Pelvic examination is often conducted in asymptomatic women to screen for pathology. The examination consists of inspection of the external genitalia; speculum examination of the vagina and cervix; bimanual examination of the adnexa, uterus, ovaries, and bladder; and sometimes rectal or rectovaginal examination. Performing routine pelvic examination adds both direct costs to the health care system and opportunity costs. The total annual cost of preventive gynecologic examinations and associated laboratory and radiologic services in the United States is estimated to be $2.6 billion (1). Medicare payments from 2013 were $38.11 for a screening pelvic examination and $45.93 for collection of a Papanicolaou (Pap) smear specimen (2). Pathologic conditions that are potentially detectable on the pelvic examination include cancer, infections, and asymptomatic pelvic inflammatory disease.

For the purpose of this article, pelvic examination means the speculum and bimanual examination; it does not include obtaining a Pap smear for cervical cancer screening, which is not considered in this guideline. When screening for cervical cancer, the recommended examination should be limited to visual inspection of the cervix and cervical swabs for cancer and human papillomavirus. However, pelvic examination is often performed in women who are not due for screening for cervical cancer. Many women and clinicians believe that pelvic examination should be part of annual wellness visits for women (1).

The purpose of this American College of Physicians (ACP) guideline is to present the available evidence on screening for pathology using pelvic examination in adult, asymptomatic, average-risk, nonpregnant women. The target audience for this guideline includes all clinicians, and the target patient population includes asymptomatic, nonpregnant, adult women. These recommendations are based on a background article (3) and a systematic evidence review sponsored by the Minneapolis Department of Veterans Affairs Health Care System’s Evidence-based Synthesis Program Center (4).

**Methods**

The evidence review was conducted by the Minneapolis Veterans Affairs Health Care System’s Evidence-based Synthesis Program Center to address the following key questions:

1. How accurate is the screening pelvic examination for detection of cancer (other than cervical), pelvic inflammatory disease, or other benign gynecologic conditions?
2. What are the benefits (reduced mortality and morbidity rates) and harms (overdiagnosis, overtreatment, or diagnostic procedure–related) of the routine screening pel-

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The American College of Physicians’ Guideline Grading System*

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* Adopted from the classification developed by the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) workgroup.

Diagnosis of Ovarian Cancer

Three cohort studies (8–10) assessed the diagnostic accuracy of the pelvic examination for detecting ovarian cancer in asymptomatic women (5633 women, mean age 51.0 to 58.1 years). Women at increased genetic risk for ovarian cancer were excluded from these studies. The studies combined found only 4 cases of ovarian cancer over 1 year, with positive predictive values from 0% to 3.6% indicating that 96.7% to 100% of abnormal pelvic examinations did not identify ovarian cancer. In addition, in a large randomized, controlled trial of screening for ovarian cancer with transvaginal ultrasonography and CA-125 involving 78 000 women, the bimanual pelvic examination was dropped after 5 years because no cancer was detected solely by this examination (11).

Detection of Bacterial Vaginosis

One prospective observational study (269 participants) (12) compared the Amsel criteria for screening for bacterial vaginosis with the reference standard of Gram staining. According to the Amsel criteria, a diagnosis of bacterial vaginosis can be made if vaginal secretions obtained by swab during the pelvic examination contain 3 of the 4 following characteristics: thin, homogeneous consistency; pH greater than 4.5; presence of clue cells on microscopic evaluation; and release of amine odor after the addition of a base. The study reported that the Amsel criteria had a sensitivity of 69% and specificity of 93% for detecting bacterial vaginosis. Of note, the study included both symptomatic and asymptomatic women, with a prevalence of bacterial vaginosis that was greater than typically reported.

Benefits of Routine Pelvic Examination

The clinical benefits that were evaluated included reduced mortality and morbidity rates. No studies evaluated the potential indirect benefit of annual pelvic examination being an incentive for women to access health care and eventually receive recommended gynecologic services, such as contraception, screening for sexually transmitted infections, or other nongynecologic care.

Ovarian Cancer

The PLCO (Prostate, Lung, Colorectal and Ovarian) trial screened with bimanual pelvic examination for 5 years, in addition to CA-125 and transvaginal ultrasonography, and found no reduction in ovarian cancer (or other cancer) mortality rates associated with the pelvic examination or the 3 methods combined (11). No other studies assessed the benefits of pelvic examination for reduction of ovarian cancer morbidity or mortality rates.

