Is the annual gynecological exam necessary?

What are the current recommendations for women’s preventive screening?
Julie Gorwoda, MSN, CNM, FNP

Examining the evidence for women’s annual examinations
Amy Levi, PhD, CNM, WHNP-BC, FACNM, FAAN

Re-designing the annual wellness visit
Joyce Cappiello PhD, FNP, FAANP
What are the current recommendations for women’s preventive screening?

Julie Gorwoda, MSN, CNM
Traditional Periodic Health Screening

- Pre 1920s- periodic “check up” visit didn’t exist
- 1922 AMA advised “annual exam” of healthy persons
- 1922-mid-1990s “check ups” done annually or more often
- BOGSAT guidelines
  - Routine test panel often done regardless of age, risk status or existing medical conditions
  - Screening intervals arbitrary
  - Inconsistent patterns of new test adoption
  - Often set by manufacturers
Periodic Health Screening
www.ahrq.gov

  - Rejects annual, routine periodic health screening model
  - Adopts “opportunistic prevention” model
  - Currently no national benchmark recommendations regarding frequency of periodic health screening visits
Strength of Recommendation

A: Strongly recommends routine provision
B: Recommends routine provision
C: No recommendation for or against
D: Recommends against routine provision
I: Insufficient evidence to recommend for or against routine provision
Is the “Screening Pelvic Exam” Outdated?

<table>
<thead>
<tr>
<th>Screen for</th>
<th>Preferred test</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC, Ct</td>
<td>Use NAAT (PCR) with urine</td>
</tr>
<tr>
<td>Cervical cancer</td>
<td>Pap every 3 yrs w. uterus or q 5 yrs</td>
</tr>
<tr>
<td></td>
<td>No if total hyst for benign disease</td>
</tr>
<tr>
<td>Ovarian cancer</td>
<td>USPSTF rec. against bimanual exam</td>
</tr>
<tr>
<td>Vulvar cancer</td>
<td>Unnecessary if asymptomatic</td>
</tr>
<tr>
<td>Bowel cancer</td>
<td>Screen yearly with FOBTx3 or scope q 5-10 yr</td>
</tr>
<tr>
<td>Myomas</td>
<td>Unnecessary if asymptomatic</td>
</tr>
<tr>
<td>type</td>
<td>% of deaths</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Lung</td>
<td>27 %</td>
</tr>
<tr>
<td>Breast</td>
<td>15 %</td>
</tr>
<tr>
<td>Bowel/rectum</td>
<td>10 %</td>
</tr>
<tr>
<td>Lymphoma/leukemia</td>
<td>7 %</td>
</tr>
<tr>
<td>Pancreas</td>
<td>6 %</td>
</tr>
<tr>
<td>Ovary</td>
<td>6 %</td>
</tr>
<tr>
<td>Uterus</td>
<td>3 %</td>
</tr>
<tr>
<td>Cervix (3710)</td>
<td>1 %</td>
</tr>
</tbody>
</table>
# Screening Tests for Breast Cancer

<table>
<thead>
<tr>
<th>Test</th>
<th>Historical</th>
<th>Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self breast exam</td>
<td>Monthly</td>
<td>No [D]</td>
</tr>
<tr>
<td>Clinical breast exam</td>
<td>Annually</td>
<td>Neutral [I]</td>
</tr>
<tr>
<td>Mammography</td>
<td>Once</td>
<td>NR [I]</td>
</tr>
<tr>
<td>Baseline @ 35 yrs old</td>
<td>q 1-2 yr</td>
<td>No [B]</td>
</tr>
<tr>
<td>40 – 49 yrs old</td>
<td>q 1-2 yr</td>
<td>q 2 yrs [B]</td>
</tr>
<tr>
<td>≥ 50 – 74 yrs old</td>
<td>q 1-2 yr</td>
<td>NR [I]</td>
</tr>
<tr>
<td>&gt; 75 yrs old</td>
<td>q 1-2 yr</td>
<td></td>
</tr>
</tbody>
</table>

**NR**=Not Recommended
Breast Cancer Screening Guidelines (2009 USPSTF)

- **Age < 40:**
  - Low risk: CBE + MG not recommended
  - High risk: CBE + MG at 30-35 yrs (not addressed in 2009 version)
    - Start screening 10 yrs before mother’s age at dx.

