



Health Screening for Non-Malignant Diseases

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Disclosures

- None

Objectives

1. Become familiar with how to find and evaluate screening recommendations.
2. Become familiar with the commonly recommended screenings for children and adolescents.
3. Review the recommended screenings for adults.
4. Discuss the technical aspects of screenings including billing and practical tools for physicians.

Common Abbreviations

- **USPSTF: United States Preventative Services Task Force**
- **AAP: American Academy of Pediatrics**
- **CDC: Centers for Disease Control**
- AACE: American Academy of Clinical Endocrinologists
- AAFP: American Academy of Family Physicians
- ACP: American College of Physicians
- ACC: American College of Cardiologists
- ACOG: American College of Obstetricians and Gynecologists
- ADA: American Diabetes Association
- AHA: American Heart Associations

USPSTF Grade

Grade	Definition	Suggestions for Practice
A	The USPSTF recommends the service. There is high certainty that the net benefit is substantial.	Offer or provide this service.
B	The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial.	Offer or provide this service.
C	The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small.	Offer or provide this service for selected patients depending on individual circumstances.
D	The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.	Discourage the use of this service.
I Statement	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined.	Read the clinical considerations section of USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms.



Pediatric Screenings

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Professional Organizations

American Academy
of Pediatrics



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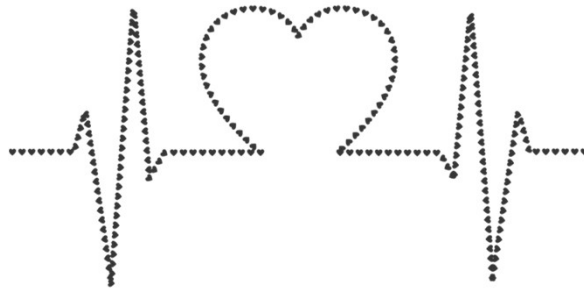
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Newborn - Hearing



Newborn – Critical Congenital Heart Disease (CCHD)



Newborn - Newborn Screening (NBS)



Newborn Screen (NBS)



- State specific
- Often done in the hospital before discharge
- Recommended for ALL babies, even home births

Newborn - Bilirubin



- All newborns
- Visually: Every 12 hours from birth until discharge
- TcB or TsB at 24-48 hours or before discharge



Preventative visit screening

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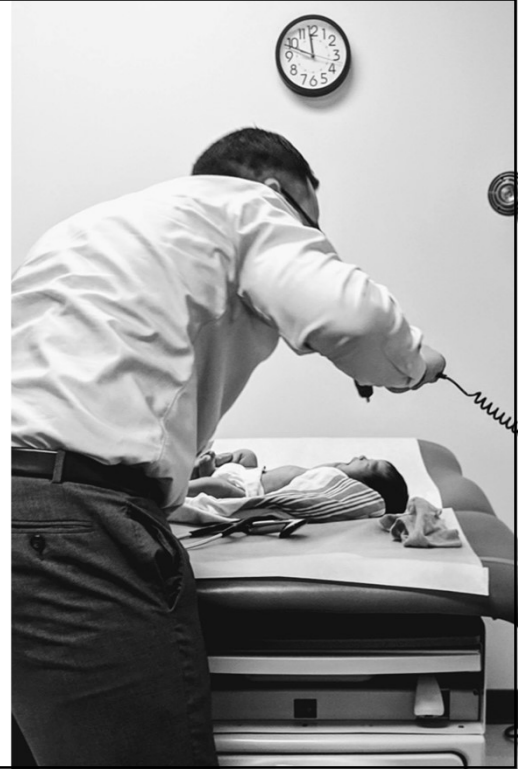
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Periodicity Schedule:

<https://publications.aap.org/pediatriccare/pages/periodicity-schedule>

* I'll discuss minimum age but catch-up can be done at any age

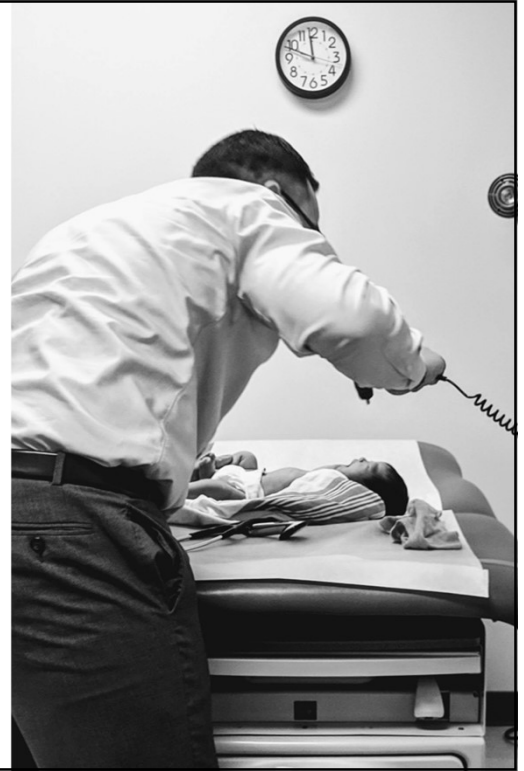


Preventative visit screening

Infancy	Early Childhood	Middle Childhood	Adolescence	
Prenatal	12 months	5 years	11 years	17 years
Newborn	15 months	6 years	12 years	18 years
3-5 days	18 months	7 years	13 years	19 years
1 month	24 months	8 years	14 years	20 years
2 months	30 months	9 years	15 years	21 years
4 months	3 years	10 years	16 years	
6 months	4 years			
9 months				

