided by country Albania					
COVID-19	COVID-19							
Secure Areas		•	Information not yet pro	vided by country				
Secure Areas			geria					
		• [حربی] [中文] [<u>English</u>] [<u>Français</u>] [Русский] [<u>Español</u>] Year received: 2017						
			Andorra					
			Information not yet pro	vided by country				
			ngola					
		 Information not yet provided by country 						

Illegal Medications

Rules and regulations vary from country to country

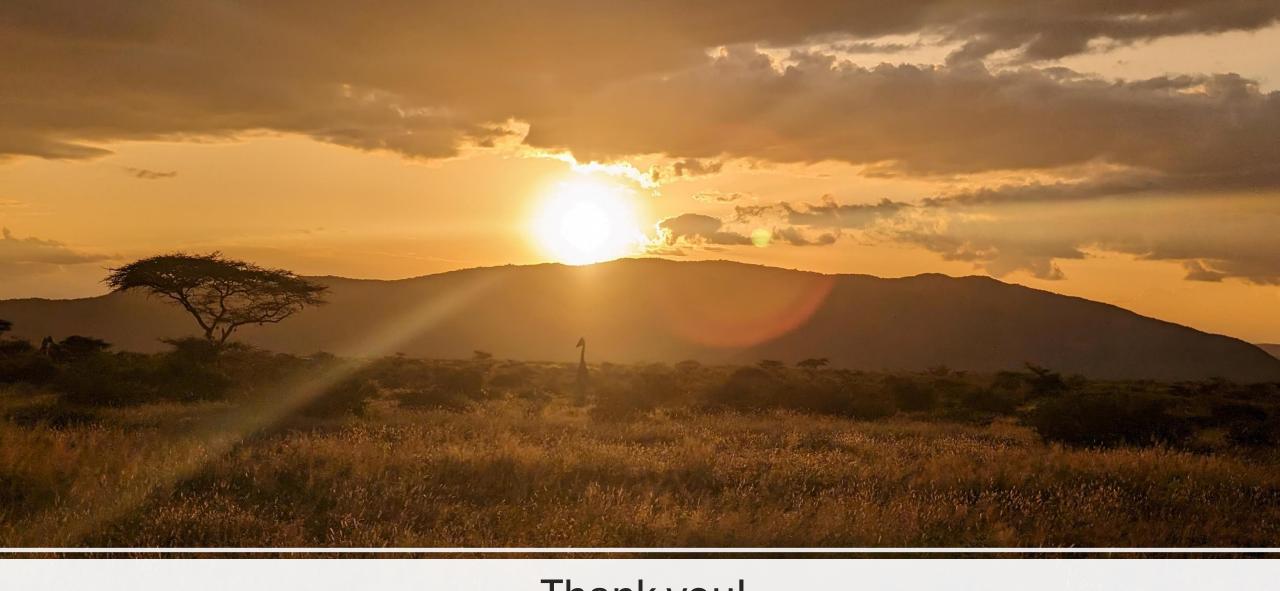
Medications with possible restrictions:

- opioids
- stimulants
- sleep aids
- hormones (including emergency contraception)

Use the International Narcotics Control Board website

Contact the embassy





Thank you!

References

- 1. Mehendale, A. M., Vaishnav, L., Joshi, S. H., & Joshi, A. (2023). Public Health Importance of Emporiatrics: A Review. Cureus, 15(3).
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- 13. Department of Pharmaceuticals and Natural Medicines (2024). Kampala; Ministry of Health.
- 14. Centers for Disease Control and Prevention. (2024, May 15). *Rabies pre-exposure prophylaxis*. Centers for Disease Control and Prevention. https://www.cdc.gov/rabies/hcp/prevention-recommendations/pre-exposure-prophylaxis.html
- 15. Images/videos: Microsoft PowerPoint stock images or personal photographs

Joint Exams

Ryan Wilson, DO

Disclosures

Nothing to disclose

Lecture Objective

- Improve proficiency and efficiency in physical exam for the following joints
 - Shoulder
 - Knee
 - Hip
 - Ankle
 - Elbow
 - Wrist/hand
- Identify common etiologies of pain based on positive exam findings

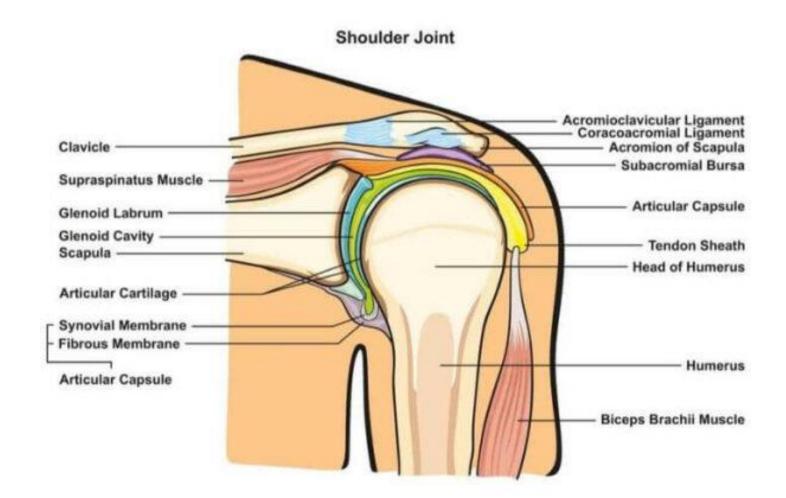
General Joint Exam

Should help narrow differential you have made from the history

- Inspection
- Palpation
- Range of Motion (active and passive)
- Muscle Strength
- Special Tests
- Joint above and joint below as indicated



Shoulder



- Inspection
 - Muscle atrophy
 - Bruising/swelling
 - Bony abnormality
 - Scapula motion
- Palpation
 - Don't forget SC/AC joint and clavicle
- Active and Passive ROM
 - Flex/Extend
 - IR/ER
 - Abduction/Adduction
 - Elbow flex/extend
- Muscle Strength

TABLE 4

Medical Research Council Manual Muscle Testing Scale for Assessing Muscle Strength

5: Muscle movement/activation against examiner's full resistance

4: Muscle strength is reduced but movement/activation against some resistance is possible

3: Muscle movement/activation against gravity (e.g., raising leg or arm) but not against resistance

2: Muscle movement/activation only when not moving against gravity (e.g., not lifting leg or raising arm)

1: Trace muscle movement/activation (e.g., a twitch)

0: No muscle movement/activation

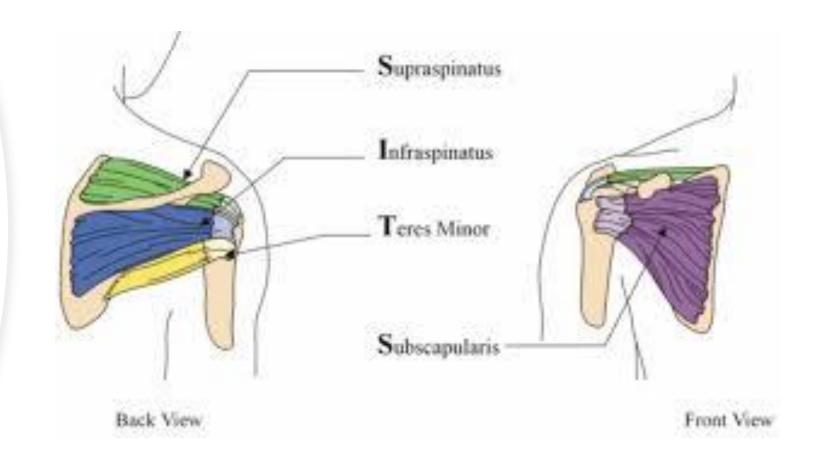
Note: The patient's strength is graded from 0 (no movement) to 5 (full strength).

Adapted with permission from Naqvi U, Sherman Al. Muscle strength grading. StatPearls. February 17, 2019. https://www.ncbi.nlm.nih.gov/books/NBK436008/

Rotator Cuff

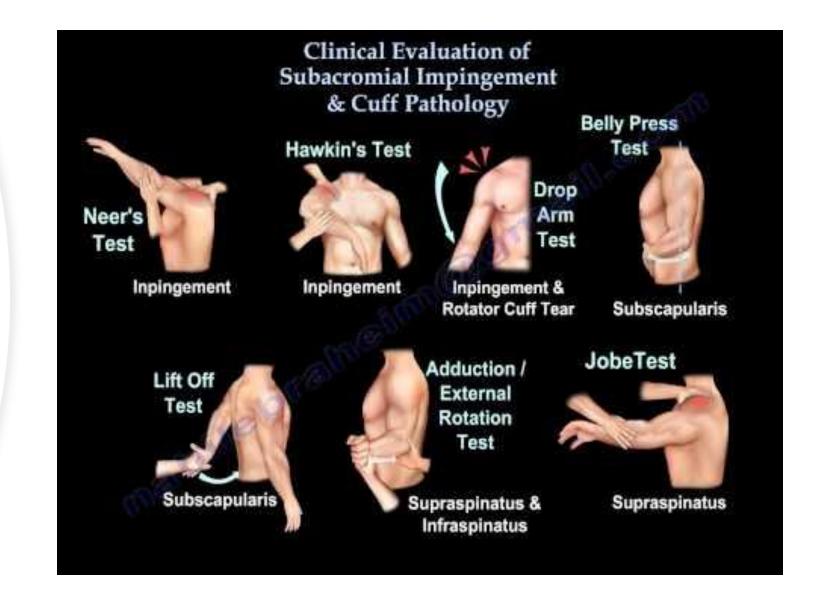
- <u>Supraspinatus</u>: Abduction
- Infraspinatus: External Rotation
- Teres Minor: External Rotation
- <u>Subscapularis: Internal Rotation</u>

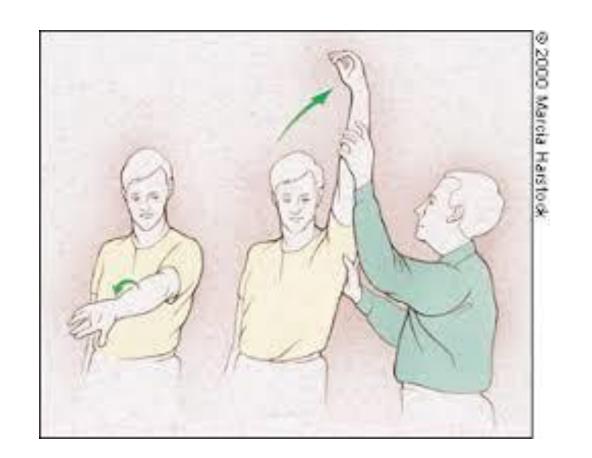
Look for pain or weakness with strength testing

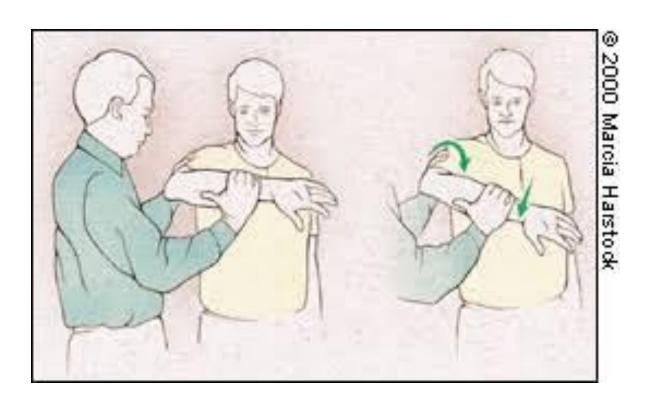


Special Tests

- Subacromial Impingement: Hawkins-Kennedy, Neer
- Supraspinatus: Empty Can
- Subscapularis: Belly Press, Lift-off
- Labrum: O'brien
- Instability: Anterior/Posterior Apprehension, Sulcus sign, Load and Shift
- Biceps: Speed and Yergason





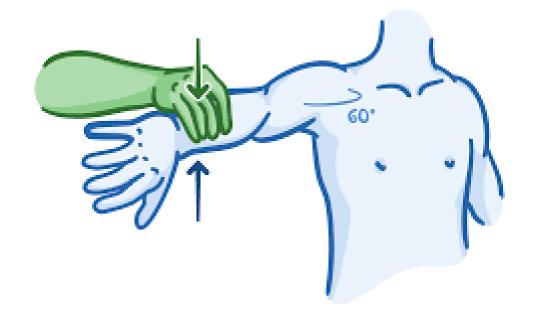


Impingement: Neer and Hawkin's

Supraspinatus

Subscapularis

EMPTY CAN (JOBE) TEST





Obrien/Active Compression Test for Labrum





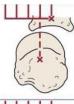
Instability: Apprehension test with Jobe relocation manuever

Also important and often positive in labral tears

Positive Sulcus Sign



Load and Shift



Normal Laxity

A mild amount of translation (0–25%)



Grade I

A feeling of the humeral head riding up to the glenoid rim (25–50%)



Grade II

A feeling of the humeral head over riding the rim, but spontaneously reduces (>50%)



Grade III

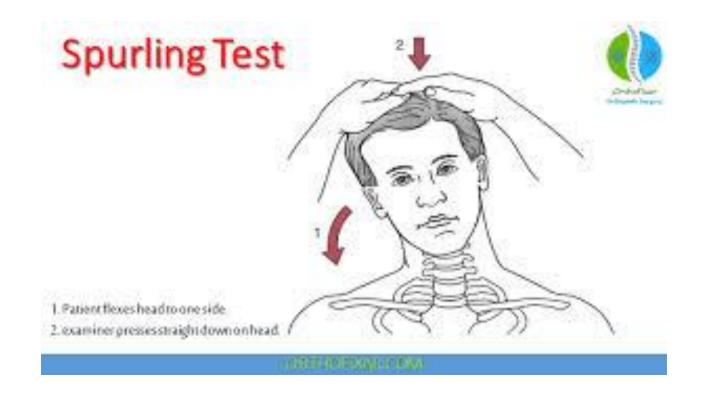
A feeling of the humeral head over riding the rim, but remains dislocated (50%)



Biceps: Speed and Yergason







Don't forget the cervical spine

Knee Joint Back of knee Front of knee Anterior cruciate Quadriceps ligament (ACL) tendon Femur -Lateral meniscus Medial Fibula meniscus. Tibia. Patella . (kneecap) Posterior cruciate Cleveland Clinic G2022 Patellar ligament (PCL) ligament.

- Inspection: Effusion, erythema, quad atrophy, bony changes, alignment
- Palpation: Extensor complex (quad tendon, patella, patellar tendon), joint line, posterior knee (Baker's cyst), hamstring tendons
- Active and passive ROM: Knee flex/extend and hip flex/extend
 - Muscle strength as well
- Special Tests
 - ACL: Lachman and Anterior Drawer
 - PCL: Posterior Drawer
 - LCL: Varus stress at 0 and 30 degrees
 - MCL: Valgus stress at 0 and 30 degrees
 - Meniscus: McMurray and Thessaly
 - Patellofemoral: Patellar grind, patellar laxity, patellar tracking, single leg squat
 - Hamstring: Popliteal angle
 - IT band: Ober





FIGURE 3. Special maneuver to detect fluid effusions in the knee: patellar tap. Apply pressure with one hand on the suprapatellar recess to push the fluid under the patella. With the index finger of the other hand, push the patella toward the femur.



TABLE

Assessing Lachman test results: Translation and endpoint grades*18

Translation grade	Definition
1	<5 mm translation
II	5-10 mm translation
III	>10 mm translation
Endpoint grade	Definition
А	Firm, sudden endpoint to passive anterior translation of tibia on a fixed femur
В	Absent, ill-defined, or softened endpoint to passive anterior translation of tibia on a fixed femur

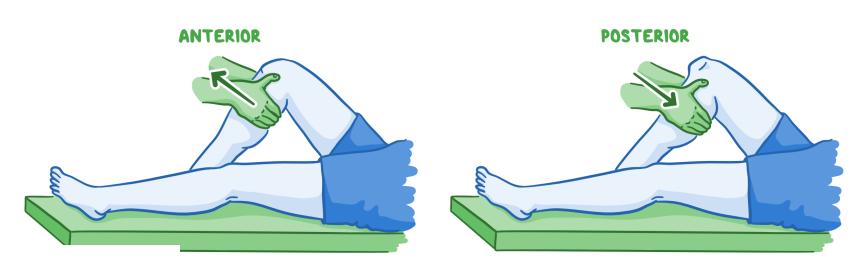
^{*}Testing for tibial translation and endpoint on an injured knee must be compared with test results on the uninjured knee. If contralateral disparity is noted in either translation or endpoint, consider the result positive for an anterior cruciate ligament injury.



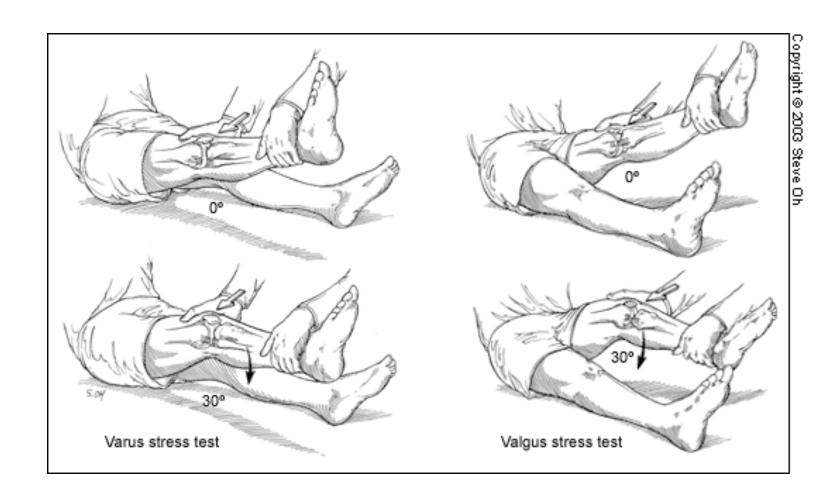
Lachman

Anterior Drawer (ACL) and Posterior Drawer (PCL)

KNEE DRAWER TESTS



Valgus (MCL) and Varus (LCL) stress test



McMurray Test For Meniscus Pathology

Flex and extend the knee

- In tibial IR biases lateral meniscus
- In tibial ER biased medial menistrus

Positive Test; Pain or audible click

- · Sensitivity, 55%
 - Medial meniscus, 50%
 - Lateral meniscus, 21%
- Specificity, 77%
 - Medial menisous, 77%
 - Lateral meniscus, 94%

Supercook CS, Statistic DA, Bernard CC, et all Privat Flori and Michille, Spacetrary, Michiel School A No. No. Confederation (Spacetroscopic Statistics), Spacetroscopic (Spacetroscopic), 2003.





Meniscus: Thessaly Test

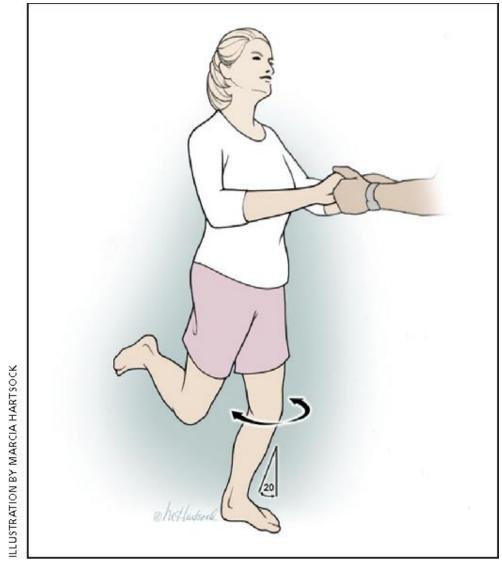
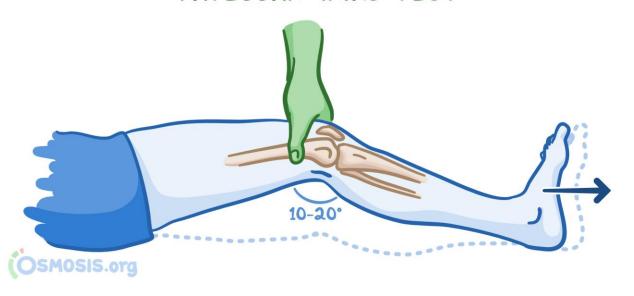
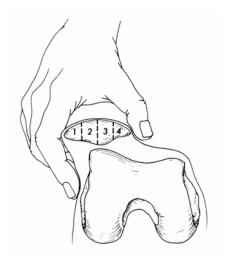


Figure 2. The Thessaly test.

Patella tests

PATELLAR GRIND TEST



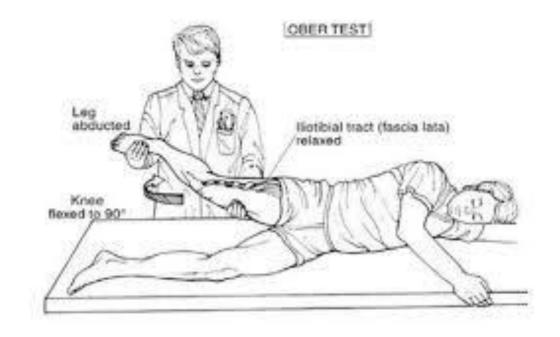




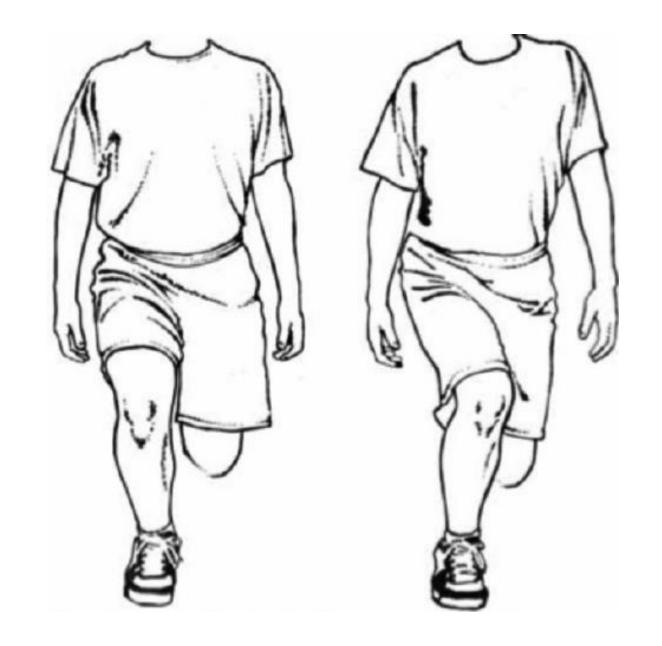
Inverted-J sign: Abnormal patellar tracking



IT Band: Ober Test

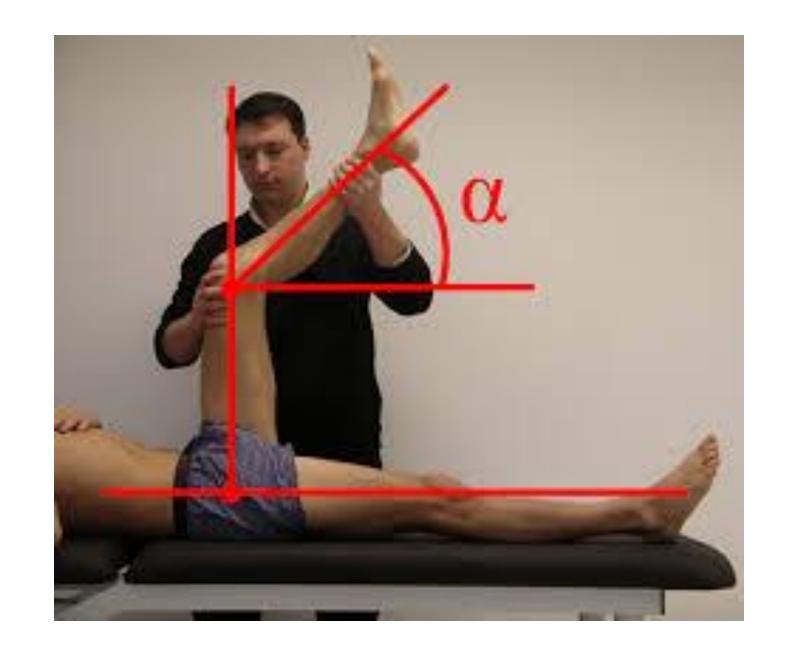


- Single Leg Squat
- Weakness in quads can lead to patellofemoral pain syndrome
- Wobbly, unstable, hip drop, etc. are positive signs



Popliteal Angle

- Tight hamstrings can lead to patellofemoral syndrome
- Quad complex works harder to overcome tight hamstring



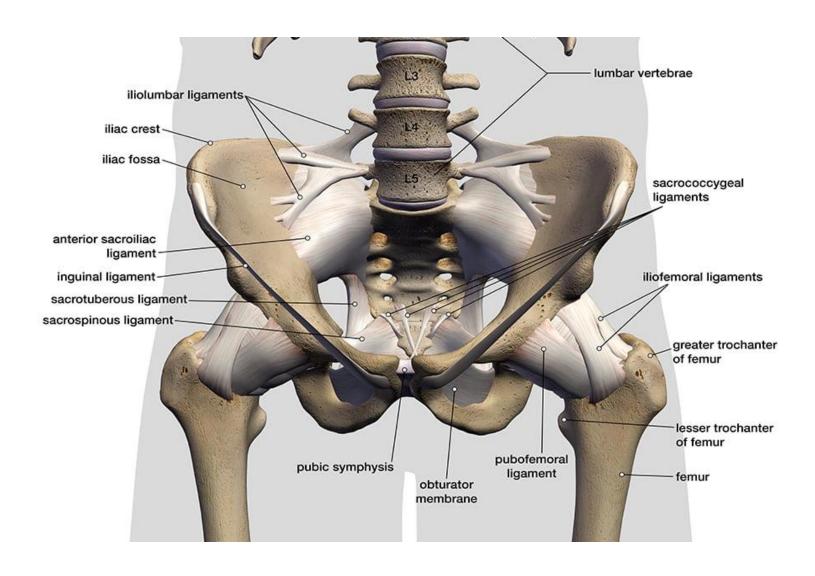
Distal Hamstring

- Palpate tendons and look for bruising
- Norwig test: Developed in Pittsburgh by Steelers trainer
 - Do a plank las shown
 - Repeat with only 1 leg for each leg
 - Affected side will not be able to do plank or will have pain



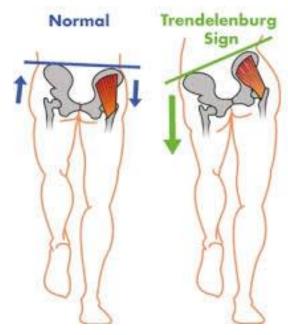


Hip



- Inspection.
 - Should also watch gait
- Palpation: Iliac spine, ASIS, Pubic symphysis, Greater trochanter, SI joint, Adductor origin, IT band
- Active and Passive ROM: Hip flex/extend, IR/ER, adduction, abduction
- Muscle strength: Particularly hip flexion.
 Abduction and Adduction in certain cases
- Special Tests:
 - Impingement/Labrum: Log Roll, FADIR
 - Low back: SLR, Slump test
 - SI Joint: FABER
 - Degenerative changes/impingement: Scour
 - IT Band: Ober
 - Hip flexors: Thomas Test

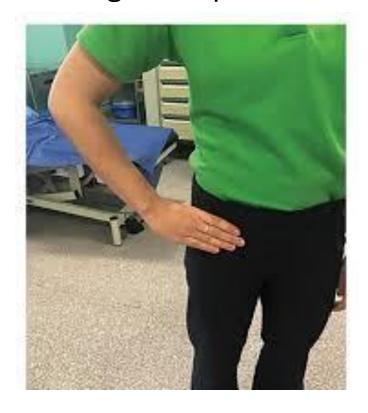




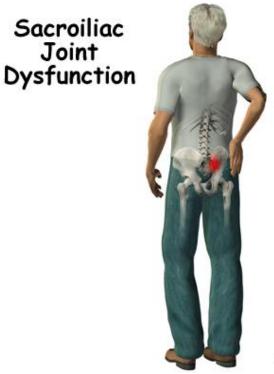
"Point where it hurts with one finger."

Sacroiliac Joint

"C-sign" = Hip Joint



SI Joint

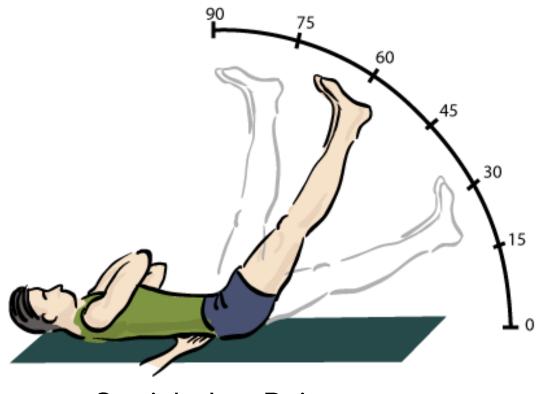


Trochanteric Bursitis



©MMG 2005

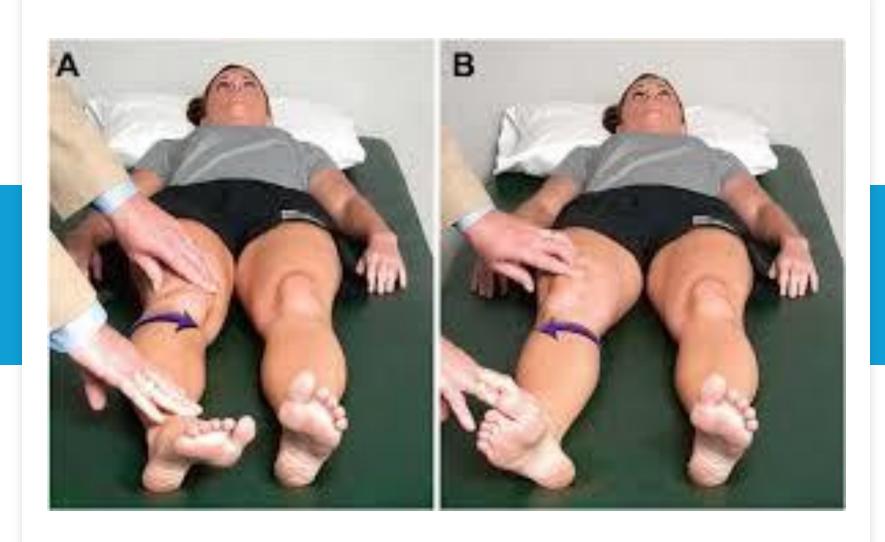
Referred pain from Low Back?