- **Age 40-49:** MG q 2 yr-decision individual [C]
  - Lower rate of cancer and higher rates of false positives makes MG less beneficial than ≥50
  - Insufficient evidence for CBE alone [I]

- Digital MG or MRI no better than film MG in cancer detection [I]
Breast Cancer Screening Guidelines

- Age 50-74: Mammogram q 2 years [ B ]
  - No evidence that CBE alone beneficial or that screening q 1 yr is better than q 2 yrs [ I ]

- Age >74: Limited evidence for Mammogram [ I ]
Self Breast Exam

- Recommended since the 1960s
- End point is change in exam, not finding a breast lump
- Teaching SBE no longer recommended [D]

- RCT: 266,000 female Chinese factory workers (Mammography or CBE unavailable)
  - ½ got intense SBE training
  - ½ got “routine” care
  - Results: More bx for benign disease in SBE group
  - No difference in breast Ca deaths/survival rates in either group

(Thomas, DB. JNCI, 2002, 94: 1445.)
Cervical Cancer Screening (2012)

- Age 21-65 [A]:
  - q 3 years: PAP or
  - Age 30: q 5 years: PAP/HPV

- No screening:
  - < 21 years old
  - > 65 years old (if prior adequate screen and not at risk for cervical cancer)
  - Women w/o cervix and no hx of high-grade precancerous lesion (CIN 2 or 3) or cervical cancer [D]
Colon/Bowel Cancer Screening
(3rd cause of cancer deaths in women)

- Incidence in women: 94 K colon, 36 K bowel
- Natural history: most arise from polyps and are asymptomatic early
  - 1st symptom usually bleeding
- At risk: personal or FH colon cancer or polyps
  - Inflammatory bowel disease
  - Sedentary w. high fat, low fiber diet
Colon/Bowel Cancer Screening (USPSTF 2008)

• Age 50-75 [A]
  – Screen earlier/more freq. if risk factors
  – Annually 3 high sensitivity, FOBT in well prepped patient (single FOBT at pelvic not recommended) OR
  – Flexible sigmoidoscopy (+FOBT) q 5 yrs with repeat FOBT q 3 yrs OR
  – Colonoscopy q 10 yrs with FOBT q 3 yrs
• Age 76-85: no reg. screening [C]
• >85 yrs: no screening [D]
• Insufficient evidence for computed tomographic colonography or fecal DNA testing [I]
Screening for Ovarian Cancer

• Options for screening
  – (Bimanual) Pelvic examination
  – Transvaginal pelvic ultrasound (TVS)
  – Serum Tumor Marker: CA-125

• None are recommended for low risk asymptomatic women

• Low sensitivity, specificity for early disease

• Low prevalence of disease

• High cost of evaluation
Ovarian Cancer Screening (USPSTF 2012)

- Screening asymptomatic women with ultrasound, tumor markers, or exam is not recommended [D]
- Insufficient evidence to recommend for or against in asymptomatic women at increased risk [I]
Genetic Risk Assessment 2005 [B] (BRCA1 & BRCA 2)

- Negative breast or ovarian FH
  - No routine screening [D]

- Strong FH of breast or ovarian Cancer (maternal and/or paternal)
  - Especially in Ashkenazi Jews, male breast Ca
  - http://www.ahrq.gov/clinic/uspstf05/brcagen/brcagenrs.htm#clinical

- Should be referred to genetic counselor for recommendations
Examining the evidence for women’s annual examinations

Amy Levi, PhD, CNM, WHNP-BC, FACNM, FAAN
Albers Professor of Midwifery
University of New Mexico
Evidence? Who needs evidence?

“Evidence-based medicine (EBM) is the integration of individual clinical expertise with the best available research evidence from systematic research and the patient’s values and expectations”

Levels of Evidence

- Level 1: RCT or meta-analysis
  (Lower limit of confidence interval for treatment effect exceeds minimal important benefit)
- Level 2: RCT or meta-analysis
  (Lower limit of confidence interval for treatment effect overlaps with minimal important benefit)
- Level 3: Nonrandomized concurrent cohort study
- Level 4: Nonrandomized historic cohort study
- Level 5: Case series without control subjects
So....
What is the evidence for the annual gynecological exam?

Evidence is something that gets you into trouble.
Jim has burned the evidence.
What the American Congress of Obstetricians and Gynecologists says:

“The College (sic) guidelines recommend that a pelvic examination be performed on an annual basis in all patients aged 21 years and older…No evidence supports or refutes the annual pelvic examination for the asymptomatic, low-risk patient”
“An annual pelvic examination seems logical, but also lacks data to support a specific time frame or frequency of such examinations”

What is included in a pelvic examination?

- Examination of external genitalia
- Visualization of vagina and cervix
- Collection of Pap smear, STI, and vaginal secretion samples
- Bimanual examination of pelvic organs
- Assessment of bony pelvic structures
What can we learn from a pelvic examination?

- Presence of infection
- Structural abnormalities
- Results of specific tests
- Pelvic floor muscle disruption
- Presence of masses
So...

