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Obstetrician–Gynecologist Practices and Beliefs Regarding External Genitalia Inspection and Speculum Examinations in Healthy Older Asymptomatic Women

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OBJECTIVES: To understand obstetrician–gynecologist perceptions of the value of external genitalia inspection and speculum examinations in older and younger healthy women across the life span.

DESIGN: National survey from May 2010 to January 2011 asking obstetrician–gynecologists about the need for and importance of external inspection and speculum examination in four scenarios of asymptomatic healthy women aged 70, 55, 35, and 18 who present for routine health visits. Separate questions asked about the importance of various reasons for these examinations.

SETTING: Mail-in survey of a national sample of obstetrician–gynecologists.

PARTICIPANTS: Probability sample of obstetrician–gynecologists from the American Medical Association Physician Masterfile (N = 521).

MEASUREMENTS: Proportion of obstetrician–gynecologists who would perform external inspection and speculum examinations and consider these examinations to be very important.

RESULTS: The response rate was 62%. In a healthy 70-year-old woman, 98% of respondents would perform external inspection, and 86% would perform a speculum examination. Ninety percent would perform a speculum examination in a healthy 55-year-old woman after removal of her uterus, cervix, and ovaries. Respondents more often indicated that the external examination was very important in the 70-year-old (63%) than in younger women (46–53%). Reasons rated as very important included identifying cancers and benign lesions, reassuring women of their health, and adhering to standard of care.

CONCLUSION: Obstetrician–gynecologists would commonly perform external and speculum examinations in asymptomatic women and believe the external examination to be particularly important in older women for cancer detection. Clinicians should discuss limitations of screening pelvic examination guidelines and elicit health goals from older women to provide more person-centered gynecological care. *J Am Geriatr Soc* 2016.

Key words: obstetrics-gynecology; pelvic exam; asymptomatic; women.

Approximately 62.8 million pelvic examinations were performed in the United States in 2010.¹ Current recommendations regarding the appropriateness of pelvic examinations in asymptomatic older women are inconsistent. In August 2012, the American College of Obstetricians and Gynecologists (ACOG) issued a Committee Opinion (reaffirmed in 2014) stating that it would be reasonable to stop performing pelvic examinations when a woman's age or other health concerns reached a point at which she would not choose to intervene on conditions detected during the routine examination.² Women who have undergone a total hysterectomy and bilateral salpingo-oophorectomy for noncancer diagnoses and are asymptomatic should continue external examination but can decide whether to receive an internal examination. ACOG acknowledged that no evidence supports or refutes performing an annual pelvic examination in asymptomatic, low-risk women. In contrast, the American College of Physicians (ACP) recommends against performing screening pelvic examinations in asymptomatic, nonpregnant women based on a systematic review that reported lack of benefit and potential for harm.³ Despite the lack of evidence for performing pelvic examinations in older women who are asymptomatic and in women who have undergone total hysterectomy and bilateral salpingo-oophorectomy, many physicians continue to perform screening pelvic examinations in these women.

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The pelvic examination includes three components: inspection of the external genitalia (vulva, urethral meatus, vaginal introitus, perianal region); speculum examination of the vagina and cervix; and bimanual examination of the uterus, cervix, and adnexa. Physician practices and beliefs on the bimanual examination component of the pelvic examination have previously been reported.⁴ Little is known about the clinical circumstances under which clinicians perform external genitalia inspection and speculum examinations in asymptomatic women with no clinical indication for cervical cancer screening or testing for sexually transmissible infections. Understanding these clinical circumstances can guide education to reduce unnecessary screening pelvic examinations and direct the focus of future research to areas in which more evidence is needed. This report analyzes obstetrician–gynecologist survey responses to four clinical vignettes on their practices and beliefs regarding these examination components in asymptomatic women. Responses to vignettes regarding healthy older and younger women are compared.

METHODS

The methods used have been described in detail previously.⁴ Briefly, 1,020 obstetrician–gynecologists were selected using a probability sample from the American Medical Association Physician Masterfile. A sample of 500 eligible respondents was desired to achieve population estimates with at least $\pm 5\%$ precision. Data were collected between May 2010 and January 2011. Introductory letters and surveys were mailed with postage-paid return envelopes and \$10 in cash. The survey was mailed twice, and a reminder telephone call was made to those who did not respond after the second mailing. A board-certified obstetrician–gynecologist (GFS) developed the clinical vignettes and revised them after pilot testing by six obstetrician–gynecologists in training and private practice settings. The University of California at San Francisco committee on human research approved the study protocol.