Straight Leg Raise

Slump Test



Hip Joint: Log Roll

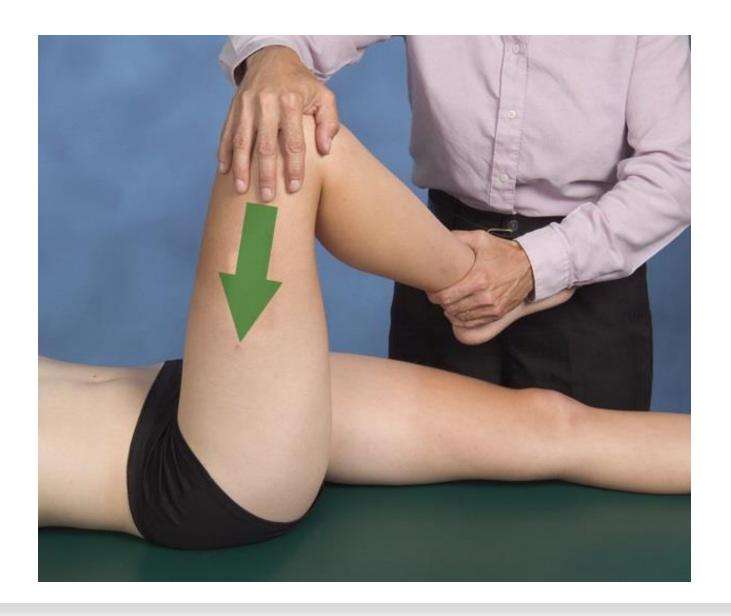




FAI/Labrum: F-AD-IR

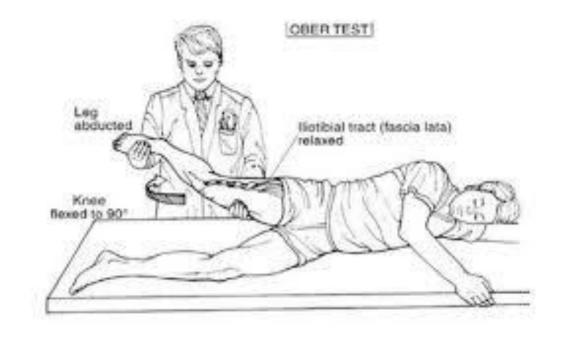


SI Joint: F-AB-ER



Scour: Impingement or degenerative

IT Band: Ober Test



THOMAS TEST

NEGATIVE

POSITIVE



Bottom leg can't get to table = positive for shortened hip flexors

Adductor Strain

- Often TTP over adductor insertion
- Test strength in adduction and abduction





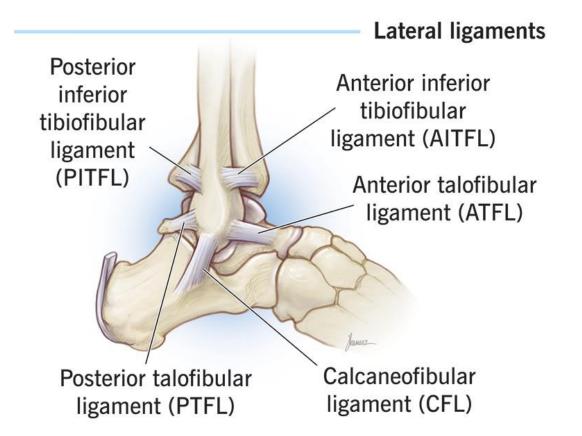


Proximal Hamstring

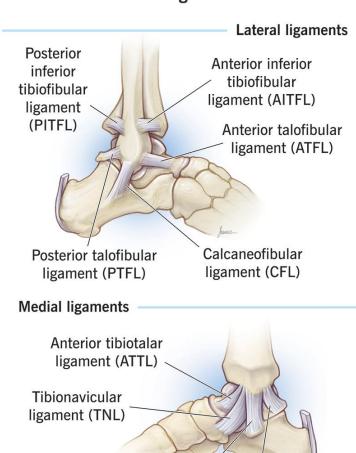
- Complete or High grade tear will have ecchymosis
- Test Muscle Strength at different degrees of knee flexion
- Palpate ischial tuberosity



Ankle ligaments



Ankle ligaments



Tibiocalcaneal

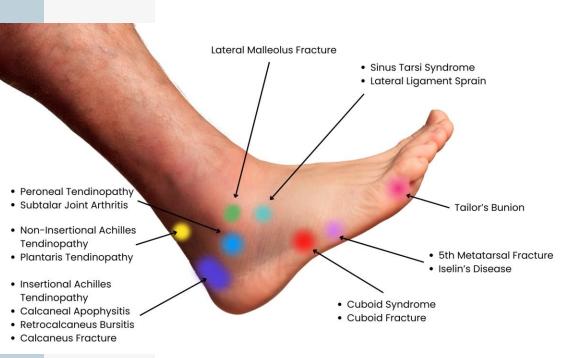
ligament (TCL)

Cleveland

©2024

Posterior tibiotalar

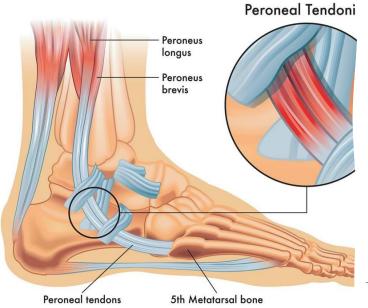
ligament (PTTL)



- Inspection: Swelling, bruising, Arches
 - Should analyze gait
- Palpation: lots to palpate
 - "Hurt worse here or here?"
- ROM of ankle: Dorsiflexion/plantarflexion, eversion/inversion
 - Strength testing
- Special Tests:
 - Stability: Anterior Drawer, Talar Tilt
 - High ankle/syndesmosis: Kleiger, Single leg heel raise
 - Achille's: Thompson
 - Stress injury: Hop test, calcaneal squeeze, tuning fork
 - Tarsal Tunnel: Tinel's

Lateral Ankle

- ATFL most common sprained usually inversion injury
- Palpate
 - Lateral malleolus
 - ATFL
 - CFL
 - PTFL
 - Peroneal tendons down to 5th metatarsal base
- Anterior Drawer: ATFL injury
- Talar Tilt: ATFL and/or CFL injury



Anterior Drawer

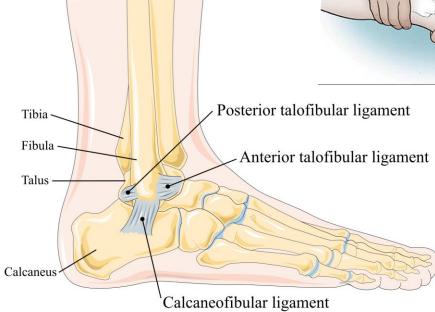
Tests integrity of anterior talofibular ligament

Talar Tilt

 Tests integrity of calcaneofibular ligament

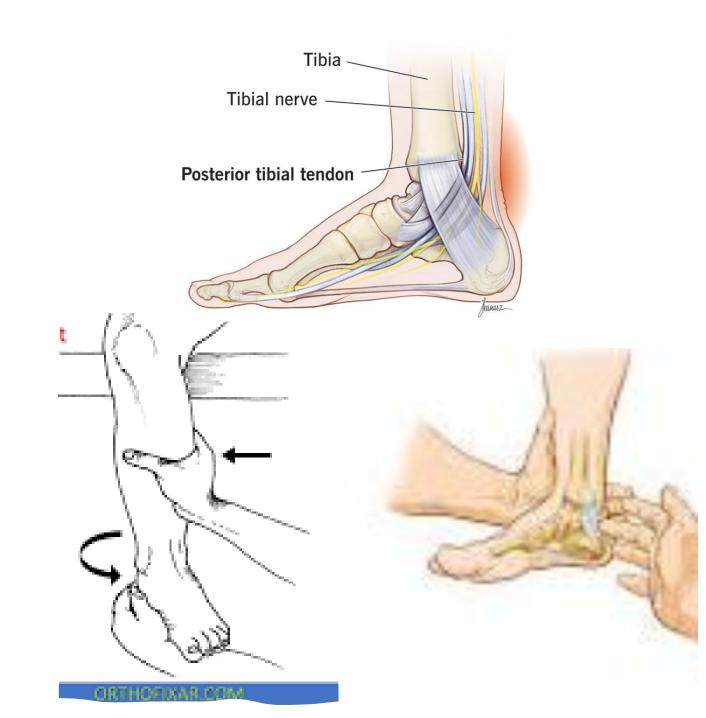






Medial Ankle

- Palpate
 - Medial malleolus
 - Deltoid ligament
 - Thicker and less commonly injured
 - Posterior Tibialis tendon
- Special Tests
 - Tarsal Tunnel: Tinel's (right)
 - Deltoid ligament: Talar tilt, ER test (left)



Anterior Ankle/ High Ankle/ Syndesmosis

- Palpate
 - Syndesmosis
 - Fibular Head
- Special Tests
 - Squeeze Test (right)
 - Kleiger/ER Stress test (left)
 - Single leg heel lift (center)
 - Tape Test: Taping around syndesmosis tightly allows for heel lift









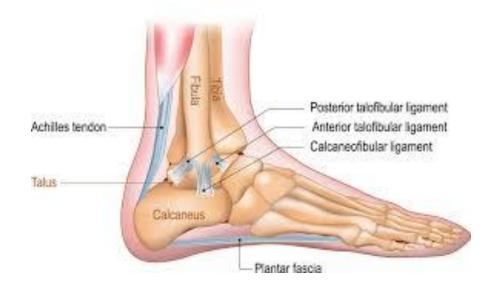
Always palpate fibular head

Maisonneuve fracture



Posterior Ankle

- Palpate
 - Achille's insertion
 - Achille's tendon
 - Distal calf musculature
- Special Tests
 - Achille's rupture: Thompson test

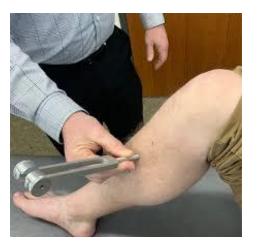


Thompson Test



Stress Injuries

- Commonly affect the tibia, malleoli, foot
- Palpate along area of concern
- Special Tests
 - Single leg hop: Pain on landing
 - Pain with tuning fork
 - Calcaneal squeeze for calcaneus compression fracture

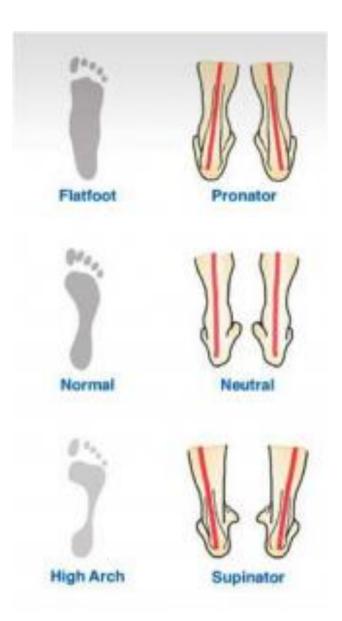




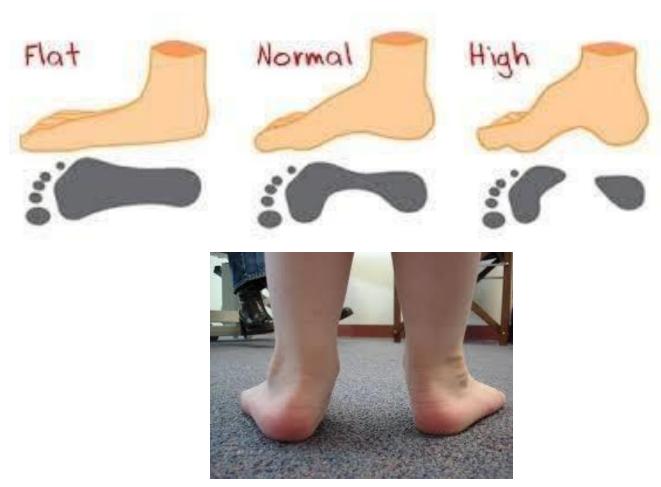




- Inspection: Look at arches
- Palpation: All tarsal bones and toes
- ROM: Toe motion, ankle ROM
 - Strength
- Special Tests:
 - Morton's Neuroma: Squeeze test
 - Stress Injury: Palpation, Calcaneal squeeze, tuning fork, single leg hop
 - Plantar Fasciitis:



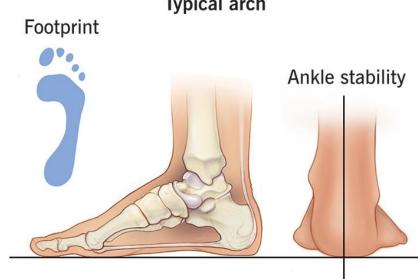
Weightbearing Arch Inspection

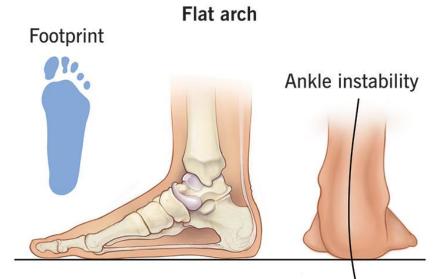


Pes Planus

Flat feet (pes planus)

Typical arch



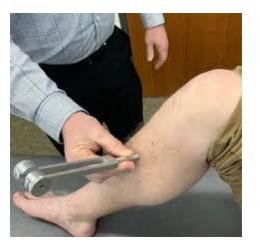


Morton's neuroma



Stress Injuries

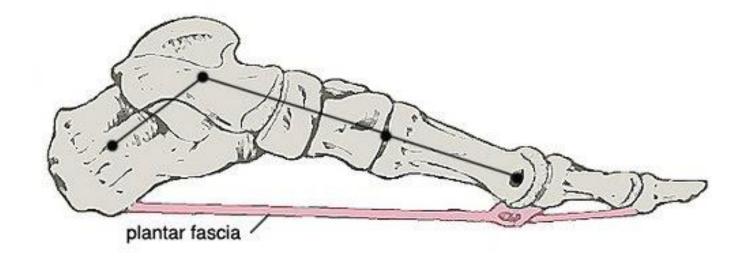
- Commonly affect the tibia, malleoli, foot
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- Special Tests
 - Single leg hop: Pain on landing
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 - Calcaneal squeeze for calcaneus compression fracture

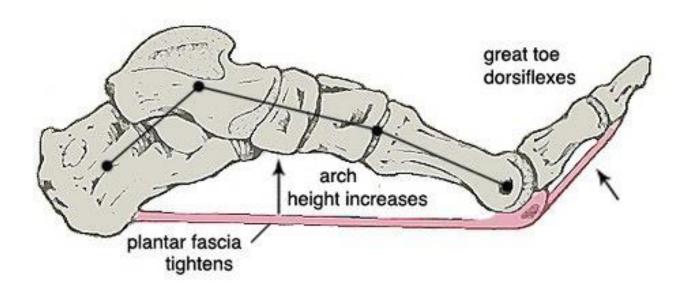




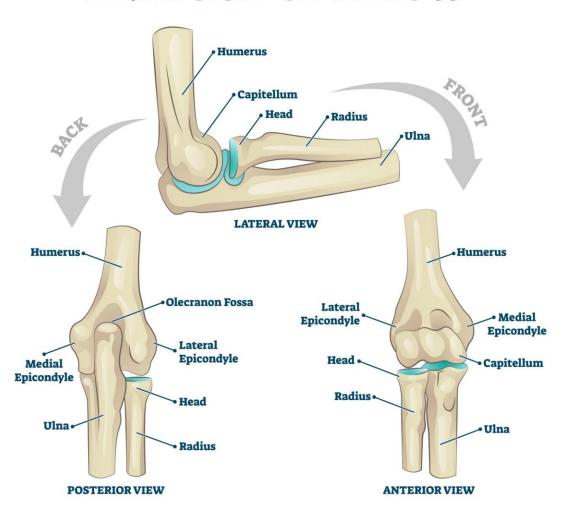


Plantar Fasciitis: Windlass Test



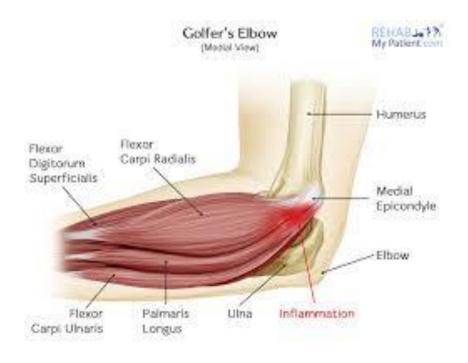


ANATOMY OF ELBOW

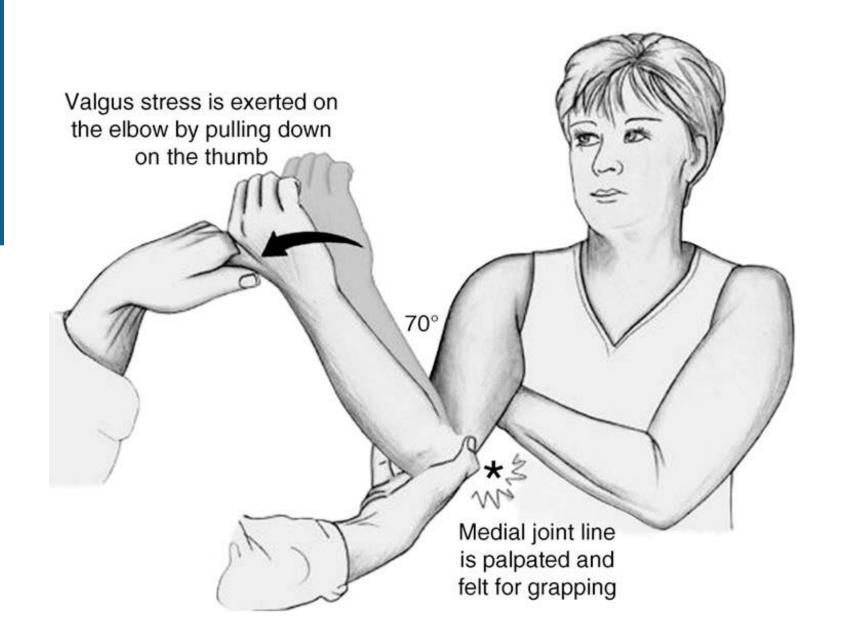


- Inspection
- Palpation: Olecranon, medial and lateral epicondyle, radial head, flexor mechanism, extensor mechanism, cubital tunnel
- Active and passive ROM: flexion/extension, supination, pronation, wrist flexion/extension
 - Muscle strength
- Special Tests:
 - UCL: Valgus stress test, Milking manuever, moving valgus stress
 - Tennis Elbow (lateral epicondylitis): Maudsley, Cozen's, Mill's
 - Golfer's Elbow (medial epicondylitis): Golfer's elbow test
 - Cubital Tunnel Syndrome: Tinel's
- Should also assess shoulder and wrist





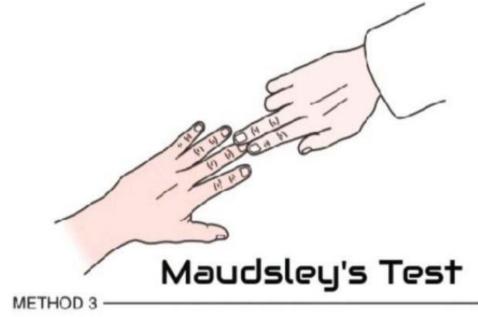
UCL: Milking Manuever



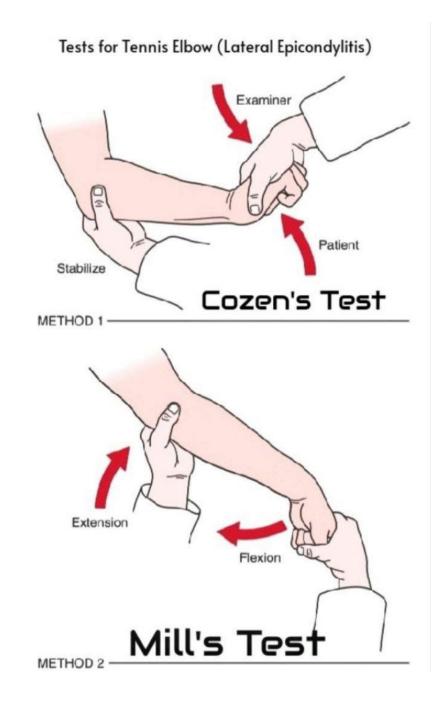
UCL: Moving Valgus Stress



Tennis Elbow exams



3rd Digit resisted extension

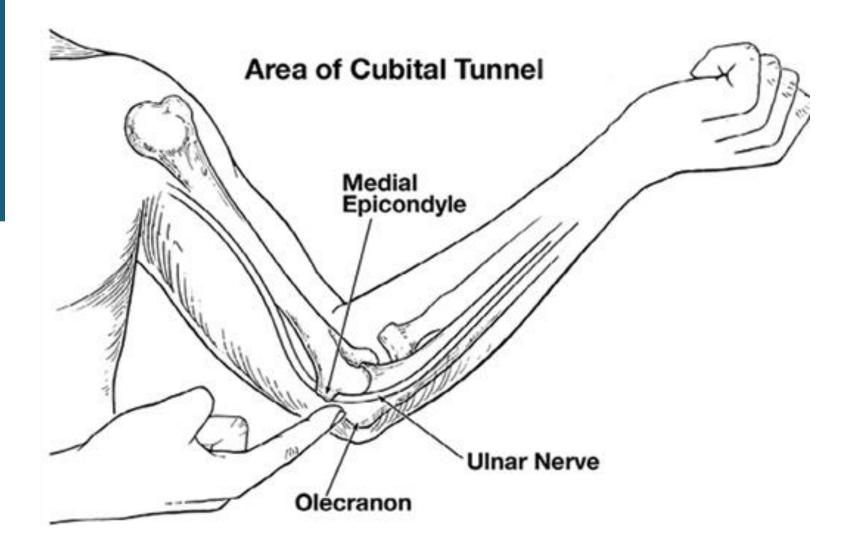




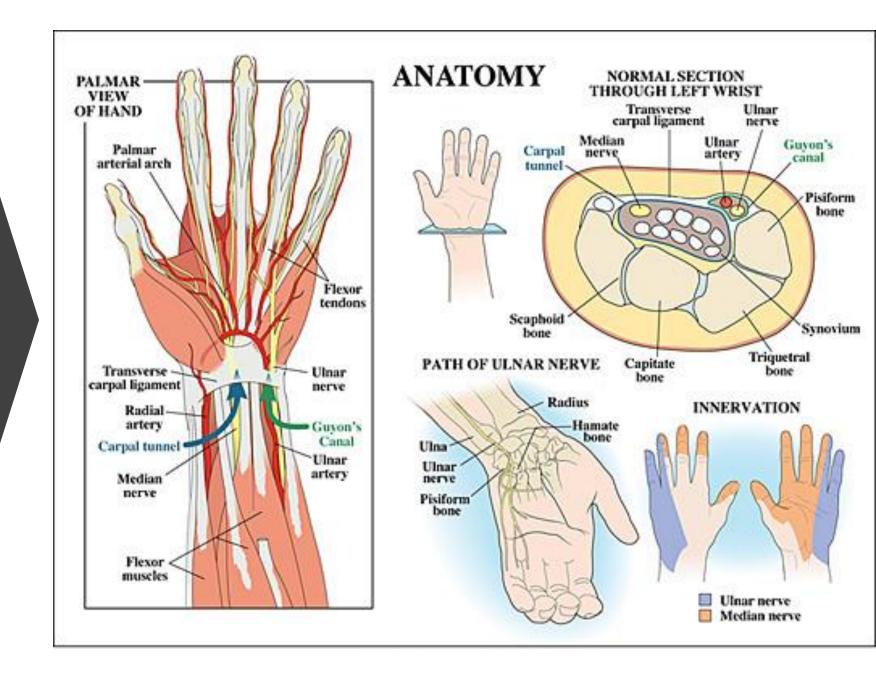
Golfer's Elbow Test

- Golfer's Elbow Test (or Medial Elbow test) is used for Medial Epicondylitis of the elbow joint or Golfer's Elbow.
- The patient can be seated or standing for this test. The patient flexes the elbow and hand. The examiner grasps the patient's hand and immobilizes the patient's upper arm with the other hand. The patient is then requested to extend the elbow against the resistance of the examiner's hand.
- If sudden pain or discomfort is reproduced along the medial aspect of the elbow in the region of the medial epicondyle, then this test is considered positive.

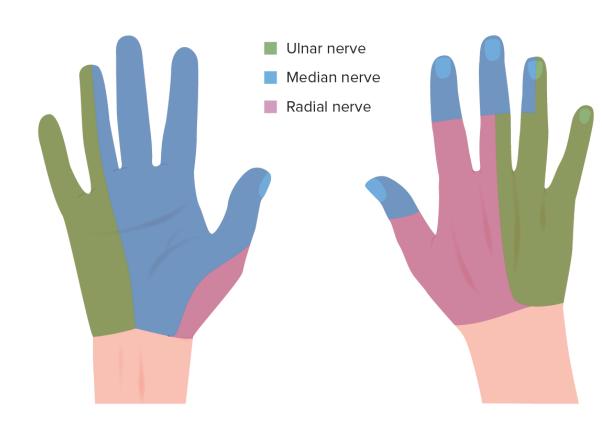
Tinel's at Cubital Tunnel



Wrist and Hand

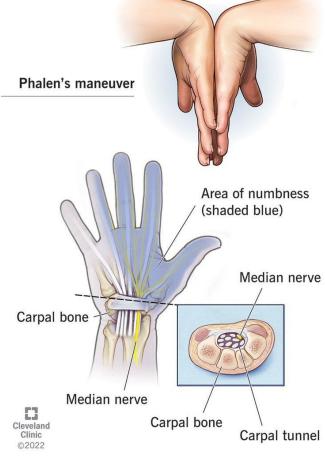


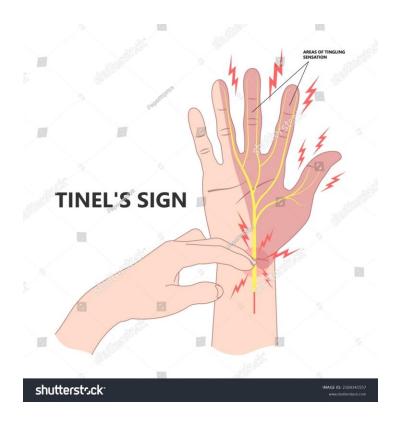
- Inspection
- Palpation: Carpal bones, distal radius and ulna, phalanges
- ROM: flexion and extension, ulnar and radial deviation, Thumb opposition
 - Strength
- Special Tests
 - Carpal Tunnel: Tinel's, Phalen, Reverse Phalen
 - De Quarvain Tenosynovitis: Finkelstein's
 - Thumb UCL injury: Valgus stress



Carpal Tunnel

Phalen's Test





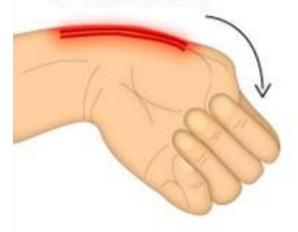
De Quarvain's Tenosynovitis

Finkelstein Test

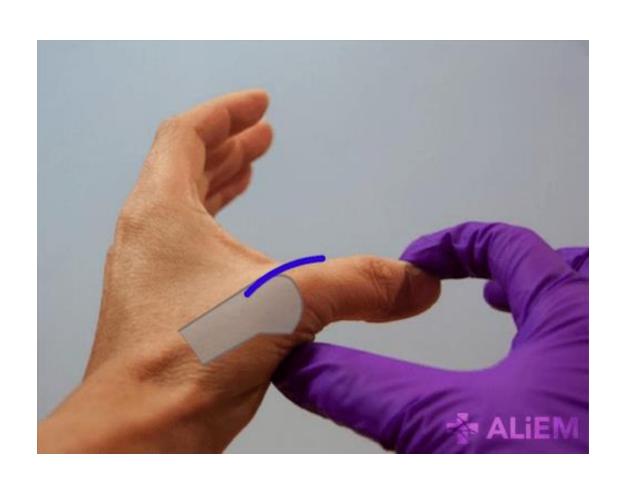
1. Place thumb in a closed fist

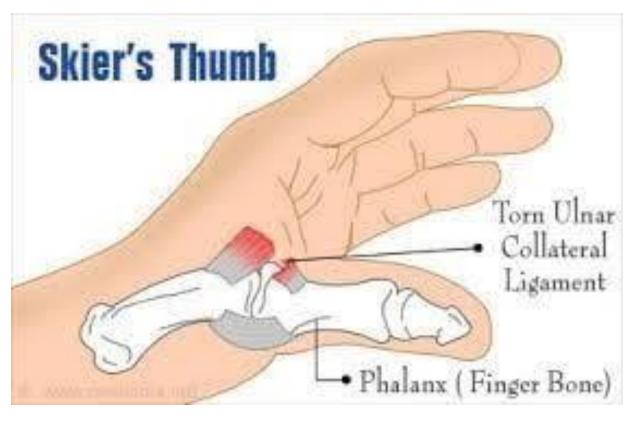


2. Tilt hand down

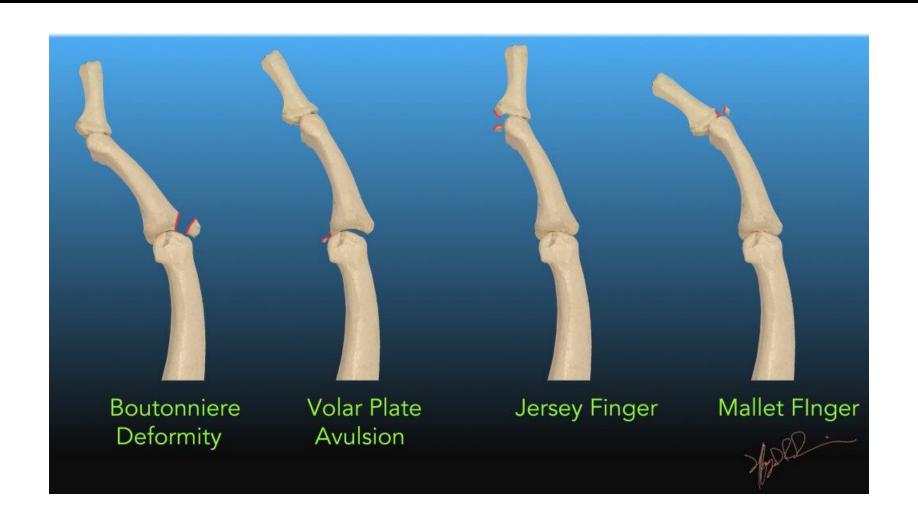


Skier's Thumb (UCL injury): Valgus stress





Common Finger Fractures



References

- American Academy of Family Physicians
- American Medical Society for Sports Medicine









Who Are We?

Dr. Gentile: Wife. Mother.

Plant-based, ACLM-certified,
Direct Primary Care

Physician. Fitness Instructor.

Owner of Rebel Wellness.

Dr. Gioia: Wife. Mother.
Outdoor enthusiast. APD at
AHN Forbes Family Medicine
Residency program.

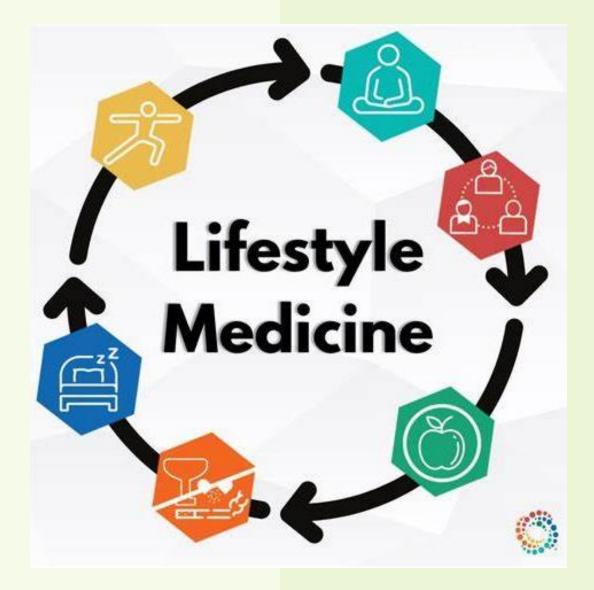


1. Name the 6 pillars of Lifestyle Medicine

2. Understand the options for becoming board certified in LM

3. Describe some practical ways that LM can be integrated into a primary care practice







"Lifestyle medicine is a medical specialty that uses therapeutic lifestyle interventions as a primary modality to treat chronic conditions..."

"Lifestyle medicine certified clinicians are trained to apply **evidence-based**, whole-person, prescriptive lifestyle change to treat and, when used intensively, often reverse certain metabolic conditions."



Mental Health

Inner balance and harmony to optimally meet daily demands / tasks / relationships



Social Determinants of Health (SDoH)

Primary Care

Internal Medicine
Family Practice
Pediatrics
Obstetrics/Gynecology



Physical Health

Proper bodily function affected by lifestyle, genetics, and one's environment



Sciences

Soft

Epigenetics
Microbiome
Psychology
Nutrition
Aging
Public Health



Cardiology
Endocrinology
Neurology
Preventive Medicine
Oncology



Social Health

Personal ability to interact and

LIFESTYLE MEDICINE IS EVIDENCE-BASED MEDICINE!

- 1970S NATHAN PRITIKIN AND JOHN MCDOUGALL INDEPENDENTLY SET UP RESIDENTIAL HEALTHCARE
 CENTERS AIMED AT REVERSING HEART DISEASE THROUGH NUTRITION, EXERCISE, AND STRESS
 REDUCTION
- 1980S DEAN ORNISH'S LIFESTYLE HEART STUDY SHOWS REGRESSION OF CORONARY STENOSIS AT 1
 YEAR AFTER PLACING PATIENTS ON A LOW-FAT VEGETARIAN DIET, STRESS REDUCTION PLAN, EXERCISE
 AND SMOKING CESSATION.
- 1990S LYON HEART TRIAL SHOWS SIGNIFICANTLY IMPROVED EVENT FREE SURVIVAL FROM SECONDARY CORONARY EVENTS IN THOSE FOLLOWING A MEDITERRANEAN DIET PATTERN VS THE AHA STEP 1 DIET
- 2000S PREDIMED TRIAL SHOWS SIGNIFICANT REDUCTION IN MACE FOR PRIMARY PREVENTION OF CARDIAC EVENTS FOR THOSE FOLLOWING MEDITERRANEAN DIET PATTERN VS CONTROL GROUP LOW

FAT DIFT



THE PROBLEM

WHAT AMERICA EATS

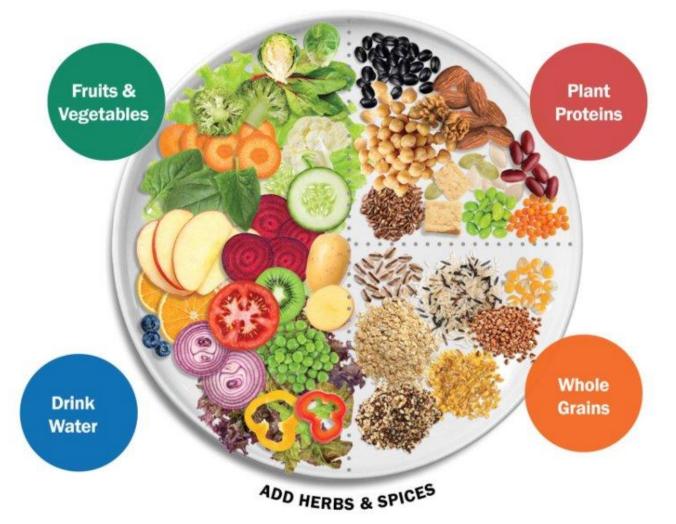


THE SOLUTION

A WHOLE FOOD, PLANT-BASED PLATE

Nutrition Prescription for Treating & Reversing Chronic Disease

The American College of Lifestyle Medicine Dietary Lifestyle Position Statement for Treatment and Potential Reversal of Disease: ACLM recommends an eating plan based predominantly on a variety of minimally processed vegetables, fruits, whole grains, legumes, nuts and seeds.



THE PROBLEM:

CURRENT RATES OF EXERCISE IN THE US:

<50% OF AMERICANS
NOT MEETING RECOM
MENDED AEROBIC
PHYSICAL ACTIVITY
GUIDELINES

<1/3 MEET
REQUIREMENT
FOR AEROBIC AND
RESISTANCE
TRAINING









THE SOLUTION





THE PROBLEMS

- 1. CHRONIC STRESS
- 2. POOR SLEEP
- 3. EXPOSURE TO RISKY SUBSTANCES
- 4. SOCIAL ISOLATION









THE SOLUTIONS: THE 6 PILLARS OF LIFESTYLE MEDICINE

"#7"





LIFESTYLE MEDICINE FOCUSES ON 6 AREAS TO IMPROVE HEALTH



Chronic Disease in U.S.



Cause Eliminate



Poor Diet



Sedentary Behavior



Smoking

Prevent

80% of heart disease & stroke 80% of type 2 diabetes 40% of cancer

Solution

Restore Health

Whole-food, plant predominant diet



150 mins/wk of moderate exercise



8 hours of restful sleep



Daily relaxation time to lower stress



No Smoking

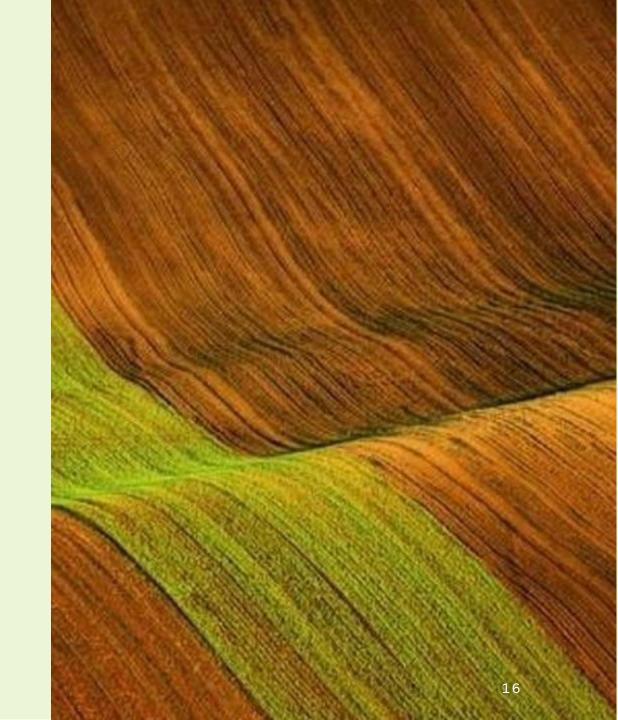


Regular connection to positive people



Lifestyle Medicine providers treat and reverse chronic disease

ABOUT THE
AMERICAN COLLEGE
OF LIFESTYLE
MEDICINE (ACLM)
AND THE AMERICAN
BOARD OF LIFESTYLE
MEDICINE (ABLM)



THE AMERICAN COLLEGE OF LIFESTYLE MEDICINE (ACLM) IS THE MEDICAL PROFESSIONAL SOCIETY FOR PHYSICIANS AND OTHER PROFESSIONALS DEDICATED TO CLINICAL AND WORKSITE PRACTICE OF LIFESTYLE MEDICINE AS THE FOUNDATION OF A TRANSFORMED AND SUSTAINABLE HEALTH CARE SYSTEM.

American Board of Lifestyle Medicine (ABLM)

provides certification as an "ABLM diplomate" to those specialized knowledge in the practice of lifestyle medicine. Certification in lifestyle medicine indicates that the individual has mastered the science of preventing, treating, and reversing chronic disease in an evidence-based manner.





