Current practice patterns in cervical cancer screening in Indiana

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OBJECTIVE: The purpose of this study is to describe current health care provider cervical cancer screening practice patterns for average-risk women in the state of Indiana in comparison to the 2012 guidelines as well as earlier guidelines. We also aim to describe what factors are associated with increased adherence to guidelines, and what factors may impede adherence.

STUDY DESIGN: We conducted a vignette-based survey among a convenience sample of obstetricians, gynecologists, midwives, nurse practitioners, and physician assistants attending the Indiana American Congress of Obstetricians and Gynecologists Section meeting in January 2013.

RESULTS: Questionnaires were returned by 51% (112/218) of attendants. Of the 111 providers with completed surveys, 42 (38%) follow current guidelines. Of providers, 86% start screening at age 21 years. Of providers, 33% screen women aged 21-29 years every 3 years. Of providers, 33% follow recommendations for cotesting every 5 years for patients 30-65 years of age. The majority of providers follow guidelines to stop screening after a benign hysterectomy or age 65 years (75% and 51%, respectively).

CONCLUSION: The majority of providers follow the 2012 guidelines for the initiation and cessation of cervical screening; however, most providers screen more frequently than currently recommended for patients between ages 21-65 years.

Key words: cervical cancer screening, guideline adherence, Pap smears, practice patterns

Cite this article as: King NR, Kasper KM, Daggy JK, et al. Current practice patterns in cervical cancer screening in Indiana. Am J Obstet Gynecol 2014;210:265.e1-8.

Cervical cancer screening with Pap tests has led to a remarkable decrease in new diagnoses and cervical cancer death over the last 40 years. However, with an estimated 12,340 new cases and 4030 deaths in 2013 in the Unites States,[1] it remains an important health concern. In 2012, the American Congress of Obstetricians and Gynecologists (ACOG), the American Cancer Society (ACS), the American Society for Colposcopy and Cervical Pathology (ASCCP), the American Society for Clinical Pathology, and the US Preventive Services Task Forces (USPSTF) all released updated guidelines to provide consistent recommendations for cervical cancer screening.[2-4]

The new guidelines have made changes due to increased available evidence. The guidelines clearly state the importance of adherence to the recommendations due to the balance of preventing morbidity and mortality from cervical cancer while avoiding the detection and unnecessary treatment of transient human papillomavirus (HPV) infection and associated benign lesions. As with any cancer screening test, the frequency should maximize the benefit while minimizing the harm. With the continually changing nature of evidence-based medicine, guidelines have changed many times over the years. We have reviewed the guidelines of the past 25 years in Table 1. It is important that providers continue to change their practice as new evidence and guidelines are defined in all areas of medicine.

Little evidence is available that determines if and how providers have changed their practice patterns with the new guidelines of 2012. To date, very few studies have compared practice patterns with current vs past guidelines.[5,6] Additionally, it is not fully understood what leads providers to be more or less likely to follow new guidelines as they become available. This study aims to determine what percentage of Indiana's Pap smear providers follow the most current screening guidelines, vs previous guidelines, for low-risk patients; and under what clinical circumstances providers are most likely to deviate from the current guidelines. Our secondary aim is to describe demographic and practice-setting characteristics associated with providers who adhere to the current guidelines. Finally, we describe factors that facilitate or impede changes in provider practice patterns.

Materials and Methods

We conducted a vignette-based survey among a convenience sample of practicing obstetricians, gynecologists, midwives, nurse practitioners, and physician assistants (PA) attending the Indiana ACOG Section meeting in January 2013. The study was approved by the Institutional Review Board of Indiana University, with exempt status. Questionnaires were placed in each of the information packets given to the conference attendants. Providers attending the meeting who perform Pap smears were included, which was obtained

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Received Sept. 3, 2013; revised Nov. 23, 2013; accepted Jan. 2, 2014.

The authors report no conflict of interest.

Presented at the 80th annual meeting of the Central Association of Obstetricians and Gynecologists, Napa Valley, CA, Oct. 16-19, 2013.

Reprints not available from the authors.

0002-9378/$36.00

http://dx.doi.org/10.1016/j.ajog.2014.01.001

TABLE 1
Cervical screening recommendations, 1988 through 2012

	Recommendation							
Population	**1988 Consensus[14]**	**ACS 2002[10]**	**ACOG 2003[9]**	**USPSTF 2003[8]**	**ACOG 2009[13]**	**2012 ACOG, USPSTF, ACS/ ASCCP/ASCP[3]**	**USPSTF 2012[4]**	**ACOG 2012[2]**
When to start screening	Age 18 y or onset of sexual intercourse	Age 21 y or about 3 y after intercourse	Age 21 y or about 3 y after intercourse	Age 21 y or about 3 y after intercourse	Age 21 y	Age 21 y	Age 21 y	Age 21 y
Screening age 21-29 y	Annually until 3 negatives, then interval can be extended	Annual screening	Annual screening	Every 3 y	Every 2 y	Every 3 y	Every 3 y	Every 3 y
Screening age 30-65 y	Annually until 3 negatives, then interval can be extended	After 3 negatives, may screen every 2-3 y	After 3 negatives, may screen every 2-3 y	Every 3 y	After 3 negatives, every 3 y	Cytology every 3 y[a] or cotesting every 5 y[b]	Cytology every 3 y or cotesting every 5 y	Cytology every 3 y[a] or cotesting every 5 y[b]
Screening after hysterectomy	No recommendations	Pap not recommended if hysterectomy was for benign reasons with no history of CIN II or III	Screening may be discontinued if hysterectomy was for benign reasons with no history of CIN II or III	Discontinue screening after hysterectomy if good screening and no evidence of neoplasia or cancer	Discontinue screening if cervix removed and hysterectomy was for benign reasons with no history of CIN II or III	Discontinue screening if cervix removed and hysterectomy was for benign reasons with no history of CIN II or III	Discontinue screening if cervix removed and hysterectomy was for benign reasons with no history of CIN II or III	Discontinue screening if cervix removed and hysterectomy was for benign reasons with no history of CIN II or III
When to stop screening	No upper limit given	Age 70 y in well-screened, low-risk women	Evidence inconclusive	Age 65 y in well-screened, low-risk women	Age 65 or 70 y after $\geq$3 negative Pap smears	Age 65 y, if low risk with adequate screening	Age 65 y, if low risk with adequate screening	Age 65 y, if low risk with adequate screening

ACOG, American Congress of Obstetricians and Gynecologists; *ACS*, American Cancer Society; *ASCCP*, American Society for Colposcopy and Cervical Pathology; *ASCP*, American Society for Clinical Pathology; *CIN*, cervical intraepithelial neoplasia; *USPSTF*, US Preventive Services Task Force.

[a] Acceptable; [b] Preferred.

King. Cervical cancer screening patterns. Am J Obstet Gynecol 2014.