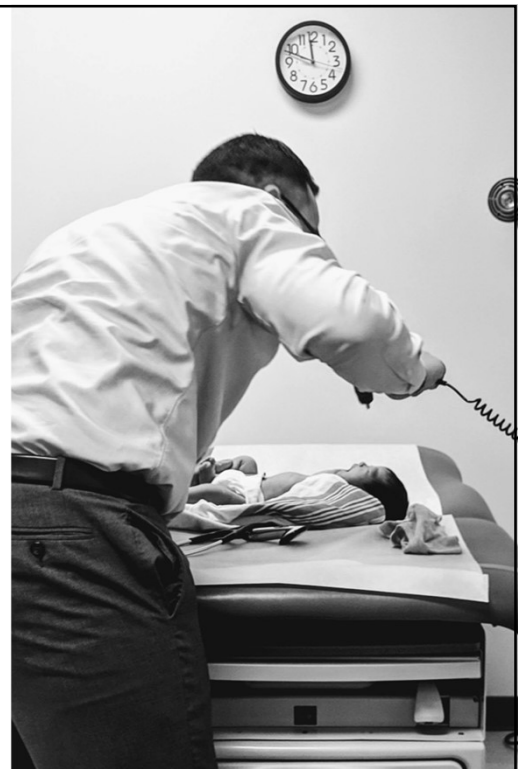
Preventative Visits

1. Measurements
2. Sensory Screening
3. Developmental/Psychosocial
4. Examination
5. Lab screenings
6. Oral Health



Preventative Visits

- 1. Measurements**
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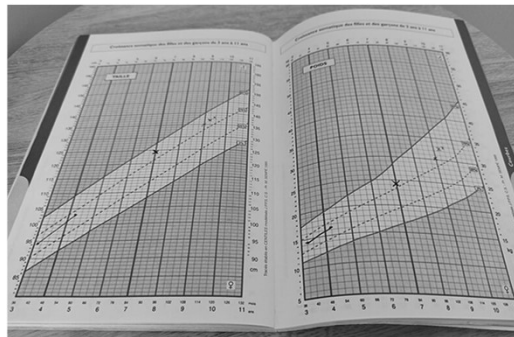


Measurements



- Weight
- Length (0-2) or Height (≥ 2 yr)
- Head Circumference (0-2)
- Weight for length (0-2) or Body mass index (≥ 2 yr)
- Growth charts
 - WHO (0-2)
 - CDC (≥ 2 yr)
- Blood pressure (≥ 3 yr)

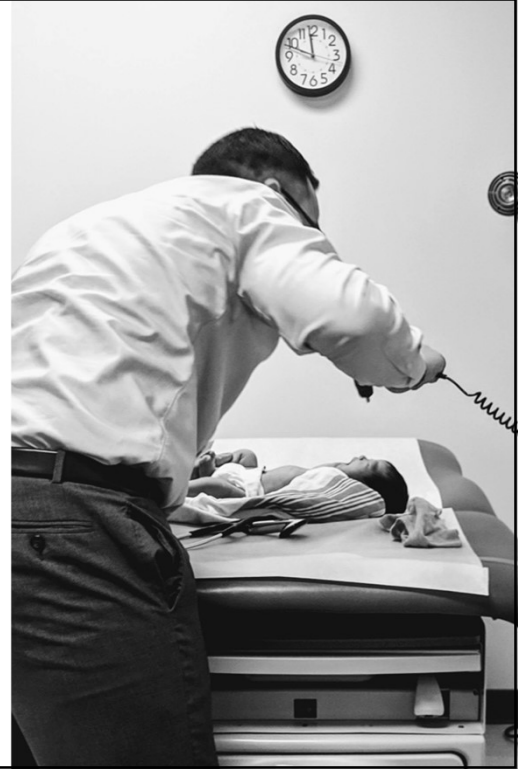
Measurements



Age	Weight	Length/ Height	Head Circ	WFL/ BMI	Growth Chart	Blood pressure
0-2 years	+	Length	+	WFL	WHO	
2-3 years	+	Height		BMI	CDC	
≥ 3 years	+	Height		BMI	CDC	+

Preventative Visits

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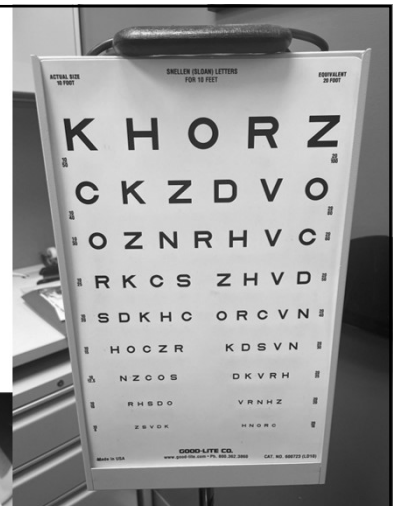


Sensory Screening: Vision

- Yearly from 3 – 6 years
- Every other 8 – 15 years

USPSTF – grade B

“vision screening at least once in all children aged 3 to 5 years to detect amblyopia or its risk factors.”