ABLM Certification – LM Physician

Experiential Pathway

Prerequisites

ABMS certified with 2 years experience

30h of online lifestyle medicine course

20h of ABLM event CME (live or virtual)

Case study (templated)

Passing the certification exam

Certificate

Jointly issued by ABLM and IBLM

Nomenclature

DipABLM or DipIBLM

"Certified Lifestyle Medicine Physician"

Educational Pathway

Prerequisites

Lifestyle Medicine Residency Curriculum (LMRC)

Educational/Didactic Component – 100 hours

Practicum Component

Resident and Faculty Eligible

Certificate

Issued by ABLM, not available globally yet

Nomenclature

DipABLM

"Certified Lifestyle Medicine "Physicidin" of:



DR. GENTILE'S PATH TO CERTIFICATION



LM IN DIRECT PRIMARY CARE (DPC)



- 1. Direct primary care definition
- 2. Case study of LM in DPC
- 3. Benefits of DPC that allow for LM incorporation



LM AND COMMUNITY WELLNESS

1. CASE STUDY: PHYSICIAN-OWNED WELLNESS STUDIO





INTEGRATING LIFESTYLE MEDICINE INTO A FAMILY MEDICINE RESIDENCY PROGRAM

Lifestyle Medicine Residency Curriculum



- Developed in collaboration with Loma Linda University Health & ACLM
- Comprehensive, applicable, and flexible curriculum designed for integrated implementation into medical residency programs with educational and practicum components.
- Upon completion of the curriculum, residents qualify to sit for the American Board of Lifestyle Medicine certification exam.

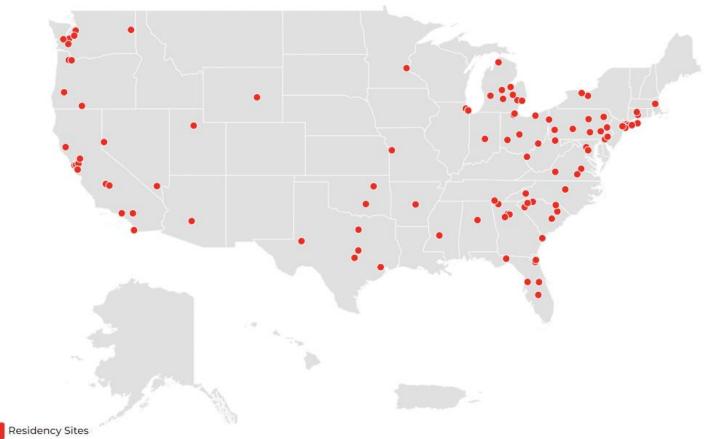


lifestylemedicine.org/lmrc

LMRC Site Map

LIFESTYLE MEDICINE RESIDENCY SITE MAP

Locations across the United States of lifestyle medicine residency programs. Join this ever-growing network of academic institutions.



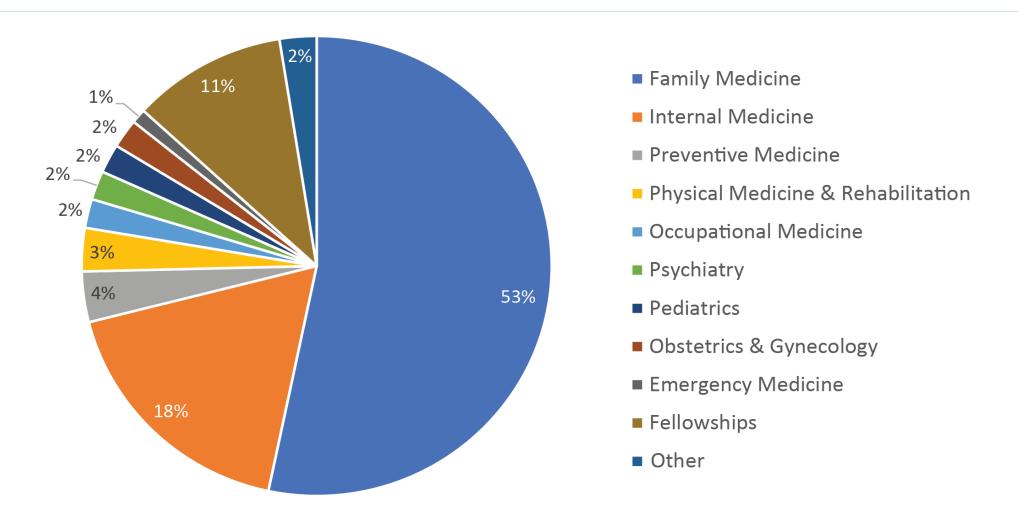


Collaborative Initiative of:





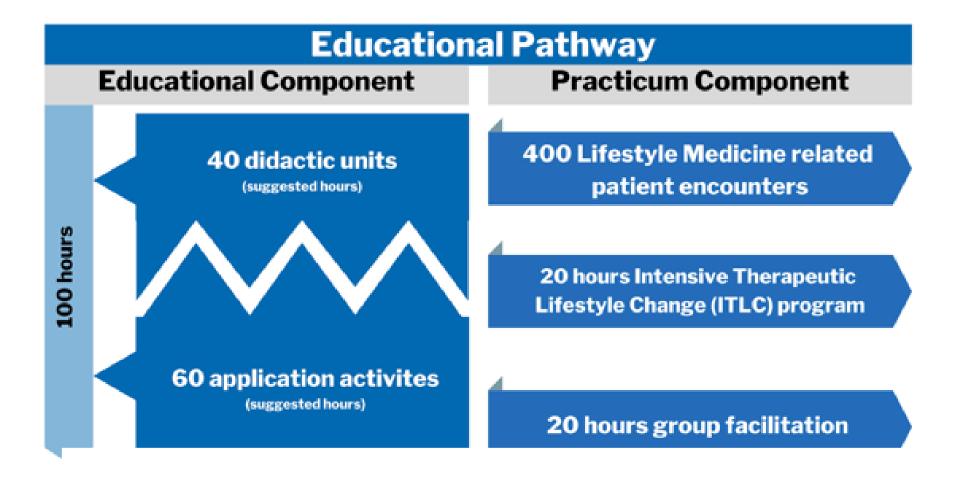
Types of Programs Implementing the LMRC - 2022







LM Physician - Educational Pathway







LMRC – Education Component

#	Module Title	Didactic Units*	Application Hours*	Total Hours
1	Intro to Lifestyle Medicine	2	2	4
2	Role of Physician Health	2	2	4
3	Nutrition	10	16	26
4	Physical Activity	6	8	14
5	Sleep	3	5	8
6	Tobacco & Substances	3	5	8
7	Health Behavior Change	4	6	10
8	Key Clinical Processes	3	5	8
9	Emotional & Mental Wellbeing	4	6	10
10	Connectedness & Positive Psychology	3	5	8
Total Hours		40	60	100



Collaborative Initiative of:



Intensive Therapeutic Lifestyle Change Programs: A Progressive Way to Successfully Manage Health Care

Abstract: Intensive therapeutic lifestyle change (ITLC) programs have been sbown to consistently achieve improved biologic markers for cardiac beart disease risk in short periods of time. We propose a standard definition of ITLC and discuss the specifics that are critical to their success. We include a discussion of our experiences with delivering ITLC programs in large bealth care systems and use that to illustrate opportunities for ITLC implementation in the future. Finally, we discuss the current drivers of change in the US bealth care reform movement and comment on their predictable effects on the current bealth care landscape.

Keywords: intensive therapeutic lifestyle change; therapeutic lifestyle change; health care reform; primary care; population health; value-based care

The Need for Intensive Therapeutic Lifestyle Changes

Therapeutic lifestyle changes (TLCs) are recommended to patients suffering from chronic illnesses. TLC is a comprehensive lifestyle approach that includes specific dietary recommendations (TLC diet), weight management, and increased physical activity that formally arose from the Third Report of the National Cholesterol Education Program. Traditionally tobacco cessation is also included. Therapeutic lifestyle changes

effect.² While there is evidence that TLCs affect health behaviors, they have been challenging to execute and sustain by individuals based on counseling alone. The support structure needed for behavior change is rarely found in a clinical setting.

Intensive therapeutic lifestyle change (ITLC) programs affect health behaviors

Intensive therapeutic lifestyle change
(ITLC) programs affect health
behaviors but can have an even
stronger impact on population health
than TLCs alone.

have been shown to be the foundation of clinical primary prevention. TLCs encourage small lifestyle changes to help patients improve their health. In a meta-analysis completed in 2013, which reviewed the impact of primary care physicians' weight loss counseling on patients' weight loss behavior changes, most studies demonstrated a positive

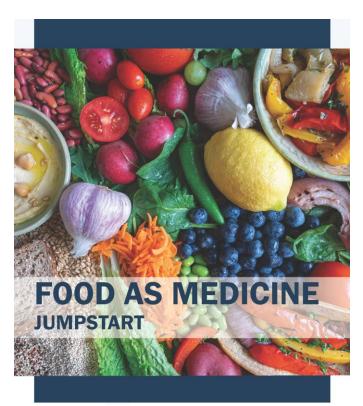
but can have an even stronger impact on population health than TLCs alone. Currently, ITLC programs are being coordinated in residential and community settings throughout the United States by integrated teams of caregivers. They are focusing on all 4 critical components of health: nutrition, activity, stress management, and social support. A key

DOI: 10.1177/1559827615592344. From the Christ Hospital Health Network, Cincinnati, Ohio (ARM); and Lifestyle Medicine Solutions, The Therapeutic Lifestyle Center, Riverside, California (MD). Address correspondence to Amy R. Mechley, MD, The Christ Hospital Health Network, 237 William Howard Taft Drive, Cincinnati, OH 45219; e-mail: amy.mechley@thechristhospital.com.

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IMPLEMENTATION OF LIFESTYLE MEDICINE AT AHN FORBES FAMILY MEDICINE







- Lifestyle Medicine Residency Curriculum (LMRC) at Forbes Family Medicine (36-month program)
- ITLC Weight Management & Diabetes Pathway Programs
- Interdisciplinary partnerships with dietician, pharmacy and behavioral health
- Shared Medical Group Appointment Model
 - Planning/pilot stages ongoing in partnership between FFM and WPMA residency sites

 Collaboration and support through Enterprise Equitable Health Institute, PAFP RIG Grant Initiative, Drexel Professional Growth and Enrichment Grant, RK Mellon Grant for the Nature & Health Study

Community Partnerships with AHN Research Institute, Highmark Health, The Natural Capital Project at Stanford University, Plant Based Pittsburgh, Plum YMCA, Pittsburgh Parks Conservancy, Monroeville Senior Center, Monroeville Parks and Recreation Department, Walk with a Doc





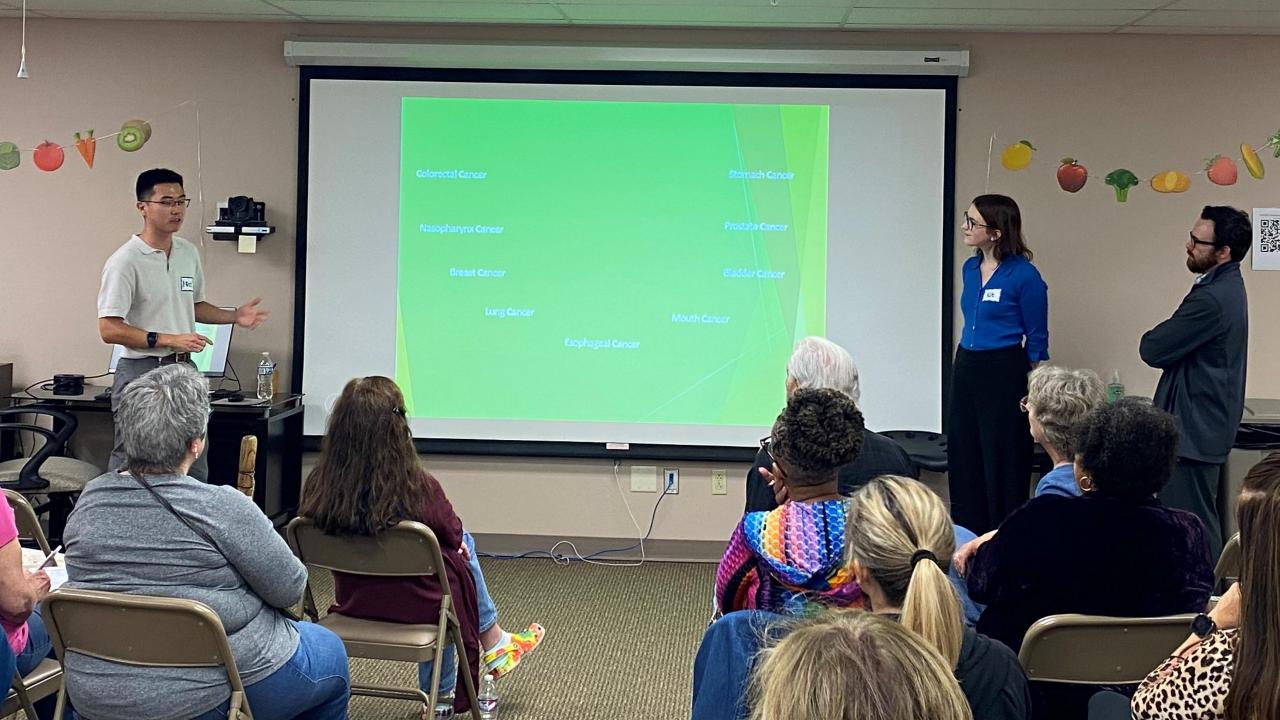














PRESCRIBING
LIFESTYLE MEDICINE
THROUGH THE
NATURE & HEALTH
STUDY

Invitation from Forbes Family Medicine & Stanford University to Participate in an Upcoming Research Study

How does lifestyle and environment affect health and wellness?



If you are interested in learning more, please contact Sophie McCormick, clinical research coordinator, at (412) 266-9713 or sophie.mccormick@ahn.org.

Participants receive a Fitness Tracker (worth \$150) and additional compensation upon study completion.

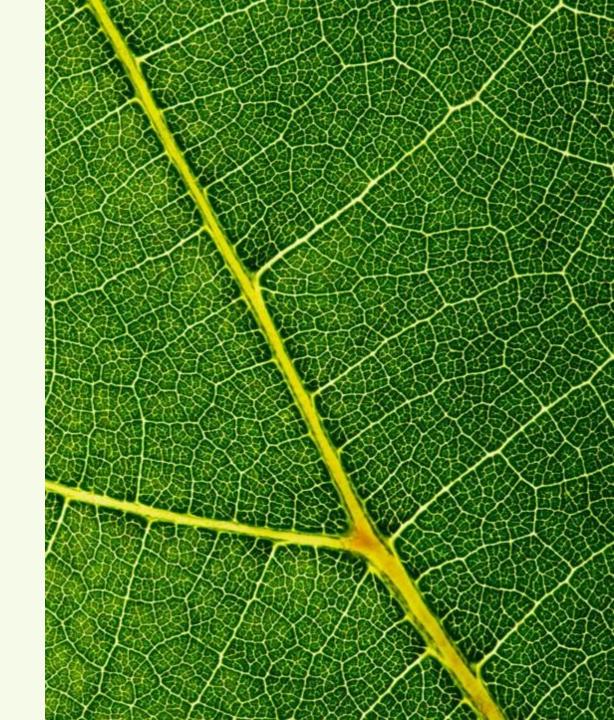
To participate, you must be 13-65 years old (under 18 must have parental consent), and you must have one or more chronic conditions, or significant lifestyle risks as identified by your healthcare provider. Participation is voluntary and can be withdrawn at any time.



THANK YOU

Dr. Natalie Gentile natalie@rebelsinwellness.com

> Dr. Maria Gioia Maria.gioia@ahn.org







PHYSICAL THERAPY







Point to Where it Hurts: Resources for Addressing Common Aches and Pains in the Older Adult

UPMC REHABILITATION INSTITUTE













Introductions

Emily Pauley PT, DPTGeriatrics Resident

Makenzie Zeh PT, DPT
Orthopedic Resident













Disclosures

Financial

None

Nonfinancial

- Members of the American Physical Therapy Association (APTA)
- Physical Therapy Residents at UPMC Rehabilitation Institute









ORTHOPAEDIC PHYSICAL THERAPY



SPORTS
PHYSICAL THERAPY



Objectives

- Review common musculoskeletal complaints and associated conditions in the older adult population
- Introduce and practice simple home exercise programs and interventions that can be provided to patients to address associated complaints
- Discuss the benefits and uses of MedBridge
- Provide resources that are easily accessible and efficient to distribute to patients

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MedBridge 8





Online resource

MEDBRIDGE

- Continuing education
- Patient Education
- Home Exercise Programs
 - Printouts
 - Online access
 - App

QZ6CYH4Q

URL: https://upmcrehab.medbridgego.com/

Date: 02/08/2025

Prepared by: Makenzie Zeh

Exercises

- Seated Hamstring Stretch 1 x daily 7 x weekly 3 sets 10 reps
- Seated 3 Way Exercise Ball Roll Out Stretch 1 x daily 7 x weekly 3 sets 10 reps
- Supine March 1 x daily 7 x weekly 3 sets 10 reps
- Supine Lower Trunk Rotation 1 x daily 7 x weekly 3 sets 10 reps
- Static Prone on Elbows 1 x daily 7 x weekly 3 sets 10 reps
- Cat Cow 1 x daily 7 x weekly 3 sets 10 reps
- Supine Bridge 1 x daily 7 x weekly 3 sets 10 reps
- Seated Cervical Rotation AROM 1 x daily 7 x weekly 3 sets 10 reps
- Seated Cervical Sidebending AROM 1 x daily 7 x weekly 3 sets 10 reps
- Supine Cervical Retraction with Towel 1 x daily 7 x weekly 3 sets 10 reps
- Seated Scapular Retraction 1 x daily 7 x weekly 3 sets 10 reps
- Sidelying Hip Abduction 1 x daily 7 x weekly 3 sets 10 reps
- Squat with Chair Touch 1 x daily 7 x weekly 3 sets 10 reps
- Standing Hip Hinge 1 x daily 7 x weekly 3 sets 10 reps
- Quadruped Hip Abduction and External Rotation 1 x daily 7 x weekly 3 sets 10 reps
- Supine Quad Set 1 x daily 7 x weekly 3 sets 10 reps
- Seated Long Arc Quad 1 x daily 7 x weekly 3 sets 10 reps
- Mini Squat 1 x daily 7 x weekly 3 sets 10 reps
- Gastroc Stretch on Wall 1 x daily 7 x weekly 3 sets 10 reps
- Seated Shoulder Flexion Towel Slide at Table Top 1 x daily 7 x weekly 3 sets 10 reps
- Supine Shoulder Flexion Extension AAROM with Dowel 1 x daily 7 x weekly 3 sets 10 reps
- Standing Shoulder Internal Rotation Stretch with Towel 1 x daily 7 x weekly 3 sets 10 reps
- Shoulder External Rotation and Scapular Retraction with Resistance 1 x daily 7 x weekly 3 sets 10 reps
- Standing Shoulder Row with Anchored Resistance 1 x daily 7 x weekly 3 sets 10 reps
- Standing Single Arm Shoulder Abduction with Resistance 1 x daily 7 x weekly 3 sets 10 reps



Access Code QZ6CYH4Q

Acute vs Chronic Pain



Acute Pain

- Rest
 - Gentle movement to tolerance
 - Avoid movements/activities that cause excessive pain
- Ice
- Compression
- Elevation

Chronic Pain (> 3 months)

- Progressive movement
- Stretching
- Progressive Strengthening
- Movement to Tolerance
- Deep Breathing Techniques
- Adequate Sleep Schedule
- Heat

**If concerns for moderate ligamentous injury or fracture, consider referring for imaging/orthopedic consult













Low Back Pain

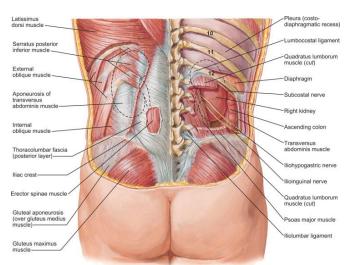
[If severe limitations in range of motion and extremely high pain levels noted, consider referring out for imaging/ortho consult]

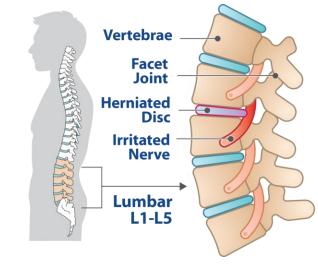
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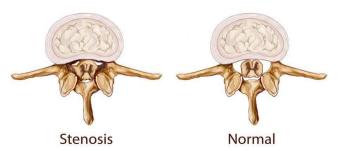
Low Back Pain: Common Conditions ¹

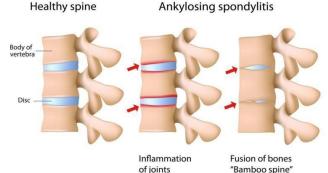


- Ligament Sprain
- Muscle Strain
- Degenerative Disc Disease
- Ruptures or Herniated Discs
- Spondylolisthesis
- Spinal Stenosis
- Fractured Vertebrae
- Scoliosis
- Myofascial Pain
- Ankylosing Spondylitis









Low Back Pain: CPG²

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Physical Therapy Residency Programs

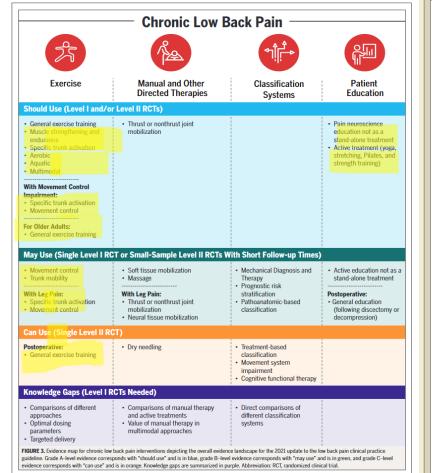
ACUTE AND CHRONIC LOW BACK PAIN: CLINICAL PRACTICE GUIDELINES

Evidence Maps

Acute Low Back Pain Classification **Exercise** Manual and Other **Patient Directed Therapies** Education Systems Should Use (Level I and/or Level II RCTs) . Thrust or nonthrust joint May Use (Single Level | RCT or Small-Sample Level | RCTs With Short Follow-up Times) With Leg Pain: · Soft tissue mobilization · Active education and Treatment-based Massage classification advice Biopsychosocial contributors to pain Specific trunk activation Self-management techniques Favorable natural history Can Use (Single Level II RCT) General exercise training · Mechanical Diagnosis and Therapy **Knowledge Gaps (Level I RCTs Needed) Movement Control:** · Neural tissue mobilization · Cognitive functional therapy Pain neuroscience Trunk mobility · Dry needling · Prognostic risk education Aerobic exercises Traction stratification Multimodal exercises · Pathoanatomic-based classification · Movement system impairment FIGURE 2. Evidence map for acute low back pain interventions depicting the overall evidence landscape for the 2021 update to the low back pain clinical practice guideline. Grade A-level evidence corresponds with "should use" and is in blue, grade B-level evidence corresponds with "may use" and is in green, and grade C-level

evidence corresponds with "can use" and is in orange. Knowledge gaps are summarized in purple. Abbreviation: RCT, randomized clinical trial.

ACUTE AND CHRONIC LOW BACK PAIN: CLINICAL PRACTICE GUIDELINES



STEVEN Z. GEORGE, PT, PhD, FAPTA - JULIE M. FRITZ, PT, PhD, FAPTA - SHERI P. SILFIES, PT, PhD
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Interventions for the Management of Acute and Chronic Low Back Pain: Revision 2021

Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability and Health From the Academy of Orthopaedic Physical Therapy of the American Physical Therapy Association

J Orthop Sports Phys Ther. 2021;51(11):CPG1-CPG60. doi:10.2519/jospt.2021.0304

CPG2	SUMMARY OF RECOMMENDATIONS
CPG3	INTRODUCTION
CPG5	METHODS
	CLINICAL PRACTICE GUIDELINES
CPG9	Intervention: Exercise
CPG16	Intervention: Manual and Other Directed Therapies
CPG21	Intervention: Classification Systems
CPG25	Intervention: Patient Education
CPG29	EVIDENCE MAPS
CPG31	AUTHOR/REVIEWER AFFILIATIONS AND CONTACTS
CPG32	REFERENCES
CPG39	APPENDICES (ONLINE)

REVIEWERS: Paul F. Beattie, PT, PhD, OCS, FAPTA, NREMT • Mark D. Bishop, PT, PhD, FAPTA • Christine Goertz, DC, PhD Stephen Hunter, PT, DPT, OCS, FAPTA • Kenneth A. Olson, PT, DHSc, OCS, FAAOMPT • Sean D. Rundell, PT, DPT, PhD Michael Schmidt, PT, DPT, FAAOMPT, GCS, OCS • Mark Shepard, PT, DPT • Robert Vining, DC, DHSc





Common Interventions 3,4



Flexion Preference

- Seated Hamstring Stretch
- Seated Ball Roll Out
- Supine Lower Trunk Rotation
- Supine March









Extension Preference

- Prone press up
- Cat/Camel
- Bridge



















Neck Pain

[Once fractures have been ruled out/Canadian C Spine rules]

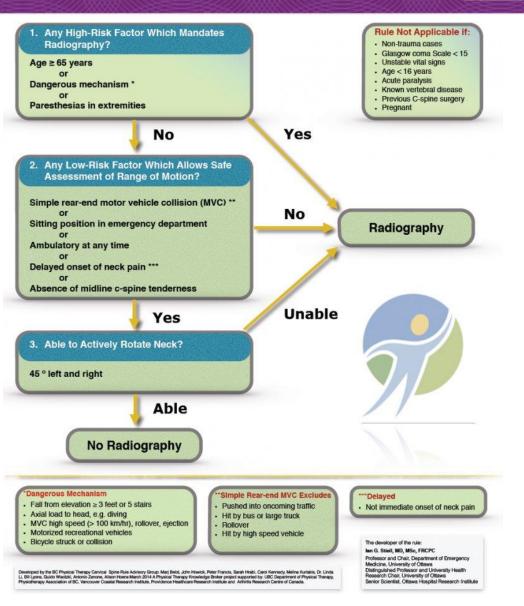
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Physical Therapy Residency Programs

Canadian C Spine Rules



Physical Therapy Residency Programs



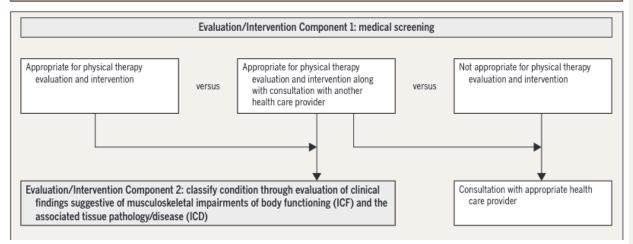
Physio-pedia. (n.d.). Canadian C-Spine Rule. March 2014 Physiopedia.

Neck Pain CPG⁹

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Physical Therapy Residency Programs

NECK PAIN: CLINICAL PRACTICE GUIDELINES REVISION 2017



Neck Pain With Mobility Deficits

Common symptoms

- Central and/or unilateral neck pain
- Limitation in neck motion that consistently reproduces symptoms
- Associated (referred) shoulder girdle or upper extremity pain may be present

Expected exam findings

- Limited cervical ROM
- Neck pain reproduced at end ranges of active and passive motions
- Restricted cervical and thoracic segmental mobility
- Intersegmental mobility testing reveals characteristic restriction
- Neck and referred pain reproduced with provocation of the involved cervical or upper thoracic segments or cervical musculature
- Deficits in cervicoscapulothoracic strength and motor control may be present in individuals with subacute or chronic neck pain

Neck Pain With Movement Coordination Impairments (WAD)

Common symptoms

- Mechanism of onset linked to trauma or whiplash
- Associated (referred) shoulder girdle or upper extremity pain
- Associated varied nonspecific concussive signs and symptoms
- Dizziness/nausea
- Headache, concentration, or memory difficulties; confusion; hypersensitivity to mechanical, thermal, acoustic, odor, or light stimuli; heightened affective distress

Expected exam findings

- Positive cranial cervical flexion test
- Positive neck flexor muscle endurance test
- Positive pressure algometry
 Strangth and and usages deficit
- Strength and endurance deficits of the neck muscles
- Neck pain with mid-range motion that worsens with end-range positions
- Point tenderness may include myofascial trigger points
- Sensorimotor impairment may include altered muscle activation patterns, proprioceptive deficit, postural balance or control
- Neck and referred pain reproduced by provocation of the involved cervical segments

Neck Pain With Headache (Cervicogenic)*

Common symptoms*

- Noncontinuous, unilateral neck pain and associated (referred) headache
- Headache is precipitated or aggravated by neck movements or sustained positions/postures

Expected exam findings

- Positive cervical flexionrotation test
- Headache reproduced with provocation of the involved upper cervical segments
- · Limited cervical ROM
- Restricted upper cervical segmental mobility
- Strength, endurance, and coordination deficits of the neck muscles

Neck Pain With Radiating Pain (Radicular)

Common symptoms

- Neck pain with radiating (narrow band of lancinating) pain in the involved extremity
- Upper extremity dermatomal paresthesia or numbness, and myotomal muscle weakness

Expected exam findings

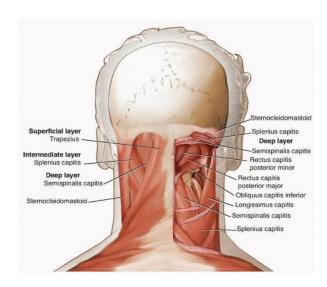
- Neck and neck-related radiating pain reproduced or relieved with radiculopathy testing: positive test cluster includes upper-limb nerve mobility, Spurling's test, cervical distraction, cervical ROM
- May have upper extremity sensory, strength, or reflex deficits associated with the involved nerve roots



Neck Pain Common Conditions⁹

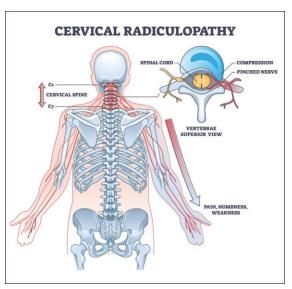
Mobility Deficits

- Decreased ROM
- Reports of stiff neck
- More chronic then acute



Radicular Pain

- Neck pain with reports of numbness and tingling
- Electrical type feeling
- Weakness in upper extremities

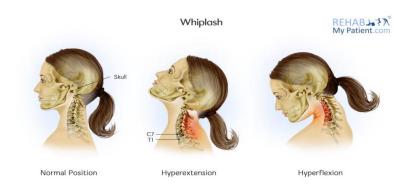




Neck Pain Common Conditions9

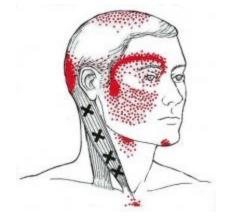
Neck pain with movement coordination Whiplash Associated Disorder (WAD)

- Linked to trauma
- Shoulder girdle pain
- Stiff neck
- Could report dizziness or nausea



Neck Pain With Headaches (Cervicogenic)

- Headaches, could report dizziness, nausea
- Unilateral neck pain
- Posture related (tech neck)
- Pain with neck movements



Common Interventions



Mobility Deficits/WAD

3 sets of 10 reps

- Cervical rotation, cervical side bending postural training, thoracic mobility
- Remain active (walking, normal ADLS)

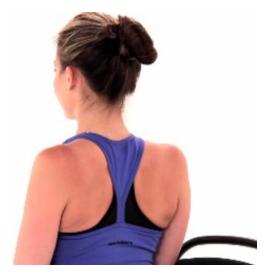




Radicular/Neck pain with headaches

- Remain active (walking, normal ADLS)
- Supine chin tucks, scapular retractions















Hip Pain

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Physical Therapy Residency Programs

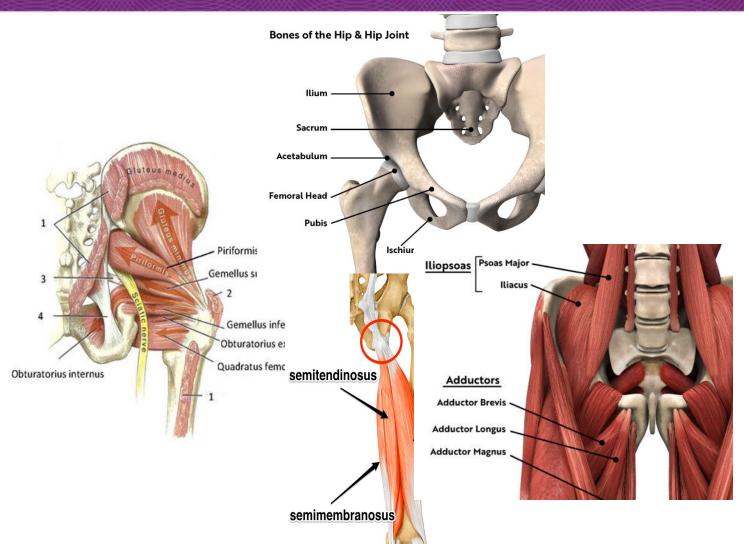
Hip Pain: Common Conditions 10,11

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- Hip Osteoarthritis**
- Femoral acetabular impingement
 - Groin, anterior lateral pain
- Hip Instability
- General hip mobility deficits
- Greater trochanter pain syndrome (lateral, posterior hip pain)
- Athletic pubalgia (sports hernia)
- Piriformis syndromes
- Pelvic floor

^{** &}gt;50 years, morning stiffness >60 mins, ant/lateral pain and d pain with WB activity



Common Interventions



Strengthen

3 sets of 10 reps

- Supine Bridges with glute squeeze
- Side-lying hip abduction
- Squat to chair touch



Mobility

3 sets of 10 reps

- Standing Hip Hinge
- Open Gate













Knee Pain

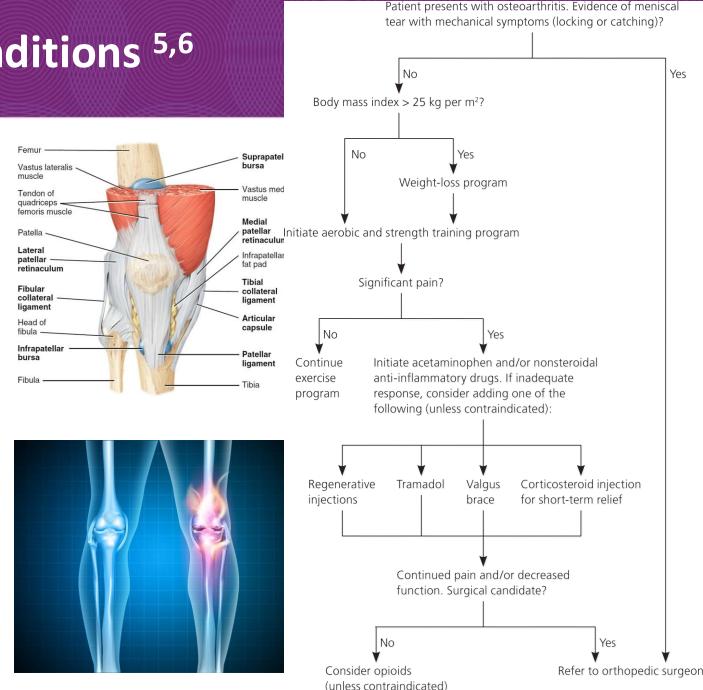
[If patient is unable to bear weight or bend/extend within a functional range, consider referring out for imaging/ortho consult]

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Physical Therapy Residency Programs

Knee Pain: Common Conditions 5,6

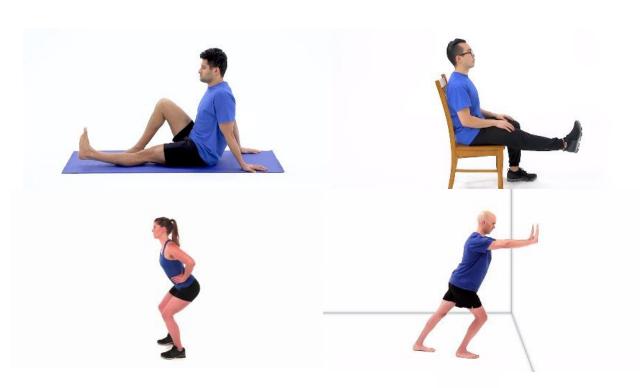
- Chronic Instability
- Osteoarthritis
- Total Knee Arthroplasty
- Ligamentous Injury
- Generalized Pain
- Fracture
- Bursitis
- Tendonitis
- Meniscus Injury



Common Interventions ⁶



- Quad set (progress to straight leg raise)
- Seated Long Arc Quad
- Mini Squats
- Calf Stretch
- Hamstring Stretch















Shoulder Pain

[Warning: neck injuries can present as shoulder pain]

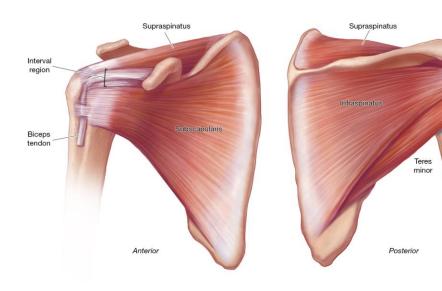
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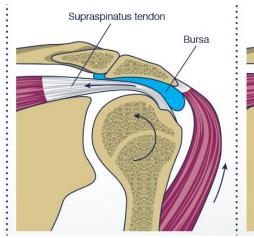
Physical Therapy Residency Programs

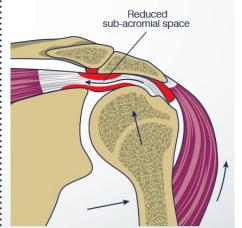
Shoulder Pain: Common Conditions 7



- Rotator Cuff Tear
- Osteoarthritis
- Tendonitis
- Total Shoulder
 Arthroplasty
- Dislocation
- Fracture
- Bursitis
- Impingement
- Frozen Shoulder









Common Interventions



Impaired ROM

- Towel Slide (Flexion and Abduction)
- Active Assisted Flexion and External Rotation with Dowel
- Internal Rotation Stretch with Towel

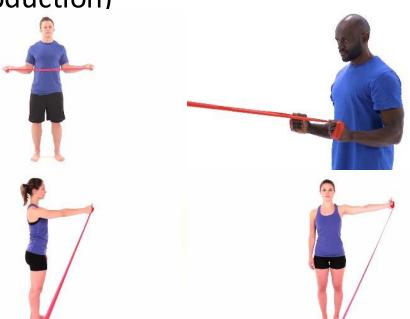






Impaired Strength

- External Rotation (Band Pull Apart)
- Row
- *Shoulder 3-Ways (Flexion, Scaption, Abduction)













Considerations: When to Refer

Refer to physical therapy when...

