Choosing Wisely

Update on Cancer screening 2014
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April 2, 2014
No disclosures

- Employed at UIHC in General Internal Medicine since 2007, currently at Iowa River Landing.
Why the changes?

- Cancers are slow
- False positives are common
- False positives are expensive
- False positives are traumatic
- Further testing can be dangerous
- Rate of cancer growth may be slower than rate of natural aging
Choosing Wisely

- An initiative of the ABIM Foundation, Choosing Wisely is focused on encouraging physicians, patients, and other health care stakeholders to think and talk about medical tests and procedures that may be unnecessary, and in some instances, can cause harm.

- To spark these conversations, leading specialty societies have created lists of “Things Physicians and Patients Should Question” — evidence-based recommendations that should be discussed to help make wise decisions about the most appropriate care based on a patient’s individual situation.

- Consumer Reports is developing and disseminating materials for patients through large consumer groups to help patients engage their physicians in these conversations and ask questions about what tests and procedures are right for them.

- More than 50 specialty societies have now joined the campaign, and 30+ societies will announce new lists in late 2013 and early 2014.
Save Your Life

3 cancer tests you need
Plus 8 you don’t

Hot List: Best appliances & electronics

Page 37
SAVE YOUR LIFE

3 Cancer tests you need
- Cervical
- Breast
- Colon

8 Cancer tests to avoid
- Prostate, Lung, Bladder, Ovary, Pancreas, Testicle, Oral, Skin
Cervical cancer

1. 19 year old college student wants to start birth control pills. Menarche age 12, cycles regular, two male sexual partners so far, no history of gyn problems, never had a pap

You should do a pap smear – yes/no
Screening: Age < 21

- Recommendation: Do not screen
  - Regardless of age of sexual initiation
Screening: Age < 21

Rationale:

- Cervical cancer is rare in women < 21
  - 0.1% of all cancers (SEER data)
  - 16 deaths occurred in US between 1992-2008
- HPV infections are common
- HPV related changes common on pap smear
- Most lesions regress within 3 years
Cervical cancer

2. 24 year old about to get married, Normal cycles, no gyn problems currently (treated for chlamydia in college), 4 life time male partners, on BCP, had paps that were normal age 21 and 22, none last year.

You should do a pap smear, using thin prep– yes/no
Screening: Age 21-29

Recommendation:
- Begin screening at age 21
- Methods and Interval
  - Screen with Cytology Alone
  - Every 3 years
  - HPV testing should not be used < age 30 yrs
### Screening: Age 21-29

**Rationale:**

<table>
<thead>
<tr>
<th>Screening Interval (years)</th>
<th>Lifetime risk cervical cancer</th>
<th>Lifetime risk death cervical cancer</th>
<th>Colposcopies Per 1000 women</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3</td>
<td>0.03</td>
<td>2000</td>
</tr>
<tr>
<td>2</td>
<td>4-6</td>
<td>0.05</td>
<td>1080</td>
</tr>
<tr>
<td>3</td>
<td>5-8</td>
<td>0.05</td>
<td>760</td>
</tr>
</tbody>
</table>

CA Cancer J Clin 2012;62:154-155
Cervical Cancer

3. 36 year old woman divorced 2 years ago, last normal pap age 33, starting a new relationship and is considering IUD.

You may offer HPV testing and pap to allow 5 year interval between future paps– yes/no
Screening: Age 30-65

- Recommendation: Methods and Interval
  - Co-testing every 5 years
  - Cytology alone every 3 years
Cervical Cancer

4. Widow age 62 is having her annual physical. Has had paps faithfully every year with her well woman exams. Had total hysterectomy and BSO at age 48 for severe fibroids.

You should advise her that current guidelines allow her to stop having paps but offer screening for vaginal cancer – yes/no
Cervical Cancer

5. Your patient age 67 heard that you can stop paps at age 65. She does not like them very much, has no symptoms, and hasn’t had a pa since age 60 since they were all normal. Not currently sexually active.