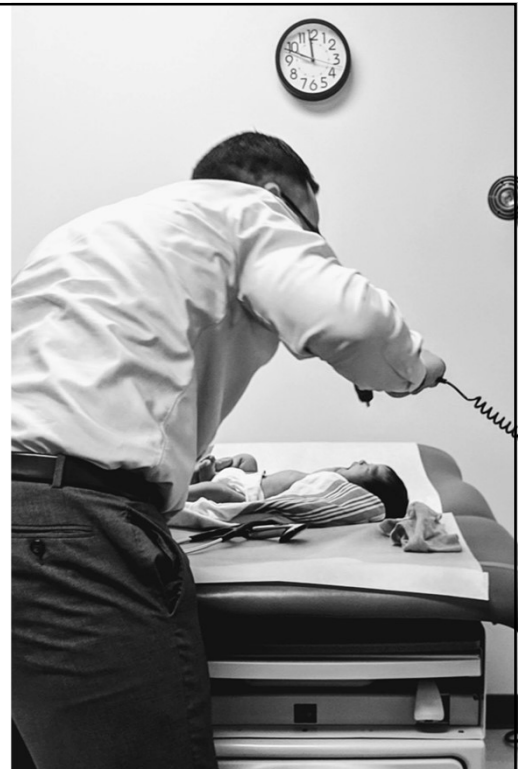
Sensory Screening: Hearing



- Yearly from 4-6 years
- 8 year & 10 year
- Once between 11-14
- Once between 15-17
- Once between 18-21

Preventative Visits

1. Measurements
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- 3. Developmental/Psychosocial**
4. Examination
5. Lab screenings
6. Oral Health



Developmental & Psychosocial

Development

- Surveillance at every visit
- 9, 18, 30 months

Autism

- 18 & 24 months



Developmental & Psychosocial

Age	Screen (96110)
9 month	Development
18 month	Development & Autism
24 month	Autism
30 month	Development



Developmental & Psychosocial



Postpartum depression screening

1mo, 2mo, 4mo, 6mo

96161 – Caregiver risk assessment

Depression & Suicide risk:

12-18 years (USPSTF, grade B)

96127 – Brief behavioral assessment

Developmental & Psychosocial

Anxiety screening: 8-18 years (USPSTF, grade B)

Behavioral/Social/Emotional Screening at every visit



Developmental & Psychosocial

Substance Use – beginning adolescence

- Alcohol, Drugs, Tobacco
- Grade B to counsel school-aged kids to prevent tobacco use

Abuse – “The USPSTF recommends that clinicians screen for intimate partner violence (IPV) in women of reproductive age and provide or refer women who screen positive to ongoing support services. (Grade B)”