- 1) Pain worsens or is not improving with generalized interventions provided after a few weeks to a month
- 2) Musculoskeletal presentation of patient is complex
- 3) You do not feel comfortable addressing a given musculoskeletal condition



Physical Therapy Residency Programs

Resources



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- 11. "Hip Pain and Movement Dysfunction Associated With Nonarthritic Hip Joint Pain: A Revision Clinical Practice Guidelines Linked to the International Classification of Functioning, Disability, and Health from the Academy of Orthopaedic Physical Therapy and American Academy of Sports Physical Therapy of the American Physical Therapy Association." Journal of Orthopaedic & Sports Physical Therapy, vol. 53, no. 7, 29 June 2023, pp. CPG1-CPG70,

https://www.iospt.org/doi/10.2519/iospt.2023.0302.











Questions?

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Physical Therapy Residency Programs











Thank You!

UPMC REHABILITATION INSTITUTE

Physical Therapy Residency Programs

ESSENTIAL PRIMARY CARE IN LGBT+ PATIENTS



Steven R. Wolfe, DO, MPH, FAAFP, AAHIVS

Assistant Dean, AHN/LECOM Clinical Campus
Clinical Professor, LECOM Department of Family Medicine
Clinical Professor, Drexel University Depart. of Family Medicine, Community and Preventive Medicine
AHN Primary Care Institute
LGBTQIA+ Specialist



DISCLOSURES

- I. No financial disclosures
- 2. Lecture is not all encompassing of care of the LGBT+ patients
- 3. Lecture is meant encourage opportunities that you may be missing with LGBT+ patients

OBJECTIVES

- I. Identify areas in your practice that you could better serve the LGBT+ community
- 2. Integrate PrEP and DoxyPEP into your management
- 3. Recognize simple steps to incorporate HIV management into your practice
- 4. Apply transgender and gender diverse management recommendations into routine care

AGENDA

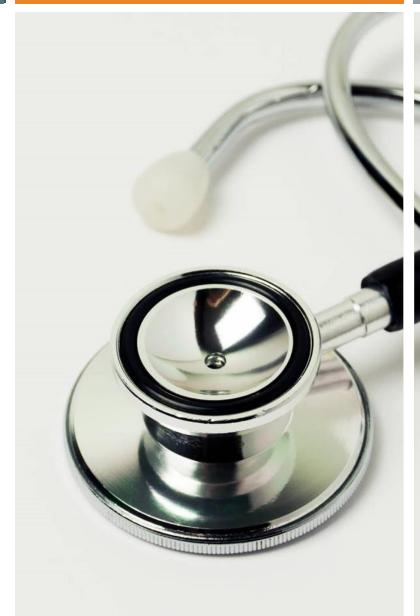
Health Disparities

Important Discussions

HIV and STI Prevention

HIV Management

Transgender and Gender Diverse Care







HEALTH DISPARITIES

UNDERSTAND AND DISCUSS POTENTIAL DISPARITIES

- Screen for domestic violence, hate crimes and previous history of trauma related to sexuality and gender identity
- Screen for smoking, alcohol use and substance use/abuse
 - Use non-judgmental, harm reduction approach
- Screen for depression, suicidality and anxiety symptoms
- Screen for risk for STIs, both symptomatic and asymptomatic

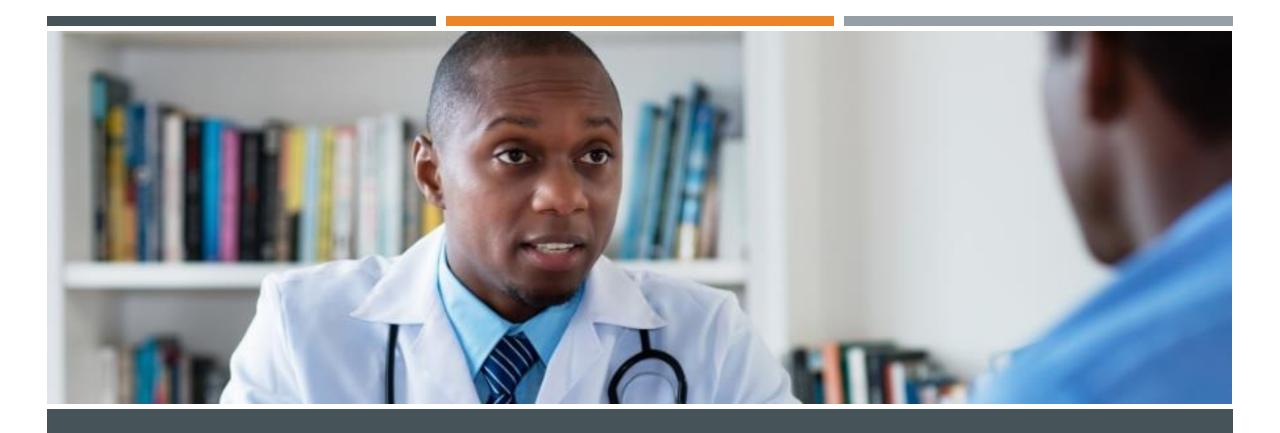
MENTAL HEALTH DISPARITIES



2018 TransPop Study was a national study that compared transgender adults to cisgender adults

- Recent:
 - 44% reported suicidal ideation (OR 5.1)
 - 7% reported a suicide attempt (OR 3.4 not significant)
 - 21% reported non-suicidal self-injury (OR 13)
- Lifetime risk:
 - 81% reported suicidal ideation (OR 6.7)
 - 42% reported a suicide attempt (OR 4.4)
 - 56% reported non-suicidal self-injury (OR 7.6)

Psychiatry Res 2023



IMPORTANT DISCUSSIONS

DIVE DEEPER

SEXUAL AND GENDER IDENTITY HISTORY

- Realize your own bias and comfortability with sexuality
- Assure confidentiality
- Do not make presumptions
- Use lay language that the patient prefers and understands instead of medical terminology
- Identify behaviors that can affect patient's health
- Understand how patient's sexual or gender identity affects their life at home, work and in the community



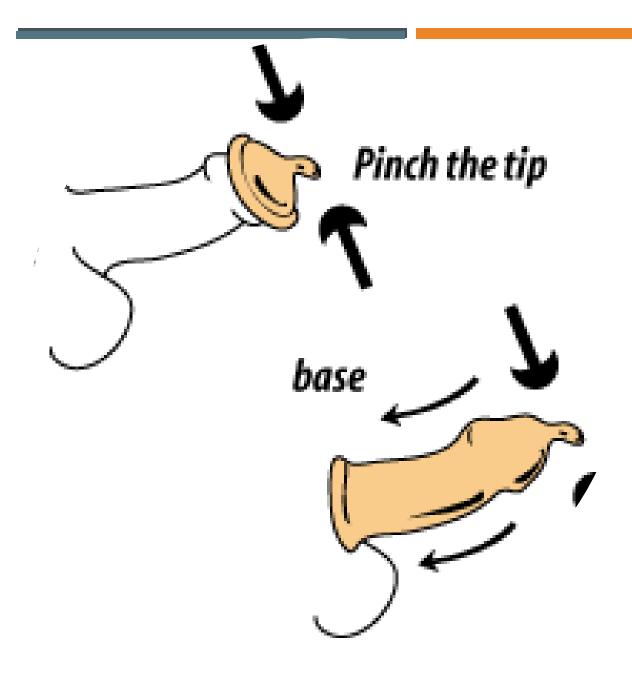
SEXUAL AND GENDER IDENTITY HISTORY

- What is the preferred name and pronouns?
- How does the patient identify their gender?
- Who are they attracted to or have sexual relations?
- What type of relationship(s) do they have?
- What, if any, steps to they take to prevent STIs, HIV and pregnancy?
- Do they feel safe in their relationship(s)?
- Do they have parenting wishes or choices?

SEXUAL BEHAVIOR IS COMPLEX

- Patients may have desire or sex with the same sex but not identify as gay, lesbian or bisexual
- Polyamorous relationship are becoming more common
- Marriage does not always equal monogamy either openly or discretely
- Condom use does not mean 100% use





CONDOMS

- Penile condoms
 - Perfect use: 98% effective to prevent STI and pregnancy
 - Real life: 87% effective
 - Pinch the tip before placing
 - Use water base lubrication
 - Use the correct size
- Vaginal condoms
 - Perfect use: 95% effective
 - Real life: 79% effective

IMMUNIZATIONS









HPV-9 for patients ≤ 45 YO

- 3 doses schedule at 0, I-2 and 6 months for those > 15 YO
- Best immune response when in adolescence
- Does not promote having sex
- May prevent multiple squamous-cell related cancers and warts

Hepatitis A

2 doses six months apart

Hepatitis B

- 2 doses at 0 and 1 month if using Heplisav
 - Cost effective, more convenient and higher immune response especially after first dose
- Three-dose hepatitis B vaccinations series immunity wanes after 10-20 years
- Check for hepatitis B surface antibody if the received childhood vaccine to see if repeat vaccination with Heplisav appropriate

ANAL PAP

Anal Pap for cytology is a simple procedure using a plastic handle swab preferable Dacron swab (commonly available in outpatient offices)

Does not require anoscopy

No special preparation

Refrain from "cleaning out" prior to doing an anal Pap

Only perform if you have a referral source for high-resolution anoscopy (HRA)

ANAL PAP

- Patient placed in lateral recumbent position lying on one side with knees drawn towards chest
- Moisten Dacron swab with water
- Put thumb and first finger on rectum and spread rectum moving tag(s), hemorrhoid(s) or hair out of the way

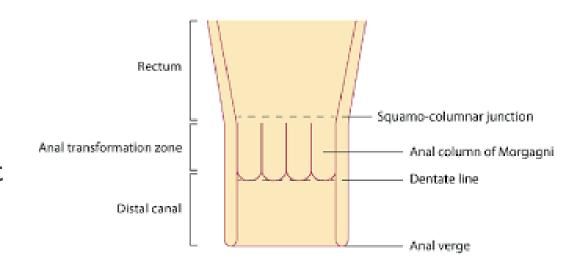




KNEE CHEST

ANAL PAP

- Insert the length of 5th finger or 5-6 cm into anal canal
 - Length is designated to reach the anal transformation zone where columnar meet squamous epithelium
 - Most rectal dysplasia and cancer are at or near this zone
- Generously swirl swab in rectal canal at this zone then continue swirling as you slowly remove it
- Vigorously stir in Thin Prep to obtain cells and send for cytology (without the swab)
- Label as rectal Pap





RECTAL DYSPLASIA/CANCER SCREENING



Risk Category Incidence ≥ 10-fold greater than general population	Age to start	
MSM and Transwomen (TW) with HIV	35	
Women with HIV		
Heterosexual men with HIV	45	
MSM and TW without HIV		
H/O vulvar HSIL or cancer	Within 1 year of diagnosis	
Solid organ transplant recipients	10 years post-transplant	

^{*} Based on expert opinion from available studies

RECTAL DYSPLASIA/CANCER SCREENING



Risk Category Incidence up to 10-fold greater than general population	Age to start
Cervical/Vaginal CA	
Cervical/Vaginal HSIL	
Perianal warts (male or female)	Shared decision making at age 45 YO
Persistent cervical HPV 16 > 1 year	Shared decision making at age 45 TO
Other immunosuppression (RA, SLE, IBD or systemic immunosuppression	

^{*} Based on expert opinion from available studies

HIV AND STI PREVENTION

- Pre-Exposure Prophylaxis for HIV (PrEP)
- DoxyPEP in Prevention of Chlamydia, Syphilis and Gonorrhea



HIV PREVENTION

- Educate patients that clinically undetectable HIV viral load (< 200 copies/mL) means patients cannot transmit virus to others
 - Treatment as prevention
 - Undetectable = Untransmittable (U=U)
- Prescribe Pre-Exposure Prophylaxis (PrEP) to all those that at risk or request it
 - Estimated 1.2 million people in the US should be on PrEP
 - For those less educated about PrEP, you must be looking for those at risk to prescribe PrEP





PREP

- Oral
 - Generic Truvada (emtricitabine and tenofovir [TDF/XTC]) all insurances cover
 - Descovy [F/TAF] daily
 - Only some insurances cover unless CKD
 - No insurance
 - Use Gilead copay assistance program
 - Utilize free clinic like Central Outreach Wellness Center
 - Minimal side effects
 - Any GI side effects will 100% go away after the first month
 - Monitor kidney function
- Injectable
 - Cabotegravir (Apretude) IM q 2 months
 - Superior to oral PrEP due to compliance
 - Side effects
 - Injection site reaction (~15%)
 - Headache (~7%)

PREP

- 99% protection when compliant
- Requires every 3-month visits for oral PrEP (sometimes visit can be stretch out in certain circumstances
- For cabotegravir, need every 2month visits
- Need to assess risk for STIs at each visit



PREP OPTIONS

Generic Truvada (TDF/XTC)

Descovy (TAF/XTC) Injectable Cabotegravir

	Daily	On-Demand 2-1-1 PrEP	Daily	Every 2 months
Men who have sex with men (MSM)		FDA Off-Label Guideline Recommended (IAS-USA, WHO)	FDA On-Label	
Transgender women	FDA On-Label		Guideline Recommended	FDA On-Label Guideline
Heterosexual men	Guideline Recommended (DHHS, IAS-USA, WHO)	FDA Off-Label	(DHHS, IAS-USA, WHO)	Recommended (DHHS, IAS-USA,
Heterosexual women		Not Recommended	FDA Off-Label	WHO)
Transgender men			Not Recommended	

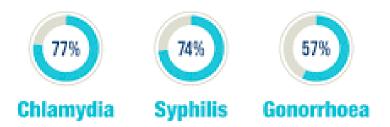
DOXY PEP

- Doxycycline 200 mg x I as soon as possible within 72 hours of oral, vaginal or anal condomless sex should be considered for gay, MSM, bisexual or transgender women with a history of at least one STI in the past I2 months and who are at ongoing risk for acquisition of bacterial STIs
- Insufficient evidence to assess the balance of benefits and harms of the use of doxy PEP in other populations
- Very small increase in tetracycline resistance in gut biome with heavy use of doxycycline (>5x/month) but does not appear to be clinically significant so far

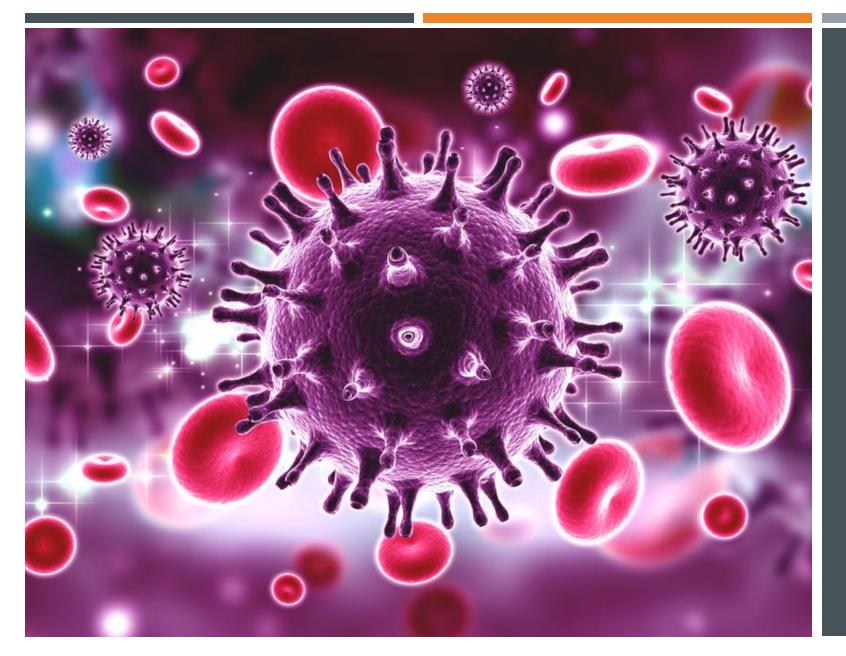
Efficacy against STI's in HIV-negative people



Efficacy against STI's in people living with HIV



Doxy PEP for Bacterial STI Prevention | STI | CDC



HIV MANGEMENT

IT BELONGS IN
OUTPATIENT PRIMARY
CARE PRACTICES

HIV CARE CONTINUUM:

The steps that people with HIV take from diagnosis to achieving and maintaining viral suppression.



UPDATES TO THE HIV TRANSMISSION RATE ESTIMATES ALONG THE HIV CARE CONTINUUM IN US (2019)

Updated the Progression and Transmission of HIV (PATH) 3.0 Model using data from the National Survey on Sexual Health and Behaviors and the National HIV Behavioral Surveillance System (2006-2019)

- Overall HIV transmission rate in 2019, three new infection per 100 person years
- Of new infections (N=35,100)
 - 4% were acute infections and unaware of their status
 - 42% were chronic infections and unaware of their status
 - 41% were aware of their status but not in care
 - I 3% were in care on ART but not virally suppressed

- I. Overall increased percentage of personas living with HIV taking ART with viral suppression since 2016
- 2. Decreased transmission rates over time
- 3. High rates of transmission still occurs among persons undiagnosed with infection and persons aware of their diagnosis but not engaged in care

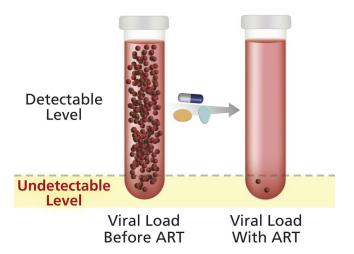
HIV TREATMENT GUIDELINE

- I. BIC/TAF/FTC (Biktarvy) daily
- Dolutegravir + TXF/XTC
 (Descovy or generic Truvada)
 daily
- 3. Dolutegravir + 3TC (lamivudine)
 - a. Only if HIV RNA level < 500,000 copies/mL)
 - Lamivudine resistance not present
 - c. No hepatitis B co-infection

Initiate ART as soon as possible after diagnosis, ideally within 7 days and preferrable within 48 hours, if there is no suspicion of severe opportunistic infections that would require delay

- If on PrEP when acute HIV infection occurs, need genotype resistance testing first
 - Start #1 or #2 before resistance testing returns
- If pregnant, use dolutegravir and TAF/XTC (Descovy)

Undetectable Viral Load



LAB MONITORING

- HIV RNA level
 - Baseline
 - 4-6 weeks after initiation of ART
 - Every 3 months until virally suppressed
 - Every six months once suppressed
- CD4 cell count (flow cytometry)
 - Baseline
 - Every six months until > 250 copies/mL for one year
 - Stop

WEIGHT GAIN AND CARDIOMETABOLIC COMORBIDITIES

- I. Check weight and calculate BMI at baseline and every six months
- 2. Monitor BP at each visit
- 3. Changing regimens due to weight gain, hypertension or insulin resistance is not recommended
- 4. People with or at high-risk for cardiac disease on abacavir-containing regimen (e.g. Triumeq) should be switch off abacavir
- 5. Counsel on healthy lifestyle changes especially quitting smoking
- 6. Cholesterol, age 40-75 YO
 - a. ASCVD risk >5%, start moderate-intensity statin
 - b. Risk > 20% or LDL > 190, start high-intensity statin

CHRONIC DISEASE MANAGEMENT

Higher rates of CVD, CKD, liver disease and multiple cancers: Monitor labs every 6-12 months and emphasize cancer screening.

Higher rates of fragility and osteopenia/osteoporosis:

Start DEXA at age 50



DISEASE PREVENTION

- Screen for hepatitis B and C when initiating treatment and hepatitis C yearly if sexually active with multiple partners
- Discuss and screen for asymptomatic/symptomatic STIs
- Emphasize the need to keep immunizations up to date
 - USE THE CDC VACCINE SCHEDULE APP
 - Increase requirements compared to HIV- patients
 - Live vaccines are OK if CD4 > 200
- Check immunity for some past immunizations
 - Check hepatitis A total antibody and hepatis B surface antibody
 - During outbreaks like measles and mumps, check immunity if traveling to that area of the country

WPATH STANDARDS OF CARE

for the Health of Transgender and Gender Diverse People

Version

8

TRANSGENDER AND GENDER DIVERSE (TGD) MEDICAL CARE

IT BELONGS IN PRIMARY CARE PRACTICES

GUIDELINES

- WPATH Standards of Care for the Health of Transgender and Gender Diverse People: Version 8
- Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender Nonbinary People
 - Second Edition
 - Published June 17, 2016
 - UCSF Center of Excellence for Transgender Health
- Endocrine Treatment of Gender-Dysphoric/Gender Incongruent Persons: An Endocrine Society Clinical Practice Guideline
 - Published September 13, 2017
 - Updated 2009 guideline

OUTDATED TERMINOLOGY

"FTM" and "MTF"

- Use transman or transgender male
- Use transwoman or transgender female
- Non-binary or gender diverse
 - Often will use transmasculine or transfeminine to delineate that they fall somewhere closer to the middle of the spectrum

"Transexual"

- Mixes transgender identity with medical and surgical management
- Considered offensive by most transgender people as some do not wish for medical or surgical management

"Biologic" or "bio male/female"

- Considered derogatory
- Use
 - assigned male at birth (AMAB)
 - assigned female at birth (AFAB)

"Sexual Reassignment Surgery"

 Use genderaffirming surgery

DOCUMENTATION

- ?
- Ask for affirmed name and pronouns

When typing, dictating or correcting Al software, use affirmed name and pronouns throughout note

Reflect the patient's language and use the same terms

<u>İ</u>

Discuss confidentiality: OK to discuss what parts of conversation will be documented in the chart and the one's they would prefer would not be documented

?

Clarify unfamiliar terms

16

Apologize and take responsibility for making mistakes

GENDER HISTORY TAKING

- Use open-ended questions
 - "Tell me about your journey with gender"
- Assess previous gender-affirming medical and/or surgery treatments (GAMST) when appropriate
 - Many patients have had experiences with providers asking unnecessary questions out of curiosity
- Assess goals everyone is different
 - What changes or characteristics are important to them
 - Gender-affirming medical treatment
 - Gender affirming surgeries. If desired refer to appropriate providers
 - Understand the patient's expectations
- Obtain verbal consent and document





GOALS AND EXEPECTATIONS

- Need for patient understanding
 - Individual genetic and physiologic variation in blood levels and response to treatment
 - Course of treatment takes years not months
 - No one regimen is predictive of obtaining a specific characteristic
 - Predictive factors of speed and degree of feminization or masculinization include genetics, age at initiation of therapy and body habitus
- Expectations are often built around social circle

AUSTISM SPECTRUM DISORDERS (ASD)

Several studies show a correlation between ASD and gender dysphoria

• Systematic review showed prevalence of ASD diagnosis in TGD individuals was 11%

ASD individuals with TGD identities have an elevated risk for depression and suicidality compared to either autistic or TGD people independently

These individuals may face challenges with verbalizing and self-advocating for their needs

Need for individualized care



GENDER-AFFIRMING MEDICAL TREATMENT (GAMT)

Assess readiness based on your history taking

Assess risk factors and relative contraindications

Assess patient's goals and expectations

Discuss reversible vs irreversible changes

Discuss patient's desire for future children

Clearance by a psychologist, psychiatrist or endocrinologist is not necessary for hormone therapy

Testosterone or estradiol treatment may reduce and eliminate fertility options

FEMINIZING MEDICAL MANAGEMENT

- Estrogen: estradiol
 - Oral/sublingual (most cost effective) be consistent with which route they use
 - Transdermal (first choice for age > 45 or at increased risk for VTE or CVD)
 - Injectable SC or IM: estradiol valerate or cypionate
- Spironolactone (anti-androgen used to suppress testosterone)
- Progesterone
 - Not encouraged but safe to use if requested
 - May help breast growth, mood, or libido

Dosing

<u>Hormone</u>	<u>Initial Dose</u>	<u>Typical Dose</u>	Goal Serum Level	
Estradiol oral/sublingual	2 mg daily 4-10 mg daily			
Estradiol transdermal	0.1mg weekly or twice weekly	0.1-0.2mg weekly or twice weekly		
Estradiol Valerate	5 mg SC/IM weekly or 10 mg SC/IM biweekly	3-7mg IM/SC weekly	150-200 pg/mL	
Estradiol Cypionate	1 mg IM weekly or 2 mg IM biweekly			
Spironolactone	100 mg daily or divided BID	100-300 mg daily	< 50 ng/dL	
Medroxyprogesterone acetate (Provera)	5 mg PO daily	5-10 mg daily	No goal. Based on clinical	
Micronized progesterone (Prometrium)	100 mg PO/PR daily	100-200 mg PO/PR daily	benefit	

MONITORING

<u>Tests</u>	<u>Baseline</u>	<u>Q3</u> <u>Months</u>	<u>Goal</u>	Monitoring Once at Goal
BMP or CMP if obese	X	X	Normal range	1-2x/year
Estradiol		X	150-200	1-2x/year
Total Testosterone		X	< 50	Not necessary unless clinically indicated

- Check lipids and A1C based on USPSTF guidelines
- Lower levels are appropriate based on patient preference
- Estradiol levels should be checked mid-cycle for patients injecting estradiol OR need to adjust goal level up or down based on when it estradiol was checked

RISKS

Likely Increased Risk

- VTE (less with transdermal)
- Infertility
- Weight gain
- Hyperkalemia (with spironolactone)
- Hypertriglyceridemia

Increased Risk with Presence of Additional Risk Factors

- Cardiovascular disease
- Cerebrovascular disease
- Gallstones
- Polyuria/dehydration (with spironolactone)

Possible Increased Risk

- Hypertension
- Erectile dysfunction
- Type 2 diabetes
- Lone bone mass/osteoporosis
- Hyperprolactinemia

No Increased Risk or Inconclusive

- Breast cancer
- Prostate cancer

MASCULINIZATION MEDICAL MANAGEMENT

Testosterone

- Testosterone cypionate or enanthate subcutaneous (SC) or intramuscularly (IM)
 - Testosterone cypionate is made from cotton seed oil and sporadically will cause injection site reaction
 - Testosterone enanthate is bioidentical (same dosing) and made from sesame seed oil
- Transdermal gel
- Oral options are typically not covered by insurance
- Maximum dosing does not equal maximum effect

TESTOSTERONE DOSING

<u>Androgen</u>	<u>Initial Dose</u>	<u>Comments</u>
testosterone cypionate 100 mg/mL injection	0.5 mL or 50 mg weekly SC/IM	For q 2wk dosing, double each dose
testosterone cypionate 200 mg/mL injection	0.3 mL or 60 mg weekly SC/IM*	For q 2wk dosing, double each dose
testosterone transdermal gel 1%	50 - 100 mg daily	Pump or packet form Apply on shoulders or upper arms
testosterone transdermal gel 1.62%	40.5 - 81 mg daily	Pump or packet form Apply on shoulders or upper arms
testosterone undecanoate injection	750 mg IM, repeat in 4 wk, then q 10 wk	Requires participation in monitored program
testosterone undecanoate oral capsules	237 – 792 mg orally split BID	Limited insurance coverage

^{*}Adjust dose by 0.1 mL when changing doses near therapeutic goal. **GOAL LEVEL 500-700 ng/dL**.

SUPPLIES FOR INJECTIONS

- SQ injections: 5/8 inch needle, 25 gauge
- IM injections: 1-1.5 inch needle, 22-23 gauge
- Some patient like using 1 inch,18-gauge needles to draw up testosterone (it's viscous)
- Frequency
 - Weekly: 1- or 3-ml syringe
 - Biweekly: 3-ml syringe
- Vials
 - Testosterone 100 mg/mL: Use 10 mL vial and remind patient not to throw away after one use as is often told to patient by pharmacy
 - Testosterone 200 mg/mL: 1 mL vial much more available at retail pharmacies than 10 mL vial

MONITORING

<u>Tests</u>	<u>Baseline</u>	Q3 Months	<u>Target</u>	Monitoring Once at Goal
Hgb/Hct	X	X	Normal male range	1-2x/year
Testosterone		X	500-700	1-2x/year

- Check lipids and A1C based on USPSTF guidelines
- Can consider SHBG, albumin, and prolactin based on clinical indications
- Lower levels are appropriate based on patient preference

Checking testosterone levels

- Testosterone injection
 - Mid-cycle
 - If not done mid-cycle, adjust goal level down if after mid-cycle or up if before mid-cycle
- Testosterone gel: No sooner than one week than after one week of application and at least two hours after application

RISK

Likely Increased Risk

- Erythrocytosis
- Infertility
- Acne
- Androgenic alopecia
- Hypertension
- Sleep apnea
- Weight gain
- Decreased HDL and increased LDL

Increased Risk with Presence of Additional Risk Factors

- Cardiovascular disease
- Hypertriglyceridemia

Possible Increased Risk

- Type 2 diabetes
- Intracranial hypertension

No Increased Risk or Inconclusive

- Osteoporosis
- Cancers
 - Breast
 - Cervical
 - Ovarian
 - Uterine

CONTRACEPTIVE COUNSELING

- GAMT is not contraception
- Contraception should be offered to anyone who can become pregnant
- Testosterone is a known teratogen
 - If pregnancy is desired, testosterone should be stopped several months before trying to conceive
- Fertility preservation should be offered prior to starting hormones





Primary Care Management of Hepatitis C

Sanketh Proddutur, MD
Jason Fine, PharmD, BCPS



https://www.hepatitisc.uw.edu/



HEP Drug Interactions

<u>Liverpool HEP Interactions</u> (hep-druginteractions.org)

https://www.hcvguidelines.org/



Disclosures

Neither presenter has any conflicts of interest to disclose



What is the preferred lab you want to get for Hepatitis C screening?

- A. Hep C Ab only
- B. Hep C VL
- C. Hep C Ab with reflex to VL
- D. None of the above



Ongoing alcohol or substance use is a contraindication to Hepatitis C treatment?

- A. True
- B. False



Objectives

- Identify patients appropriate for Hepatitis C treatment in the primary care setting
- List the components of the diagnostic workup for Chronic Hepatitis C treatment
- Describe commonly used treatment options for Chronic Hepatitis C in the primary care setting



Why do we care about hepatitis C?

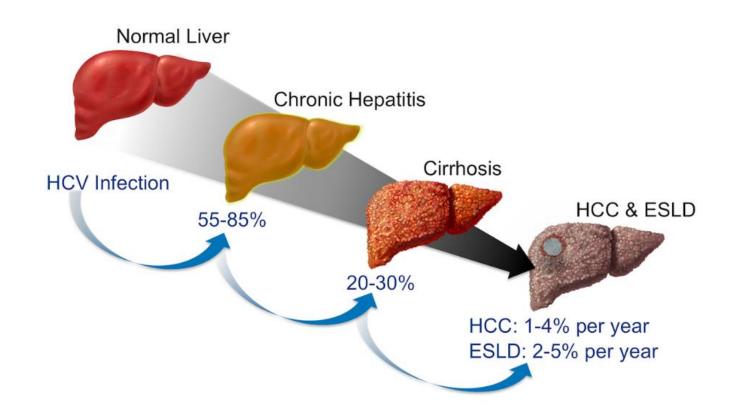
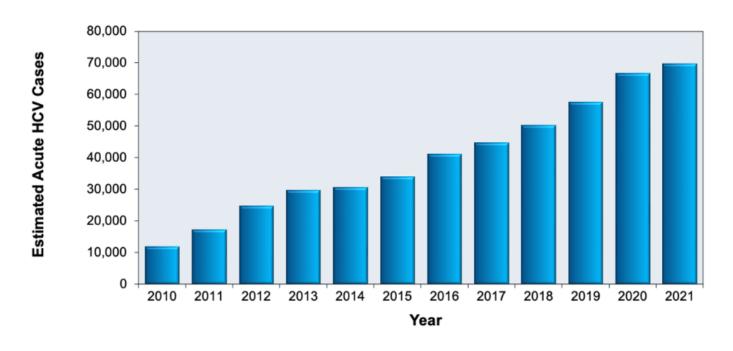




Figure 3A. Acute Cases of HCV, United States, 2010-2021



Source: Centers for Disease Control and Prevention (CDC). 2021 Viral Hepatitis Surveillance Report—Hepatitis C. Published August 2023.