Other Cancer

Although no studies explicitly evaluated the effect of the screening pelvic examination on nonovarian and noncervical cancer morbidity or mortality rates, the PLCO trial did not report any reduction in these outcomes, nor did cohort studies of pelvic examination to detect ovarian...
cancer report detection of any nonovarian and noncervical
cancer (11). No other studies assessed the benefits of pelvic
examination on other cancer.

Pelvic Inflammatory Disease, Bacterial Vaginosis, and
Other Benign Conditions

No studies assessed the benefits of pelvic examination for
these conditions.

Harms of Pelvic Examination
Examination-Related Harms

The evaluated harms included fear, anxiety, embarrass-
ment, pain, and discomfort. Physical harms may include
urinary tract infections and symptoms, such as dysuria and
frequent urination. Fourteen surveys (13–26) and 1 longi-
tudinal cohort study (27) assessed women’s attitudes
about, and experiences with, pelvic examination (13 000
participants from 6 countries). Most studies included only
women in their reproductive years. The overall quality of
the studies was low. Women who reported pain or discom-
fort during the pelvic examination ranged from 11% to
60% (median, 35%; 8 studies including 4576 partici-
pants), and 10% to 80% reported fear, embarrassment, or
anxiety (median, 34%; 7 studies including 10 702 partici-
pants). Women who experienced pain or discomfort dur-
ing their examination were less likely to have a return visit
than those who did not (5 out of 5 studies reporting this
relationship) (14, 16, 20, 21, 27).

Procedure-Related Harms

The evaluated harms included false reassurance, over-
diagnosis, overtreatment, and diagnostic procedure–related
harms. The evidence review identified no studies that
addressed these harms in asymptomatic, nonpregnant
women. Indirect evidence from 1 study on the use of pelvic
examination to detect ovarian cancer (10) showed that pel-
vic examination led to unnecessary surgery in 1.5% of
women screened (29 out of 2000).

Variation in Harms According to Patient Characteristics

The evidence review evaluated data on how patient
factors, including demographic characteristics, physical
traits, history of sexual trauma or posttraumatic stress dis-
order (PTSD), and veteran status, influenced distress or
harms.

Obesity

The evidence review identified 2 low-quality studies
that evaluated body weight (28, 29), finding that very
overweight women may receive fewer pelvic examinations
because of embarrassment than moderately overweight or
normal-weight women (28). Overweight women were
more likely than nonoverweight women to feel embarrass-
ment and disrespect during a gynecology visit (28).

History of Sexual Violence

Evidence from 9 low-quality studies was mixed on use
of gynecologic services among women with a history of
sexual violence (30–32). Two (30, 33) studies reported
that fear, anxiety, or embarrassment were greater among
women with a history of sexual abuse, whereas 2 studies
(33, 34) showed a greater rate of pain and discomfort dur-
ing the examination among women with a history of sexual
abuse. Two studies (34, 35) showed that women with a
history of sexual violence who were also diagnosed with
PTSD experienced more distress, fear, and embarrassment
than women without PTSD, regardless of sexual violence
history.

Variation in Harms According to Provider Characteristics

The evidence review identified no studies that evalu-
ated the relationship between provider characteristics and
harms associated with the pelvic examination.

Summary

Pelvic examination is commonly used in asymptom-
atic, nonpregnant, adult women to screen for pathology.
Evidence shows that the diagnostic accuracy of pelvic ex-
amination for detecting ovarian cancer or bacterial vagino-
sis is low. The PLCO trial and cohort studies suggest that
the screening pelvic examination rarely detects noncervical
cancer or other treatable conditions and was not associated
with improved health outcomes. The PLCO trial found no
reduction of ovarian cancer mortality rates by screening
with pelvic examination or by screening with CA-125 or
transvaginal ultrasonography, both of which are more sen-
sitive for detecting ovarian cancer than the pelvic examina-
tion itself. Thus, there is indirect evidence that pelvic ex-
amination (as distinct from cervical cancer screening) in
asymptomatic, adult women does not reduce morbidity or
mortality rates. No studies were identified that addressed
the diagnostic accuracy of the pelvic examination for other
gynecologic conditions, such as asymptomatic pelvic in-
flammatory disease, benign conditions, or gynecologic can-
cer other than cervical or ovarian cancer. Many false-
positive findings are associated with pelvic examination,
with attendant psychological and physical harms, as well as
harms associated with the examination itself. Harms of
pelvic examination include unnecessary laparoscopies or
laparotomies, fear, anxiety, embarrassment, pain, and dis-
comfort. Women with a history of sexual violence, and
particularly those with PTSD, may experience more pain,
discomfort, fear, anxiety, or embarrassment during pelvic
examination. See the Figure for a summary of the recom-
mendations and clinical considerations.

