BRIEF CLINICAL UPDATE

UCLA Internal Medicine-Pediatrics Routine Health Maintenance Guidelines

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Preventive care includes behavioral counseling, screening for disease, and vaccination with the goal of protecting, promoting, and maintaining health and well-being and preventing disease, disability, and death. Preventive care is becoming increasingly complex as it varies with age groups and risk assessments. In addition, preventive care practices vary widely from provider to provider and numerous barriers exist to implementing preventive care guidelines, including knowledge, time, insurance, and social barriers.[1]

The U.S. Preventive Services Task Force is an independent voluntary panel of experts in primary care, prevention, and in evidence-based practices. With the passage of the Affordable Care Act, the USPSTF grade A and B recommendations for preventive care are now covered without cost-sharing requirements. This is helpful, as it removes the insurance barrier to preventive care. However, we must acknowledge that there are other preventive care guidelines that may vary for the USPSTF recommendations, including the Centers for disease control (CDC), the American Academy of Pediatrics (AAP), American College of Physicians (ACP), and American College of Obstetrics and Gynecologist (ACOG). The goal of this "brief clinical update" is to present a concise and comprehensive review of varying preventive care guidelines to primary care physicians who care for adults and children.

Screening

Developmental[2]:
Surveillance by history and observation at each visit.
Validated screening tools at 9, 18, and 30 months.

Screening Tool	Sensitivity	Specificity
Ages and Stages Questionnaire (ASQ)	86%	85%
Parents Evaluation of Developmental Status (PEDS)	86%	74%
Survey of Wellbeing of Young Children (SWYC)	78%	73%

Autism[2]**:** At 18 months and 24 months. MCHAT (16-30 months): Sn 85%, Sp 99%

Growth/Obesity[2]**:**
- Length/Weight at every visit
- Head circumference 0-24 months
- Weight for length until 0-18 months.
- BMI at all routine health visits starting at age 2.

Vision:
- Vision behavior and parental concerns should be addressed at all visits.
- AAP: Visual Acuity instrument screen: (ages: 3-6, 8, 10, 12, 15)[2]
- USPSTF:
  - Unclear data exists re: glaucoma and routine screening in adults, but ever 1-2 years is probably reasonable.
  - Unclear evidence of screening geriatric patients improves functional outcomes.[3]

Hearing[2]**:**
- Universal Screening: Newborn and at ages: 4-6, 8 and 10 years, once in early (11-14 yr), middle (15-17 yrs) and late (18-21 yrs) adolescence.
- Screen based on risk factors at earlier ages (language or developmental delay, family hx, ototoxic med exposure)

Dental[2,3]
- Asses for dental home at 12 and 8 months, then annually until age 6.
- BID tooth brushing with fluoride toothpaste (smear at time of teeth eruption and pea-size amount after age 3).
- Topical fluoride applications: Universal applications q3-6 months from teeth eruption to age 5
- Fluoride supplementations: Recommend if primary water source is not fluoridated 0.25 mg/day for 6-36 months age children, 0.5 mg/day > 3 to 6 years.

Hypertension:
- Peds: annually starting at age 3. Definition: > 95th%[2]
- Adults: > 18 yrs of age. Definition: $\geq$130/80[4]

Lipid Screening:

Pediatrics:

- USPSTF: insufficient evident to make recommendations.[3]
- AAP: Universal Screening: Ages 9-11 and 17-21: Non-fasting total cholesterol and HDL.[2]
- AAP: Selective screening: 2-8 yr old and 12-16 yr old with Risk Factors: FH (Parent, grandparent, aunt/uncle or sibling with MI, angina, stroke, CABG/stent/angioplasty, sudden death at < 55 years in males, < 65 years in females), Parent with dyslipidemia. Patient with DM, HTN, BMI>85% (12-16 yr) BMI> 95% (2-8 yr).[2]

Adults

- USPSTF: No recommendation for men ages 20-35 years or women >20 years with no increased risk of CHD.[3]
- USPSTF Recommends screening for all men >35 and anyone >20 with an increased risk of CHD (diabetes, tobacco use, HTN, BMI>30, personal history of CVD or FH of early CVD).[3]
- ACA/AHA: adults ages 20-70 every 4-6 yrs if free of cardiovascular disease.[4]

Anemia[2]

- Screen all infants at 12 months of age
- 9 months: consider for at-risk: exclusively breastfed for 6 months, infants of diabetic mother, low birth weight.