Table 1. CDC Recommendations for Hepatitis C Screening Among Adults — United States

Persons Recommended for Screening

Universal hepatitis C screening:

- Hepatitis C screening at least once in a lifetime for all adults aged ≥18 years, except in settings where the prevalence of HCV infection (HCV RNA-positivity) is <0.1%
- Hepatitis C screening for all pregnant women during each pregnancy, except in settings where the prevalence of HCV infection (HCV RNA-positivity) is <0.1%

One-time hepatitis C testing regardless of age or setting prevalence among persons with recognized risk factors or exposures:

- Persons with HIV
- Persons who ever injected drugs and shared needles, syringes, or other drug preparation equipment, including those who injected once or a few times many years ago
- Persons with selected medical conditions, including persons who ever received maintenance hemodialysis and persons with persistently abnormal alanine aminotransferase (ALT) levels
 Prior recipients of transfusions or organ transplants, including persons who received clotting factor concentrates produced before 1987, persons who received a transfusion of blood or blood components before July 1992, persons who received an organ transplant before July 1992, and persons who were notified that they received blood from a donor who later tested positive for HCV infection
- Health care, emergency medical, and public safety personnel after needlesticks, sharps, or mucosal exposures to HCV-positive blood
- · Children born to mothers with HCV infection

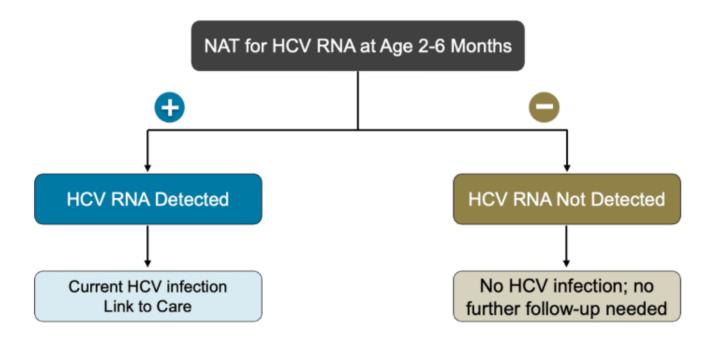
Routine periodic testing for persons with ongoing risk factors, while risk factors persist:

- Persons who currently inject drugs and share needles, syringes, or other drug preparation equipment
- Persons with selected medical conditions, including persons who ever received maintenance hemodialysis

Any person who requests hepatitis C testing should receive it, regardless of disclosure of risk, because many persons might be reluctant to disclose stigmatizing risks

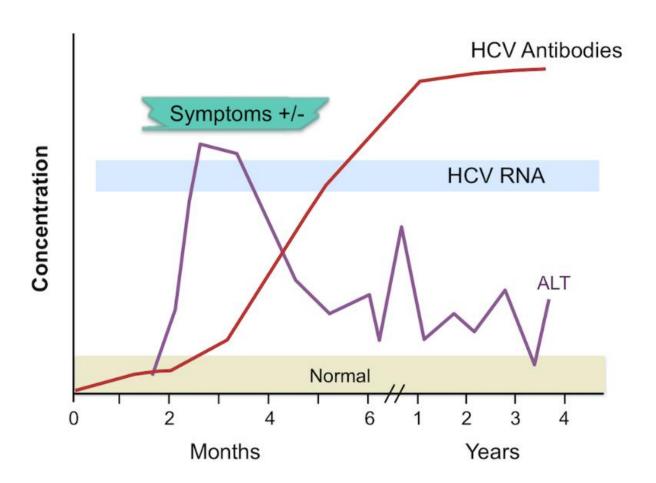


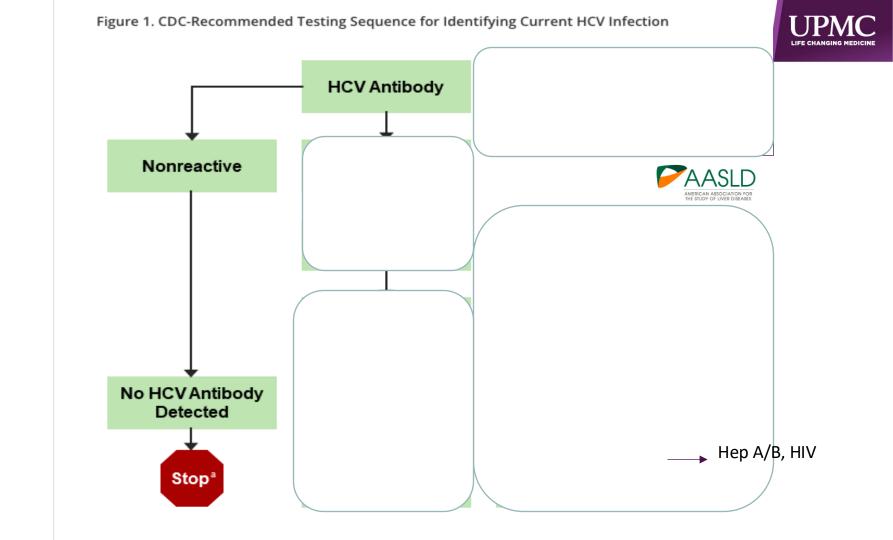




>18 mo – Hcv Ab with reflex to RNA









Link to Care Counsel / Immunizations





New Diagnosis of Hepatitis C Infection: Post-Test Counseling Messages

- Protect the liver from further harm by:
 - Considering hepatitis A and B vaccination if susceptible and if liver disease is present;
 - Reducing or discontinuing alcohol consumption;
 - Avoiding new medicines, including over-the-counter and herbal agents, without first checking with their health-care provider; and Acetaminophen/NSAIDs
 - Obtaining HIV risk assessment and testing.
 as well as iron
- For persons who are overweight (BMI ≥25kg/m2) or obese (BMI ≥30kg/m²):
 - Consider weight management or losing weight and
 - Follow a healthy diet and stay physically active.
- To minimize the risk for transmission to others: Safe sex/condom

use

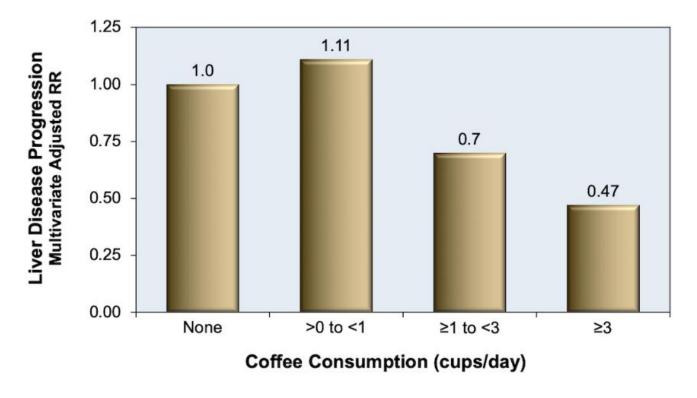
- Do not donate blood, tissue, or semen and
- Do not share appliances that might come into contact with blood, such as toothbrushes, dental appliances, razors, and nail clippers.



Counseling for patients who inject drugs

- Reduce the frequency of injecting
- Use new, sterile needles and syringes each time you inject
- Do not share or reuse needles or syringes following use
- Safely dispose of needles and syringes
- Do not share or reuse other injection materials, including cookers, cottons, water, and drugs
- Receive substance use treatment and support for safe injection practices





Two meta-analyses, have found an inverse relationship between coffee consumption and the risk of developing HCC among patients with cirrhosis

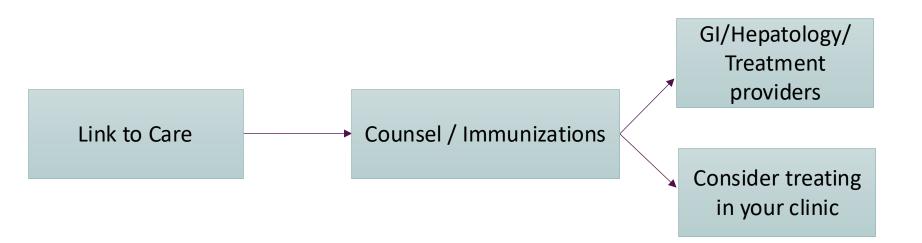




What is the preferred lab you want to get for Hepatitis C screening?

- A. Hep C Ab only
- B. Hep C VL
- C. Hep C Ab with reflex to VL
- D. None of the above





Meta-Analysis > Lancet Glob Health. 2021 Apr;9(4):e431-e445.

doi: 10.1016/S2214-109X(20)30505-2. Epub 2021 Feb 24.



Decentralisation, integration, and task-shifting in hepatitis C virus infection testing and treatment: a global systematic review and meta-analysis

Ena Oru ¹, Adam Trickey ², Rohan Shirali ³, Steve Kanters ⁴, Philippa Easterbrook ⁵

Affiliations + expand

PMID: 33639097 PMCID: PMC7966682 DOI: 10.1016/S2214-109X(20)30505-2

Interpretation: Decentralisation and integration of HCV care to harm-reduction sites or primary care showed some evidence of improved access to testing, linkage to care, and treatment, and taskshifting of care and treatment to non-specialists was associated with similarly high cure rates to care delivered by specialists, across a range of populations and settings. These findings provide support for the adoption of decentralisation and task-shifting to non-specialists in national HCV programmes.





A Simplified Algorithm for the Management of Hepatitis C Infection

Douglas T. Dieterich, MD, Joseph Ahn, MD, MS, Bruce Bacon, MD, David Bernstein, MD, Marc Bourlière, MD, Steven Flamm, MD, Paul Kwo, MD, Joseph K. Lim, MD, Christian Ramers, MD, MPH, Nancy Reau, MD, Mark Sulkowski, MD, Norman Sussman, MD, and Stefan Zeuzem, MD

A Simplified Algorithm for the Management of Hepatitis C Infection

Proceedings From a Consensus Meeting • September 2018

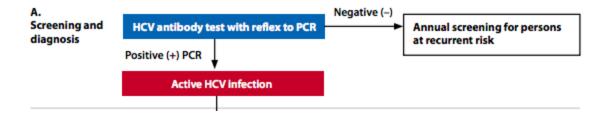


Douglas T. Dieterich, MD Icahn School of Medicine at Mount Sinai New York, New York

Dietrich protocol: A simplified algorithm for the treatment of Hep C infection



Dietrich Protocol

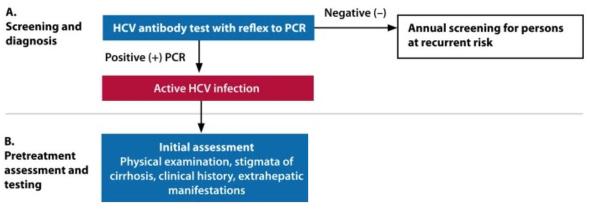


Recommendation for When and in Whom to Initiate Treatment		
RECOMMENDED	RATING 0	
Treatment is recommended for all patients with acute or chronic HCV infection, except those with a short life expectancy that cannot be remediated by HCV therapy, liver transplantation, or another directed therapy. Patients with a short life expectancy owing to liver disease should be managed in consultation with an expert.	I, A	



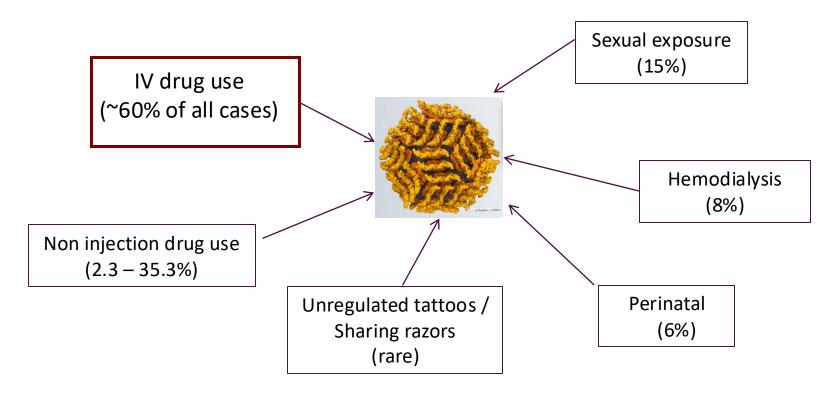








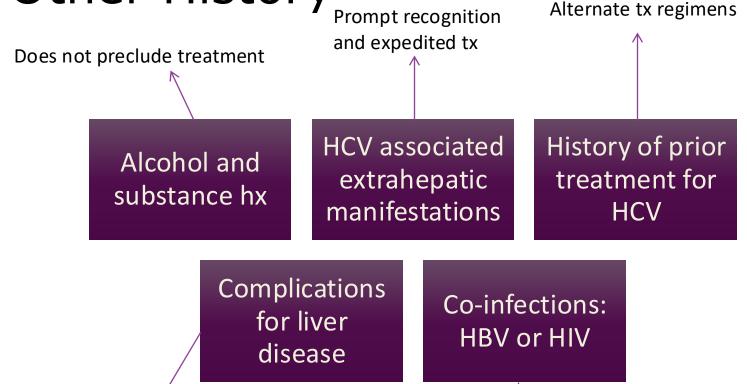
History: Elicit risk factors for acquiring HCV







Other History



Decompensated cirrhosis → hepatology

Greater risk for cirrhosis → hepatology



Physical

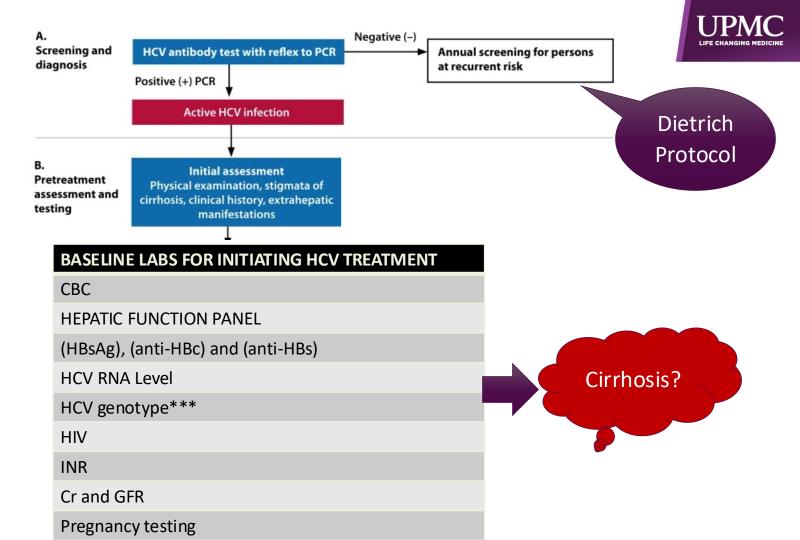
- Gynecomastia
- Terry nails
- Distended abd veins
- Ascites
 - Fluid wave, shifting dullness, umbilicus eversion, flank dullness
- Telangiectasia
- Palmar erythema
- Jaundice



Diagnostic Accuracy of the PE for Detecting Cirrhosis

- 13.0.13.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.	0, 0, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	· · · · · · · · · · · · · · · · ·
FINDING	Positive LR	Negative LR
Terry Nails	16-22	0.57-0.58
Gynecomastia	5.8-35	0.43-0.84
Distended Abd Veins	11 💢	0.72
Encephalopathy	10 💢	0.86
Decreased body hair	9.0	0.65
Ascites	7.2	0.69
Facial Telangiectasia	5.9-10	0.20-0.31
Testicular Atrophy	5.8	0.84
Palmar Erythema	5.0	0.59
Spider Nevi	4.3	0.61
Jaundice	3.8	0.82
Splenomegaly	3.5	0.74
Firm Liver	3.3	0.37
Peripheral Edema	3.0	0.71
Hepatomegaly	2.4	0.37
22/29, 2012—Vol 307, No. besity	1.3	0.76

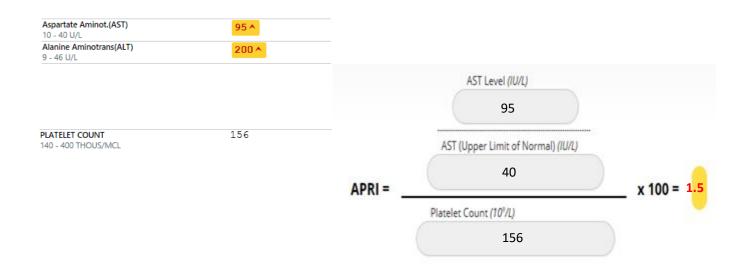






Hepatitis C Fibrosis Assessment

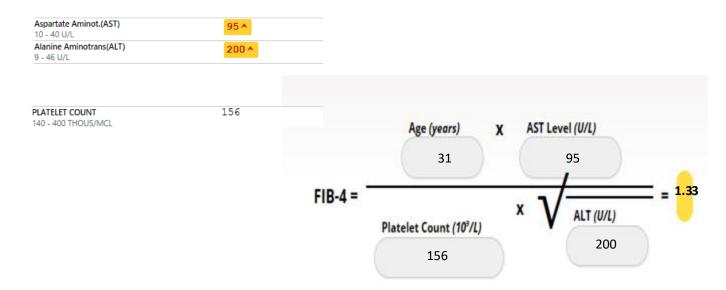
- AST to platelet ratio index (APRI)
- Score > 0.7 77% sens/72% spec for significant hepatic fibrosis
- Score > 1.0: 76% sens/72% spec for cirrhosis
- Score > 2.0: 91% spec/46% sensitive for cirrhosis





Hepatitis C Fibrosis Assessment

- Fibrosis-4 (FIB-4)
- Score < 1.45 90% negative predictive value for advanced fibrosis (F3-F4)
- Score > 3.25 97% spec and PPV 65% for advanced fibrosis



Test	Patient value	Reference	Cirrhosis?
APRI	1.5	Score > 1.0: 76% sens and 72% spec for cirrhosis	Maybe
FIB4	1.33	Score < 1.45 90% negative predictive value for advanced fibrosis	Prob not



FIBROTEST

Component	Latest Ref Rng & Units	3/26/2018
Fibrosis Score		0.50
FIBROSIS STAGE		F2
FIBROSIS INTERPRETATION		SEE BELOW
Necroinflammat Act Score		0.85
NECROINFLAMMAT ACT GRADE		A3
NECROINFLAMMAT INTERP		SEE BELOW
ALPHA-2-MACROGLOBULIN	106 - 279 mg/dL	303 (H)
Haptoglobin	43 - 212 mg/dL	56
Apolipoprotein A1	94 - 176 mg/dL	167
Total Bilirubin	0.2 - 1.2 mg/dL	0.9
GGT	3 - 90 U/L	60
Alanine Aminotrans(ALT)	9 - 46 U/L	201 (H)
REFERENCE #		1,878,851

FO	No Fibrosis 🖈
F1	Minimal Fibrosis
F2	Moderate Fibrosis
F3	Advanced Fibrosis
F4	Cirrhosis



Recent RUQ US for elevated LFTs

Findings:

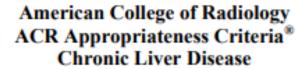
Pancreas only a portion of head and body is visualized, there is no evidence of mass. The liver is homogeneous in echotexture, there is

No Cirrhosis on Imaging

IMPRESSION

Impression:

The gallbladder is partially contracted at time of imaging and only a portion of the pancreas is visualized. Exam is otherwise within normal limits.





FibroScan

US Abdomen -Sens. As Low as 40%

Procedure	Appropriateness Category	Relative Radiation Level
US shear wave elastography abdomen	Usually Appropriate	0
MR elastography abdomen	Usually Appropriate	0
MRI abdomen without and with IV contrast	May Be Appropriate	0
CT abdomen with IV contrast multiphase	May Be Appropriate	9999
MRI abdomen without and with hepatobiliary contrast	May Be Appropriate	0
MRI abdomen without IV contrast	May Be Appropriate	0
US abdomen	May Be Appropriate	0
US duplex Doppler abdomen	May Be Appropriate	0
US abdomen with IV contrast	May Be Appropriate	0
CT abdomen without and with IV contrast	Usually Not Appropriate	***
CT abdomen without IV contrast	Usually Not Appropriate	999
FDG-PET/CT skull base to mid-thigh	Usually Not Appropriate	***

MR Elastography: Sens/Spec > 90%

CTP scoring and MELD scoring more common in clinical practice



	Compensated Cirrhosis		Decompensa	ted Cirrhosis
Stage	Stage 1	Stage 2	Stage 3	Stage 4
Clinical	No Varices No Ascites	Varices No Ascites	Ascites +/- Varices	Bleeding +/- Ascites
Death (at 1 Year)	1%	3%	20%	57%

Figure 1. Four-Stage Cirrhosis Classification System



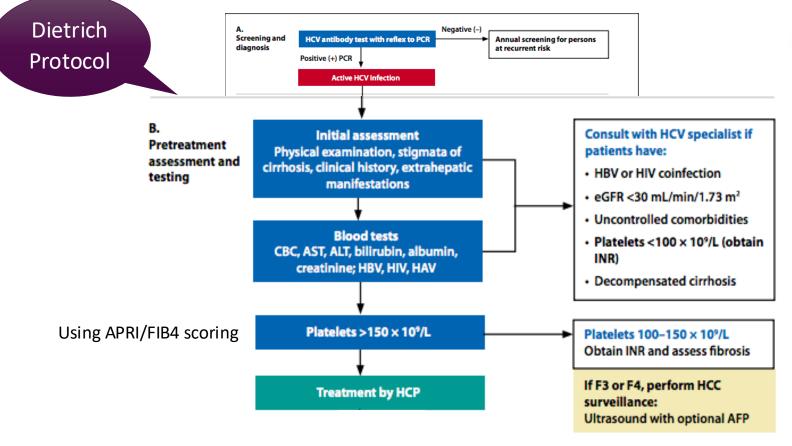




Table 1. AASLD/IDSA HCV Guidance: Simplified HCV Treatment Eligibility Criteria^

Inclusion and Exclusion Criteria for Simplified HCV Treatment Algorithm^

Who is Eligible for	Who is Excluded from
Simplified HCV Treatment Algorithm	Simplified HCV Treatment Algorithm
 Adults with chronic HCV infection, including persons living with HIV: Infected with any HCV genotype Have NOT previously received HCV treatment Without cirrhosis With compensated cirrhosis (Child-Pugh*A) The determination of cirrhosis can be based on the presence of any of the following: Liver stiffness >12.5 kPa by FibroScan FIB-4 >3.25 Non-invasive serologic test (HCV FibroSure or enhanced liver fibrosis test) Liver biopsy Liver nodularity or splenomegaly on imaging Platelet count <150,000/mm³ The determination of compensated versus uncomplicated cirrhosis is based on Child-Pugh* score 	 Adults with chronic HCV infection who have any of the following: Previously received HCV treatment Hepatitis B surface antigen-positive Compensated cirrhosis (Child-Pugh A*) with end-stage renal disease (eGFR <30 mL/min/m² Current or prior decompensated cirrhosis, defined by Child-Pugh score ≥7 Current Pregnancy Known or suspected hepatocellular carcinoma Prior liver transplantation



Ongoing alcohol or substance use is a contraindication to Hepatitis C treatment?

- A. True
- B. False



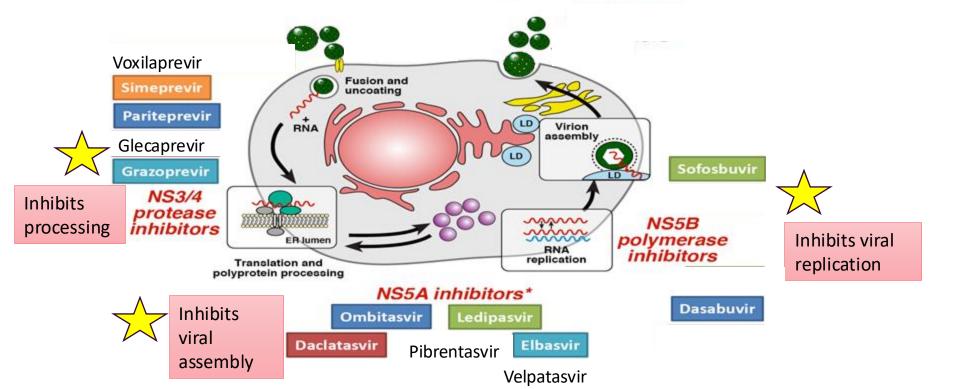
Treatment Options



Brand Name	Generic Name	Genotype Coverage	AWP (4 week supply pricing)
Pegasys [®] Pegintron [®]	Peginterferon	1, 2, 3, 4	\$1,225.79 to \$4,903.15
Rebetrol ®	Ribavirin	1, 2, 3, 4	\$1,390
Incivek ®	Telaprevir	1	Unavailable
Sovaldi ®	Sofosbuvir	1, 2, 3, 4	\$33,600
Daklinza ®	Daclatasvir	1, 3, (2?)	\$25,200
Harvoni ®	Ledipasvir/Sofosbuvir	1, 4, 5, 6	\$37,800
Viekira XR ®	Ombitasvir/Paritaprevir/ Ritonavir/Dasabuvir	1	\$33,327
Technivie ®	Ombitasvir/Paritaprevir/ Ritonavir	4	\$30,661
Epclusa ®	Velpatasvir/Sofosbuvir	1, 2, 3, 4, 5, 6	\$29,904
Zepatier ®	Grazoprevir/Elbasvir	1, 4	\$8,736
Mavyret ®	Glecaprevir/Pibrentasvir	1, 2, 3, 4, 5, 6	\$15,840
Vosevi ®	Sofosbuvir/Velpatasvir/ Voxilaprevir	1, 2, 3, 4, 5, 6	\$29,904



Hepatitis C Medications Mechanisms of Action





DAA Classification:

Class	Suffix	Generic Name
 NS5B Polymerase Inhibitors nucleoside polymerase inhibitors (NPIs) non-nucleoside polymerase inhibitors (NNPIs) 	"-buvir"	Dasabuvir Sofosbuvir
NS3/4A Protease inhibitors	"-previr"	Simeprevir Paritaprevir Grazoprevir Voxilaprevir Glecaprevir
NS5A inhibitors	"-asvir"	Ledipasvir Ombitasvir Elbasvir Velpatasvir Pibrentasvi r

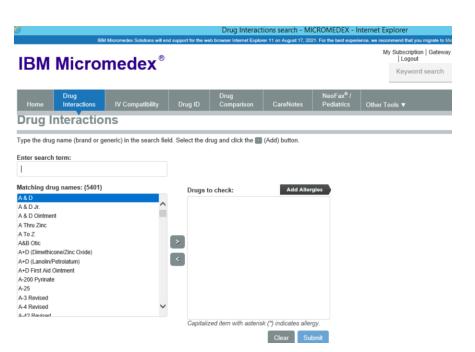


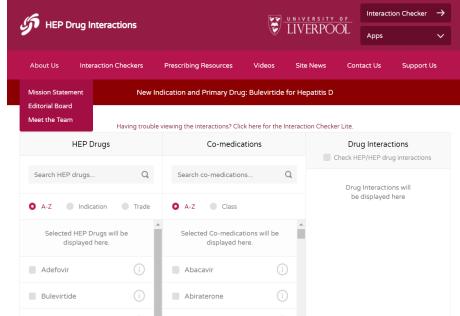


Sofosbuvir/velpatasvir (Epclusa®)	Glecaprevir/pibrentasvir (Mavyret®)	
No cirrhosis 1 tab daily for 12 weeks 99% SVR	No cirrhosis 3 tabs daily with food for 8 weeks 96%–100% SVR: Genotype (GT) 1 96%–100% SVR: GT 2 83%–94% SVR GT 3 100% SVR GT 4–6	
Compensated cirrhosis Genotype 1, 2, 4, 5, or 6 1 tab daily for 12 weeks 99% SVR For Genotype 3: NS5A resistance-associated substitution (RAS) testing - NS5A RAS 97% SVR + NS5A RAS 88% SVR - Y93H mutation can be treated with 12 wks + Y93H mutation see HCV guidance* 84% SVR	Compensated cirrhosis Genotype 1-6: 3 tabs daily with food for 8 weeks 96%–100% SVR GT 1 96%–100% SVR GT 2 83%–94% SVR GT 3 100% SVR GT 4–6	
Decompensated cirrhosis Refer to specialist *https://www.hcvguidelines.org/	Decompensated cirrhosis Refer to specialist	



Assessing Drug Interactions





<u>Medications to watch for</u>: Rifampin, St. John's Wort, phenytoin, carbamazepine, amiodarone, ethinyl estradiol, acid suppressive therapy, statins



Arranging for Treatment

Treatment determination

- Prioritization
- Adherence capability

Medication considerations

- Drug interactions
- Side effects

Prior authorization

- Insurer specific
- Specialty pharmacies



Good Candidate for Treatment

- Reachable
- Coming to appointments
- Health insurance
- Motivated
- Compliant with medications
- Health status—unlikely to have frequent hospitalizations resulting in interruption of treatment
- Life expectancy >1-2 years



Monitoring on Treatment

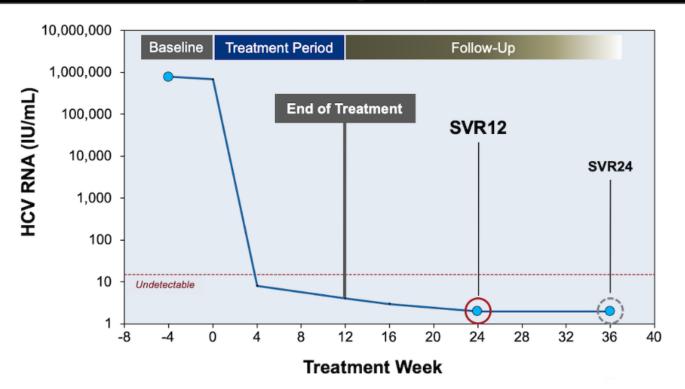
	Pre-therapy	4 weeks Optional	12 weeks	24 weeks (12 weeks after therapy completion)
CBC	Χ			
SCr/GFR	Χ			
LFTs	X	Cirrhosis or Positive HBcAb		
HCV viral load	Χ	Not rec.		X (SVR)
HIV Ag/Ab	X (w/i 1 year)			

Discontinue therapy if:

- 1) 10 fold increase in ALT at week 4
- 2) ALT <10 fold increase but + n/v jaundice, \uparrow bili, \uparrow ALK, \uparrow INR Asymptomatic \uparrow in ALT, closely monitor and repeat at weeks 6 and 8



Sustained Virologic Response





https://www.hepatitisc.uw.edu/



https://www.hcvguidelines.org/



https://www.hep-druginteractions.org











References

- Division of Viral Hepatitis. Viral hepatitis statistics and surveillance. Centers for disease control and prevention. https://www.cdc.gov/hepatitis/statistics/2016surveillance/index.htm#tabs-6-5 (accessed Aug 26, 2021)
- 2. Lingala S, Ghany MG. Natural History of Hepatitis C. Gastroenterol Clin North Am. 2015;44:717-34.
- 3. Mavyret (glecaprevir/pibrentasvir) package insert. North Chicago, IL: AbbVie Incorporated; 2021 June.



Questions





Primary Care Management of Hepatitis C

Sanketh Proddutur, MD
Jason Fine, PharmD, BCPS

Injections and MSK Ultrasound Refresher Course 2025 03-06-2025

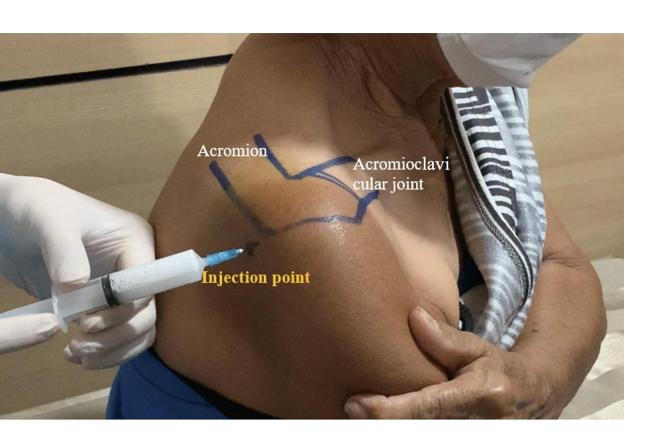
Dan DeFelice, DO PCSM-CAQ AHN Forbes Family Medicine

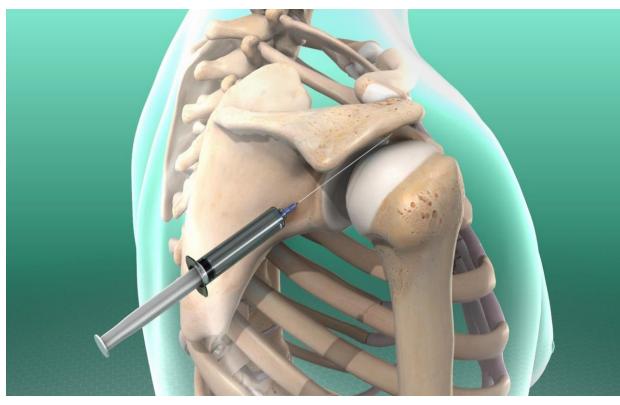
Objectives

- Identify and describe techniques for common MSK injections that Primary Care Physicians should be able to do
 - Shoulder
 - Elbow
 - Hand
 - Hip
 - Knee
 - Back
- List common medications utilized in injections and rationale
- General guidelines
- Practice!