Physicians were asked to indicate whether they would perform an external inspection and speculum examination and to rate the importance of each in four clinical vignettes of asymptomatic women aged 70, 55, 35, and 18 (Table 1). Based on guidelines relevant at the time of the survey, none of these women would need screening for cervical cancer or sexually transmissible infections. Response

options included very important, moderately important, a little important and not important. The outcome measures were the proportion of physicians who would perform the external genitalia inspection and speculum examinations and the proportion who considered the examinations very important for each vignette.

Two questions unrelated to the vignettes asked providers to rate the importance of external inspection and speculum examination in asymptomatic women for various reasons, such as the identification of cancers of the vulva or cervix, identification of benign lesions, adherence to standard medical practice, accommodation of the women's expectations, reassurance of the women's health, and adequate compensation.

Physicians were asked about their sex, age, and race and ethnicity. Practice characteristics included location, percentage of patients with public insurance, and practice setting (hospital based, university based, community clinic, public health clinic, family planning clinic, stand-alone or solo practice, group practice, health maintenance organization, government hospital, other).

A series of paired *t*-tests was performed to determine whether the proportion of physicians reporting examinations to be very important differed between the vignettes. Physician responses the different reasons of importance for the examinations were then analyzed. Multivariable logistic regression was performed to assess the independent associations between provider characteristics and degree of importance of different reasons for conducting external inspection and speculum examination (identification of cancers, identification of benign lesions, adherence to standard medical practice, accommodation of the women's expectations, reassurance of the women's health, adequate compensation). Providers viewing the reason as very important were compared with those considering it less important. Provider characteristics in the models were age, sex, race and ethnicity, practice setting (location, practice type), and patient population (percentage using public insurance). All analyses were conducted using STATA version 13.1 (Stata Corp, College Station, TX).

RESULTS

The survey response rate was 62% (with 521 respondents out of 840 eligible physicians filling out the survey).

Table 1. Patient Vignettes

A healthy 70-year-old woman presents for a routine health visit. She has had annual Papanicolaou tests with normal findings for the past 30 years. She has not been sexually active for the last 10 years. She has no history of dysplasia, is not immunocompromised, and has no symptoms.
A 55-year-old woman presents for a routine health visit. Her cervix and ovaries were removed last year at the time of hysterectomy for symptomatic fibroids. She has no history of dysplasia, is not immunocompromised, and has no symptoms.
A 35-year-old woman with no new sexual partners in the last 5 years presents for a routine health visit. She has had three consecutive normal annual Papanicolaou tests with you, the last of which was 1 year ago. She has no history of dysplasia, is not immunocompromised, has no symptoms, and is not pregnant.
An 18-year-old woman presents for a routine health visit. She became sexually active 1 month ago. She has no history of dysplasia, is not immunocompromised, has no symptoms, and is not pregnant.

For each vignette, respondents were instructed, "For this patient, please indicate if you would perform each of the following"; and "For this patient, please indicate your opinion about the importance of each of the following." Clinical services listed were: 1. inspection of the external genitalia and 2. speculum examination, even if she does not need cervical cultures, a human papilloma virus test, or a Papanicolaou test.

Table 2. Characteristics of Survey Respondents (N = 521)

Characteristic	Value
Male, n (%)	285 (54.7)
Age, n (%)	
30–39	104 (20.0)
40–49	162 (31.1)
50–59	141 (27.1)
≥60	114 (21.9)
Race and ethnicity, n (%)	
White	376 (74.0)
Black	38 (7.5)
Hispanic	42 (8.3)
Other	52 (10.2)
Region, n (%)	
West	131 (25.1)
Midwest	116 (22.3)
South	161 (30.9)
Northeast	113 (21.7)
American College of Obstetricians and Gynecologists member, n (%)	466 (89.6)
Specialty, n (%)	
Obstetrician–gynecologist	422 (81.2)
Gynecologist	98 (18.9)
Number of gynecologic examinations performed per week, n (%)	
<30	159 (30.6)
≥30	361 (69.4)
Number of patients per week, mean ± SD	85.2 ± 46.6
Patients with public insurance, %, n (%)	
<25	259 (49.9)
25–50	168 (32.4)
>50%	92 (17.2)
Practice setting, n (%)	
Solo or group	347 (66.7)
Hospital, university, clinic, managed care	173 (33.3)
Admitting privileges at a teaching hospital	289 (55.7)