Lead[2]

- Universal screen at 12 & 24 months if in publicly supported programs (Medi-Cal, CHDP, Health Families, and WIC) or at age 2-6 years if never tested
- Risk assessment at 12 and 24 months: Screen with blood test if "yes" or "don't know"
  - Does your child live in, or spend a lot of time in, a place built before 1978 that has peeling or chipped paint or that has been recently remodeled?
  - Does your child live in or regularly visit building built before 1950?"
- Other indications for blood lead test include: suspected lead exposure, parental request, recent immigrant from country with high levels of environmental lead, and change in circumstance has put child at risk of lead exposure.

Diabetes

- USPSTF: Overweight or Obese Adults ages 40-74 years with either fasting glucose or A1C every 3 years[3]
- ADA: Age 45 for all patients[5]
- USPSTF/ADA: Earlier screening If BMI>25, FH of diabetes, prediabetes, personal history of gestational diabetes or PCOS, CVD, HTN, HDL<25, TG>3250, certain ethnicities (African American, Alaskan Natives, Asian Americans, Native Americans, Latino, or Pacific Islander)[3,5]
- ADA: Children/Adolescents: Screen at age 10 q 3 years (or at puberty if earlier) if BMI>85th percentile AND 2 risk factors (FH of T2DM, high-risk ethnicity, Acanthosis nigricans, HTN, PCOS, dyslipidemia, SGA, maternal h/o GDM or DM)[5]

Latent Tuberculosis Screen:

AAP: Pediatric: Risk assessment at 2 weeks, 6 months, 12 months, and then annually[2]

LA CDPH: Risk Assessment[6]:

- Birth, travel, or residence in high risk country for more than 4 consecutive weeks
- Any exposure to someone with infectious TB?
- Any current or planned immunosuppression? (HIV, organ transplant, TNF-alpha antagonist, steroid equivalent of prednisone ≥2 mg/kg/day or ≥15 mg/day for ≥2 weeks)

LA CDPH: Adult Risk Assessment[6]:

- Birth, travel or resident in a country with an elevated TB rate for over 1 month
- Immunosuppression, current or planned. (HIV, organ transplant, TNF-alpha antagonist, steroid equivalent of prednisone ≥15 mg/day for ≥1 month)
- Close contact to someone with infectious TB
- History of homelessness OR incarceration
- History of incarceration.

High risk country: Includes any country other than the United States, Canada, Australia, New Zealand, or a country in Western or northern Europe

Hepatitis A MSM and IVDU[7]

Scoliosis Screening

- AAP: Consider in girls age 10-13 and boys age 13-14[2]
- The Bright Futures guidelines 2004 recommend noting the presence of scoliosis during the physical examination of children and adolescents ≥8 years of age. Not mentioned in 2017 guidelines.
- USPSTF: Evidence is insufficient to assess the balance of benefits and harms of screening for idiopathic scoliosis in children and adolescents age 10 to 18 years[3]

Osteoporosis:

- USPSTF:
  - Women: > 65 screen with DEXA. Men: insufficient evidence
  - Screening in post-menopausal women <65 should be done if they have >9.3% 10-year frisk for osteoporotic fracture. Risk factors include: steroids, h/o fracture, current smoker, BMI<21, excessive EtOH, white race, dementia, estrogen deficiency, and menopause <45, h/o falls, inadequate physical activity.) If baseline DEXA is normal, can consider rescreening in 3-5 years.[3]
- NOF: Women >65 and men >70[8]

AAA Screening: One-time abdominal US at age 65-75 in all men who have smoked[2]

Depression Screening:

- All patients > 11 years of age via brief questionnaire (PHQ-2)[2,3]
- Maternal Depression- Screen at 1, 2, 4, 6 months post-partum[2]

Intimate Partner Violence[3]: Screen woman of child-bearing age for sexual, physical or psychological abuse. Interval not defined. Risk factors for IPV are: young age, substance abuse, marital difficulties, and economic hardships

Screening questions:

1. Are you ever afraid of your partner?
2. In the last year, has your partner hit, kicked, punched or otherwise hurt you?
3. In the last year, has your partner put you down, humiliated you or tried to control what you can do?
4. In the last year, has your partner threatened to hurt you?