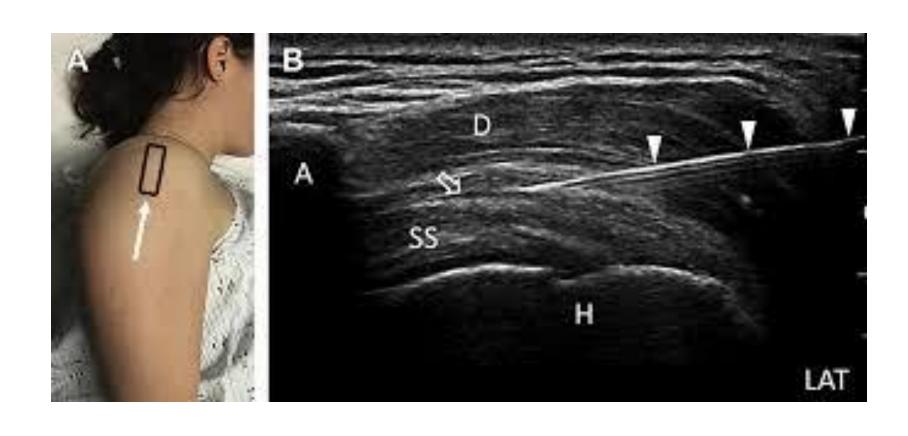
Shoulder

Subacromial

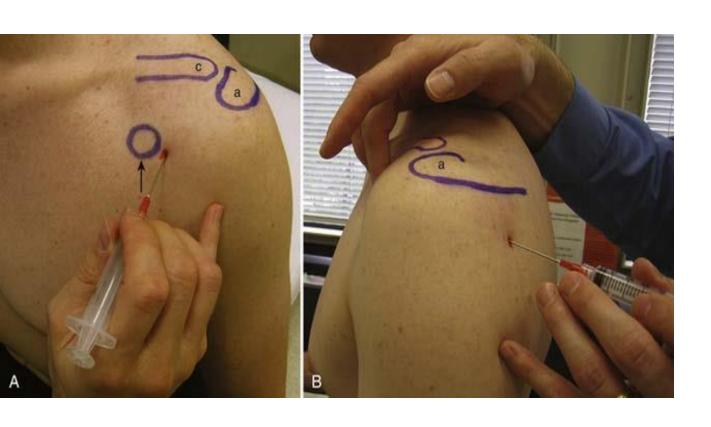


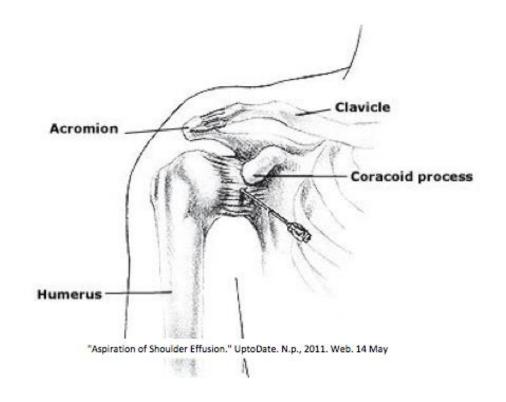


Subacromial

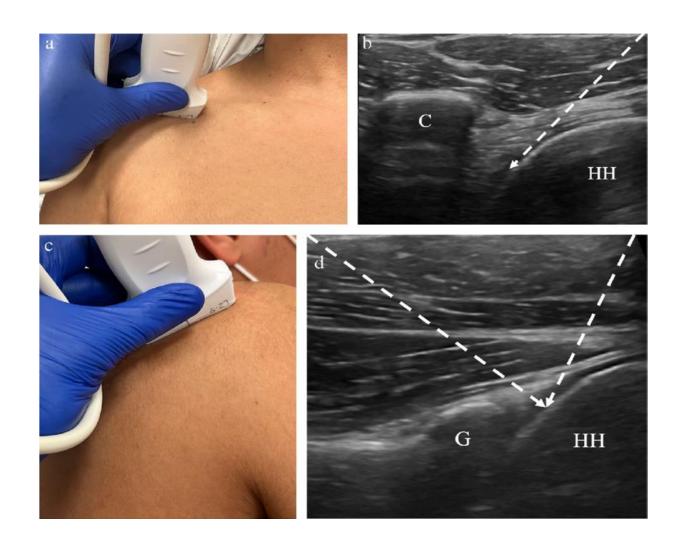


GH joint injection



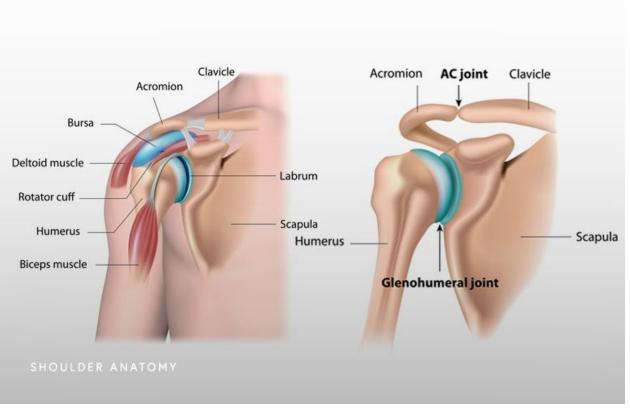


GH joint injection



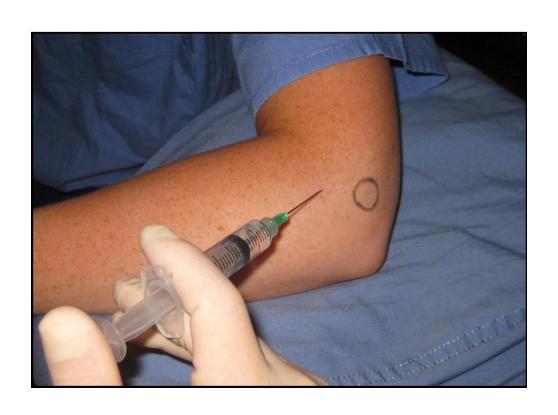
AC Joint

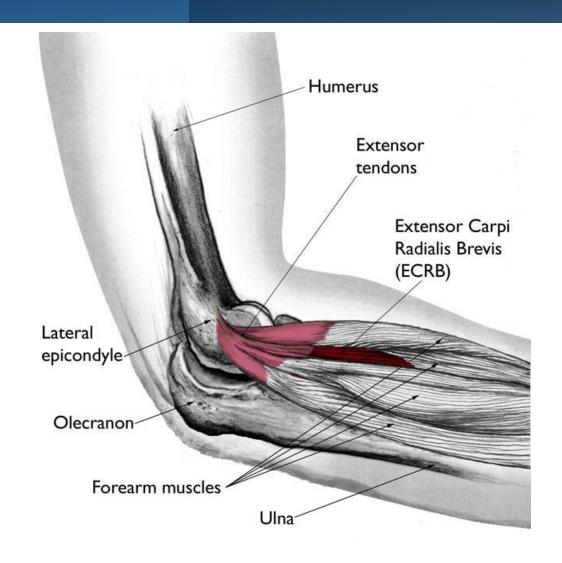




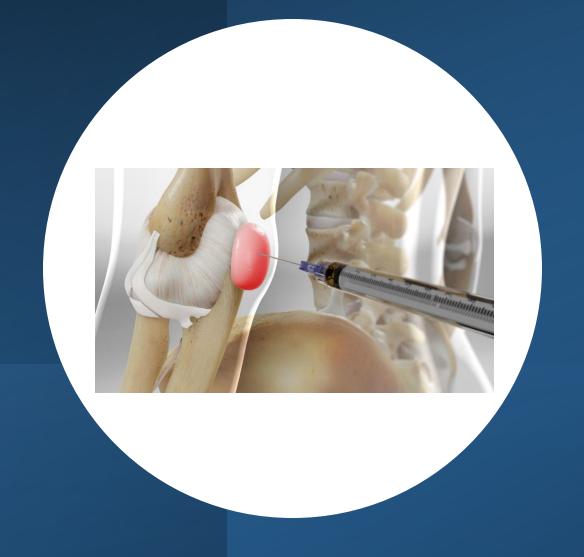


Lateral Epicondyle

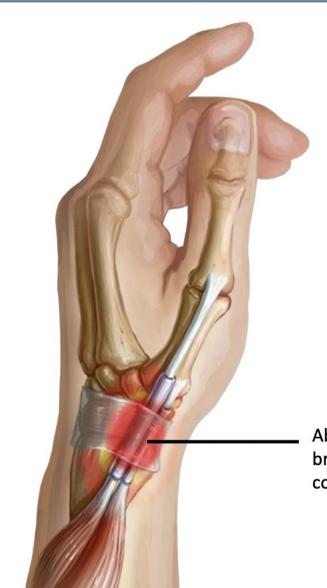




Olecranon Bursitis

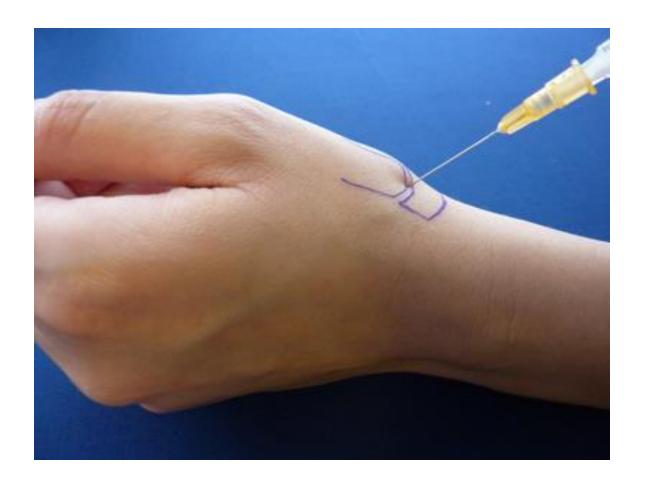






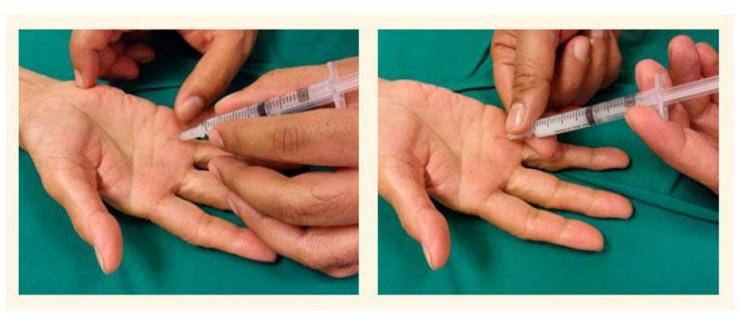
Abductor pollicis longus and extensor pollicis brevis tendons running in the 1st dorsal compartment of the wrist.

De Quervain's Injection



1st CMC

Trigger Finger







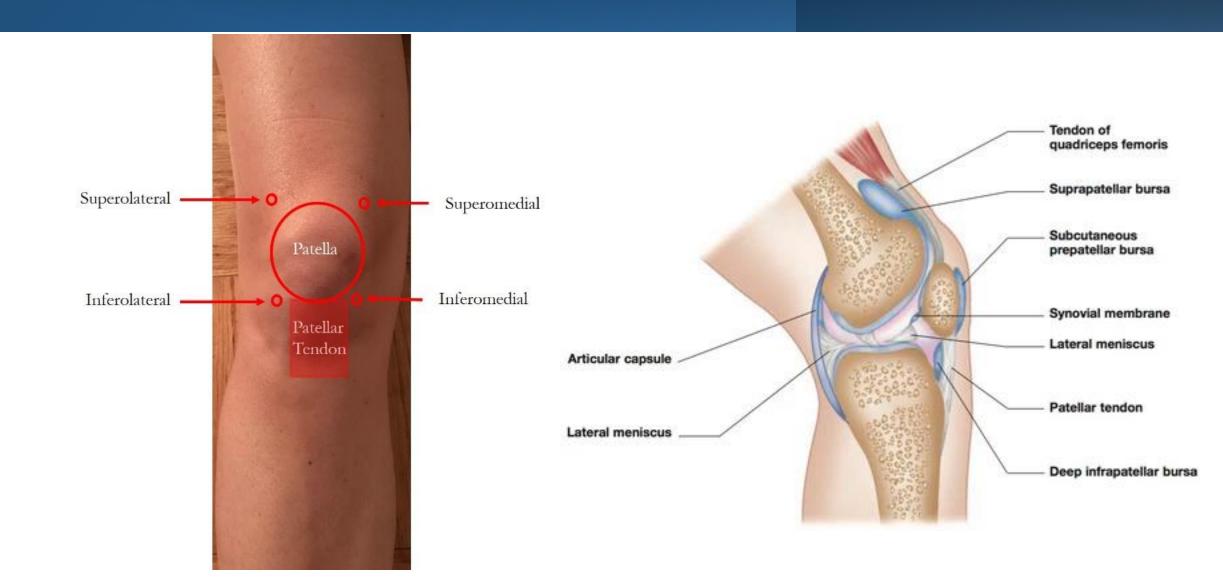


Greater Trochanteric

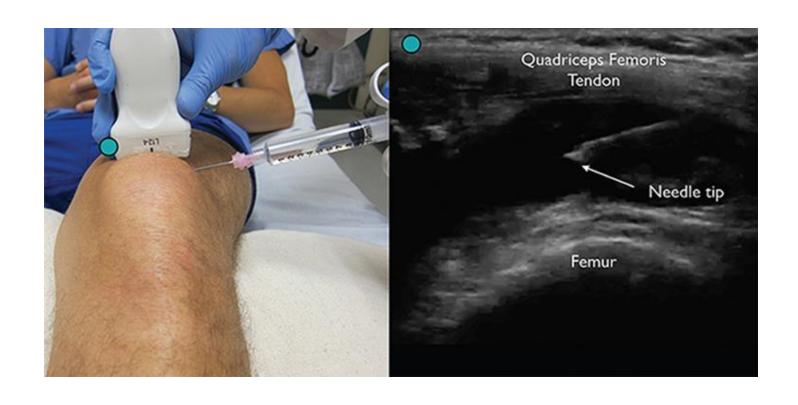




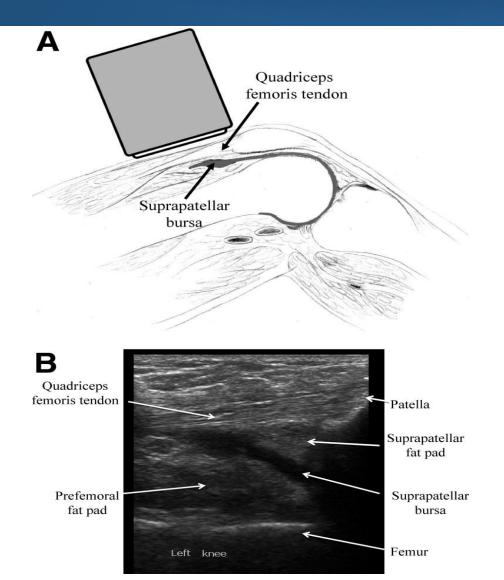
Knee Joint injection

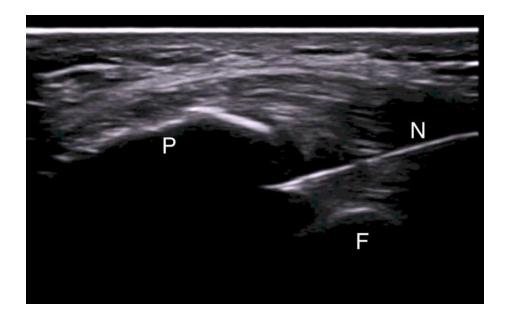


Knee Joint Aspiration

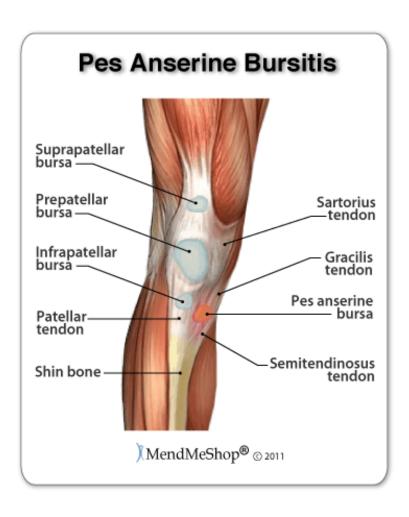


Knee Joint Aspiration





Pes Anserine Bursa



Types of Injections

- Aspiration (symptom relief, diagnostic)
- Diagnostic (usually with fast acting LA)
- Dry needling (trigger points)
- CSI
- Hyaluronic acid
- Prolotherapy
- PRP

Medications and Dosing

- Steroids
 - Triamcinolone Acetonide (Kenalog) typically comes 40mg/ml
 - Methylprednisolone (Depo-Medrol) typically comes 40mg/ml or 80mg/ml
 - Betamethasone (Celestone) typically comes 6mg/ml
- Local anesthetics (without Epi)
 - Lidocaine 1% or 2%
 - Ropivacaine 0.25% or 0.5%
 - Bupivacaine 0.5%

General Guidelines

Large Joints

- 1-2ml of steroid
- 2-4ml of local anesthetic

Medium Joints

- 0.5-1ml of steroid
- 1-2ml of local anesthetic

Small Joints

- 0.25-0.5ml of steroid
- 0.5-1ml of local anesthetic

Injection Pointers

- Make sure you and the patient are in a comfortable position
- Repeat the same process each time to limit forgetting anything

Ex

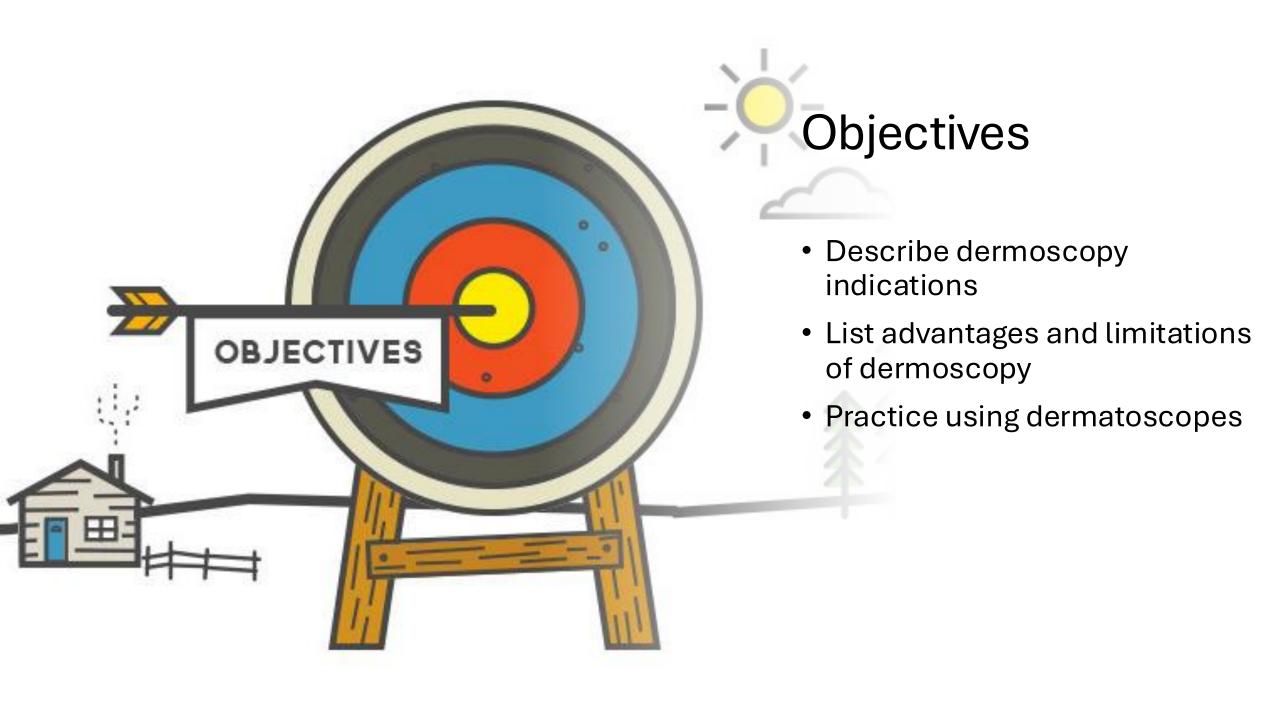
- 1. List the injection, describe the technique to the patient, describe any potential adverse reactions, ask if there is any questions, obtain consent
 - 2. Double check allergies, any potential co-morbidities (diabetes, etc)
 - 3. Palpate the area, mark your location
 - 4. Make sure all your materials are present
 - 5. Clean the area (alcohol pads, betadine, etc)
 - 6. Cold spray if available (ethyl chloride)
 - 7. Perform the injection
 - 8. Monitor for bleeding, band-aid

Time to Practice

Dermoscopy

Winfred Frazier, MD, MPH, FAAFP Family Medicine Refresher Course March 6th, 2025











Dermatoscope as an essential tool

Purpose of Dermoscopy

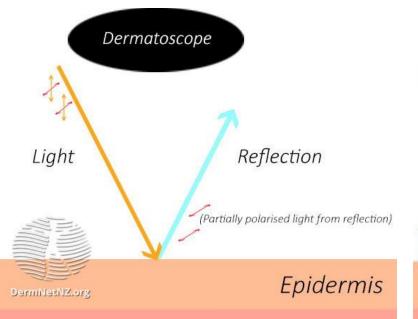
- Find melanomas when they are curable
- Find skin cancers early
- Differentiate benign from malignant
- Biopsy less benign lesions
- Improve diagnostic accuracy of skin lesions
- Reassurance for physician/patient
- Aid in the decision-making process as to whether perform a biopsy
- Provide surveillance for a lesion

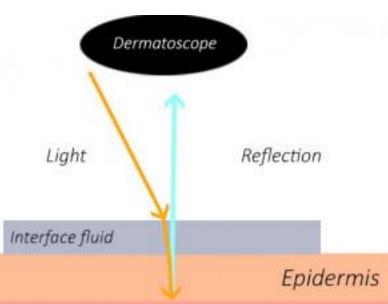
Indications

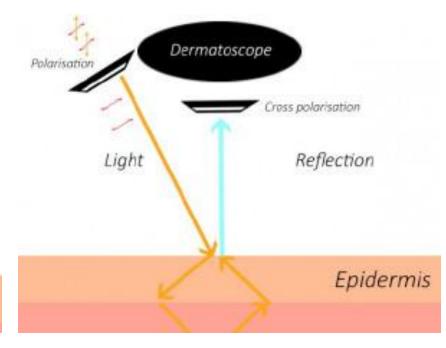
- Any skin condition
- Can visualize skin, hair, nails

How it works: Physics

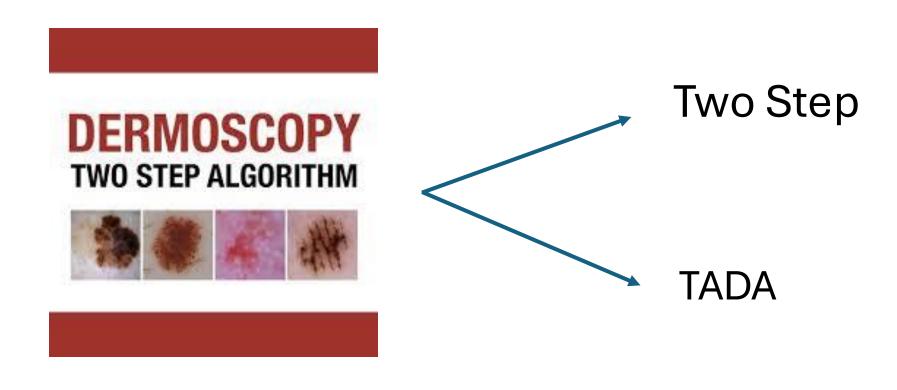
- Magnification (10X): visualization of subsurface skin structures
- Light is reflected and refracted
- Polarized light has additional filters to reduce reflection





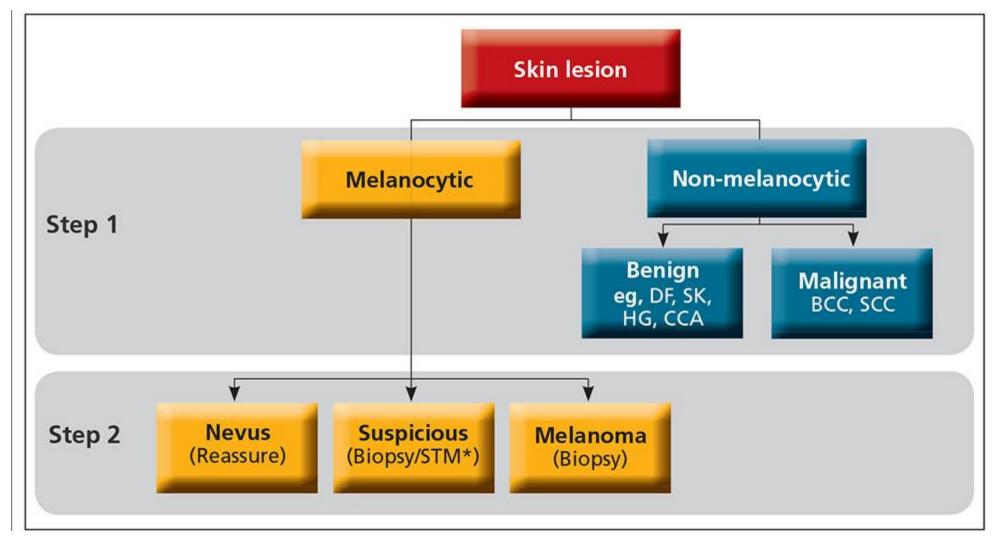


Dermoscopy Algorithms



Free App

Two Step Algorithm



Argenziano et al.: Dermoscopy of pigmented skin lesions: results of a consensus meeting via the Internet. J. Am. Acad.

TADA Algorithm (three-step)

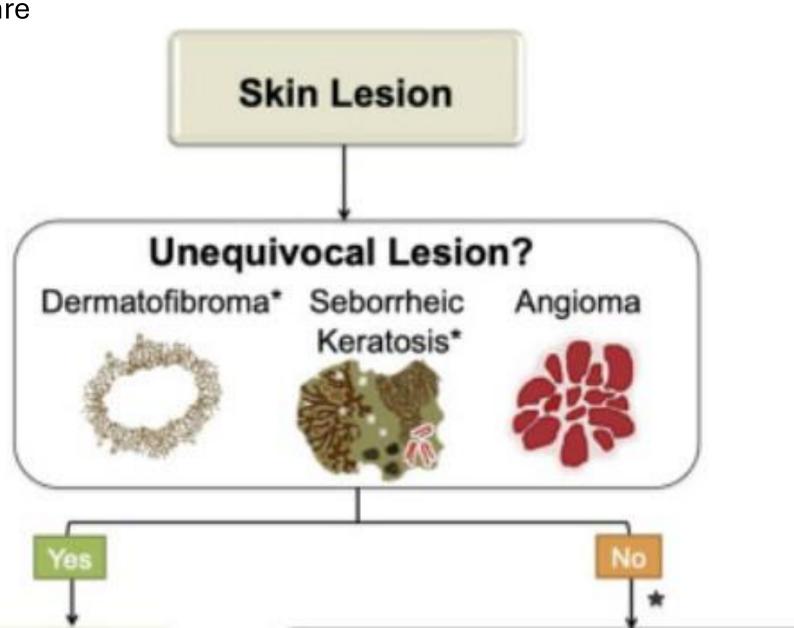
Skin Lesion Unequivocal Lesion? Dermatofibroma* Seborrheic Angioma Keratosis* Monitor or Disorganized pattern? reassure' Asymmetric distribution of colors or structures **Biopsy** Organized lesion with any of or refer Streaks or globules forming a starburst 2 Patterns Negative network Black Colors Gray White® * Algorithm is based on the use of polarized dermoscopy Diagnosis of DF and SK may require toggling between polarized and non-polarized light. ** Patients should continue self-monitoring. Changes Monitor* **Biopsy** in morphology or symptoms should raise concern. Ulceration without history of trauma. or refer White color including shiny structures, circles, scar- Monitoring can include short-term, long-term or self-monitoring for change.

Sensitivity 94.8%, specificity 72.3% for malignant lesions

Jaimes N, Marghoob AA. Triage amalgamated dermoscopic algorithm. J Am Acad Dermatol. 2020 Jun;82(6):1551-1552.

Triage Amalgamated Dermoscopic Algorithm

Majority of skin lesions are benign, so we start the algorithm with **benign** lesions

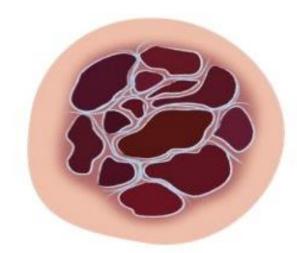




Cherry angiomas: Clinical

Angiomas Dermoscopic View

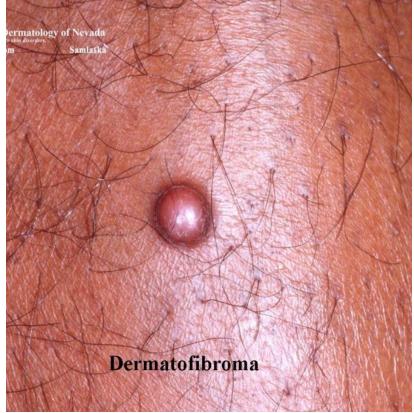
- Lacunae separated by white space
- Colors
 - Red
 - Maroon
 - Purple
 - Black



In general, try not to focus on the color of the lesion









ource: Usatine RP, Smith MA, Mayeaux EJ, Chumley HS: The Color Atlas

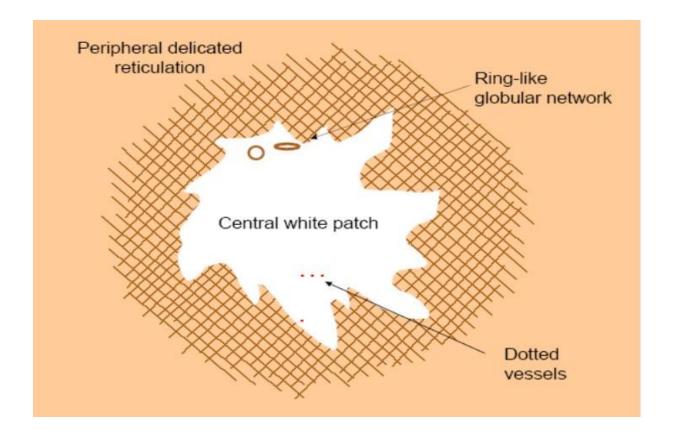
Dermatofibroma: Clinical

- Solitary fibrous nodule
- Dimples with lateral pressure
- Commonly found on legs

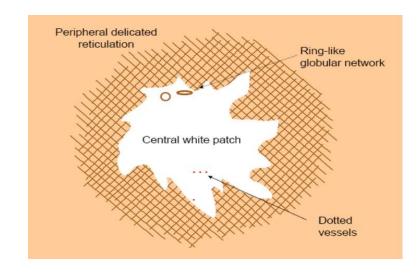
Dermatofibroma: Dermoscopic View

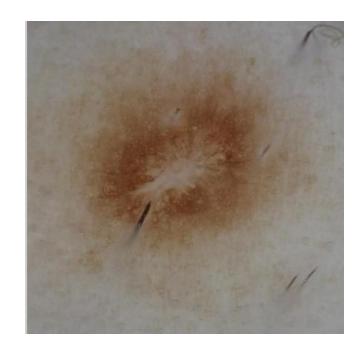
Structures

- Peripheral fine network
- Central hypopigmented scar-like area
- Ring-like globules
- Dotted vessels





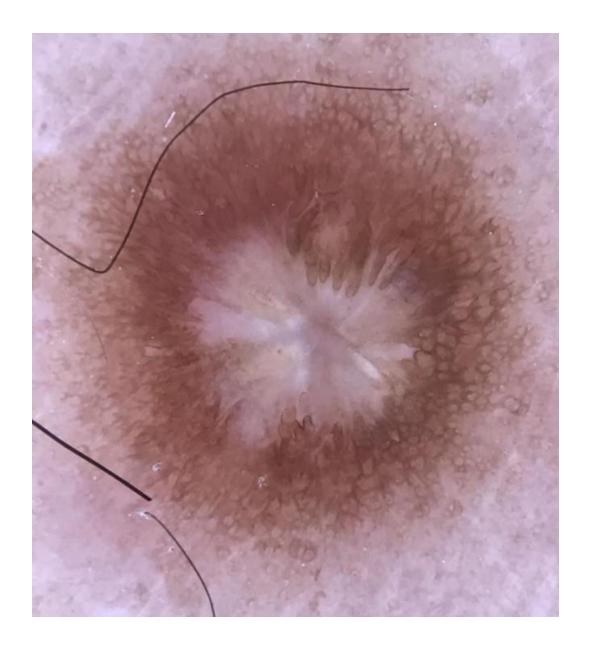




















Seborrheic keratosis: Clinical

- Scale (important to feel lesions)
- Stuck-on appearance
- Many may be present

Dermascopic Features

Milia-like cyst



Comedo-like opening



Fissures & ridges



Fingerprint-like



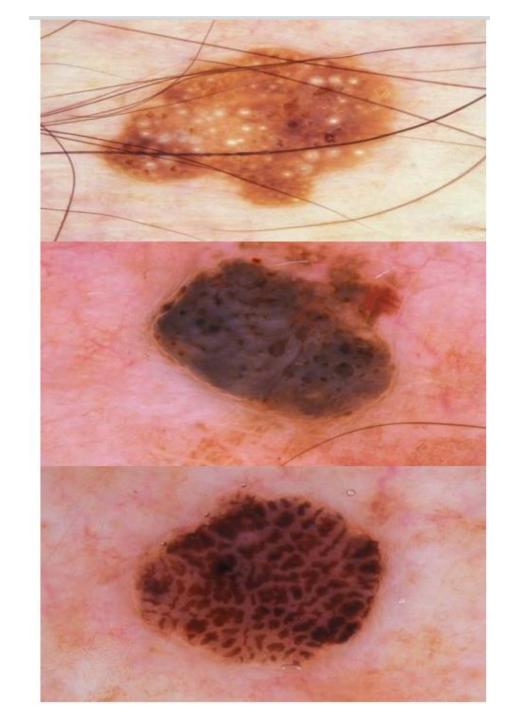
Hairpin vessels



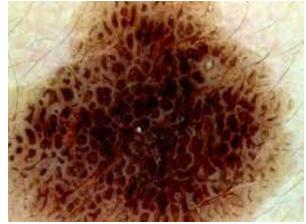
Moth-eaten borders







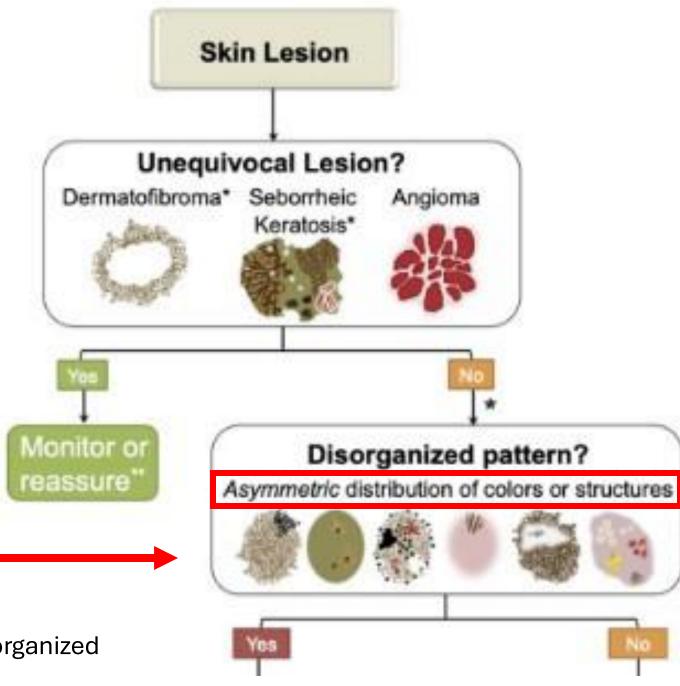






Fissures and ridges

TADA Algorithm Step 2



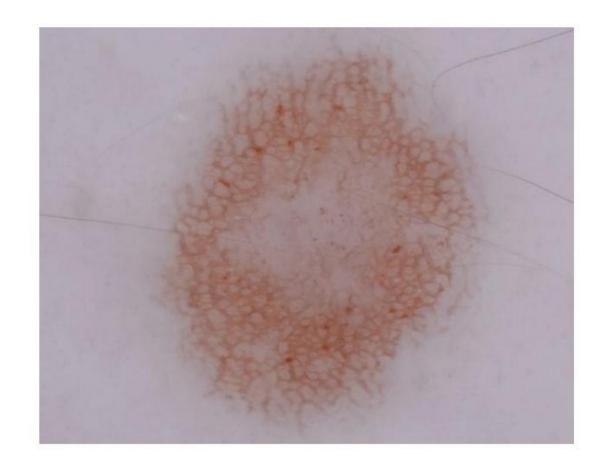
Don't necessarily need to name the disorganized pattern

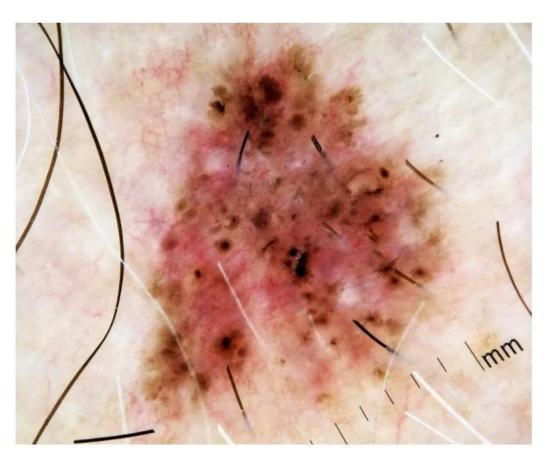
Step 2: Organized or disorganized? Most skin cancers are disorganized or chaotic.