Physicians who responded were younger than those who did not (23% of respondents were aged ≥60, vs 34% of nonrespondents). Fifty-five percent of respondents were male, 74% were white, and 81% were obstetrician–gynecologists (Table 2). Respondents had busy practices, seeing a mean of 85 patients per week, with 69% performing 30 or more gynecological examinations per week. Sixty-seven percent practiced in solo or group practices, 56% had admitting privileges at teaching hospitals, and 90% belonged to ACOG.

Nearly all physicians (92–99%) would inspect the external genitalia of the women in each clinical vignette (Figure 1A). As the age of the women in the vignettes increased, the proportion of respondents indicating that external inspection was very important increased. In the vignette of a healthy 70-year-old woman, 63% of respondents believed that external inspection was very important, compared with 46% to 53% of respondents in Vignettes 1, 2, and 3 ($P < .05$).

Fewer physicians (76–90%) would perform the speculum examination than the external inspection in all vignettes (Figure 1B). There was no trend in the proportion of physicians who considered the speculum examination to be very important across the different vignettes. In the vignette of a healthy 55-year-old woman without a uterus,

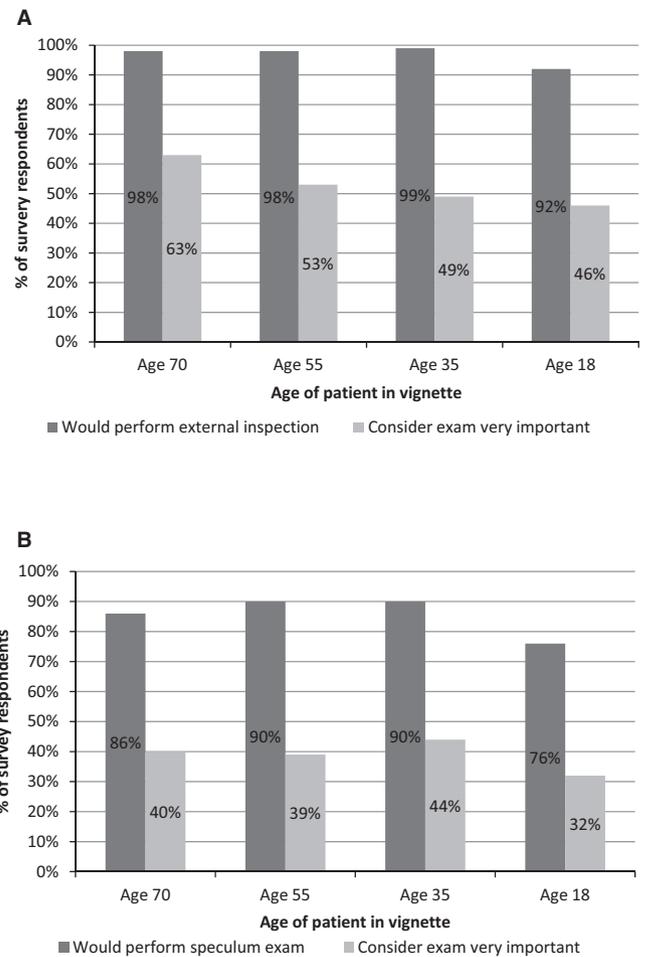


Figure 1. (A) Percentage of physicians who would perform an external genitalia inspection and consider the examination very important. (B) Percentage of physicians who would perform a speculum examination and consider the examination very important.

cervix, or ovaries, 39% of physicians rated the speculum examination as very important.

Identifying cancers of the vulva (74%) and benign lesions (62%) were the reasons for performing external inspection that were most often selected, followed by reassuring the woman of her health (50%), adhering to standard medical practice (47%), accommodating expectations (32%), and ensuring adequate compensation (17%) (Figure 2A). For speculum examination, 53% of physicians rated identifying of cervical cancer and 48% identifying benign lesions as very important reasons (Figure 2B).