You should recommend a pap - yes/no
Screening: Age > 65

Recommendation:

- Do not screen if adequate prior screening
- Adequate prior screening
  - 3 consecutive negative cytology results in 10 yrs
  - 2 consecutive negative co-tests in 10 yrs
  - Most recent test within 5 yrs
Summary: Cervical Cancer Screening

- **Begin:**
  - Age 21

- **Frequency**
  - Age 21-29
    - Every 3 years cytology alone
    - No HPV testing
  - Age 30-65
    - Every 5 years co-testing
    - Every 3 years cytology alone
  - Recommend against annual screening in all patients
Possible pap results

- Negative for intraepithelial lesion or malignancy
- Epithelial cell abnormalities
- Squamous cells ASC-H, LSIL, HSIL
- Squamous cell carcinoma
- Glandular cell abnormalities
- Atypical glandular cells
- Atypical glandular cells, favor neoplastic
- Endocervical adenocarcinoma in situ
- Adenocarcinoma

Key
- ASC-H = atypical squamous cells; cannot exclude a high-grade squamous intraepithelial lesion; ASC-US = atypical squamous cells of undetermined significance; HSIL = high-grade squamous intraepithelial lesion(s); LSIL = low-grade squamous intraepithelial lesion(s).
Breast Cancer

1. Your patient age 52 says that her mammogram last year was quite painful, and doesn’t want one this year. She doesn’t think anything is wrong with her breasts but doesn’t check them much.

You should strongly encourage her to have a mammogram every year per guidelines – yes/no
Breast cancer

2. Your patient age 39 reminds you that her mother passed away from breast cancer, as did mother’s sister. BRCA testing was never done. She has been a smoker most of her adult life. She does not feel any abnormalities in the breast exams she has been doing since age 20.

You should strongly encourage her to wait to age 50 to start mammograms – yes/no
Breast cancer

3. Your patient age 76 has had mammograms which have been normal every couple years but not very regularly. She doesn’t think she has any problems, and would like to stop having mammograms.

You agree with her – yes/no
## Breast cancer recommendations

### age 40 - 49

- USPSTF - 2009 – NO (grade C)
- ACP - 2007 – discuss
- CTFPHC - 2011 – discuss
  - not routine
- ACS - 2013 – annual with CE
  - Teach CE age 20
- ACOG - 2011 – annual w CE
  - Teach CE age 20

### age 50+

- 50 – 74 – biennial
- 50
- 50 – 69 – every 2 – 3 years
  - Less evidence 70-74
- Annual – no end date
- Annual – no end date
Breast cancer risk assessment tool

- From National Cancer Institute
- Based on history of breast cancer, age of menses, age of first born child, family history, BRCA mutation, any biopsies, any atypical hyperplasia, age, race/ethnicity
Prostate cancer

1. A 56 year old gentleman is having his annual exam and says his urination is a bit slowed up and he has nocturia times one. He is otherwise pretty healthy though overweight. His rectal exam last year showed a large prostate and PSA was 3.8.

You will miss points on your quality of care score if you do not do a rectal exam and PSA this year – yes/no
Prostate Cancer

- PSA?
- DRE?
- What a mess.....

- WHY such indecisiveness and vague recommendations and conflict......
KEY Variables

- PSA cut point – is 4.0 the best?
- Interval – 1 year, 2 years, 4 years?
- Screening by Symptoms – which ones?
- Age/General health – age 40? 65?
- Race - same rules and risk for all races?
- Family history – change the risk?
- Type of treatment – which ones?
PSA cut off of 4?

- 15% have cancer < 4 < 70% false positive
- 15% aggressive

Age related norms have been looked at
Interval?

- The European study that showed benefit to screening used 2 – 4 year intervals.
- Tests of aggressive screening (more frequent and lower PSA) found more cancers but not more that “need” to be treated.
- Probably every 4 years is good enough, 2 years at a minimum.
Use Prostate Cancer Symptoms?

