Preventive care and cancer screening

**Cervical Cancer:** Annals Internal Medicine 2012; 156;880-891.

Incidence 6.0 per 100,000 person years

In 2010 there were 12,200 cases/ 4210 deaths

**Current recommendations:**

USPSTF:

Ages 21-65 can screen every 3 years with PAP

For women ages 30-65 can screen every 5 yrs with negative PAP and negative HPV testing

**Stop screening:**

Women over 65 yo who have had routine screening and have been negative (this does not apply to women who have not had regular screening)

Women < 21 yo

Women who have had a hysterectomy with cervix removed for benign reasons

Potential harms of screening: abnormal test can lead to more frequent testing, anxiousness and concern, more invasive procedures that could cause harm such as pregnancy outcomes, vaginal bleeding and infection, failure to diagnose, cost that does not add high value or improved outcomes

Effect of HPV vaccine on high grade lesions is not yet known but future research should be able to answer that questions.

**Breast Cancer:** Annals Internal Medicine 2009;151:716-726; Annals Internal Medicine; 2012;156:635-48

Most common cancer in women and second most common cause of cancer death in women. Approximately one in 8 women will develop breast CA.

Risk factors: first degree relative with breast CA, BRCA mutations, **alcohol**, previous chest radiation, **obesity** and **sedentary lifestyle** (**bolded are modifiable risk factors**)  

Screening has been shown to detect earlier cancers and reduce mortality. But there is also harm associated with screening and not all cancers are detected through screening tests or detected early.
Current recommendations:

Screen women ages 50-74 every 1-2 years (more data is supporting every 2 years as being adequate for reduction of burden of disease)

Consider screening women ages 40-49- better data to support screening women who have 2 fold or higher risk of breast cancer. More false positives in this group. (USPSTF recommend against screening in this group, ACS recommends screening)

Recommended screening test: Mammography (studies are variable on whether digital or film mammography is better and depends on the age of the patient and density of breasts- digital mammogram has higher false positive in younger women)

Clinical breast exam has low sensitivity (54%) but good specificity (94%)

Stop Screening

If life expectancy is less than 3-5 years

Age ≥ 75 (USPSTF insufficient evidence, ACS – if life expectancy is <3-5yrs, comorbid illnesses, ACOG no rec)

Potential harms of screening: pain, anxiousness, very high rate of false positive results, radiation risks, unnecessary biopsies or surgeries

Colorectal Cancer: Annals Internal Medicine 2012;156:368-386.

Second largest cause of cancer deaths in the US.

Current recommendations:

Screen for colorectal cancer beginning at age 50

Screen high risk patients starting at age 40 or 10 years before age of diagnosis of first degree relative

Acceptable screening: for low to average risk patients: can use Annual FOBT or flexible sigmoid every 5 yrs or optical colonoscopy every 10 yrs

For high risk patients- optical colonoscopy

CT colonography has good sensitivity and specificity if optimal prep, expert radiologist- and presence of polyps over 6mm in size.

**FOBT, flex sig have been studied in randomized controlled trials

Stop screening
Age > 75

If life expectancy is <10 years

Potential harms: depends on procedure: laxative prep, bleeding or perforation with flex-sig or colonoscopy, radiation if CTC, false negatives for FOBT

**Prostate Cancer:** Annals of Internal Medicine 2012; 157:120-134

Most common non-skin cancer in men with lifetime risk of almost 16%. Most cases have good prognosis and many cases are not aggressive. Lifetime risk of death from prostate CA is 2.8% Rare before the age of 50. The majority (75%) of deaths occur after age 75. African Americans have higher risk of prostate cancer.

**Current recommendations:**

USPSTF- Recommend against PSA screening for prostate cancer- given potential for harm and no benefit in terms of morbidity or mortality from prostate CA

American Urology Assoc- disagree with this recommendation and suggest discussion with patients on testing for PSA esp if life expectancy > 10 yrs

Potential harms of screening: large false positive rate that can lead to biopsies, surgery (that can cause incontinence, impotence, pain)

**Lung cancer:** Aberle et al NEJM 2011

Lung cancer has the highest death rate of common cancers. Earlier studies did not show benefit of screening high risk individuals with chest radiograph. Newer studies with a randomized control trial of 53,454 pts comparing CT vs CXR showed a 20% relative risk reduction of lung cancer mortality in the 6.5 yrs of follow up

**Current recommendation**

Annual screen (but not sure for how long- studies only screened for 3 checks) for age 55-74 with a 30+pack year smoking history and either still smoking or quit within 15 years.

There is still controversy about this recommendation

Potential harms of screening: high false positive rate, risk of biopsy if lesion found (pneumothorax 15%, hemorrhage 1%, in study 16 pts died from diagnostic procedure), radiation exposure, anxiousness. Does not address the root cause- tobacco smoking.
References


Websites of organizations

US PSTF:  http://www.uspreventiveservicestaskforce.org/

ACP American College of Physicians:  http://www.acponline.org/clinical_information/guidelines/

ACS American cancer society:  http://www.cancer.org/

ACOG American congress of OB/GYN:  http://www.acog.org/

AUA American Urology Association:  http://www.auanet.org/content/clinical-practice-guidelines/clinical-practice-guidelines.cfm