Evidence Based Screening Guidelines

David Kuo, DO, FACOFP
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Name of CME Activity: ACOFP Intensive Update & Board Review in Family Medicine
Dates and Location of CME Activity: August 24-26, 2018, Loews Chicago O'Hare Hotel, Rosemont, IL, United States
Name of

Faculty/Moderator: David Kuo, DO, FACOPF

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Please indicate the name(s) of the organization(s) with which you have a financial relationship or interest, and the specific clinical area(s) that correspond to the relationship(s). If more than four relationships, please list on separate piece of paper:

<table>
<thead>
<tr>
<th>Organization With Which Relationship Exists</th>
<th>Clinical Area Involved</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
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<td>4.</td>
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</tbody>
</table>

*If you checked "Speakers' Bureau" in Item B, please continue:
- Did you participate in company-provided speaker training related to your proposed topic?
- Did you travel to participate in this training?
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Signature: [Signature]

Date: 7/20/18
Evidence Based Screening Guidelines in Primary Care

David Kuo, DO, FACOFP
Associate Professor of Family Medicine
Associate Dean for Graduate Medical Education
Philadelphia College of Osteopathic Medicine

- The US Preventive Services Task Force (USPSTF) makes recommendations about the effectiveness of specific preventive care services for patients without obvious related signs or symptoms.
- It bases its recommendations on the evidence of both the benefits and harms of the service and an assessment of the balance. The USPSTF does not consider the costs of providing a service in this assessment.
- The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation. Similarly, the USPSTF notes that policy and coverage decisions involve considerations in addition to the evidence of clinical benefits and harms.
USPSTF Grade Definitions

<table>
<thead>
<tr>
<th>Grade</th>
<th>Definition</th>
<th>Suggestions for Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The USPSTF recommends the service. There is high certainty that the net benefit is substantial.</td>
<td>Offer or provide this service.</td>
</tr>
<tr>
<td>B</td>
<td>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.</td>
<td>Offer or provide this service.</td>
</tr>
<tr>
<td>C</td>
<td>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.</td>
<td>Offer or provide this service for selected patients depending on individual circumstances.</td>
</tr>
<tr>
<td>D</td>
<td>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.</td>
<td>Discourage the use of this service.</td>
</tr>
<tr>
<td>I</td>
<td>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.</td>
<td>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.</td>
</tr>
</tbody>
</table>

Screening for AAA with Ultrasound

- **Who:** Men aged 65 y.o. or older who have ever smoked
- **When:** One time screen
- **Why:** Grade B evidence
- Reduced AAA rupture and AAA related mortality rates for up to 10 and 15 years respectively
- Screening in women showed no benefit – currently studying this
• Selectively screen non smokers with these risk factors:
  – Fam Hx of AAA
  – Hx of other vascular aneurysms
  – Hypercholesterolemia
  – Atherosclerosis
  – Coronary artery disease
  – Cerebrovascular disease
  – HTN

Screening for Abnormal Glucose as Part of Cardiovascular Risk Assessment

• **Who:** Adults aged 40 y.o. – 70 y.o. who are overweight or obese
• **When:** Repeat every 3 years if results are normal
• **Consider screening earlier in patients with higher risk** (i.e., one of the following):
  • family history of diabetes
  • members of certain racial and ethnic groups (i.e., blacks, American Indians or Alaska Natives, Asian Americans, Hispanics or Latinos, or Native Hawaiians or Pacific Islanders)
  • personal history of gestational diabetes or polycystic ovary syndrome
• **Why:** Grade B evidence
• Cardiovascular disease (CVD) is the leading cause of death in the U.S.
• Nearly 25% of deaths caused by CVD are considered preventable
• Modifiable cardiovascular risk factors include abnormal blood glucose, HTN, hyperlipidemia, smoking, overweight and obesity, physical inactivity and an unhealthy diet
• moderate net benefit to measuring blood glucose to detect IFG, IGT, or diabetes and implementing intensive lifestyle interventions for persons found to have abnormal blood glucose.