- Trouble urinating
- Decreased force in the stream of urine
- Blood in the urine
- Blood in the semen
- General pain in the lower back, hips or thighs
- Discomfort in the pelvic area
- Bone pain
- Erectile dysfunction
Prostatitis symptoms

- Pain or burning sensation when urinating (dysuria)
- Difficulty urinating, such as dribbling or hesitant urination
- Frequent urination, particularly at night (nocturia)
- Urgent need to urinate
- Pain in the abdomen, groin or lower back
- Pain in the area between the scrotum and rectum (perineum)
- Pain or discomfort of the penis or testicles
- Painful orgasms (ejaculations)
- Flu-like symptoms (with bacterial prostatitis)
BPH symptoms

- Weak urine stream
- Difficulty starting urination
- Stopping and starting while urinating
- Dribbling at the end of urination
- Frequent or urgent need to urinate
- Increased frequency of urination at night (nocturia)
- Straining while urinating
- Not being able to completely empty the bladder
- Urinary tract infection
- Formation of stones in the bladder
- Reduced kidney function
<table>
<thead>
<tr>
<th>Questions to be answered</th>
<th>Not at all</th>
<th>Less than 1 time in 5</th>
<th>Less than half the time</th>
<th>About half the time</th>
<th>More than half the time</th>
<th>Almost always</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Over the past month, how often have you had a sensation of not emptying your bladder completely after you finished urinating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2. Over the past month, how often have you had to urinate again less than 2 hours after you finished urinating?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3. Over the past month, how often have you found you stopped and started again several times when you urinated?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Over the past month, how often have you found it difficult to postpone urination?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5. Over the past month, how often have you had a weak urinary stream?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6. Over the past month, how often have you had to push or strain to begin urination?</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7. Over the past month, how many times did you most typically get up to urinate from the time you went to bed at night until the time you got up in the morning?</td>
<td>0 (none)</td>
<td>1 (1 time)</td>
<td>2 (2 times)</td>
<td>3 (3 times)</td>
<td>4 (4 times)</td>
<td>5 (5 or more times)</td>
</tr>
</tbody>
</table>

**Sum of circled numbers (AUA symptom score):**

- 0 to 7: Mild symptoms
- 8 to 19: Moderate symptoms
- 20 to 35: Severe symptoms

Prevalence of benign prostatic hyperplasia pathology with age

Age-associated increase in pathologic evidence of benign prostatic hyperplasia in 1075 men at autopsy. The percentage with benign prostatic hyperplasia was determined during 10-year intervals from five different studies; the mean values are shown.

Age to start and stop screening?

- AUA consider screening at age 40 for +FH (father/brother), AA
- Studies focused on age 55 – 69 – This is the “discussion with patient” age
- Life expectancy 10 years or don’t screen
- Stop at age 69
<table>
<thead>
<tr>
<th>Age</th>
<th>Life expectancy</th>
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<tbody>
<tr>
<td>50</td>
<td>29.25</td>
</tr>
<tr>
<td>55</td>
<td>25.21</td>
</tr>
<tr>
<td>60</td>
<td>21.27</td>
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<td>65</td>
<td>17.51</td>
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<tr>
<td>70</td>
<td>14.03</td>
</tr>
<tr>
<td>75</td>
<td>10.87</td>
</tr>
</tbody>
</table>
Prostate Cancer Mortality varies with Gleason score

- Of patients with Prostate Cancer, in the next 15 years...
- Low grade histology Gleason 2 – 4:
  - only 6/1000 person years will die from it
- High grade histology Gleason 8-10:
  - 121/1000 person years will die from it

- Overall: 33/1000 person-years per 15 years
Guidelines for Special Groups?

- African American – no large scale studies that offer useful guidelines
- First degree relative (father or brother) with prostate cancer – additive risk
- Worse if before age 65
Incidence vs Death from..