Developmental & Psychosocial

HEADSS

H- Home

E- Education

A- Activities

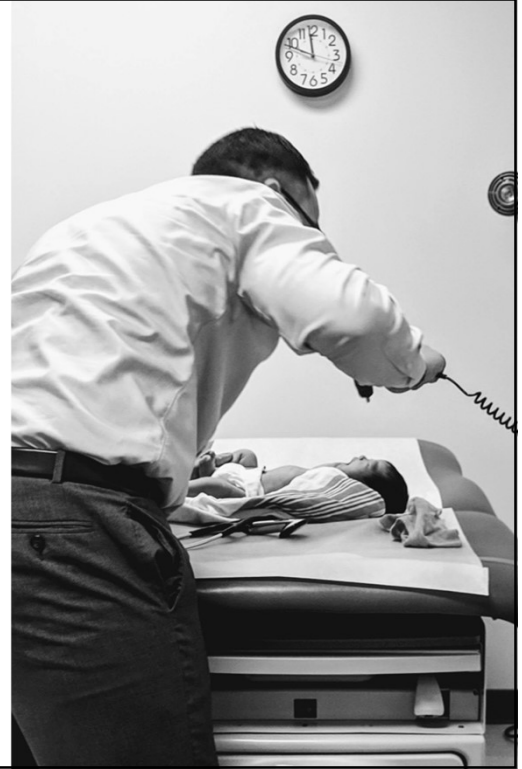
D- Drugs

S- Sex

S- Suicide

Preventative Visits

1. Measurements
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6. Oral Health



Physical Examination

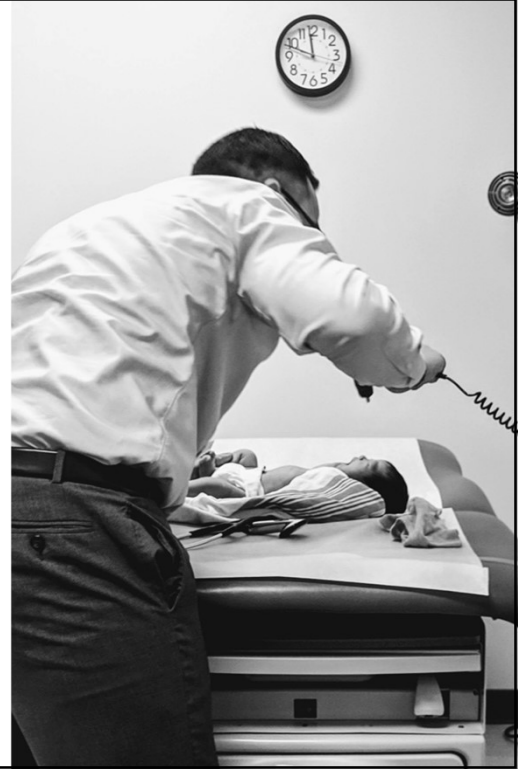
Infants – unclothed

Older children – undressed/draped

Chaperones – offered for genital or anorectal areas or female breast exams

Preventative Visits

1. Measurements
2. Sensory Screening
3. Developmental/Psychosocial
4. Examination
5. **Lab screenings**
6. Oral Health



Laboratory Screenings

1. Lead at 12 & 24 months
(AAP & CDC, USPSTF deferred)
1. Anemia – 12 months

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MR# or DOB _____

Collection Date _____ Collection Time _____

Initials of Collector _____



Laboratory Screenings

Lipid disorders

1. Once 9-11
2. Once 17-21



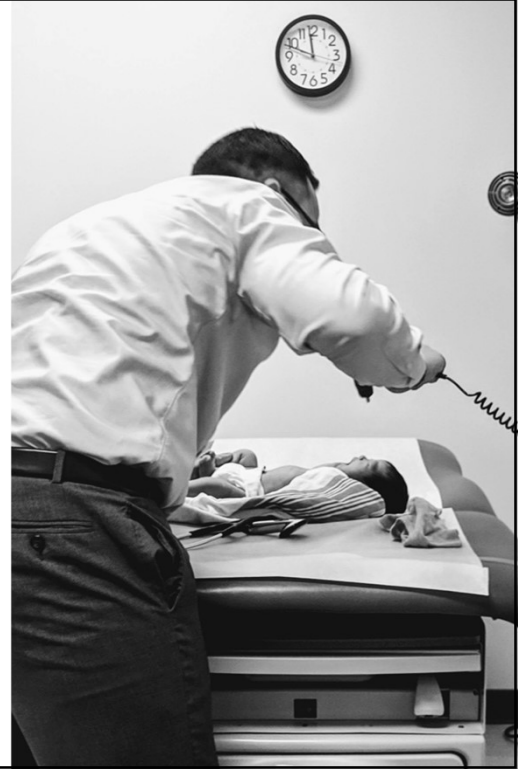
Laboratory Screenings

- Syphilis – asymptomatic at risk (grade A)
- Chlamydia & Gonorrhea
 - sexually active women 24yo or younger (grade B)
 - Sexually active women 25yo+ at risk (grade B)
- Hep B – at increased risk (grade B)
- HIV – pregnant, 15-65 yrs, younger adolescents at risk (grade A)



Preventative Visits

1. Measurements
2. Sensory Screening
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6. **Oral Health**



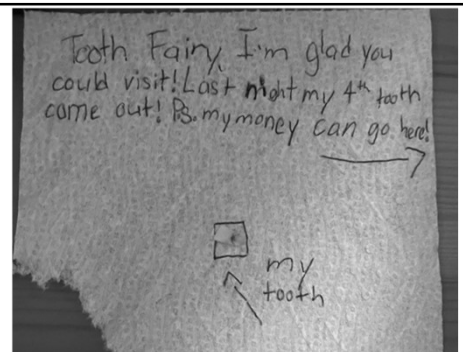
Oral Health

“Prevention of Dental Caries in Children Younger than 5 Years”

USPSTF final recommendations Dec 7, 2021

Recommendation Summary

Population	Recommendation	Grade
Children younger than 5 years	The USPSTF recommends that primary care clinicians prescribe oral fluoride supplementation starting at age 6 months for children whose water supply is deficient in fluoride.	B
Children younger than 5 years	The USPSTF recommends that primary care clinicians apply fluoride varnish to the primary teeth of all infants and children starting at the age of primary tooth eruption.	B
Children younger than 5 years	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of routine screening examinations for dental caries performed by primary care clinicians in children younger than 5 years.	I



What NOT to screen

- Cervical cancer under 21 years
- Testicular cancer
- Genital Herpes
- Asymptomatic Bacteriuria



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Harrison Adults Screenings for Non-Malignant Disease

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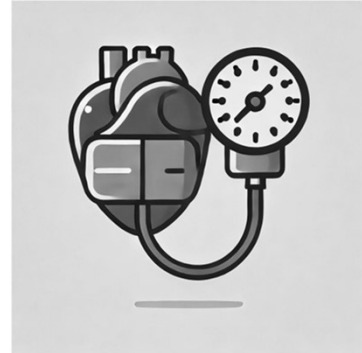
Outline

- Screenings with vital signs
- Screenings with social history
- Screening with sexual history
- Screenings with labwork and imaging
- Additional considerations



Blood Pressure Screening

- Who: All adults 18 years and older
- How: Office Based Pressure Measurement (Manual or Automated)
- When:
 - Yearly (most people)
 - Every 3 years (ages 18-39 with no risk factors)
- Source: USPSTF level A
- Note: Confirm diagnosis with multiple measurements