Recommendations

Recommendation: ACP recommends against performing
screening pelvic examination in asymptomatic, nonpregnant,
Cancer, pelvic inflammatory disease, other benign gynecologic conditions

Unnecessary laparoscopies or laparotomies, fear, embarrassment, anxiety, pain or discomfort, avoidance of necessary care

None identified

Unnecessary laparoscopies or laparotomies, fear, embarrassment, anxiety, pain or discomfort, avoidance of necessary care

Recommendation: ACP recommends against performing screening pelvic examination in asymptomatic, nonpregnant, adult women (strong recommendation, moderate-quality evidence).

American College of Physicians (ACP) found no evidence that routine pelvic examination in asymptomatic, nonpregnant, adult women provides any benefit. With the current evidence, we conclude that performing pelvic examination exposes women to unnecessary and avoidable harms with no benefit. In addition, these examinations add unnecessary costs to the health care system. These costs may be compounded by expenses incurred by additional follow-up tests, including follow-up tests as a result of false-positive screening results, increased medical visits, and costs of keeping or obtaining health insurance.

Clinicians do not need to perform pelvic examination before prescribing oral contraceptives.

Screening for sexually transmitted disease can be performed with urine testing or vaginal swabs and does not require a pelvic examination.

Evaluation is often indicated in women with such symptoms as vaginal discharge, abnormal bleeding, pain, urinary problems, and sexual dysfunction.

When screening for cervical cancer, examination should be limited to visual inspection of the cervix and cervical swabs for cancer and HPV.

HPV = human papillomavirus.

adult women (strong recommendation, moderate-quality evidence).

The current evidence shows that harms outweigh any demonstrated benefits associated with the screening pelvic examination. Indirect evidence showed that screening pelvic examination does not reduce mortality or morbidity rates in asymptomatic adult women, as 1 trial showed that screening for ovarian cancer with more sensitive tests (transvaginal ultrasonography and CA-125) also did not reduce mortality or morbidity rates. Because CA-125 and transvaginal ultrasonography found all cancer detected by the screening pelvic examination as well as additional cancer and this earlier detection did not lead to a reduction in morbidity or mortality rates, we conclude that the screening pelvic examination alone would also not reduce morbidity or mortality rates. No studies assessed the benefit of pelvic examination for other gynecologic conditions, such as asymptomatic pelvic inflammatory disease, benign conditions, or gynecologic cancer other than cervical or ovarian cancer. Also, there is low-quality evidence that screening pelvic examination leads to harms, including fear, anxiety, embarrassment, pain, and discomfort, and possibly prevents women from receiving medical care. In addition, false-positive screening results can lead to unnecessary laparoscopies or laparotomies. Note that this guideline is focused on screening asymptomatic women; full pelvic examination with bimanual examinations is indicated in some nonscreening clinical situations. This guideline does not address women who are due for cervical cancer screening. However, the recommended cervical cancer screening examination should be limited to visual inspection of the cervix and cervical swabs for cancer and human papillomavirus and should not entail a full pelvic examination.

HIGH-VALUE CARE

Although screening for chlamydia and gonorrhea traditionally required a speculum examination, nucleic acid amplification tests on self-collected vaginal swabs or urine have been shown to be highly specific and sensitive, and this technique is supported by several organizations (36–40). ACP found no evidence that screening pelvic examination in asymptomatic, nonpregnant, adult women provides any benefit and indirect evidence that it does not reduce morbidity or mortality rates. However, many clinicians include pelvic examination as part of the well-woman visit (41–43), and because pelvic examination is low-value care, it should be omitted from the well-woman visit.
Many clinicians also require pelvic examination before prescribing oral contraceptives (44), although this practice is low-value care and not supported by evidence. Many organizations also advise against screening pelvic examination before prescribing hormonal contraception for healthy asymptomatic women (45, 46).

With the available evidence, we conclude that screening pelvic examination exposes women to unnecessary and avoidable harms with no benefit (reduced mortality or morbidity rates). In addition, these examinations add unnecessary costs to the health care system ($2.6 billion in the United States) (47). These costs may be amplified by expenses incurred by additional follow-up tests, including follow-up tests as a result of false-positive screening results; increased medical visits; and costs of keeping or obtaining health insurance.

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Note: Clinical practice guidelines are “guides” only and may not apply to all patients and all clinical situations. Thus, they are not intended to override clinicians’ judgment. All ACP clinical practice guidelines are described at www.annals.org/article.aspx?articleid.

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References
Ad Libitum

Found Poem

*(hospital waiting room)*

- O Always
- O Sometimes
- O Never
- O Does Not Apply

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