• ADA:
  – All adults 45 y.o. and older at least every 3 yrs
  – Adult of any age who is overweight or obese and has 1 or more of the following risk factors...
• A1C > 5.7%, impaired glucose tolerance, or impaired fasting glucose on previous testing
• Acanthosis nigricans
• Cardiovascular disease
• First-degree relative with type 2 diabetes
• HDL cholesterol level < 35 mg per dL and/or a triglyceride level > 250 mg per dL
• High-risk ethnicity: black, Native American/Alaska Native, Hispanic/Latino, Asian American, and Native Hawaiian/Pacific Islander
• Hypertension (blood pressure > 140/90 mm Hg or taking medication for hypertension)
• Physical inactivity
• Polycystic ovary syndrome
• Women who had gestational diabetes or who delivered a baby weighing > 9 lb

Screening for Alcohol Misuse

• **Who:** Adults aged 18 y.o. and older
• **When:** Does not specify frequency, but yearly is appropriate
• **Why:** Grade B evidence
• Adolescents (under 18 yrs of age) – Grade I evidence
• Alcohol misuse is the 3rd leading cause of preventable deaths in the U.S.
• Approximately 30% of the U.S. population is affected by alcohol misuse and most of them engage in risky use (>4 drinks/day or 14 drinks/week for men, or >3 drinks/day or 7 drinks/week for women)
• USPSTF found adequate evidence that brief behavioral counseling interventions are
  – Effective in reducing heavy drinking episodes in adults
  – Reduce weekly alcohol consumption rates
  – Increase adherence to recommended drinking limits

• Screening tools
  – Alcohol use disorders test (AUDIT) – 10 questions
  – AUDIT-Consumption (AUDIT-C) – 3 questions
  – Single-question screening
    • “How many times in the past year have you had 5 (for men) or 4 (for women and adults >65 yrs) or more drinks in a day?”
• American Academy of Pediatrics and National Institute on Alcohol Abuse and Alcoholism recommend starting screening at age 9
• 1 in 3 children starts drinking by the end of 8th grade, and half of them report having been drunk
• Two question screening tool from *Alcohol Screening and Brief Intervention for Youth. A Practitioner’s Guide*
ASA Use in Prevention of CVD and Colorectal Cancer

• **Who:** Adults 50-59 y.o. with a ≥10% 10 yr CVD risk and  
  – not at increased risk for bleeding  
  – have a life expectancy of at least 10 yrs  
  – are willing to take a low-dose aspirin daily for at least 10 yrs

• **Why:** Grade B evidence

• In 2011, more than half of all deaths in the U.S. were caused by heart disease, cancer, or stroke

• USPSTF found adequate evidence that ASA  
  – is of moderate benefit in reducing the risk for cardiovascular events (nonfatal MI and stroke) in adults aged 50-69 yrs who are at increased risk  
  – Reduces the incidence of colorectal cancer in adults after 5-10 yrs of use
• Adults 60-69 yrs with a ≥10% 10 yr CVD risk
  – Grade C evidence
  – For people who place a higher value on potential benefits rather than harms
• Adults younger than 50 yrs
  – Grade I evidence
• Adults aged 70 yrs or older
  – Grade I evidence
Screening for BRCA-1 or BRCA-2 Genes

• **Who:** Women with family members that have breast, ovarian, fallopian tube or peritoneal cancer
• **When:** 18 yrs of age, and review family history every 5-10 yrs
• **Why:** Grade B evidence
  • Breast cancer - in the U.S., 2nd most common cancer in women, 2nd leading cause of cancer death; general population’s lifetime risk of developing = 12.3%, of dying = 2.74%
  • Ovarian cancer – 5th leading cause of cancer death in the U.S.; general population’s lifetime risk of developing = 1.4%, of dying = 1%

• Family history factors associated with increased likelihood:
  – Breast cancer Dx before the age of 50
  – Bilateral breast cancer
  – Breast and ovarian cancer history
  – Breast cancer in ≥1 male family member
  – Multiple cases of breast cancer in the family
  – ≥1 or more family members with 2 primary types of BRCA-related cancer
  – Ashkenazi Jewish ethnicity
• Risk stratification tools:
  – Ontario Family History Assessment Tool
  – Manchester Scoring System
  – Referral Screening Tool
  – Pedigree Assessment Tool
  – FHS-7
• If the screen is positive, then they should receive in-depth genetic counseling and then possibly BRCA-1 and BRCA-2 testing