Organized

Disorganized



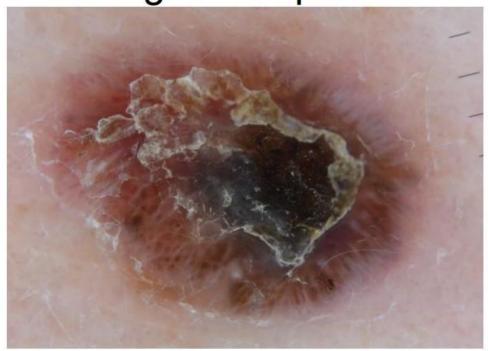


Melanocytic Nevus

Basal Cell Carcinoma

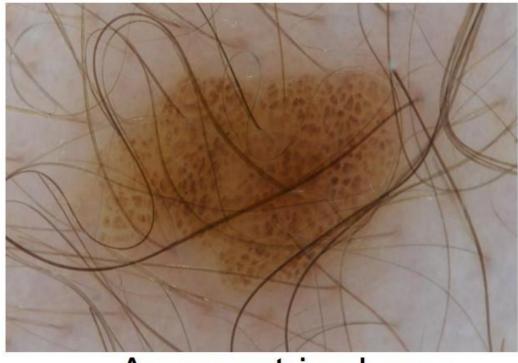
Dermoscopy Focuses on Content not Shape

Disorganized pattern



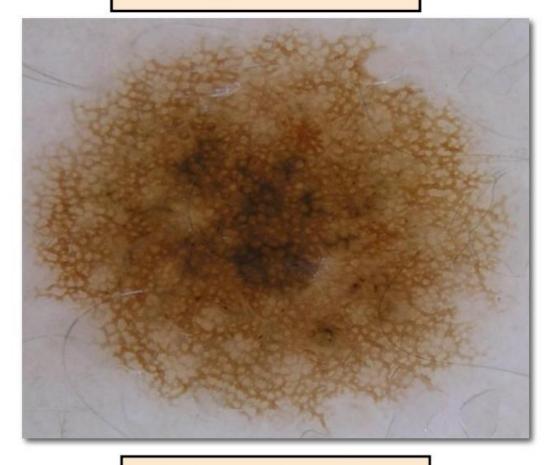
Symmetric shape

Organized pattern



Asymmetric shape

Organized



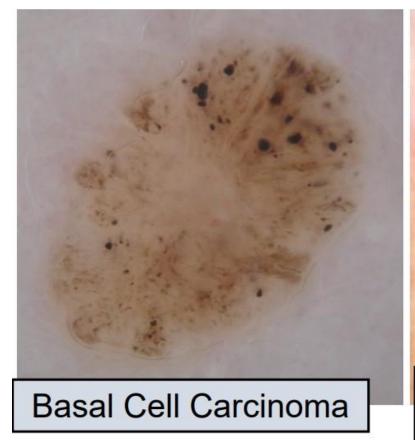
Melanocytic Nevus

Disorganized



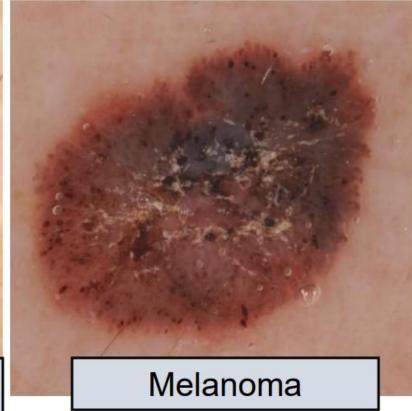
Melanoma

Most Skin Cancers are Disorganized

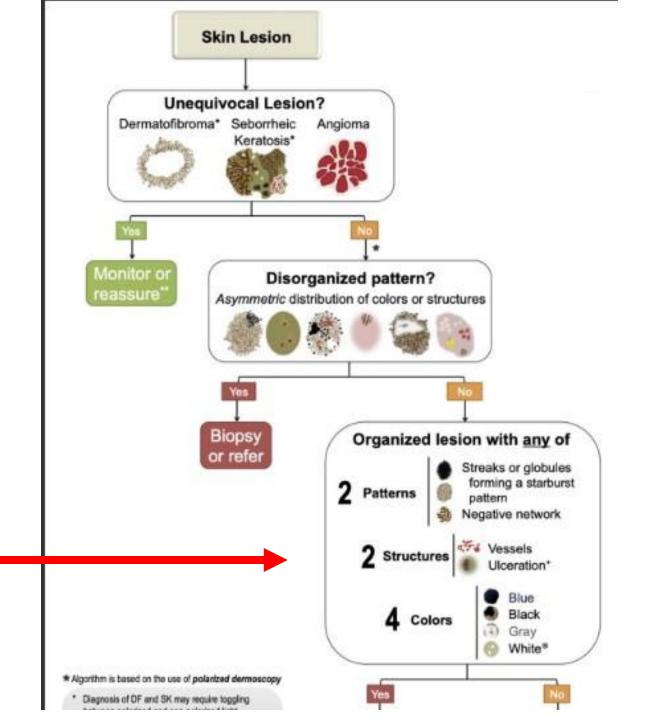




Squamous Cell Carcinoma



TADA Algorithm Step 3



Advantages and Limitations

Advantages	Limitations
Aids in diagnosis and differentiation of tumor pathologies and borders	Cost (equipment and inadequate reimbursement)
Better patient-physician communication	Training
Reduces the number of unnecessary biopsies	Lack of time (training and use in practice)
Allows digital surveillance and monitoring	Anchoring bias and search satisfaction
Improves accuracy, sensitivity, specificity for melanoma diagnosis (increases sensitivity by 20% and specificity by 10%)	May not detect early melanomas
Non-invasive	Lower diagnostic accuracy when lesions are diagnosed using dermoscopy alone

Summary

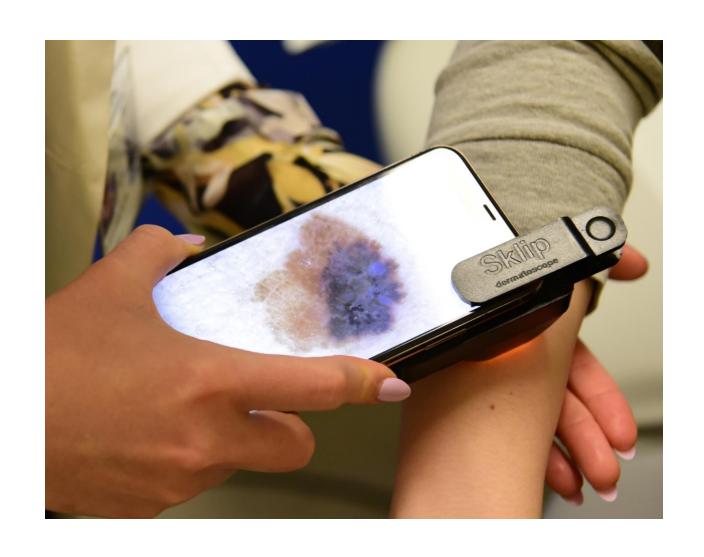
- "When in doubt, cut it out", especially raised lesions
- Use the TADA algorithm to help triage
- Melanomas break rules
- Photograph lesions and learn from biopsy results
- Practice!



Resources

- Download the TADA algorithm app
- American Dermoscopy Meeting
- AAFP Skin Conditions and Diseases Course

Practice!



Objectives

- Described dermoscopy indications
- Listed advantages and limitations of dermoscopy
- Practiced using dermatoscopes

Cognitive Impairment

Objectives

Define key terms

Differentiate characteristic presentations of common conditions

Review screening tools for cognitive impairment

3

Classify testing related to Alzheimer's disease

4

Review basics of management of Alzheimer's disease

Definitions¹

Dementia

Minor Neurocognitive Disorder

Major Neurocognitive Disorder

Rapidly Progressive Dementia²

Objectives

Define key terms

Differentiate characteristic presentations of common conditions

Review screening tools for cognitive impairment

3

Classify testing related to Alzheimer's disease

4

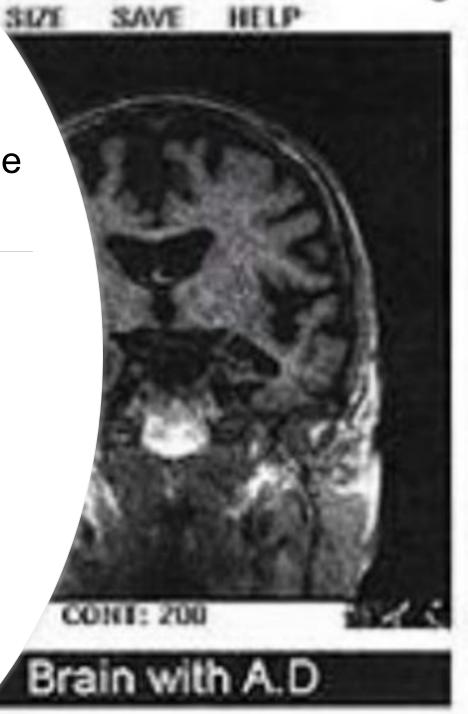
Review basics of management of Alzheimer's disease

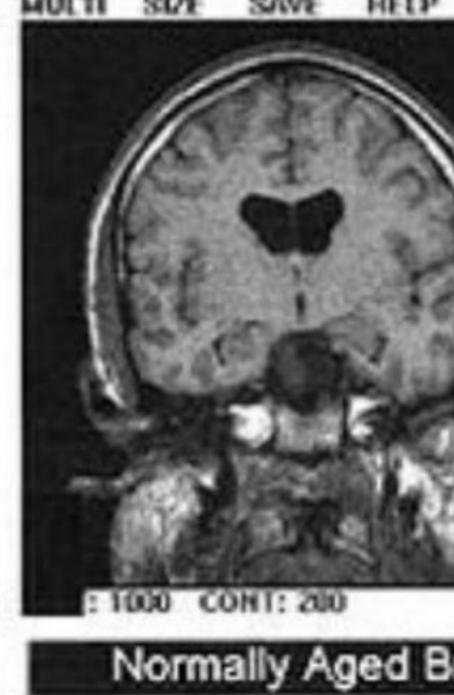
Classic Presentations

Alzheimer's Disease (AD)

- Memory deficit first
- Executive function
- Language
- Late Attention/Concentration

Image Credit Rexulti.com

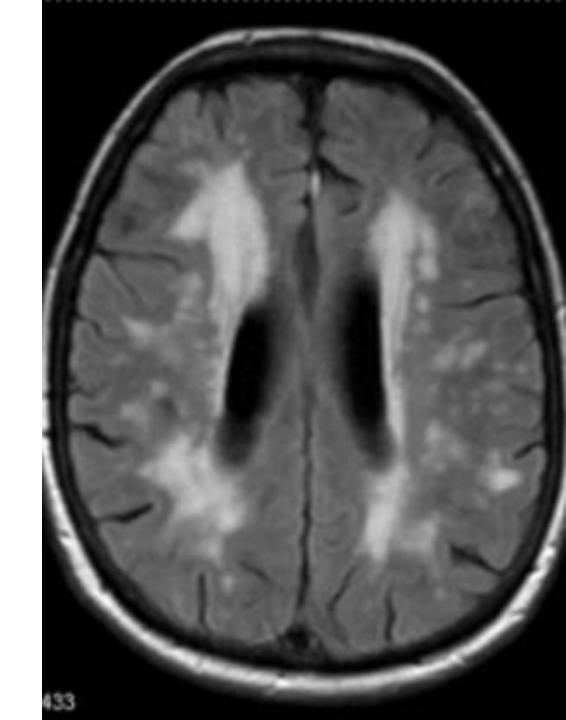




Vascular Dementia

- Traditionally "Step-wise decline"
- Executive dysfunction
- Can be global deficits
- Sometimes develop apathy syndrome or "vascular depression"

Image Credit Radiopaedia.org



Dementia with Lewy Bodies³

Parkinsonism

Hallucinations

Fluctuating mental status

REM Behavioral Disorder

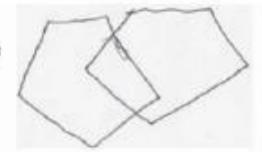
· Cognitive deficits typically in attention, executive function, visual processing

Figure Copy Tests (Visuospatial)⁴

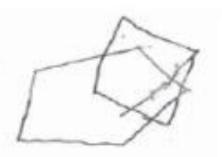
AD #52 3 years before MMSE = 24



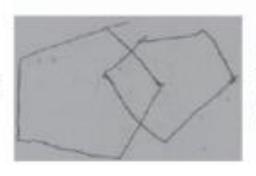
AD #52 2 years before MMSE = 23



AD #52 1 years before MMSE = 14



DLB #2186 3 years before MMSE = 27



DLB #2186 2 years before MMSE = 23



DLB #2186 1 years before MMSE = 15



Frontotemporal Dementia (FTD)⁵



Earlier onset



More rapid decline



Behavioral and language variants

Behavioral FTD⁵

- Disinhibition
- Apathy
- Hyperorality
- Loss of empathy
- Compulsive behavior
- Executive deficits early
- Spared recall and visuospatial

Language Variants of FTD⁵

Semantic

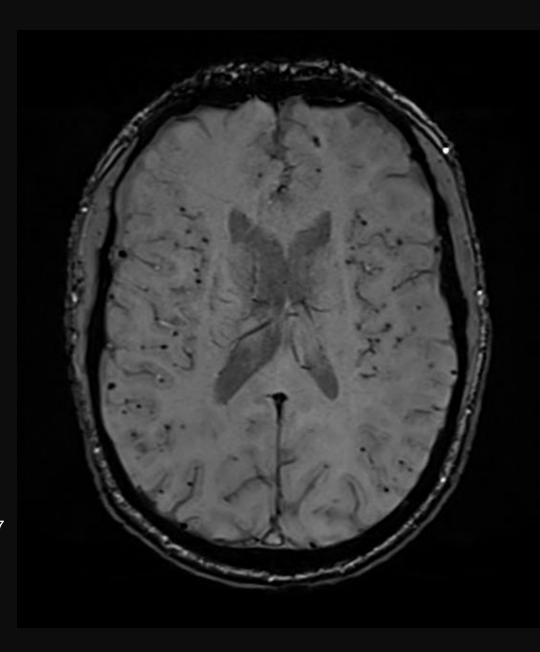
- Similar behavior
- Naming impairment
- Impaired single word comprehension
- Surface dyslexia

Non-fluent/agrammatic

- Behavior preserved until late
- Effortful, halting speech
- Impaired comprehension of complex sentences

Other Etiologies

- Mixed Dementia
- Huntington's
- Parkinson's Dementia
- Parkinson's Plus
- Cerebral Amyloid Angiopathy⁶
- Limbic-predominant age-related TDP-43 encephalopathy (LATE)⁷



Key Takeaways of Presentations



"Classic" presentations useful for exams/testing and as an initial framework



In practice, there is a lot of overlap and variance, making clinical diagnosis challenging



Many mimics, mixed dementia, and new discoveries

Objectives

Define key terms

Differentiate characteristic presentations of common conditions

Review screening tools for cognitive impairment

3

Classify testing related to Alzheimer's disease

4

Review basics of management of Alzheimer's disease

Screening

Mini-Cog

Montreal Cognitive Assessment (MoCA)

Mini-mental status exam (MMSE)*

Rowland
Universal
Dementia
Assessment
Scale
(RUDAS)

Screener "Flags"*

- New behavioral or personality changes
- Patient or family concern
- Mental status exam abnormalities
 - Language
 - Thought process
 - Thought content/lack of content
- Late life new onset impairing psychiatric issues

Objectives

Define key terms

Differentiate characteristic presentations of common conditions

Review screening tools for cognitive impairment

3

Classify testing related to Alzheimer's disease

4

Review basics of management of Alzheimer's disease

Alzheimer's Diagnosis

2024 Revised Criteria for Diagnosis and Staging⁸

Core "Fundamental Principles"

Old guidelines – NINCDS-ADRDA Alzheimer's Criteria

- Clinical diagnosis alone
- Old biomarkers added/required starting in 2011

DSM-5

Biomarkers encouraged but not required

Alzheimer's Diagnosis

Starts with a history*



• TSH

• B12

• OSA

• Hearing impairment or visual impairment

Evaluate medications/polypharmacy

Confirming a Diagnosis⁸

Biomarkers

- CSF
 - Tau/Aβ42 ratios
 - Aβ42/40 ratio

pTau217

Imaging

Amyloid-PET

Imaging: Amyloid-PET

Used for diagnosis – earliest positive imaging biomarker

However, not as sensitive as plasma/CSF biomarkers

Pathologic Staging

Biomarkers

pTau217

- Same CSF ratios
- Many other biomarkers

Imaging

Tau-PET

MRI Brain

FDG-PET

Amyloid-PET

Imaging: Tau-PET

Used for staging or disease activity

Not positive in early stages of biological process

Positive imaging may suggest active contribution of AD pathology

Imaging progresses over time

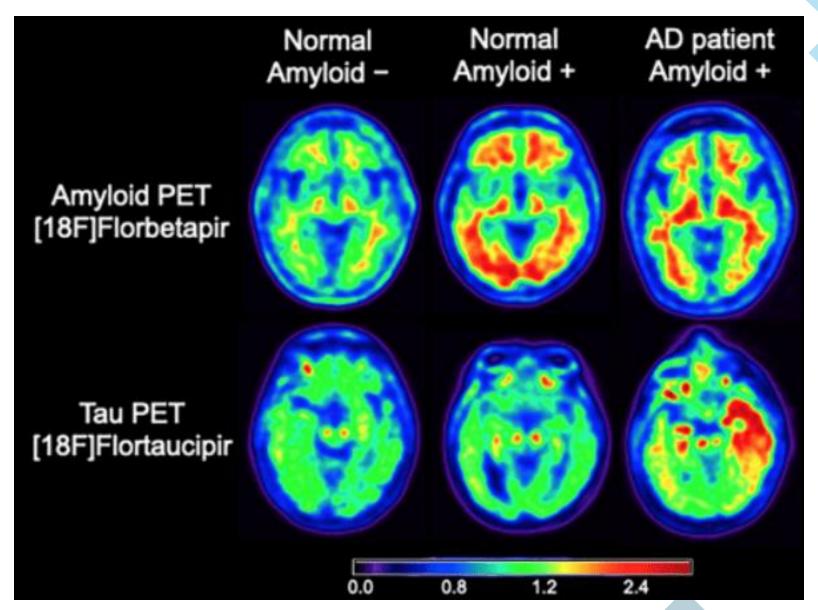
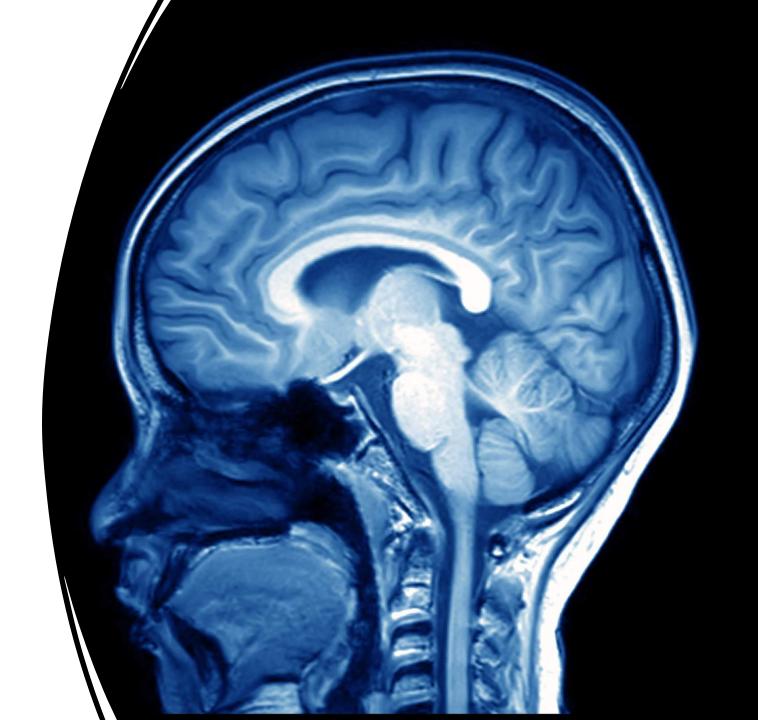


Image Credit https://sites.brown.edu/oh-ctnlab/research/

Imaging: Brain MRIs

- Not necessary for diagnosis
- Especially now, maybe nonspecific
- Can evaluate for other etiologies or co-pathology



Imaging: FDG-PET

May reflect pattern of degeneration/disease process

Also considered non-specific

Key Takeaways About Testing



Testing driven by goals of treatment



New serum **pTau217** test is highly accurate at identifying potential cases



Tau-PET can identify disease activity in complicated cases



ApoE, Tau-PET, and MRI brain for biologic treatments

Objectives

Define key terms

Differentiate characteristic presentations of common conditions

Review screening tools for cognitive impairment

Classify testing related to Alzheimer's disease

-4

Review basics of treatment of Alzheimer's disease

3



- Depends on stage*
 - Acetylcholinesterase inhibitors
 - Mild-mod-severe
 - Memantine
 - Mod-severe
 - Monoclonal antibodies
 - Earlier the better?

Alzheimer's Association Functional Staging⁸

0: "At risk" – Deterministic gene

1: Asymptomatic, positive biomarker

2: Mild change, normal MoCA, minimal functional impact

3: Abnormal testing, instrumental activities of daily living (IADLs)

4: Can't do some IADLs, independent ADLs

5: Can't do some ADLs

6: Fully dependent

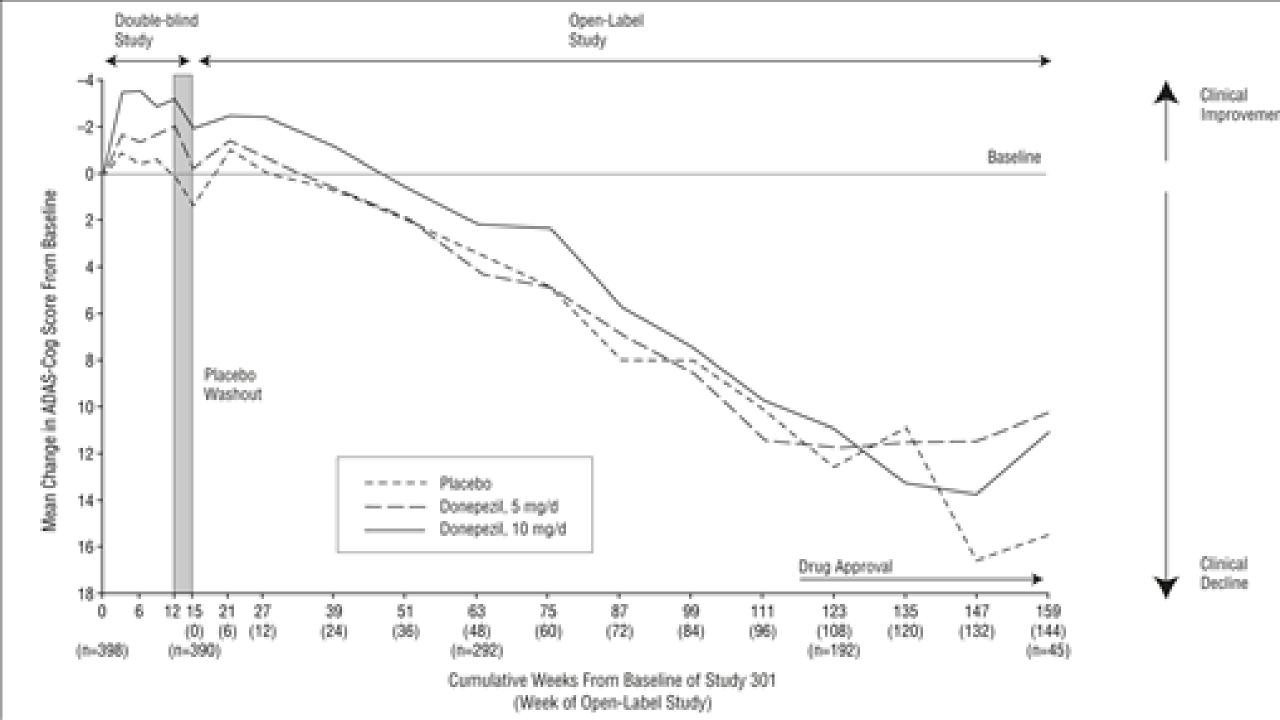
DSM-5 Uniformity¹

- Minor neurocognitive disorder (NCD) (Stage 3)
- Major NCD, "severity"
 - No specific criteria or guidance but suggests using similar staging
 - Mild (Stage 4)
 - Moderate (Stage 5)
 - Severe (Stage 6)
- "Due to..." can be clinical alone for AD
- "With/without behavioral disturbances"

- "Overall, the efficacy of the three [are] similar and the benefit of administration of these compounds is mild and may not be clinically significant."
- A couple of points on a 50-70 point scale
- Mixed data on behavioral disturbances

(72)

Drug Approval



Acetylcholinesterase Inhibitors (AChE-Is)

- First line
- Usually donepezil
- Not for FTD
- Reasons to avoid AV block, severe COPD, PUD
- Adverse effects
 - Bradycardia → hypotension/falls
 - Anorexia
- Decline with discontinuation, may want to taper

Memantine¹¹

- Second line
- Moderate to severe
- In conjunction with AChE-Is or for those who can't take them
- Magnitude of benefit similar to AChE-Is

May be beneficial for behaviors in advanced dementia

Monoclonal Antibodies¹²

- Mechanism: Targets Aβ Amyloid
- Agents Aducanumab, **lecanemab**, donanemab
- Benefits
 - Numerically small/similar to AChE-Is
 - May delay progression by months
- Limited benefit at high cost, potentially high risk
 - Edema
 - Hemorrhage
- Evolving area of study, exclusion criteria

Lecanemab – Looking Before We Leap¹³

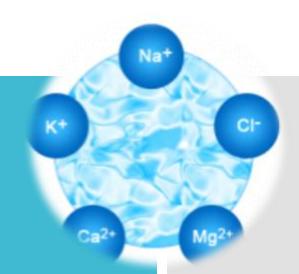
Three major concerns should give us pause before adopting this medication: Its beneficial effects are small, its harms are substantial, and its potential costs are unprecedented. Although lecanemab has a clear and statistically significant effect on cognition, its effect size is small and may not be clinically significant. The magnitude of lecanemab's cognitive effect is smaller than independent estimates of the minimally important clinical difference, implying that the effect may be imperceptible to a majority of patients and caregivers. Lecanemab's cognitive effects were numerically smaller than the effect of cholinesterase inhibitors and may be much smaller.

Other Symptoms

- Behavioral and Psychiatric Symptoms of Dementia
 - Anxiety
 - Depression
 - Psychosis
 - Irritability
 - Agitation or aggression
- Behavioral approaches, psychiatric medications

References

- 1. American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed). Arlington, VA: American Psychiatric Association.
- 2. Hermann P, Zerr I. Rapidly progressive dementias aetiologies, diagnosis and management. Nat Rev Neurol. 2022;18(6):363-376. doi:10.1038/s41582-022-00659-0
- 3. Choudhury P, Graff-Radford J, Aakre JA, et al. The temporal onset of the core features in dementia with Lewy bodies. Alzheimer's Dement. 2022; 18: 591–601. https://doi.org/10.1002/alz.12411
- 4. Mitolo M, Salmon D, Gardini S et al. The New Qualitative Scoring MMSE Pentagon Test (QSPT) as a Valid Screening Tool between Autopsy-Confirmed Dementia with Lewy Bodies and Alzheimer's Disease. Journal of Alzheimer's disease. 2014; 39: 823-832 doi:10.3233/JAD-131403
- 5. LaForce R. Behavioral and language variants of frontotemporal dementia: A review of key symptoms. Clinical Neurology and Neurosurgery. 2013; 12: 2405-2410. https://doi.org/10.1016/j.clineuro.2013.09.031.
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- 9. Doody RS, Geldmacher DS, Gordon B, et al. Donepezil Study Group. Open-label, multicenter, phase 3 extension study of the safety and efficacy of donepezil in patients with Alzheimer disease. Arch Neurol. 2001;58(3):427-433. doi:10.1001/archneur.58.3.427
- 10. Thomas SJ, Grossberg GT. Memantine: a review of studies into its safety and efficacy in treating Alzheimer's disease and other dementias. Clin Interv Aging. 2009;4:367-377. doi:10.2147/cia.s6666
- 11. van Dyck CH, Swanson CJ, Aisen P, et al. Lecanemab in Early Alzheimer's Disease. N Engl J Med. 2023;388:9-21 DOI: 10.1056/NEJMoa2212948
- 12. Burke JF, Kerber KA, Langa KM, et al. Lecanemab: Looking Before We Leap. Neurology. 2023; 101(15): 661–65. https://doi.org/10.1212/WNL.000000000207505.



Electrolyte Emergencies

Vikram Arora, MD, MPH, FAAFP

Program Director – Heritage Valley Health System

Disclosure

No relevant financial disclosures

Objectives

- Increase insight in recognizing signs and symptoms of common electrolyte disorders
- Gain more comfort in <u>initial</u> management strategies for electrolyte abnormalities
- Review common pitfalls in replacement strategies

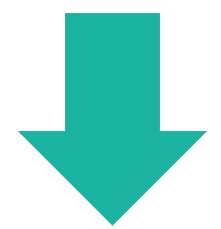


Structure

- Discuss strategies for:
 - Hyponatremia/Hypernatremia
 - Hyperkalemia/Hypokalemia
 - Hypercalcemia/Hypocalcemia
 - Hypermagnesemia/Hypomagnesemia
 - Hyperphosphatemia/Hypophosphatemia



Natremias
-The
amazing
Kidneys



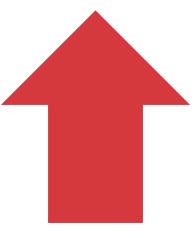
Minimum urine Osmolarity – 40 mOsm/Kg

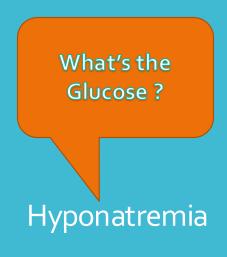
Max urine output 20L/d (ten 2 L bottles)

Needs some solute to make urine

Maximum urine Osmolarity — 1200 mosm/kg

Minimum urine output o.5L/d (for basic waste product removal)





- Not all same Hence, response to treatment will vary
 - All have relative excess of water
- Immediate risk is cerebral edema, coma.. In addition to seizures
 - Symptoms depend on at what rate patient develop hyponatremia
- Rate of correction target 4-6meq/24hrs with max of 8 meq in 24 hrs

Emergent therapy

Hypercaute hyponatremia even if asymptomatic

Acute/ subacute with mild symptoms

Patients with severe symptoms

Emergent therapy

Hypercaute hyponatremia even if asymptomatic

Acute/ subacute with mild symptoms

Patients with severe symptoms

- 100 ml of 3% saline bolus over 10 minutes
- If no improvement in symptoms over next 10 minutes, another 100 ml of 3% saline as bolus x 3

Non-emergent therapy

Chronic with Na <120 with moderate symptoms

Acute / subacute with Na<120 with no symptoms

- 50 ml bolus of 3% saline over 10 minutes followed by 3% saline infusion at a slow rate (0.25ml/kg/hr)
- Can consider Administer DDAVP /desmopressin 1-2 mcg sc or iv every 6-8 hours for first 48 hours



Depending on underlying etiology/ work up

Chronic with Na <120 asymptomatic

Moderate
hyponatremia with
Na 121-129 with
mild-moderate
symptoms

Hypovolemic

Saline Infusion

Euvolemic

- SIADH fluid restriction, salt tabs
- BeerPotomaniacs– Fluidrestriction

Hypervolemic

- Fluid Restrict
- Diuretics

Case 1

- 60 yr old presents to Er with limited medical history found confused at home.
- BP 125/80, P 100, RR 17,
- PE Appears euvolemic, heart lungs clear, no edema
- Na 115
- K-3.1
- Cl 8o
- Gucose 100
- S Osm 235mOsm/Kg
- Urine Osm 80 mOsm/Kg
- Urne Na 10 meq

Management

- Serum Osm 235mOsm/Kg
- Urine Osm 8o mOsm/Kg
- Urine Na 10 meq
- Is this really hyponatremia?
- Is the renal response appropriately dilute?
- Possible Option allow gradual self correction with close monitoring every 3-4 hrs.

Pitfalls

- Most likely etiology Beer Potomania / Tea toast diet
 - Very low solute ingestion less than 200 solute limits maximum urine volume from able to excrete 20 L/day to less than 5 L/d
- Now he gets saline in Er, 154 meq of Na
 - Kidneys can finally make more urine
 - Very high risk of rapid correction
 - Even a good meal can cause this
- D5W 3ml/kg bolus from each meq change in Na required

Case 2

- 60 yr old presents to Er with limited medical history found comatose at home. P/h of HTN on Lisinopril and HCTZ
- BP 125/80, P 100, RR 17,
- PE minimal responsive, heart lungs clear, no edema
- Na 115
- K − 2.7
- Cl 8o
- Gucose 100
- S Osm 235mOsm/Kg
- Urine Osm 800 mOsm/Kg
- Urne Na 70 meg

Management

- S Osm 235mOsm/Kg
- Urine Osm 800 mOsm/Kg
- Urine Na 70 meq
- Is this really hyponatremia?
- Is the renal response appropriately dilute?
- Broad differential
 - Hypovolemia
 - Medication induced
 - SIADH?

Pitfalls

- Volume assessment Key to adequate management
- Options
 - Water restriction
 - Normal saline can help by turning off ADH if hypovolemia
 - 3 percent preferred option due to rapid need
 - Consider nephrology consult
- Hypokalemia increases complication risk
 - Supplementation will increase Na
- As HCTZ wears of will correct rapidly monitor closely

Hypernatremia



Management

- Assess serum Osmolarity
- Assess urine Osmolarity
- Assess volume status (check urine Na)
- Estimation of free water deficit
 - Free water deficit = Total body water (TBW) x
 [(serum sodium/140) 1]
- Selecting a fluid repletion regimen
 - Hypo volemic → normal saline / ½ normal
 - Euvolemic → Free water replacement
 - Hypervolemic → Loop Diuretics + Free water
- Rate of correction
- Monitoring of serum sodium

Pitfalls

Free water deficit

- 60 kg female Na 168 → Water Deficit = 6L
- Rate of correction: 0.4 meq/L/hr (goal 10meq in 24hrs) \rightarrow 168-145 = 23 meq => 23/0.4 \approx 58 hours
- 6000(6L) ml / 58 hours ≈ 103 ml/hr of D5W
- Need to account for insensible losses 30-50 ml/hr
- If hypovolemic, use half NSS
 - For every 1 liter infused,
 - only 750 ml is free water with ¼ NSS
 - And 500 ml is free water with ½ NSS



Pitfalls

- Over-correction- leads to cerebral edema and worsening of neurological status in children: limited evidence in adults
 - CJASN 2019 Retrospective review did not find any evidence of cerebral edam or seizures in patients with >0.5 meq/l/hr*
- If < 6 meq/l/day: increased mortality in retrospective review in elderly patients
 - *Severe hypernatremia correction rate and mortality in hospitalized patients. Am J Med Sci. 2011 May;341(5)
- Under-correction of hypernatremia associated with increased mortality**
 - Under correction of hypernatremia is frequent and associated with mortality. BMC Nephrol. 2014 Feb 21;15:37.