Obesity Screening and Weight Loss Counseling



- Who: All adults
- How: Body mass calculation based on height and weight.
 - Obesity defined as BMI ≥ 30
- When:
 - BMI measurement at least annually
- Intervention:
 - Counseling and behavioral interventions
 - Goal weight loss of $>5\%$.
- Source: USPSTF level B



Tobacco Use Screening and Cessation

- Who: all adults
- How: ask patient (as a vital sign, NCCN 3-question)
- When: at initial visit and periodically
- Source: USPSTF A. Also recommended by AAFP, ACP, and ACOG
- Intervention:
 - All patients: behavioral interventions and pharmacotherapy
 - Men 65+: one time US screening for Abdominal Aortic Aneurysm (USPSTF level B)



Alcohol Use Screening



- Who: all adults
- How: 1-3 item screening instruments (AUDIT-C, SASQ)
- When: Establishment visit, subsequent intervals not defined
- Source: USPSTF level B
- Intervention: Counseling and pharmacotherapy

Unhealthy Drug Use

- Who: all adults
- How: Physician inquiry, NIDA, ASSIST
- When: Establishment visit, subsequent intervals not defined
- Source: USPSTF level B
- Interventions (must be available):
 - Behavioral intervention, counseling options
 - Pharmacotherapy



Depression and Anxiety Screening

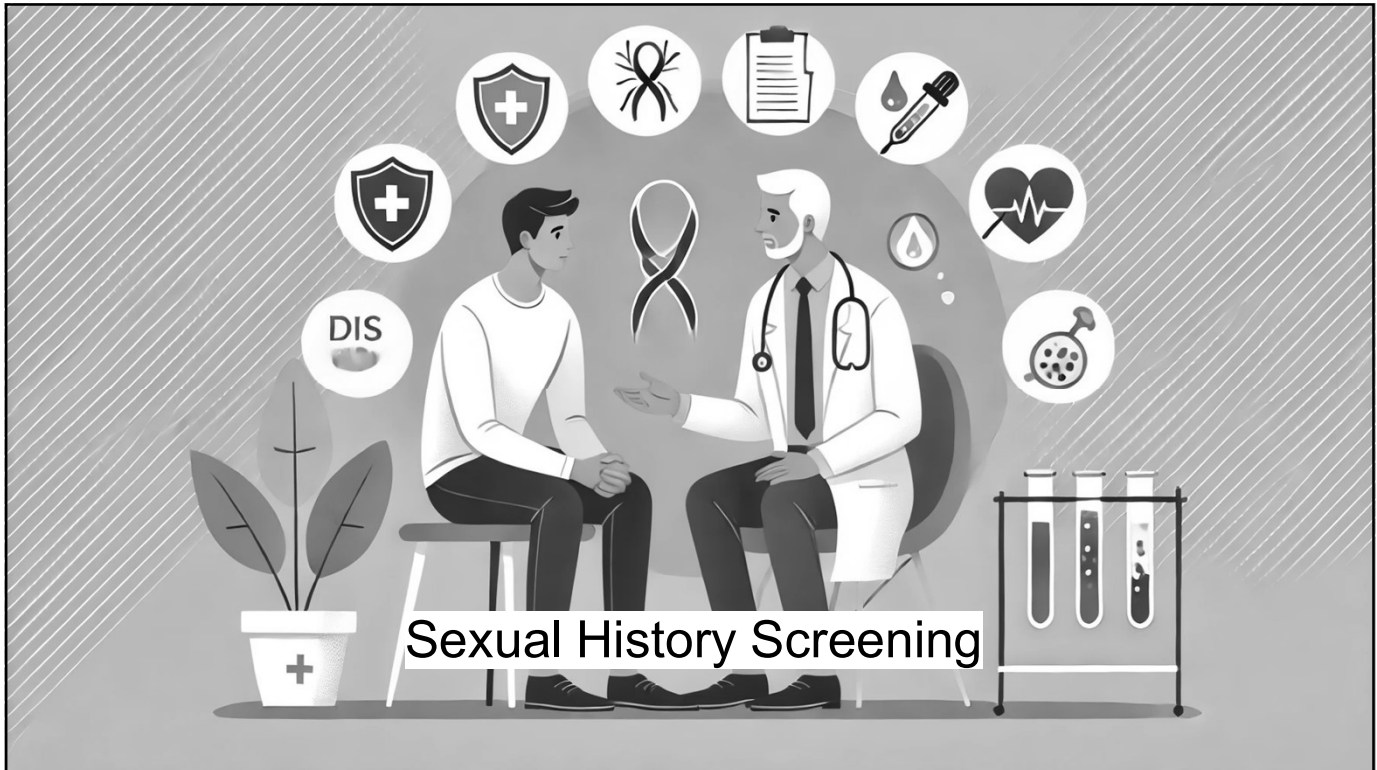


- Who: all adults
- How: Screening tools such as PHQ-2 or PHQ-9, GAD-7
- When: Establishment visit, subsequently by clinical judgement
- Source: USPSTF level B
- Intervention:
 - Psychotherapy
 - Pharmacotherapy