<table>
<thead>
<tr>
<th>Table 1. Ontario Family History Assessment Tool*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk Factor</td>
</tr>
<tr>
<td>Breast and ovarian cancer</td>
</tr>
<tr>
<td>Mother</td>
</tr>
<tr>
<td>Sibling</td>
</tr>
<tr>
<td>Second-/third-degree relative</td>
</tr>
<tr>
<td>Breast cancer relative</td>
</tr>
<tr>
<td>Parent</td>
</tr>
<tr>
<td>Sibling</td>
</tr>
<tr>
<td>Second-/third-degree relative</td>
</tr>
<tr>
<td>Male relative (add to above)</td>
</tr>
<tr>
<td>Breast cancer characteristics</td>
</tr>
<tr>
<td>Onset at age 20–29 y</td>
</tr>
<tr>
<td>Onset at age 30–39 y</td>
</tr>
<tr>
<td>Onset at age 40–49 y</td>
</tr>
<tr>
<td>Premenopausal/perimenopausal</td>
</tr>
<tr>
<td>Bilateral/multifocal</td>
</tr>
<tr>
<td>Ovarian cancer relative</td>
</tr>
<tr>
<td>Mother</td>
</tr>
<tr>
<td>Sibling</td>
</tr>
<tr>
<td>Second-/third-degree relative</td>
</tr>
<tr>
<td>Age at ovarian cancer onset</td>
</tr>
<tr>
<td>&lt;40 y</td>
</tr>
<tr>
<td>40–60 y</td>
</tr>
<tr>
<td>&gt;60 y</td>
</tr>
<tr>
<td>Age at prostate cancer onset</td>
</tr>
<tr>
<td>&lt;50 y</td>
</tr>
<tr>
<td>Age at colon cancer onset</td>
</tr>
<tr>
<td>&lt;50 y</td>
</tr>
<tr>
<td>Family total</td>
</tr>
<tr>
<td>Referral†</td>
</tr>
</tbody>
</table>

* From reference 19.
† Referral with a score of ≥10 corresponds to doubling of lifetime risk for breast cancer (22%).
Screening for Depression in Adults

- **Who:** All adults aged 18 yrs and older
- **When:** Little evidence regarding optimal timing for screening
  - Screen those who have not been screened
  - Use clinical judgement in consideration of risk factors, comorbid conditions and life events
- **Why:** Grade B evidence
- Screening improves the accurate identification of adult patients with depression in primary care settings including pregnant and postpartum women
- Combining screening with adequate support systems in place improve clinical outcomes and morbidity

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**Table 4. Pedigree Assessment Tool***

<table>
<thead>
<tr>
<th>Risk Factor</th>
<th>Score†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast cancer at age ≥50 y</td>
<td>3</td>
</tr>
<tr>
<td>Breast cancer at age &lt;50 y</td>
<td>4</td>
</tr>
<tr>
<td>Ovarian cancer at any age</td>
<td>5</td>
</tr>
<tr>
<td>Male breast cancer at any age</td>
<td>8</td>
</tr>
<tr>
<td>Ashkenazi Jewish heritage</td>
<td>4</td>
</tr>
</tbody>
</table>

* From reference 17. A score of ≥8 is the optimum referral threshold.† For every family member with a diagnosis of breast or ovarian cancer, including second- or third-degree relatives.

• **Risk factors:**
  – Female
  – Young and middle-aged adults
  – Nonwhite persons
  – Undereducated
  – Previously married
  – Unemployed
  – Chronic illnesses or disability
  – Other mental health disorders (including substance abuse)
  – Family history of psychiatric disorders

• **Risk factors during pregnancy and postpartum**
  – Poor self esteem
  – Child-care stress
  – Prenatal anxiety
  – Life stress
  – Poor social support
  – Single/unpartnered relationship status
  – History of depression
  – Difficult infant temperament
  – Previous postpartum depression
  – Lower socioeconomic status
  – Unintended pregnancy
• Screening tests
  – Patient Health Questionnaire (PHQ) 2 and 9
  – Hospital Depression and Anxiety Scale
  – Geriatric Depression Scale
  – Edinburgh Postnatal Depression Scale (EPDS)