## Incidence Rates by Race

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races</td>
<td>152.0 per 100,000 men</td>
</tr>
<tr>
<td>White</td>
<td>144.9 per 100,000 men</td>
</tr>
<tr>
<td>Black</td>
<td>228.5 per 100,000 men</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>81.8 per 100,000 men</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>77.8 per 100,000 men</td>
</tr>
<tr>
<td>Hispanic</td>
<td>125.8 per 100,000 men</td>
</tr>
</tbody>
</table>

## Death Rates by Race

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Races</td>
<td>23.0 per 100,000 men</td>
</tr>
<tr>
<td>White</td>
<td>21.2 per 100,000 men</td>
</tr>
<tr>
<td>Black</td>
<td>50.9 per 100,000 men</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>10.1 per 100,000 men</td>
</tr>
<tr>
<td>American Indian/Alaska Native</td>
<td>20.7 per 100,000 men</td>
</tr>
<tr>
<td>Hispanic</td>
<td>19.2 per 100,000 men</td>
</tr>
</tbody>
</table>
USPSTF - 2012

- Recommends **against** prostate cancer screening using PSA
2. Your patient is an African American male age 47 with no symptoms who wonders if he should have a PSA for the first time since his father died of prostate cancer when he was 56.

You should defer PSA testing to age 50 – yes/no
Other advice

- **AUA (2013)**
  - Discuss at 40 for high risk
  - Discuss at 55 – 69 for all others
  - Stop age 70 or if life expectancy less than 10 – 15
  - 2 year minimum interval, if screening.
- **ACS (2010) recommends that asymptomatic men who have at least a 10-year life expectancy have an opportunity to make an informed decision with their health care provider about screening for prostate cancer after they receive information about the uncertainties, risks, and potential benefits associated with prostate cancer screening.
3. Your patient age 64 has severe CHF after 2 heart attacks (NYHA class 3 with EF 22%) and just found out he has multiple myeloma. PSA’s have consistently been about 4.2, and he reminds you it is time to check again this year during his annual review. Urination stable.

This would be a valuable addition to his care to likely help him live a bit longer – yes/no
Summary for your patients

- 1000 men at age 60 - NOT screened
  - 23 men diagnosed with prostate cancer over 10 years
    - 4.4 will die over 10 years

- 1000 men - screened at age 60
  - 115 biopsy because of abnormal PSA
    - 53 men diagnosed with prostate cancer over 10 years
    - 3.5 will die over 10 years
The consequences of screening

- 100 – 120/1000 men screened have false positive – their biopsies were needless
- Biopsy causes worry and anxiety - 100%
- Biopsy causes fever, infection, bleeding, urination problems, significant pain in 30%
- 90% of men actually found to have CA chose treatment – which might not be needed:
  - 29/1000 screened with erectile dysfunction
  - 18/1000 men screened with urination problems
  - 3/1000 screened -cardiac complications or PE
Screening helps

- Unscreened: 5/1000 men will die from prostate cancer after 10 years

- Even WITH screening, 4 – 5/1000 men WILL DIE FROM PROSTATE CANCER

- With screening 1/1000 men will AVOID DEATH FROM PROSTATE CANCER
Colon cancer

1. Mr. Smith had a bad experience with his colonoscopy (the prep) when he was 62 and never wants to do that again. He has no bowel changes and feels well.

You remind him that there are no other means of screening for colon cancer that have really been shown to save lives – yes/no
Colon cancer screening

- Just do it – ages 50 – 75 – everyone
- Choices:
  - Colonoscopy every 10
  - Sigmoidoscopy every 5 with occult blood every 3
  - Annual fecal occult blood (HemoQuant hemoccult)
  - Barium Enema

- Unproven yet: Fecal DNA, CT colonography
Cost of Colon Cancer Screening

- Colonoscopy - $1120 every 10 if normal
- Flex Sig - $740 every 5 with heme
- Stool testing - $5 – 25 every year
Colon cancer

2. Your patient is a remarkable fit gentleman of age 77, still rides his bicycle (with a helmet) and controls his BP with lisinopril 5 mg. His dad lived to be 91, mother 94. He wants a full physical.