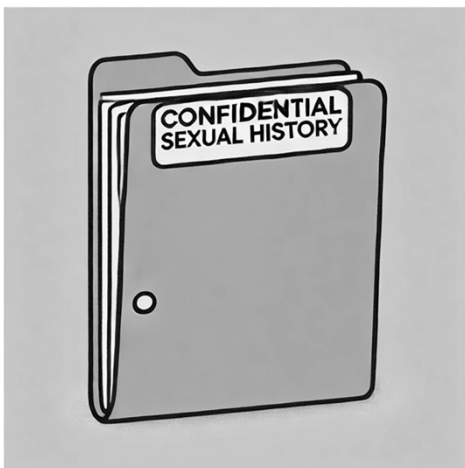
Intimate Partner Violence

- Who: All women of reproductive age
- How: Physician inquiry. Screening tools include HITS, PVS, and WAST
- When: Establishment visit and by clinical judgement
- Source: USPSTF level B
- Intervention (must be available):
 - Referral to support services that offered counseling , home visits and social services that address multiple risk factors
 - Brief interventions and information provision generally not effective





Screening for Increased Risk of Sexually Transmitted Infections



- Who: All patients
- When: Establishment visit and Periodically
- How: Five Ps approach, SRS, SRBI
- Interventions: all persons at increased risk
 - Counseling on risk and prevention

HIV Screening

- Who: all adults
- How: immunoassay HIV-1/HIV2 antibodies & HIV-1p24 antigen
- When:
 - All adults: One time screening (USPSTF level A)
 - With increased risk: yearly or more frequently
- Important Considerations:
 - Confirmatory testing availability
 - Treatment/referral availability
 - Pre-exposure prophylaxis



Syphilis Screening



- Who: all adults at increased risk (USPSTF level A)
- When: Initial visit and periodic
- How: two-step with treponemal antibody test and non-treponemal test
- Consideration: doxycycline prophylaxis

Gonorrhea and Chlamydia Screening

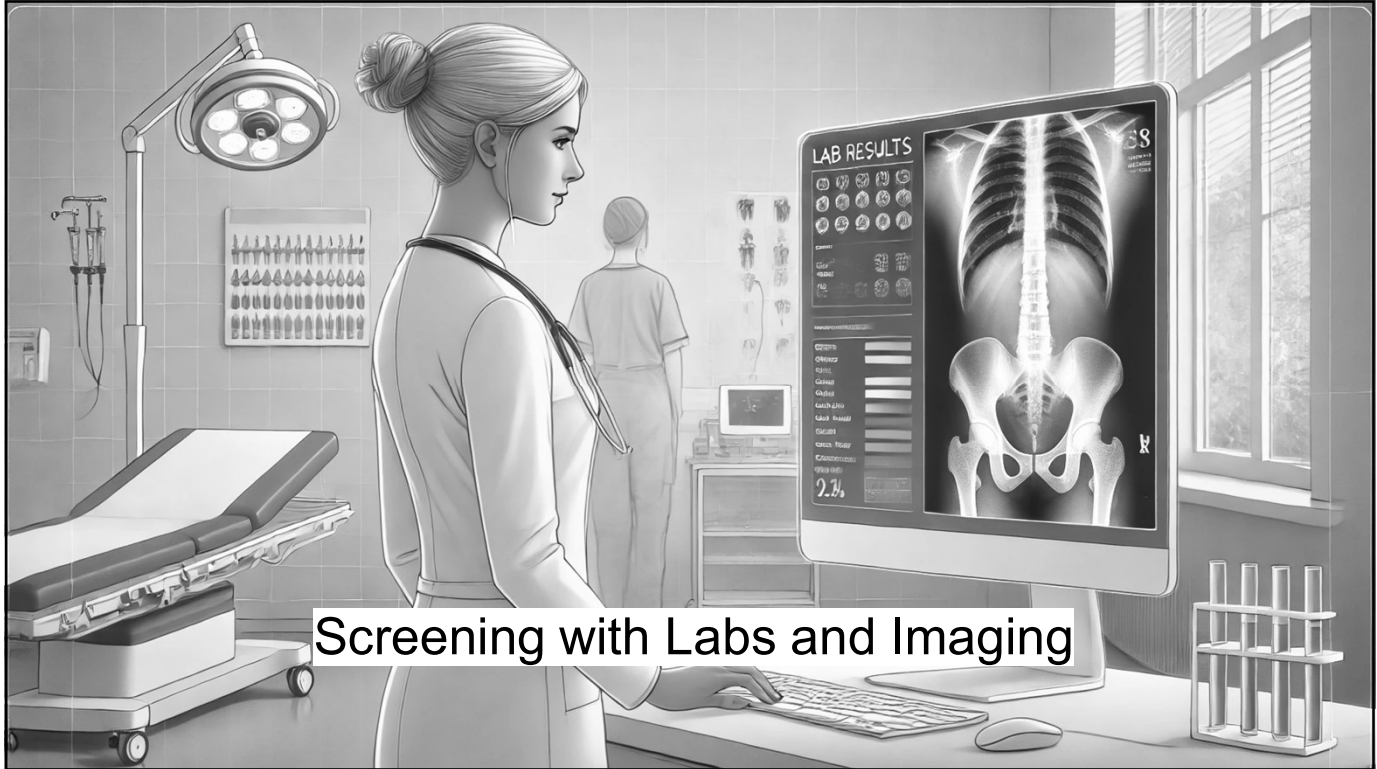
- Who and when:
 - Women age 18 -24, with any sexual activity - Yearly (USPSTF level B)
 - Women age 25+, with increased risk – Initial and periodic (USPSTF level B)
 - Men at increased risk - Initial and periodic (USPSTF level I but CDC recommended)
- How: Nucleic amplification test
 - Vaginal fluid preferable to urine in women
 - Other sites if indicated by sexual history