Screening for Depression in Children and Adolescents

• **Who:** Adolescents aged 12-18 years – Grade B evidence
  • Children aged 11 years or younger – Grade I evidence
  • Mean age of onset of major depressive disorder is about 14-15 years
• **When:** No evidence on appropriate screening intervals
  – Repeated screening may be most productive in adolescents with risk factors
  – Opportunistic screening may be appropriate for adolescents who have infrequent healthcare visits
• **Why:** Children and adolescents with major depressive disorder (MDD) typically have functional impairments in their performance at school/work, and their interactions with family/peers.
  
  • Also increases their risk for suicidal ideation
    – 10% of children aged 5-12.9 yrs and 19% of adolescents aged 13-17.9 yrs with MDD attempt suicide

• **Risk factors**
  – Female
  – Older age
  – Family (especially maternal) history of depression
  – Prior episode of depression
  – Other mental health or behavioral issues
  – Chronic medical illness
  – Overweight and obesity
  – In some studies, Hispanic race/ethnicity
  – Childhood abuse or neglect
  – Exposure to traumatic events (including natural disasters)
  – Loss of a loved one or romantic relationship
  – Family conflict
  – Uncertainty about sexual orientation
  – Low socioeconomic status
  – Poor academic performance
• Screening tests
  – Patient Health Questionnaire for adolescents (PHQ-A)
  – Primary care version of the Beck Depression Inventory (BDI)

Falls Prevention in Community-Dwelling Older Adults

• **Who:** Adults 65 yrs and older
• **Why:** Grade B evidence
• Falls are the leading cause of injury-related morbidity and mortality among older adults in the United States.
• In 2014, 28.7% of community-dwelling adults 65 years or older reported falling, resulting in 29 million falls and an estimated 33,000 deaths in 2015.
• Risk Assessment
  – Older age
  – History of falls
  – Impairment in mobility, gait or balance
  – Timed Up and Go test – a time of ≥14 secs denotes a high risk for falling
• Exercise interventions to prevent falls in patients who are increased risk for falls
  – Supervised individual or group classes and physical therapy
  – Gait, balance and functional training
  – Resistance training
  – Flexibility training
  – Endurance training

• US Department of Health and Human Services recommends for older adults
  – At least 150 minutes per week of moderate-intensity or 75 minutes per week of vigorous-intensity aerobic physical activity
  – Muscle strengthening activities twice per week
  – Balance training on 3 or more days per week for those who have had a recent fall or difficulty walking
Screening for Hepatitis B Infection

• **Who:** People at high risk for infection

• **When:** No set screening interval, but periodic screening may be useful for at risk patients who do not receive vaccination

• **Why:** Grade B evidence

• Approximately 700,000-2.2 million people in the U.S. have chronic HBV infection

• Potential long-term sequelae include cirrhosis, hepatic decompensation, and hepatocellular carcinoma

• About 15-25% of people with chronic HBV die of cirrhosis or hepatocellular carcinoma

• Those with chronic infection also serve as a reservoir for person-to-person transmission
• High risk populations:
  – Those from countries with a high prevalence of HBV infection
  – HIV-positive people
  – Injection drug users
  – Household contacts of those with HBV infection
  – Men who have sex with men

Screening for Hepatitis C

• **Who:** Adults at high risk and a 1 time screen for those adults born between 1945 and 1965
• **When:** No set screening interval, but those with continued risk for HCV infection should be screened periodically
• **Why:** Grade B evidence
• HCV is the most common chronic bloodborne pathogen in the U.S. and a leading cause of complications from chronic liver disease
• Hepatitis C-related end-stage liver disease is the most common indication for liver transplants among U.S. adults (more than 30% of cases)

• Risk factors
  – Past or current injection drug use
  – Receipt of a blood transfusion before 1992
  – Long term hemodialysis
  – Being born to an HCV infected mother
  – Incarceration
  – Intranasal drug use
  – Getting an unregulated tattoo
  – Other percutaneous exposures (i.e. healthcare worker or having surgery before universal precautions)
  – High risk sexual behaviors (multiple sex partners, unprotected sex, or sex with an HCV infected person)
  – but HCV seems to be inefficiently spread through sexual contact, and so, observed associations may be confounded by other high-risk behaviors
Screening for HIV