Where is the evidence?
Accuracy of the Pelvic Examination in Detecting Adnexal Masses


“Bimanual pelvic examination has marked limitations for evaluating adnexa, even with ideal circumstances. Experience during postgraduate training in gynecology did not seem to improve examination accuracy. Patient characteristics such as obesity, uterine size, and abdominal scars limit the accurate palpation of the adnexa.”
Screening of the pelvic organ prolapse without a physical examination

Tehrani et al. BMC Women’s Health 2011, 11:48

“The sensitivity and specificity of POPSSI (pelvic organ prolapse simple screening inventory) for identification of pelvic organ prolapse in the general population were 45.5 and 87.4% respectively; these values were 96.7 and 20% among those women who were aware of their pelvic dysfunction.”
Preventive Health Examinations and Preventive Gynecological Examinations in the United States


Proportions of preventive care services ordered or delivered at preventive health examinations (PHEs) and preventive gynecological examinations (PGEs). The vertical lines represent 95% confidence intervals around percentage estimates. Pap indicates Papanicolaou smear; PSA, prostate-specific antigen.
Systematic Review: The Value of the Periodic Health Evaluation


“The PHE had a consistently beneficial association with patient receipt of gynecologic examinations and Papanicolaou smears, cholesterol screening, and fecal occult blood testing. The PHE also had a beneficial effect on patient “worry” in 1 randomized, controlled trial but had mixed effects on other clinical outcomes and costs.”
The Pelvic Examination as a Screening Tool


<table>
<thead>
<tr>
<th>Reported Use</th>
<th>Physicians, No. (%)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>FP/GPs (n=609)</td>
<td>Interns (n=391)</td>
<td>OB/GYNs (n=250)</td>
<td>P Value</td>
<td></td>
</tr>
<tr>
<td>As part of a “well-woman exam”</td>
<td>545 (89.5)</td>
<td>211 (54.0)</td>
<td>246 (98.4)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>To screen for ovarian cancer</td>
<td>336 (55.2)</td>
<td>116 (29.7)</td>
<td>238 (95.2)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>To screen for other gynecologic cancers</td>
<td>414 (68.0)</td>
<td>161 (41.2)</td>
<td>240 (96.0)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>To screen for STIs</td>
<td>444 (72.9)</td>
<td>152 (38.9)</td>
<td>229 (91.6)</td>
<td>&lt;.001</td>
<td></td>
</tr>
<tr>
<td>As a requirement for hormonal contraception</td>
<td>412 (67.7)</td>
<td>157 (40.2)</td>
<td>179 (71.6)</td>
<td>&lt;.001</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: FP/GPs, family/general practitioners; OB/GYNs, obstetrician/gynecologists; STIs, sexually transmitted infections.

Pearson χ² asymmetrical 2-sided tests were used to compare percentages across specialties. “Routine use” is defined as performing pelvic examinations for each stated purpose “always” or “most of the time.”
An evaluation of the usefulness of x-ray pelvimetry: Comparison of the Thoms and modified Ball methods with manual pelvimetry.


“The data from this study suggest that there is no significant role for x-ray pelvimetry in the diagnosis and management of CPD in cephalic presentations.”
What is the best way to confirm a diagnosis?
Diagnostic Imaging!
Is the annual gynecological exam necessary?

Re-designing the annual wellness visit

Joyce Cappiello PhD, FNP, FAANP
Assistant Professor of Nursing University of New Hampshire
And the Director of the ROE Consortium
International Experience

• Country specific data on the performance of the annual pelvic exam was not found.

• A reasonable marker is to use the cervical cancer screening guidelines as a predictor of the frequency of the annual exam.

• Anecdotal information also used. When I emailed colleagues in other countries re: annual pelvic exams, they sent me their cervical cancer screening guidelines. They couldn’t conceptualize the idea of annual screening pelvic exams.
Cervical cancer mortality in the U.S. and the Netherlands

- Cervical Cancer Mortality Rates in the United States and in the Netherlands, Age Standardized to the U.S. 2000 Population
- Sources: United States: NCHS, see Altekruse et al. 2010.
South Africa

- All asymptomatic women of at least 30 years of age are offered three free lifetime Pap smears, up to 10 years apart (policy currently under revision).
- Annual wellness/pelvic exams are not feasible.
- Cancer screening rates in South Africa are low, regardless of HIV status. Rates as low as 4%, most performed in antenatal or family planning clinics.
- 2008 adult prevalence rate of cervical cancer is 18.1%.

- National Guideline for Cervical Cancer Screening Programme.
Japan

- Guidelines: suggest that women 20 years of age and older have a regular physical exam and checkup every 2 years with a pap smear.
- The cost is covered by the central and local government.
- Screening rate was 37% in 2010.
In the light of evidence published in 2013, the NHS Cervical Screening Programme offers screening at different intervals depending on age. This means that women are provided with a more targeted and effective screening programme.