Hepatitis B Screening



- Who:
 - Adults at increased risk (USPSTF level B)
 - All adults (CDC)
- When: Initial visit and periodically
- How: Hepatitis B surface antigen, surface antibody, and core antibody (CDC)
- Intervention:
 - Confirmatory testing for positive results
 - Vaccination for non-immune patients
 - Consider vaccination confirmatory test in high risk groups



Hepatitis C

- Who: all adults
- How: Anti-HCV antibody test
- When: one time all adults age 18-79
- Source: USPSTF level B
- Confirmatory testing with HCV RNA PCR



Lipid Screening



- Who: All adults 20 and older
- How: Fasting lipid panel
- Interval: at minimum
 - Age 20-39: at least every 4-6 years
 - Age 40+: initial and rescreening every 1-2 years
- Intervention:
 - Statin therapy for all adults age 40+ at elevated risk (USPSTF level B)
- Source: AHA, NIH, USPSTF

Diabetes Screening

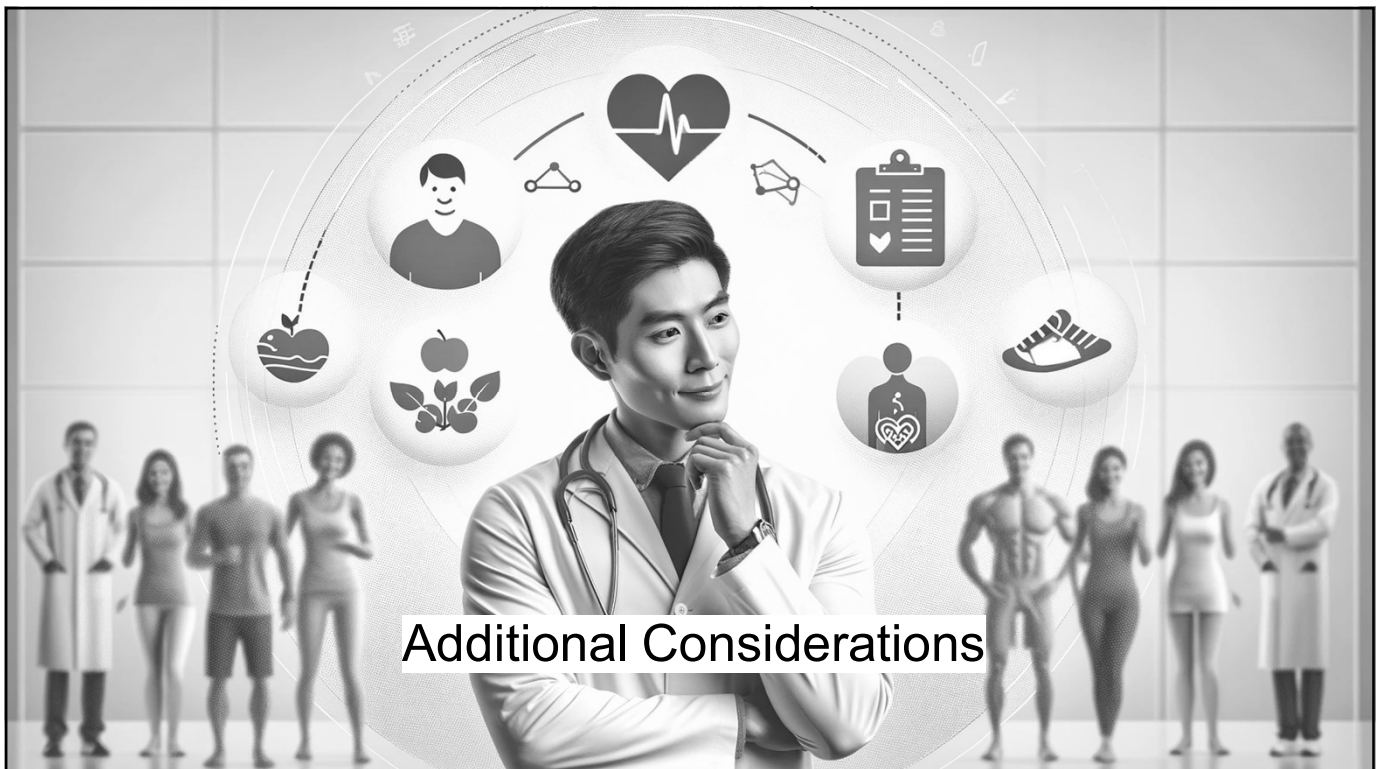
- Who: At minimum
 - USPSTF: All adults age 35 to 70 with BMI \geq 25
 - ADA/AACE: all adults at age 45 or at any age with risk factors
- How:
 - fasting plasma glucose >126
 - HgbA1c >6.5
 - 2 hour post glucose load level > 200
- When: at minimum ever 3 years
- Source: USPSTF level B, ADA, AACE
- Repeat/confirmatory testing