• **Who:** Adolescents and adults 15-65 years old and pregnant women
  • Screening could be earlier than 15 yrs and later than 65 yrs if the individual has risk factors
  • **When:** No set screening interval, but a reasonable approach would be to do a one-time screen and then repeated screening of those known to be at increased risk
    – Very high risk – at least annually
    – Increased risk – longer intervals like every 3-5 years
• **Why:** Grade A evidence

• An estimated 1.2 million people in the U.S. are currently living with HIV infection
• Since the first cases of AIDS were reported in 1981, nearly 600,000 people in the U.S. have died from it
• Approximately 20-25% of individuals living with HIV are unaware of their positive status
• Risk factors
  – Men who have sex with men (account for about 60% of HIV+ persons in the U.S.)
  – Injection drug users
  – Unprotected vaginal or anal intercourse
  – Sexual partners who are HIV+, bisexual or injection drug users
  – Exchanging sex for drugs or money

Screening for Intimate Partner Violence, and Abuse of Elderly and Vulnerable Adults

• **Who:** Women of childbearing age (14-46 yrs)
  – Grade B evidence
• **Elderly or vulnerable adults**
  – Grade I evidence
• **When:** No evidence on appropriate intervals for screening
• **Why:** Intimate partner violence (IPV) and abuse of elderly and vulnerable adults is common in the U.S. but often remains undetected

• Nearly 31% of women and 26% of men report experiencing some form of IPV in their lifetime

• Little evidence is available on the prevalence of abuse among non-institutionalized elderly or vulnerable adults, but reported rates range from 2% - 25%

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• **Effects of IPV**
  – Injury and death
  – STDs or unintended pregnancy
  – Chronic pain, neurological disorders, GI disorders, migraine headaches
  – Preterm birth, low birth weight, decreased gestational age
  – Chronic mental conditions like depression, PTSD, anxiety disorders, substance abuse, suicidal behavior
• Adolescent and young adults who experienced physical or sexual assault
  – Poor self esteem
  – Alcohol and drug abuse
  – Eating disorders
  – Obesity
  – Risky sexual behaviors
  – Teen pregnancy
  – Depression
  – Anxiety
  – Suicidality

• Several screening tools for IPV are available
  – Hurt, Insult, Threaten, Scream (HITS)
  – Ongoing Abuse Screen/Ongoing Violence Assessment Tool (OAS/OVAT)
  – Slapped, Threatened, and Throw (STaT)
  – Humiliation, Afraid, Rape, Kick (HARK)
  – Modified Childhood Trauma Questionnaire-Short Form (CTQ-SF)
  – Woman Abuse Screen Tool (WAST)
The HITS Screening Tool for Domestic Violence.

<table>
<thead>
<tr>
<th>How Often Does Your Partner</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Fairly Often</th>
<th>Frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physically hurt you</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Insult or talk down to you</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Threaten you with harm</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Scream or curse at you</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

* A total score of more than 10 is suggestive of intimate partner violence. This information, called R3, is available as a free Android or iPhone app. From Sherin et al. 5

HUMILIATION
Within the last year, have you been humiliated or emotionally abused in other ways by your partner or your ex-partner?

AFRAID
Within the last year, have you been afraid of your partner or ex-partner?

RAPE
Within the last year, have you been raped or forced to have any kind of sexual activity by your partner or ex-partner?

KICK
Within the last year, have you been kicked, hit, slapped or otherwise physically hurt by your partner or ex-partner?