The multivariable analysis of characteristics of physicians who rated external inspection as very important (Table 3) showed that being older, female, and located in the northeast were associated with considering reassuring women of their health to be very important. Solo or group practice physicians were more likely to consider identifying cancers and adhering to standard medical practice to be very important reasons than providers in hospital, university clinic, or managed care practices.

In a multivariable analysis of obstetrician–gynecologists' opinions of the speculum examination, characteristics similar to those of the model on external inspection were

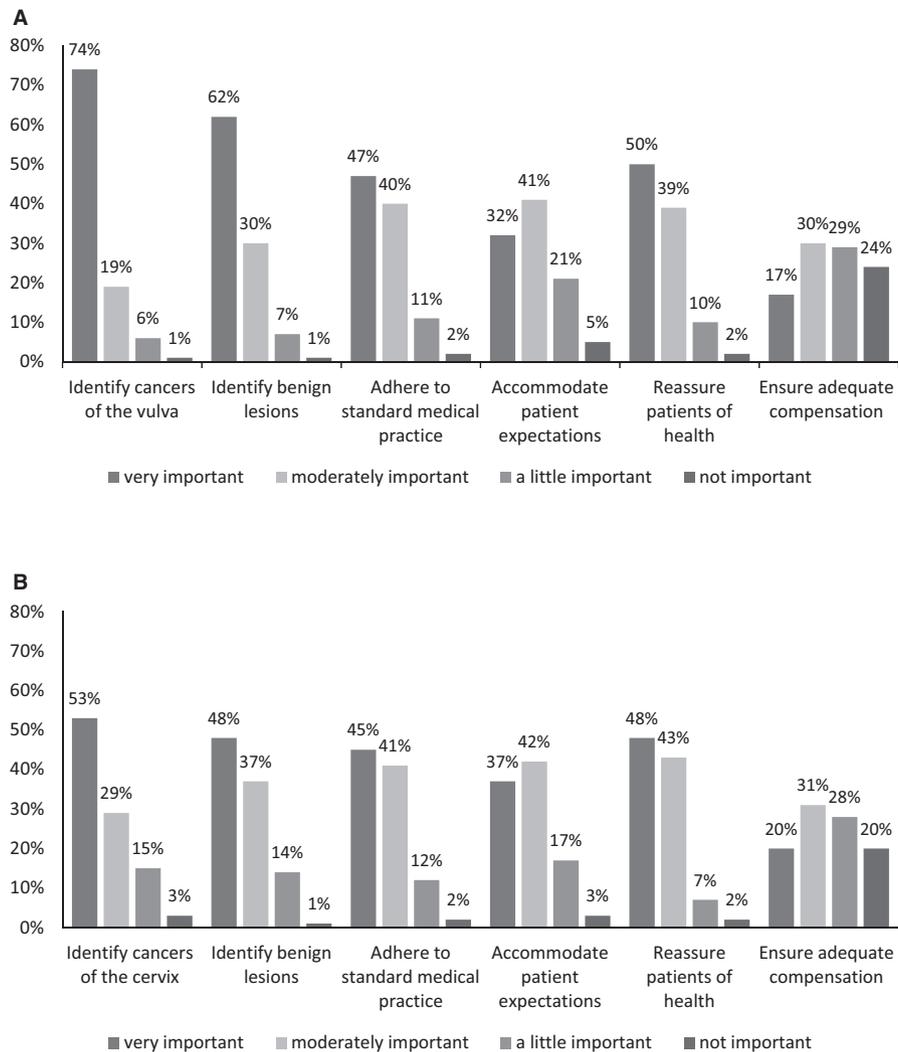


Figure 2. Importance of reasons for performing (A) external genitalia inspection and (B) speculum examination in asymptomatic women.

associated with considering speculum examination to be very important. Older age (odds ratio (OR) = 2.32, 95% confidence interval (CI) = 1.21–4.46) for aged ≥ 60 (reference: age 30–39)) was associated with considering accommodating women's expectations to be very important. Location in the northeast (OR = 2.33, 95 CI = 1.38–3.94, reference: west) was associated with considering adhering to standard medical practice to be very important. Practicing in a solo or group practice (OR = 1.60, 95% CI = 1.13–2.52, reference: hospital, university, clinic, managed care settings) was associated with considering adhering to standard medical practice to be very important.