Alcohol, Tobacco, Substance Abuse Screening:

- HEADSSS screening annually beginning at age 11[2]
- Universal Screening for adults >18 yrs screen for alcohol use disorder[3]
- Risky alcohol use: >14drinks/week or 4 drinks/day for men >7 drinks/week or 3 drinks/day for women

Vitamin D Deficiency: Insufficient evidence to recommend for or against screening[3]

STI Screening:

Gonorrhea and Chlamydia

- All sexually active women < 25 yrs [3,7]
- Sexually active women >25 with Risk Factors. Vaginal swab is preferred (self-collected or provider collected), urine is acceptable. Risk factors: a new sex partner in prior 60 days or since last test, >1 sex partner in 6 months, inconsistent condom use, or history of STI)[3,7]
- Incarcerated men <30[7]
- MSM—annual screening at sites of contact (urethral, rectal) (pharyngeal- only gonorrhea testing recommended)[7]
- CDC recommends retesting 3 months after treatment

***HIV*:** all sexually active patients ages 13-64 with each new sexual partner[3,7]

Syphilis: MSM, multiple sexual partners (>1 partner/6 months)[7]

Herpes:

- No universal screening recommendations.
- Consider type-specific serology in individuals presenting for STD testing and with multiple sex partners[7]
- USPSTF Recommends against screening in asymptomatic individuals.[3]

Hepatitis C[3,7]***:***

- Persons at risk, and a one-time screening for all patients born between 1945 and 1965
- At risk: one time IVDU, blood transfusion <1992, long-term hemodialysis, Hep C positive mother, intra nasal drug use and recipient of unregulated tattoo.

Hepatitis B[3,7]***:***

High-risk: MSM, injection-drug users, hemodialysis patients, household contacts of HBV-infected patients, Diabetics < 60, People born in areas of HBV prevalence of 2% or more (ALL of Asia and Africa, Middle East (except Cyprus and Israel), and Eastern Europe (except Hungary), immunosuppressive therapy, US born persons not vaccinated whose parents are from high HBV prevalence areas (>8%)

Trichomonas[7]

Consider for women receiving care in high-prevalence settings (e.g., STD clinics and correctional facilities) and for women at high risk for infection (e.g., women with multiple sex partners, exchanging sex for payment, illicit drug use, and a history of STD)

Cancer Screening

Cervical Cancer:

Organization	Age 21-29	Age>30-65
ACS/ASCCP/ASCP 2012[9]	Pap every 3 years	Co-testing (HPV/pap) pap q 5 years Pap q 3 years
USPSTF 2018[3]	Pap every 3 years	Pap q 3 years hrHPV q5 years Co-testing (HPV/pap) q 5 years
ACOG 2016[10]	Pap q 3 years Consider HPV q 3 years for ≥ 25	Co-testing (HPV/pap) q5 years Pap q 3 years Consider HPV q3 year≥ 25 years
ACP 2015[11]	Pap q 3 years	Pap q 3 years Co-testing (HPV/pap) q 5 years

- **No screening in women who have had a hysterectomy with removal of the cervix and who do not have a history of a high-grade precancerous lesion (i.e., cervical intraepithelial neoplasia [CIN] grade 2 or 3 or cervical cancer).**
- Women with additional risk factors (HIV, High risk Pap abnormalities, and immunosuppression) should be screened more frequently.[3,11]

Breast Cancer

Group	Screening frequency	Ages 40-49	Ages 50-60	Age>70	Age to stop screening
USPSTF[3]	Q 2 years	SDM*	Yes	yes	74
ACP[12]	Q 1-2 years	SDM	yes	yes	74
ACOG[13]	Q1-2 years	SDM	yes	yes	75
ACS[14]	Q year age 45-54 Q1-2 years age ≥55	SDM to age 44, start at age 45	Annual	Q1-2 years	SDM - when life expectancy < 10 yrs or other health issues occur

***Shared decision-making**

Colon Cancer

- USPSTF:
  - Age 50-75 or life expectancy >10 years for non-African American individuals[3]
  - High risk patients start at 40 years or 10 years younger than the age at which youngest affected relative was diagnosed[3]
- ACG: Age 45 for African Americans[15]
- ACS: Age 45 for all individuals[16]
- USPSTF: Age 76-85: shared decision-making[3]

Colon Cancer, continued

Stool based tests

Guaiac-baed FOBT	Q year
Fecal immunochemical test (FTI)	Q year
Fecal immunochemical test-DNA	Q 1-3 yrs

Direct Visualization tests:

Colonoscopy	Every 10 years
CT colonography	Every 5 years
Flexible sigmoidoscopy	Every 5 years
Flexible sigmoidoscopy with FIT	Flex sig every 10 + FIT annually

Prostate Cancer:

- USPSTF: shared-decision making in men ages 55-69[3]
- ACP/ACS: shared-decision making in men age 50-69 (consider age 45 if African American, first-degree relative with prostate CA diagnosed before age 65, BRCA positivity). Screen with PSA +/- DRE every 1-2 years until age 69 or life expectancy < 10 years.[12,17]
- AUA: shared decision-making ages 55-69 PSA q 2 years[18]

Lung Cancer:

- USPSTF: Annual Low dose chest CT ages 55-80 with a 30 pk year smoking history AND who currently smoke or have quit in the past 15 years.[3]
- ACS: Annual low dose CT lung ages 55-74 yrs of age in good health with a 30 pack/year history of smoking who currently smoke or quit in past 15 years and have access to high-volume, high quality lung CA screening/treatment center[19]

Pharmacotherapy/Treatment

Vitamin D Supplementation: 400 IU/day recommended for exclusively breast fed term infants or in infants consuming <1000 ml/day of iron fortified formula.[2]

Fall Prevention in adults >65 [3]

- Recommends AGAINST vitamin D and Calcium supplementation in community dwelling adults for fall prevention. (grade D recommendation)
- Recommends exercise intervention for those at increased risk of falls (history of falls, mobility impairment, poor performance on Get-up-and-go test) (grade B recommendation)

Iron Supplementation[2]

- Preterm <37 weeks exclusively breastfed: 2 mg/kg/day by 4 weeks of age through 12 months of age
- Preterm<37 weeks formula fed: supplement until receiving 150ml/kg/day (2.2 oz/lb/day) of ion rich formula
- Term, exclusively breastfed: consider supplementation 1 mg/kg/day at 4 months until consuming iron-rich foods twice a day

ASA:

- Adults aged 50-59 with a ≥ 10% 10-year CVD, 10 yr life expectancy, and not at increased risk for bleeding to reduce risk for primary prevention of Colorectal CA and CVD (grade B)[3]
- Consider in individuals 60-69 yr of age with >10% 10 yr CVD-risk, 10 yr life expectancy, and not at increased risk for bleeding (grade C)[3]

Adult Vaccines, age > 19; CDC 2018

- Influenza: annually for all persons >6 months.
- Td: q 10 years. Substitute one booster with Tdap.
- Varicella: 2 doses if no evidence of immunity: Vaccine documentation, history of disease or laboratory evidence of immunity, or US born prior to 1980 (If pregnant or health care personnel US born prior to 1980 is not considered immunity). Licensed in US 1995.
- HPV-9: Women ages 9-26 years and men 9-26yrs who are previously unvaccinated. If first dose given prior to age 15, then only need 1 additional dose.
  If immunocompromised recommend 3 dose vaccine
- MMR: Adults born <1957 are considered immune.
  - 1 dose: Adults born after 1957 without evidence of immunity (documentation of 2 vaccine doses or serological immunity.
  - 2 doses if: HIV positive with CD4>200, health care personnel born in 1957or later, international travelers, students in post-secondary educational institutions
- Zoster Vaccine: RZV for adults 50 and older (2 doses 8 weeks apart).This includes adults who previously received ZVL. RZV preferred over ZVL

- Pneumococcal vaccinations (PCV 13 and PPSV23)
  - Adults> 65: Give PCV 13 prior to PPSV23 or wait 1 yr after PPSV23
  - Give PPSV23 12 months after PCV13, minimal interval 8 weeks for adults with certain immunocompromising conditions.
  - Both vaccines (PCV 13 first, then 8 weeks later:) ages 19-64 yrs if CSF leaks, cochlear implant, functional/anatomic asplenia, immunocompromised (malignancy, HIV, nephrotic syndrome, chronic renal failure, solid organ transplant)
  - PPSV23 age 19-64 yrs if chronic heart, liver or lung disease, diabetes, alcoholism, smokers, residents of long-term cares facilities, SNF. Booster dose given 5 years after first if immunocompromised or asplenic.
- Meningococcal:
  - MenACWY: anatomic/functional asplenia, complement deficiencies, HIV , eculizumab use, microbiologists exposed to *N. meningitides*, recent outbreak, unvaccinated 1st yr college students living in dorms < 21, travel/residence in African meningitis belt, to meningitis belt
  - MenB: consider in people ages 16-23 years with anatomic/functional asplenia, persistent complement deficiencies, eculizumab use, microbiologists exposed to *N. meningitides*, recent outbreak
- Hepatitis A: anyone who wants to be vaccinated, MSM, IVDU, chronic liver disease close contacts with people with Hep A, International travel, clotting factor disorder
- Hepatitis B: anyone seeking protection, sexually active persons not in long-term monogamous relationships or with >1 partner/6 months, anyone seeking treatment for STI, MSM, IVDU, possibility of occupational exposure to body fluids, DM, ESRD, HIV, chronic liver disease, hemodialysis, household contacts and sex partner of HepBSAg positive persons, clients/staffs of institutions with members of developmental disability, international travel
- Hib: asplenia, Sickle cell, planned splenectomy, HSCT

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