• The USPSTF found no valid, reliable screening tools to identify abuse of elderly or vulnerable adults in the primary care setting

Screening for Lung Cancer

• **Who:** Adults aged 55-80 yrs with a 30 pack-year history of smoking and currently smoke or have quit within the past 15 yrs
• **When:** Screen with low-dose computed tomography (LDCT) **yearly** until the person has not smoked for 15 yrs or develops a health problem that substantially limits life expectancy or the ability to have curative lung surgery
• **Why:** Category **B** evidence
• 3rd most common cancer in the U.S.
• Leading cause of cancer death in the U.S.
• Smoking is the cause for about 85% of all U.S. lung cancers
• Even though the prevalence of smoking has decreased, approximately 37% of U.S. adults are current or former smokers
• LDCT has greater sensitivity for detecting early-stage cancer than chest x-ray and sputum cytologic evaluation

• Risk factors
  – Smoking
  – Age – risk increases with age (esp. after 60 yrs) and cumulative exposure to tobacco smoke
  – Occupational exposures
  – Radon exposure
  – Family history
  – History of pulmonary fibrosis or chronic obstructive lung diseases
Statin Use for the Primary Prevention of CVD in Adults

• **Who:** Adults aged 40-75 yrs with no history of CVD should start a low-to-moderate dose statin for the prevention of CVD events and mortality if
  – They have 1 or more CVD risk factors (dyslipidemia, DM, HTN, Smoking) and
  – They have a calculated 10 yr CVD risk of ≥10%

• **Why:** Grade **B** evidence – at least moderate net benefit

• If they have a 7.5-10% risk, then starting a statin is Grade **C** evidence – small net benefit

• Adults 76 yrs and older – Grade **I** evidence
• ACC and AHA Recommendations
  – Adults 40-75 yrs without a Hx of CVD who have an LDL of 70-189 mg/dL and also DM, or a 10 yr CVD risk of 7.5% or greater
  – Use of moderate or high dose statins is recommended

• CVD includes coronary heart disease (ultimately manifested as MI) and cerebrovascular disease (ultimately manifested by stroke)
• CVD is the leading cause of morbidity and mortality in the U.S., accounting for 1 of every 3 deaths among adults
• Statins reduce LDL and probably have anti-inflammatory and plaque stabilization effects as well
• Potential Harms of Statins
  – Cancer, severely elevated liver enzymes, severe muscle related harms – no association with low-to-moderate doses of statins
  – There may be a small increased risk of developing diabetes with use of high-dose statins
  – Myalgia – commonly reported adverse effect, but placebo-controlled trial data do not support the conclusion that statin use has a major causative role in its occurrence
  – Decreased cognitive function – evidence is not clear that there is an association with statin use

Screening for Syphilis in Nonpregnant Adults and Adolescents

• **Who:** Asymptomatic, nonpregnant adults and adolescents who are at increased risk for syphilis infection
• **When:** Optimal screening frequency has not been established – some studies show that screening every 3 months improves detection when compared to annually
• Two-step process – RPR followed by confirmatory FTA
• **Why:** Grade A evidence
• Number of cases have increased since 2000
• In 2014, 19,999 cases (6.3 cases per 100,000 people) of primary and secondary syphilis were reported in the U.S.
• Left untreated, syphilis can progress to late-stage disease in about 15% of pts.
  – Inflammatory lesions throughout the body (e.g. aortitis, gummatous lesions, osteitis) that can lead to cardiovascular or organ dysfunction
• Neurosyphilis can occur at any stage of the disease and can result in blindness, paresis, tabes dorsalis and dementia
• Syphilis infection increases the risk for acquiring or transmitting HIV infection

• Risk factors
  – Men who have sex with men
  – HIV + individuals
    • 61% of cases of primary and secondary syphilis occurred among MSM and about ½ of all MSM diagnosed with syphilis were also co-infected with HIV
  – Hx of incarceration or commercial sex work
  – Male younger than 29 y.o.
  – Men accounted for 90.8% of all cases of primary and secondary syphilis in 2014
  – Men ages 20 to 29 yrs had the highest prevalence rate, nearly 3x higher than the average U.S. male population
– Prevalence rates in certain racial/ethnic groups
  • Blacks – 18.9/100,000
  • Hispanics – 7.6/100,000
  • American Indian/Alaskan Natives – 7.6/100,000
  • Native Hawaiian/Pacific Islanders – 6.5/100,000
  • Whites – 3.5/100,000
  • Asians – 2.8/100,000
– Southern U.S. – 41% of cases
– Western U.S. – 7.9 cases/100,000
– Metropolitan areas have the highest prevalence rates in general

References

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