Hypokalemia

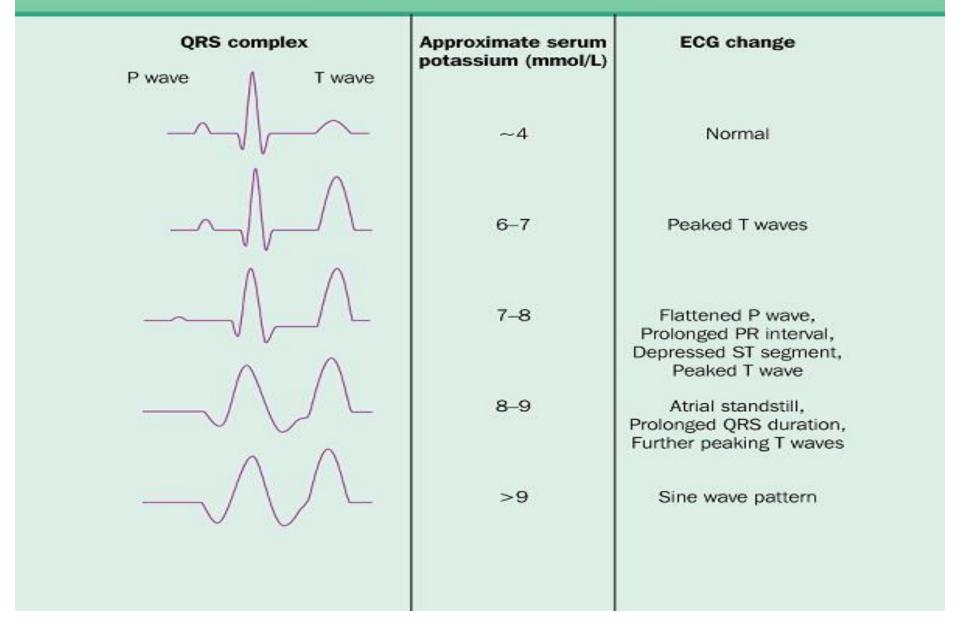
Pitfalls

- Once k is above 3-3.5meq/L >> switch to PO potassium or decrease dose and frequency of iv repletion
 - KCl -more versatile preparation (10-20 meq 2/3 times per day)
 - Kbicarb if co-existing acidosis
- Check Mag, as K can be refractory unless corrected
- If renal wasting consider K sparing diuretic
- Redistributive hypokalemia in increased sympathetic tone (thyrotoxic periodic paralysis).
 - Can correct rapidly
 - Non-selective b blockers can help

Hyperkalemia



ECG changes in hyperkalemia



Case-1

58 y/o male with h/o Diabetes and hypertension presents to ER with nausea, vomiting, diarrhea for three days. On exam, BP 90/60, Hr-90, Lungs clear, no edema

Labs : Serum creatinine -8

Serum potassium -7.8

Serum bicarbonate -12

Serum glucose -78

How will you manage this patient?

- A) Plan for emergent dialysis
- B) Medical management only
- C) Medical management and hemodialysis

Case-1

- Obtain EKG if tall T-waves, administer 10 ml of 10% Calcium gluconate i.v stat
- **C-BIG-k**
- Start normal saline 1 L bolus followed by 125ml/hour
- Follow urine output and BMP every 3-4 hours
- *Hourly glucose measurement if insulin given

Therapy	Mechanism	Dose	Onset	Duration
Calcium	Antagonize membrane effects	Ca gluconate 10 mL iv over 10 mins	1-3 mins	30-60 mins 🛑
Insulin	Cellular K uptake	Regular insulin 10 unit IV with Dextrose 50%, 50 mL if plasma glucose <250 mg/dL. Can consider D10 infusion @ 50ml/hr	30 mins	4-6 hrs
Beta 2 agonists	Increase cellular K intake	Nebulized albuterol 10 mg	30 mins	2-4 hrs 🛑
Sodium bicarbonate	Increase cellular k intake	Sodium bicarbonate 150 meq in 1L D5W over 2 hrs or 50 meq in 50 mL iv (standard ampule) x 5 mins	15-30 Minutes	1-2 hrs
K binders	Bind K in GI tract	Na Zirconium cyclosilicate 10 g TIDx 48 hrs Patiromer 8.4g/d, (more for chronic) Kayexalate 30 g PO>>obsolete	1-2 hours	
Diuretics - Loop - Thiazide	Renal loss of potassium			
Hemodialysis	Removes k		Immediate	

Case-1: First scenario

- Urine output- 800 ml in last two hours
- Repeat labs are back:
 - Serum creatinine 6.8 mg/dL
 - Serum potassium 6.4 mmol/L
 - Serum bicarbonate 18 mmol/L
 - Serum glucose 220 mg/dL

How will you manage this patient?

- A) Plan for emergent dialysis
- B) Medical management only
- C) Medical management and hemodialysis

Case 1: Second scenario

- Urine output- 10 ml in last two hours
- Repeat labs are back:
 - Serum creatinine 10.2 mg/dL
 - Serum potassium 8.2 mmol/L
 - Serum bicarbonate 18 mmol/L
 - Serum glucose 220 mg/dL

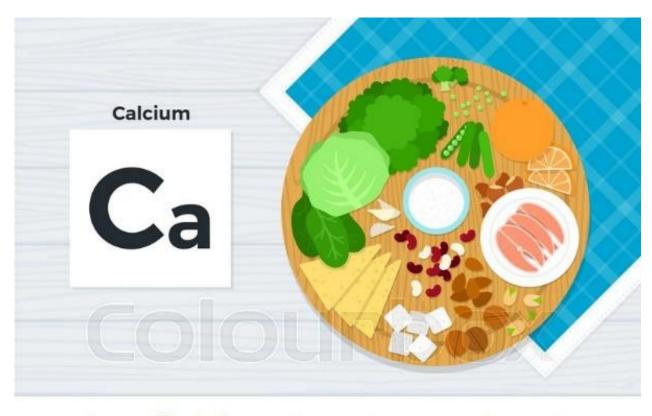
How will you manage this patient?

- A) Plan for emergent dialysis
- B) Medical management only
- C) Medical management and hemodialysis

Pitfalls

- If hyperkalemia refractory to medical management, then urgent hemodialysis
- You would still continue/repeat medical management while awaiting initiation of dialysis
- Placement of access and set up for dialysis can easily take few hours!! Maybe longer...
- Review offending medications, possible etiologies
- Can also cause bradycardia to heart blocks

Hypocalcemia





If symptomatic hypocalcemia, less than 7.5 mg/dl or ionized <1 mmol/L (<3 mg/dl)

Calcium gluconate 10 ml of 10% solution (1g calcium gluconate)-

- ✓ 1-2 amps iv over 10 -20 minutes (lasts 2-3 hours)
- ✓ Repeat boluses or continuous infusions at 0.5-1.5mg/kg/hour:
 - ✓ 10g of 10% Ca gluconate in 1L of D5W over 24 hours (40-50 ml/hour)
- ✓ Measure serum calcium every 4 hours> >goal is 8.o>>plus start oral calcium supplements/vitamin D
- ✓ Replete magnesium if hypomagnesemia

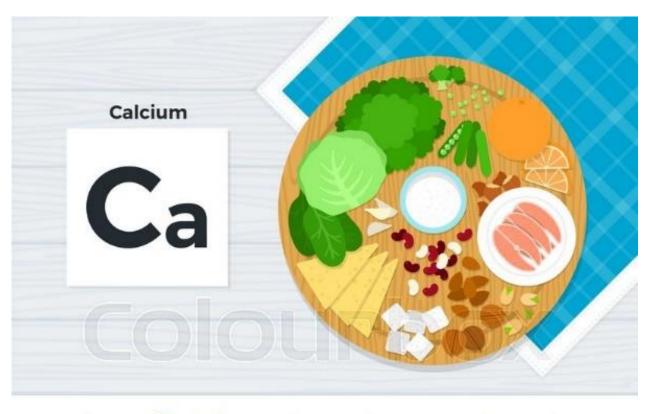
Treatment

Pitfalls

- Ca potentiates digitalis toxicity >>caution with digoxin>>>continuous EKG monitoring is needed
 - Slow down the rate

- Caution in high phosphorus states >6mg/dl
 - Check Cax P product
 - Consider treating hyperphosphatemia first

Hypercalcemia





Volume expansion with NSS at rate of 200-300 ml/hour, maintain urine output 100 ml/hour

- Lasix if heart failure/volume overload
- Calcitonin 4 IU/Kg sc every 6-12 hours (ineffective after 48 hours secondary to tachyphylaxis)
- Inhibition of osteoclast activity in the bone
 - Zoledronic acid 4mg IV over 15 mins (effective in 2-4 days)
 - Pamidronate
 - Denosumab 3rd line or patients with renal insufficiency
- Glucocorticoids in lymphomas, sarcoidosis (prednisone 20-40 mg/day): by decreasing calcitriol production
- Dialysis in patients with calcium >18 or with renal failure

Treatment

Pitfalls

- Avoid triggers: Thiazide diuretics, Lithium, Vit D, dehydration, bed rest, tamoxifen, antacids
- Calcitonin decreases Ca in 4-6 hours. There is rapid development of tolerance
 - Use for 48 hours and then give break for 48 hours and then resume calcitonin. Usually for symptomatic or over 14
- Be mindful of non-specific presenting symptoms, frequently attributed to other etiologies

Hypomagnesemia



Range: 1.7 to 2.2 mg/dL

Hypomagnesemia

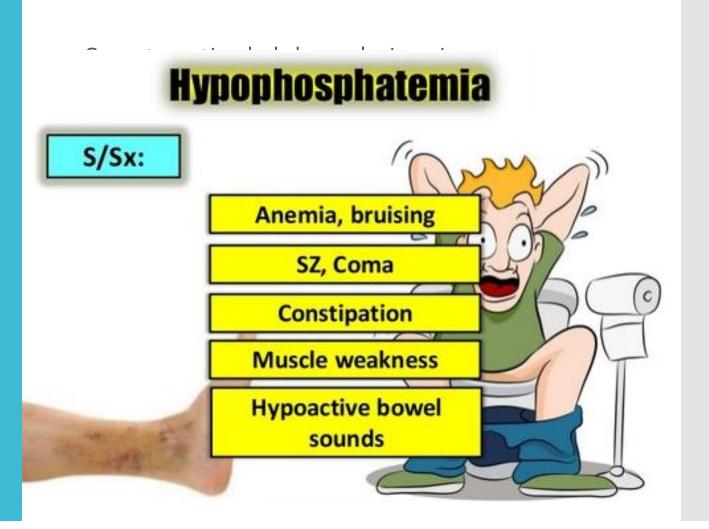
- Recheck Mg q6-12 hours
- If GFR<30 ml/min, decrease dose by 50%
- Can check FeMag for renal losses
 - Can be impacted by IV replacement
- Continue supplementation for 1-2 days

Hypermagnesemia



Range: 1.7 to 2.2 mg/dL

Hypophosphatemia

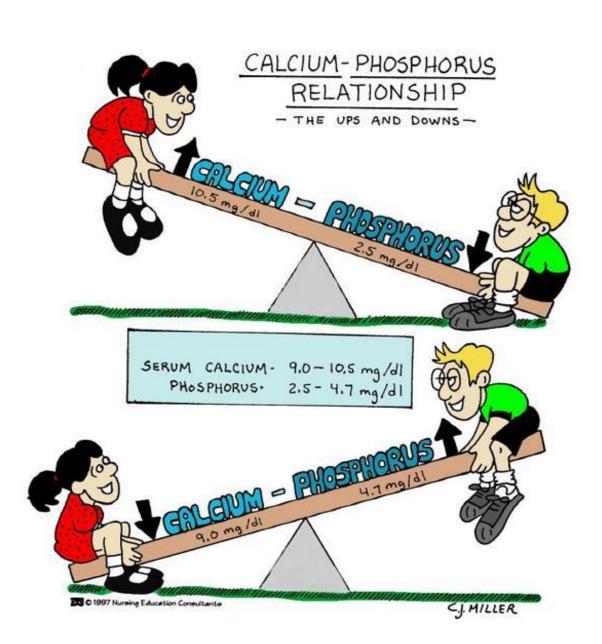


Range: 2.5 to 4.5 mg/dL

Hypophosphatemia

- IV replacement can be dangerous:
 - Hypocalcemia
 - renal failure from calcium phosphate precipitating in the kidneys
 - fatal arrhythmias.
- Oral Neutra or K phos 1-2 tabs QID
- Recheck every 6 hours response unpredictable but expect o.5 mg/dl for dose of o.1 mmol/kg

Hyperphosphatemia



Range: 2.5 to 4.5 mg/dL

Take Home Points

- Rate of correction for Na
- Hydration key for most Hyper and stabilizing heart
- ECG qt prolong from hypo-kalemia, calcemia, magnesemia
 - Sine wave, peak T wave Hyperkalemia
 - · Psudo p pulmonale Hypokalemia
 - Osborn wave Hypercalemia
 - Flat T wave Hypocalcemia



3% Saline: traditional way

Calculate sodium deficit

o.5 x body weight x (Desired sodium-Serum sodium)

If weight is 70 kg, serum sodium is 115, desired is 120 meq (@24 hrs), deficit is 175 meq

513 meq of sodium in 1000 ml of 3% saline

175 meq in 1000/513 x 175= 340 ml

Correct for 24 hours, rate of fluid-340/24= 15 ml/hour



EPIC SURVIVAL GUIDE

PRACTICAL TIPS TO HELP YOU CHART SMARTER NOT HARDER



Chapter 1: Search

Activities

Patient Lists - Toolbar

Search functionality in Epic is incredibly powerful. Not only can you search things like diagnoses, imaging, or results, but you can also follow trends, do math, and open tools right from the search box.

Note: when you are using search to do anything other than search the patient's chart (ie trend labs, navigate to a tool, do math), don't hit enter! Your results will appear in the search bar drop down. To navigate, click the tool to open it.

Here's some search ideas to get you started:

□ Try experimenting with using search to trend labs or vitals, for example trend BP, trend weight, or trend a1c.
 □ Search for a class of meds, for example GLP or ACE inhibitor
 □ Use search to do math for you. For example, type 28x3 to figure out a 3 month supply of birth control pills.
 □ Calculation = 84
 □ Use search to navigate to a tool, for example navigate to patient lists
 □ Patient lists

Keyboard Shortcut for Search:



If you find yourself spending time mousing around to get to the search bar, try this handy keyboard shortcut. Press ctrl and spacebar together to get to the search bar from anywhere, no mouse clicks needed. You can remember this because you are trying to **Control** your work**Space**.

Chapter 2: User Dictionaries

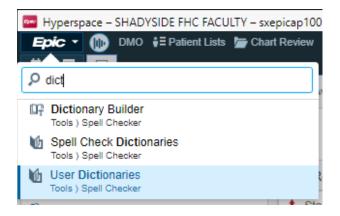
This just might be one of my favorite Epic tips. I'm not sure if it's because of my passion for efficiency (the fewer keystrokes the better!) or if it's because I learned to text on phones that looked like this:



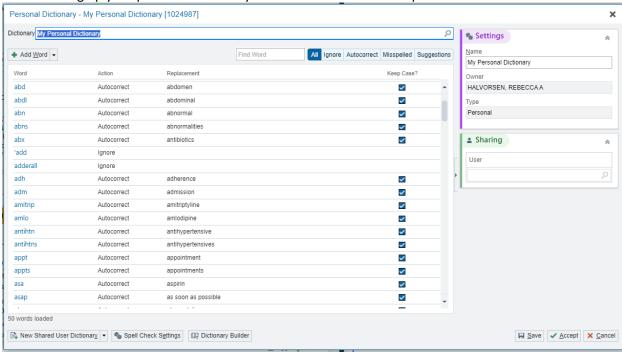
Whatever the reason, I love User Dictionaries because it allows me to type something like this: "P/w c/o UTI d/t 3 days of dysuria and urgency. No f/c/n/v. Prev hx of UTI in June, responded well to abx. No hx of pyelo. No chr conditions. No current meds." and still have my note looks like this:

"Presents with concern of UTI due to 3 days of dysuria and urgency. No fevers, chills, nausea, vomiting. Previous history of UTI in June, responded well to antibiotics. No history of pyelonephritis. No chronic conditions. No current medications."

Search to open the User Dictionaries Tool. (You can also navigate there by right-clicking in almost any text field – ie note, patient instructions, wherever you might be typing - and clicking Dictionaries.)



This will bring up your personal dictionary. Click 'Add Word' on the top left to add a word.



99% of the time I use the autocorrect action type when I'm building my dictionary. This allows you to designate words that you want to automatically be replaced with something else. I use this for common abbreviations (things like f/u, w/o, appt, WNL) but also for my personal shorthand (chr = chronic, atorva = atorvastatin, ep/o = episode of). Once you've added a word(s) to your dictionary, make sure to click accept.



To 'Keep Case' or not to 'Keep Case' – that is the question.

Keep Case means that the replaced word will follow the same patterns as the typed word's capitalization - htn will expand to hypertension whereas Htn will expand to Hypertension and HTN will expand to HYPERTENSION. Usually, I keep this checked.

User Beware:

One of the most important things to remember is that if you set a word to autocorrect in your dictionary, it will autocorrect EVERY TIME. This means that if sometimes you want ROM to mean range of motion and sometimes you want it to mean rupture of membranes, you shouldn't add it to a dictionary. Or else your MSK exam is going to say L knee with normal rupture of membranes. (Do I know this from experience or did I just come up with that weirdly specific example off the top of my head....). Same thing with levo for levothyroxine or levofloxacin.

What are the other action options?

Adding a word to **Ignore** means that it will never be marked as misspelled. You might want to use this for someone's name (maybe a colleague's name that you type frequently) or the word pescatarian which Epic seems to think is misspelled.

Adding a word to **Misspelled** means that it will always be flagged as misspelled. I honestly cannot think of a time I'd want this. If you think of one, let me know.

Adding a word to **Suggest** means that it will be flagged as misspelled, but the replacement word will be one of the spell check suggestions. I haven't used this feature personally.

How is this different from a SmartPhrase?

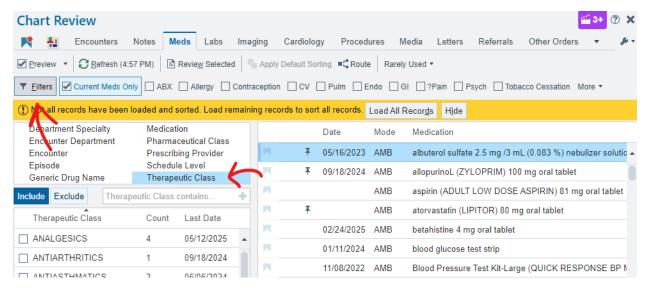
Dictionaries can be used to correct/expand words or shorthand WITHOUT having to type a 'dot'. It's perfect for short pieces of text. Use SmartPhrases for longer things that you want to be able to pull in as needed.

Chapter 3: Custom Filters

Ever open a patient's med list and start feeling immediately overwhelmed? It can be really challenging to process all of someone's meds or figure out what they are one for a specific problem when you are looking at a list of 35 different medications plus insulin needles, test strips, incontinence supplies, etc... Creating filters can make it quick and easy to narrow that down to just their diabetes medications or just their antihypertensives.

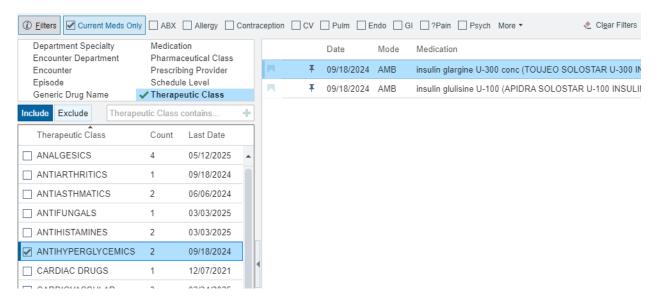
Custom Filters for Meds:

From the Meds tab in Chart Review, click Filters in the top left corner. There are lots of options for types of things to filter by – for medications I usually like to filter by therapeutic class.

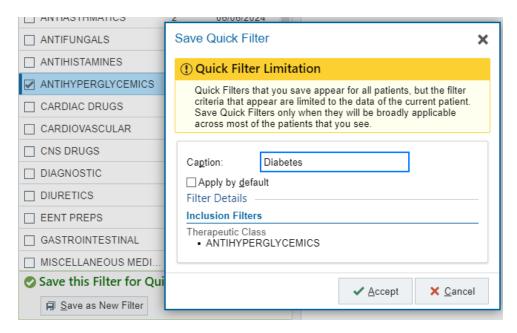


A couple important notes: Depending on your institution, the options you see under filters may be different. Additionally, within a given category ie therapeutic class, you will only see classes listed that fit a medication on your patient's list. It will behoove you to set up your custom filters on complicated patients who are taking a lot of meds but you might find that you'll need to update them along the way.

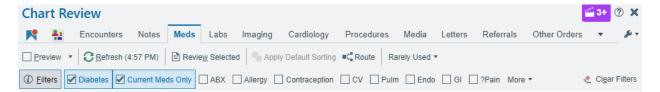
I want to look at just this patient's diabetes medications so I'm going to check the box for antihyperglycemics. This will narrow my patient's list down to just those medications. Phew, that's much easily to process and discuss.



To save this as a custom filter, click the Save as New Filter button on the bottom of the filter sidebar. Give you filter a name and click accept.



Your new filter will now show up in the quick filter toolbar at the top of your Med tab. You can easily check/uncheck these boxes to filter/unfilter the list. If you want to rearrange the filters, click the wrench in the top right corner and click Manage Quick Filters then use the arrows to rearrange or the delete button to delete filters.



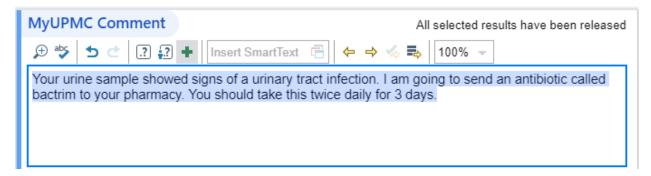
You can also edit which classes are in you quick filters. Let's say I wanted to filter for both antihyperglycemics and CNS drugs which would include gabapentin for that diabetic neuropathy. If I click my diabetes quick filter checkbox and then check or uncheck boxes, there will be an option to Save current filter or save as new filter. Clicking save current filter will update that filter. This is helpful if you realize that the filter that you set up is over or under capturing what you want to look at.



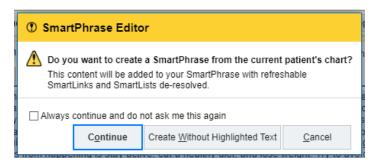
Bonus tip! You can use the same concepts shown here to filter other things such as encounters by specialty, notes by author, labs/imaging by type, etc.

Chapter 4: SmartPhrases on the Fly

You just spent a long time writing a note to Jane Doe about her and you think to yourself, "Future me would love to use this again." Guess what friends, you're in luck. Making a SmartPhrase on the fly is super quick and easy. Simply highlight the text that you want to turn into a SmartPhrase and click the green + at the top of your text input area. (You could alternatively right click, select SmartPhrases, select create SmartPhrase from selected text.)



You will get this pop up. Continue.

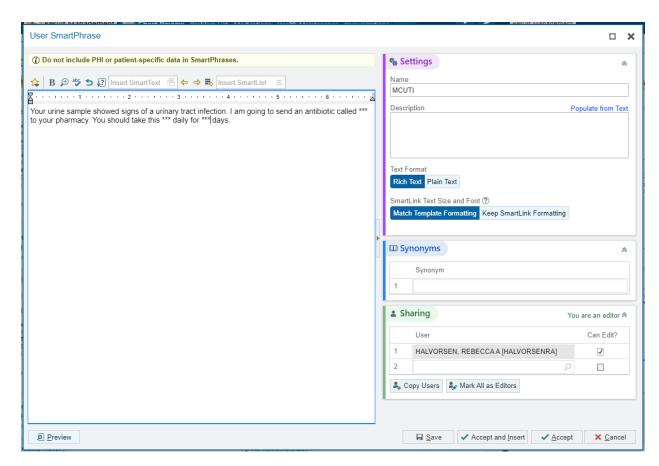


The user SmartPhrase editor will pop up.

Read through your text and make sure that it's broadly applicable. In this case, I may want to use this phrase but recommend different antibiotics or duration so I will use a *** wildcard so I can fill in the blanks.

Give your SmartPhrase a name.

Click Accept. Voila! New beautiful SmartPhrase is ready to use!



You may want to use SmartLinks in your SmartPhrases to autofill patient specific information such as name, pronowns, date of birth, etc. Here's a few commonly used SmartLinks to get you started:

SmartLink	Expands to
.HE	he or she
.HIM	him or her
.CAPHE	He or She
.NAME	First M Lastname
.LNAME	Lastname
.DOB	Date of birth in m/dd/yyyy format
.AGE	patient's age
.M	Mr. or Ms.

Chapter 5: Naming Conventions

When you are building your own SmartPhrases, it's important to have some sort of naming convention / internal consistency so that you can find your phrases when it's time to use them. There are not predefined rules for what this naming convention should be; it just needs to make sense to you. This table represents **my** naming convention. You can use something similar or your own.

Name	Description
.EXAM	Goes in an exam section. For example, .EXAMSEBDERM is a description of classic seborrheic dermatitis.
.HPI	Goes in the HPI section. For example, .HPIINCONTINENCE is a phrase that I use when talking with patients about urinary incontinence.
.LETTER	Goes into a letter.
.MC	Stands for MyChart. These are my patient facing SmartPhrases. I use them in the patient instructions in my AVS, in my results management to communicate results to patients, as responses to mychart messages, etc.
.PA	Used to document clinical justification for things that will need a prior authorization. I tend to use these phrases to remind myself what the requirements are, for example PACGM includes the CMS requirements for a CGM.
.PLAN	Goes in the plan section. For example, .PLANDIABETES or .PLANCOPDEXACERBATION
.ROS	ROS for a specific problem. For example, mania or hyperglycemia.

Should I include my initials when naming a SmartPhrase?

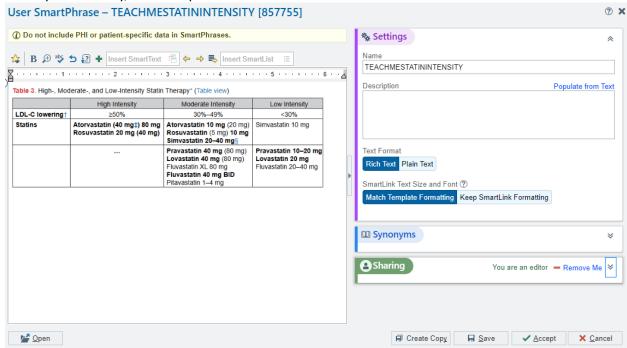
I don't recommend including your initials. User-created SmartPhrases are user specific (unless intentionally shared with specific users) which means that you don't need to differentiate your plan for hypertension from someone else's. Adding your initials just adds 2-3 extra characters to type when you are calling in the SmartPhrase. Additionally, if you make a really awesome SmartPhrase that a colleague wants to use too, they have to remember who they got it from / what initials they used.

Chapter 6: .TEACHME

There are some things that I have to look up almost every time I use them. Things like statin intensities, PPD interpretation, hepatitis serologies, hyperparathyroidism (when do I expect high vs low phos?), options for LABA vs LABA/LAMA/etc... for COPD, our specific clinic protocol for XYZ, etc... I could search dynamed/uptodate/CDC/point of care resource of your choice OR I could look it up once and then harness the power of SmartPhrases to have these at my fingertips in the future without having to leave Epic.

In Epic, open My SmartPhrases . I have this pinned on my top toolbar for easy access.

Click New User SmartPhrase. Add your reference text or image (in this case I just pasted in a screenshot of that nice table). Give your SmartPhrase a name. I use the naming convention .TEACHME____ for these. When you are ready, click Accept.

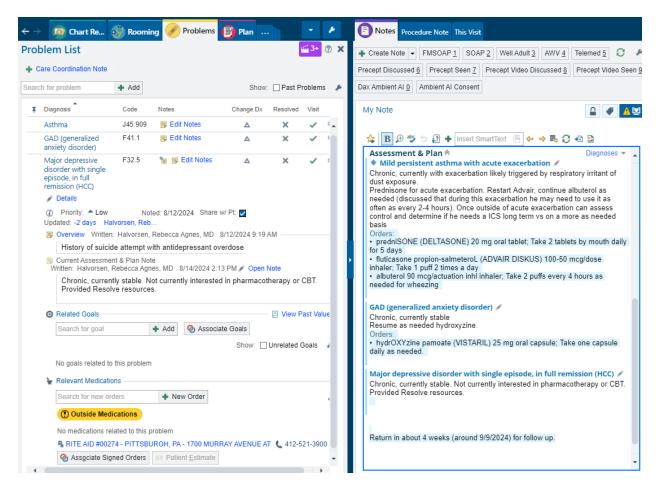


In the future, when I want to reference this, I can simply type .TEACHSTATININTENSITY and pull this into a note for reference (I then ctrl + Z to undo or delete it before I sign my note).

Chapter 7: Diagnosis Aware Charting

Diagnosis Aware Charting is a relatively new feature in Epic that allows you to write an assessment and plan for a diagnosis in a progress note and automatically save the text as an A&P note to the associated problem in the patient's problem list.

To use this feature, you will pull in your visit diagnoses in your A/P section using the Smartlink .DIAGPOC or .DIAGPOCORD (.DIAGPOC just includes visit diagnoses and .DIAGPOCORD includes diagnoses and associated orders). Unlike most of the SmartLinks for pulling in diagnoses, this one allows you to type within it and it remains refreshable and editable (in fact, it automatically updates as you add visit diagnosis or orders).

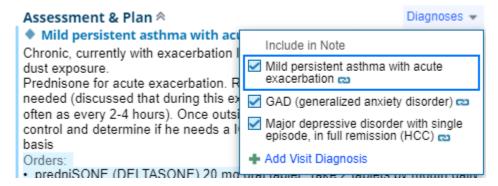


Take a look at this example (above) from one of my visits. This patient came in for an asthma exacerbation and we also addressed his mood. In the note, everything in blue/blue highlights was pulled in using the **.DIAGPOCORD** SmartLink whereas everything in black was written by yours truly. This whole section remains interactable. If I add additional visit diagnoses or orders, they would pull right in, no refresh button needed. If I rearrange visit diagnosis order, my assessment and plan section would update to match.

The really cool thing happens when you save your note. For any visit diagnoses that are also on the problem list, the assessment and plan will automatically sync to the problem list. In the example below, I'm looking at the problem list entry for depression. As you can see, my assessment and plan was automatically saved to my problem list. Now when I am doing chart review in the future, I can easily see A&P notes right from the problem list. (I also have an overview for this problem – use the overview note for big picture contextual things for problems, for example hx of suicide attempt for MDD, imaging report for Lung Nodule, etc...)

Using this SmartLink, I can also add, remove, rearrange, or hide visit diagnoses right from my note.

Adding Visit Diagnoses: Click the down arrow next to diagnoses then + Add Visit Diagnosis.



Removing/Hiding Diagnoses:

Changed your mind or added a dx erroneously? Click the pencil icon next to the diagnosis name and delete visit diagnosis (this will remove it from your note and from the visit diagnosis list) or remove from note (this will remove it from your note but keep it as a visit diagnosis).



Rearranging Diagnoses:

You can drag and drop diagnoses in your note to rearrange. Decided MDD is more important than GAD in this visit and should go first? Simply click and drag the diagnosis where you want it within the A&P section and your documentation and associated orders will move with it. (When your cursor is over the name of the diagnosis it will turn into a little hand icon indicating that you can grab to rearrange.)

Chapter 8: Remind Me

"Mr. SquarePants your labs show that your thyroid medicine dose is a little too low. I would like to increase your dose and then recheck your labs in about 6 weeks. Can you go into the lab to have those drawn sometime late next month?" "Aye aye captain!"



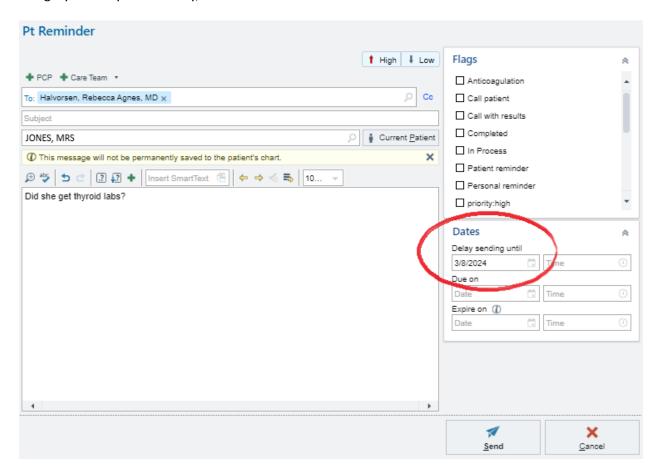
Hmmm.... What ever happened to that patient and her thyroid? What was his name again? Mr. Startie?

Does this sound familiar? Let's learn how to use the **Remind Me** feature in Epic to set reminders of work to be done in the future to help with situations like this. In Epic, find the Remind Me tool and click to navigate to the Patient Reminder workspace. By default, this will be on your top toolbar, but if you have customized your toolbar you may need to search for it.

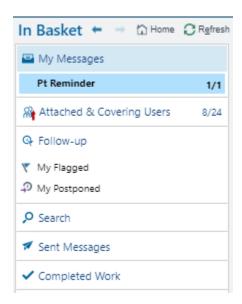


The Patient Reminder workspace allows you to type a message to yourself (technically you can also send it to someone else but that's outside the scope of this example). This can be about a specific patient or a general reminder. You can choose to have it show up right away or delay sending.

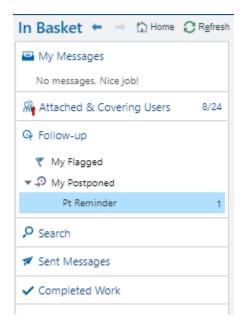
If you are creating a reminder about a specific patient, you can select your patient in the patient box. Type your reminder to yourself in the main text box. Under dates, you can choose when you want this reminder to show up in your inbox. If you want, you can add a flag which you can think of as a reminder category. When you are ready, click Send.



On the date you chose, your reminder will show up in your in basket under the Pt Reminder folder. From there, you can link to the patient's chart, start a telephone encounter, etc...



If you want to see reminders that you've created that have not yet landed in your inbox, you can always find them in the follow up section of your inbox under Pt Reminder.



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