The screening intervals are:

- **Age group (years)**
  - 25: First invitation
  - 25 - 49: 3 yearly
  - 50 - 64: 5 yearly
  - 65+: Only screen those who have not been screened since age 50 or have had recent abnormal tests
Cervical Cancer Rates Worldwide, 2008

Age-Standardized Incidence Rates per 100,000 Population,

Ferlay J, Shin HR, Bray F, Forman D, Mathers C, Parkin DM
GLOBOCAN 2008 v1.2, Cancer Incidence and Mortality Worldwide:

Prepared by Cancer Research UK
Cervical cancer, European Age-Standardised Incidence Rates
Females, EU-27 Countries, 2008 Estimates

- Romania
- Bulgaria
- Lithuania
- Hungary
- Slovakia
- Estonia
- Czech Republic
- Poland
- Latvia
- Portugal
- Denmark
- Slovenia
- Ireland
- EU-27
- Belgium
- Sweden
- Germany
- France (Metropolitan)
- UK
- Italy
- Luxembourg
- The Netherlands
- Spain
- Austria
- Cyprus
- Greece
- Finland
- Malta

Rate per 100,000
United States: A study of the implementation of the 2006 cervical cancer screening guidelines into nurse practitioner practice (Cappiello & Boardman, 2008)

How often do you perform the pelvic estimation as a requirement for starting oral or other hormonal contraception with adolescents?

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Always</td>
<td>9.2%</td>
<td>11</td>
</tr>
<tr>
<td>b. Most of the time</td>
<td>7.6%</td>
<td>9</td>
</tr>
<tr>
<td>c. Some of the time</td>
<td>14.3%</td>
<td>17</td>
</tr>
<tr>
<td>d. Rarely</td>
<td>26.9%</td>
<td>32</td>
</tr>
<tr>
<td>e. Never</td>
<td>42.0%</td>
<td>50</td>
</tr>
</tbody>
</table>
### Findings (Cappiello & Boardman, 2008)

**Case Study:** A healthy 17 year old with a negative health history request birth control. Would you perform a screening breast exam on her?

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Yes</td>
<td>42.0%</td>
<td>50</td>
</tr>
<tr>
<td>b. No</td>
<td>58.0%</td>
<td>69</td>
</tr>
</tbody>
</table>

Would you perform a screening pelvic exam on the 17 year old with a negative health history requesting birth control?

<table>
<thead>
<tr>
<th>Answer Options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Yes</td>
<td>19.3%</td>
<td>23</td>
</tr>
<tr>
<td>b. No</td>
<td>78.2%</td>
<td>93</td>
</tr>
<tr>
<td>c. Other</td>
<td>2.5%</td>
<td>3</td>
</tr>
</tbody>
</table>
If not the pelvic exam, what do we do?

A public health framework of primary prevention

Ask all women of reproductive age if they plan to become pregnant in the next 12 months.
If YES to planning a pregnancy, the nurse assesses key behaviors to ensure ideal pre-pregnancy health:

1) a review/update of immunization history,
2) screening/counseling re: infectious disease including sexually transmitted infections,
3) screening/counseling for substance abuse – smoking, alcohol, drug use,
4) assessment of overall health conditions—weight, diet, exercise, and
5) folic acid intake.
6) Assess need for changes in medical management of any chronic diseases
7) Assess for teratogenic effect of current meds
8) Assess need for genetic counseling
9) Assess occupational risk
Ask all women of reproductive age if they plan to become pregnant in the next 12 months.

- If the patient is not planning a pregnancy in the next year and is heterosexually active, the focus switches to a discussion of contraception, either initiation of/or assessment for success with method.
Ask all women of reproductive age if they plan to become pregnant in the next 12 months.

- If the woman is currently pregnant with an unintended pregnancy, the focus switches to a discussion of pregnancy options:
  - Continuing the pregnancy
  - Considering adoption
  - Considering an abortion
- Referrals as indicated
If unintended pregnancy:

- Unbiased options counseling

- Appropriate referrals
  - Prenatal care
  - Abortion services
  - Adoption services
Post-reproductive age women

- The focus of the wellness visits expands to include a renewed/continued focus on:
  - sexual wellness
  - breast health
  - screening for intimate partner violence
  - overall health and wellness.
    - prevention of heart disease and stroke using the modifiable risks factors identified by the million health initiative can be stressed.
Primary prevention oriented wellness visit

- Build on the concepts of health coaching and motivational interviewing, which when used together, have the potential to improve:
  - effective contraceptive use
  - improve preconception health
  - Improve sexual health
  - Improve health care decision-making outcomes.
Questions and Answers