You tell him that screening for colon cancer at his age is a bad idea – yes/no
Lung cancer

1. Mr. Smith is 73 and quit smoking at age 65 when he retired after a pack a day history of smoking since age 19. His breathing has come around pretty good, and his cough is gone.

Screening for lung cancer by plain chest X-ray is better than CT – yes/no
Lung Cancer

- CT low dose should be offered annually to high risk smokers without symptoms of lung cancer.
- Age 55 – 80
- 1 pack a day for 30 years
- Ex-smokers if quit in the last 15 years
And the results will be...

- 1 in 100 screened will have possible lung cancer at a stage where early treatment helps
- 65 of 100 will be normal
- 25 of 100 will have nodules
  - More tests will probably be done over the next 2 years
- 10 of 100 will have other abnormalities noted
  - Infection, other damage
Lung Cancer Death at 3 Years

Each circle represents 1 person

Chest CT

- 13 out of 1000 people will die from lung cancer
- 987 out of 1000 people will not die from lung cancer

Chest X-ray

- 16 out of 1000 people will die from lung cancer
- 984 out of 1000 people will not die from lung cancer
Clinically Important Complications in Patients Screened with CT at 3 Years

Each circle represents 1 person

- 8 out of 1000 people will have a complication
- 992 out of 1000 people will not have a complication
Bladder Cancer

- **Insufficient** evidence for screening
- NO effect on mortality proven
- Most cancers found without screening are curable
- Risk factors: Smoking, family history, workplace chemicals
Ovarian Cancer

- Do NOT screen

- Annual screening with Transvaginal Ultrasound and CA-125 does not decrease ovarian cancer mortality
  - Bimanual palpation on pelvic exam is not considered a screening tool

- BRAC1, 2, Lynch Syndrome, 2 first degree relatives, Ashkenazi Jewish with 1 relative deserve special counseling
Pancreatic Cancer

- Do NOT screen population based
- No evidence of effectiveness in reducing mortality
- Poor tools
- Low prevalence
- Poor treatment
Testicular Cancer

- Do NOT Screen
- 90% of all testicle cancers will be cured, regardless of how they are found
- Very low incidence
Oral Cancer

- **Insufficient** Evidence – not well studied
- Mostly in Smokers
- Worse in alcohol abusers PLUS smokers
- Low incidence

- Get a thorough dental exam every 6 months?
Skin Cancer

- Several types – basal cell, squamous cell, melanoma
- Insufficient evidence to balance benefits and harms of whole body screening by patient or physician
- High risk: Sun, >50 moles, family history, fair-skinned over 65 yrs old, atypical moles

- Teach and follow A, B, C, D - biopsy
End Slides

Questions?
Sources

- Choosing Wisely
- AAFP
- USPSTF
- ACP Smart Medicine
These recommendations apply to women who have a cervix, regardless of sexual history. These recommendations do not apply to women who have received a diagnosis of a high-grade precancerous cervical lesion or cervical cancer, women with in utero exposure to diethylstilbestrol, or women who are immunocompromised (such as those who are HIV positive).

The USPSTF recommends screening for cervical cancer in women ages 21 to 65 years with cytology (Pap smear) every 3 years or, for women ages 30 to 65 years who want to lengthen the screening interval, screening with a combination of cytology and human papillomavirus (HPV) testing every 5 years. See the Clinical Considerations for discussion of cytology method, HPV testing, and screening interval. Grade: A Recommendation.

The USPSTF recommends against screening for cervical cancer in women younger than age 21 years. Grade: D Recommendation.

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. See the Clinical Considerations for discussion of adequacy of prior screening and risk factors. Grade: D Recommendation.

The USPSTF recommends against screening for cervical cancer 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. Grade: D Recommendation.

The USPSTF recommends against screening for cervical cancer with HPV testing, alone or in combination with cytology, in women younger than age 29 years.