Osteoporosis Screening



- Who: postmenopausal women
- How: central dual-energy x-ray absorptiometry (DXA) of hip and lumbar spine
- When:
 - Post-menopause to age 65: if risk factors
 - Age 65: all women
- Intervention:
 - Dietary and Exercise counseling
 - Pharmacotherapy consideration
- Source: USPSTF level B



Pregnancy

- Altered Screenings
 - Depression and anxiety screening x 3 (ACOG)
 - STI screenings (CDC)
 - All: STIs at first prenatal visit
 - High risk: third trimester HIV & Syphilis
 - Diabetes screening at 24-28 weeks with Oral glucose challenge (USPSTF level B)
- Reinforced screenings: Blood pressure, obesity, tobacco/alcohol/drug use, intimate partner violence
- Deferred screening: lipids, osteoporosis



Screening that are not recommended



- USPSTF Level D – recommended against
 - EKG screening
 - HSV serologic testing
 - Carotid Stenosis screening
- USPSTF Level I – insufficient evidence to recommend for or against
 - Urinalysis (with exception: pregnancy level B)
 - Thyroid
 - Celiac Disease
 - Vitamin D
 - Glaucoma Screening
 - Hearing Loss
 - Peripheral Arterial Disease Screening

How do you keep track?

Immunization and Screening Schedule at OSUP Internal Medicine and Pediatrics

As recommended by CDC, American Academy of Pediatrics and ACIP

2 months	Rotavirus (Rotarix)	Pneumococcal (Prenar 20)	DTaP/Polio/HepB/Hib (Vaxelis)
		Maternal Depression Screening	
4 months	Rotavirus (Rotarix)	Pneumococcal (Prenar 20)	DTaP/Polio/HepB/Hib (Vaxelis)
		Maternal Depression Screening	
6 months	Pneumococcal (Prenar 20)	DTaP/Polio/HepB/Hib (Vaxelis)	Maternal Depression Screening
9 months	Developmental Screening		
12 month	Hep A (Havrix)	M.M.R. (Priorix)	Varicella (Varivax)
	Developmental Screening	Hemoglobin and Lead Screening	
15 months	DTaP/Polio/Hib (Pentacel)		Pneumococcal (Prenar 20)
18 months	Hep A (Havrix)	Autism Screening	
2 years	Developmental Screening	Hemoglobin and Lead Screening	
3 years	Vision Screening	Developmental Screening	
4-5 years	M.M.R./Varicella (Proquad)	DTaP/Polio (Kinrix)	Hearing and Vision Screenings
6-10 years	Hearing and Vision Screening (every other year)		Lipid Screening (9-11y.o)
	Anxiety Screening (8y +)		
11 years	Meningococcal A.C.W.Y. (Menveo)	Tdap (Boostrix)	HPV, 2 doses 6 m apart (Gardasil)
16-21 years	Meningococcal A.C.W.Y. (Menveo)	Meningococcal B, 2 doses 1 m apart (If eligible, *Optional)	Lipid Screening (once between 17-21y)
Annually	Influenza/RSV/Covid (If in season)	STI Screening (15y and up)	Mental Health Screening (8y and up)

Improve Screening Rates

Care Coordination Strategies

Scheduling for Patient



Inter-Visit Contact



Billing & Coding

CPT Codes

Service	Code	Description
Mental Health Screen	96127	Brief emotional/behavioral assessment
Postpartum Depression	96161	Caregiver risk assessment
Health risk (eg substance)	96160	Health risk assessment
Development Screen	96110	Developmental/behavioral screen
Vision screen - Optotypes	99173	Bilateral quantitative visual acuity screen
Vision screen - Instrument	99177	Instrument-based ocular screening, on-site analysis
Hearing screen	92552	Pure tone audiometry through air



CPT Codes

Modifiers	Description
25	Separate, significant service on same day
33	Preventative service
59	Multiple units



Disparities

Resources

- Newborn screening:
<https://newbornscreening.hrsa.gov/about-newborn-screening/recommended-uniform-screening-panel>
- Bright Futures/AAP Periodicity Schedule:
<https://publications.aap.org/pediatriccare/pages/periodicity-schedule>
- USPSTF:
<https://www.uspreventiveservicestaskforce.org/uspstf/>
- CDC: <https://www.cdc.gov/>

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- Screen adolescents for HIV at least once between the ages of 15 and 21, making every effort to preserve confidentiality of the adolescent, as per "Human Immunodeficiency Virus (HIV) Infection: Screening" (<https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/human-immunodeficiency-virus-hiv-infection-screening>); after initial screening, youth at increased risk of HIV infection should be retested annually or more frequently, as per "Adolescents and Young Adults: The Pediatrician's Role in HIV Testing and Pre- and Postexposure HIV Prophylaxis" (<https://doi.org/10.1542/peds.2021-055207>).
- Centers for Disease Control and Prevention. Sexually transmitted infections treatment guidelines. 2021. *MMWR Recomm Rep*. 2021;70(RR-4):1-187. Available at: www.cdc.gov/std/treatment-guidelines/default.htm