DISCUSSION

Many obstetrician–gynecologists consider external genitalia inspection and speculum examination to be important in asymptomatic healthy older women, including those without a uterus and ovaries. It was possible to go a step further by determining the clinical reasoning underlying clinicians' practice behaviors. Identifying cancers and benign lesions were identified as very important reasons

that may justify a one-size-fits-all screening approach rather than individualizing the type of examination most likely to help each woman based on her risk factors and preferences.

These findings are reflective of current ACOG guidelines, which provide only limited reasons for when it would be reasonable to stop performing routine pelvic examinations: when a woman would not choose to intervene on conditions detected during the examination, particularly if she were discontinuing other routine healthcare maintenance assessments.² In contrast, the ACP recommends against routine screening pelvic examinations in asymptomatic women because there is no evidence to support any benefit of these examinations, and they all come with known harms.³ Nevertheless, the ACOG guidelines suggest that there are no reasons to stop external evaluations and speculum examinations, which would explain why nearly all providers said they would perform these examinations on an asymptomatic 70-year-old woman.

Similar to the current study findings, previous studies have shown that obstetrician–gynecologists regard the pelvic examination to be important in all healthy women.

Table 3. Provider Characteristics Associated with Reasons for Considering External Genitalia Inspection Very Important in Asymptomatic Women: Multivariable Logistic Regression

Provider Characteristic	Odds Ratio (95% Confidence Interval)					
	Identify Cancers of the Vulva, n = 512	Identify Benign Lesions, n = 514	Adhere to Standard Medical Practice, n = 515	Accommodate Expectations, n = 513	Reassure Individual of Her Health, n = 515	Ensure Adequate Compensation, n = 513
Age (reference 30–39)						
40–49	0.45 (0.24–0.84)	1.02 (0.59–1.73)	1.23 (0.73–2.08)	0.91 (0.52–1.59)	1.08 (0.64–1.82)	0.89 (0.47–1.66)
50–59	0.65 (0.32–1.28)	0.82 (0.46–1.47)	1.43 (0.81–2.53)	1.26 (0.69–2.30)	1.77 (1.00–3.16)	0.60 (0.29–1.24)
≥60	0.55 (0.27–1.15)	1.20 (0.63–2.29)	1.48 (0.79–2.76)	1.72 (0.89–3.29)	2.41 (1.28–4.53)	0.55 (0.24–1.30)
Nonwhite	0.88 (0.70–1.09)	1.22 (0.99–1.51)	1.05 (0.86–1.28)	1.00 (0.81–1.23)	0.99 (0.81–1.21)	0.89 (0.68–1.17)
Female	1.00 (0.63–1.57)	0.95 (0.63–1.44)	1.19 (0.80–1.78)	1.37 (0.89–2.10)	1.71 (1.13–2.59)	1.72 (1.01–2.92)
Region (reference west)						
Midwest	1.70 (0.96–3.01)	1.07 (0.64–1.78)	1.07 (0.64–1.79)	1.16 (0.66–2.03)	1.30 (0.77–2.18)	1.31 (0.62–2.73)
South	1.34 (0.81–2.25)	1.33 (0.82–2.14)	1.28 (0.80–2.05)	1.28 (0.77–2.14)	1.60 (0.99–2.59)	1.59 (0.81–3.10)
Northeast	2.43 (1.32–4.47)	2.10 (1.22–3.62)	2.14 (1.27–3.59)	1.79 (1.04–3.09)	2.24 (1.32–3.80)	1.74 (0.86–3.53)
Solo or group private practice (reference hospital, university, clinic, managed care)	1.56 (1.00–2.43)	1.35 (0.90–2.02)	1.54 (1.03–2.29)	1.07 (0.70–1.63)	1.47 (0.98–2.18)	1.29 (0.75–2.22)
<25% public insurance	0.71 (0.47–1.08)	0.98 (0.67–1.42)	0.85 (0.60–1.22)	1.23 (0.83–1.81)	0.97 (0.67–1.40)	1.25 (0.77–2.04)

A previous study reported that obstetrician–gynecologists were more likely than internists and family practitioners to perform routine pelvic examinations.⁵ Ninety-eight percent of obstetrician–gynecologists reported performing routine pelvic examinations for a well-woman examination, 95% reported performing pelvic examinations to screen for ovarian cancer, and 95% reported performing the examination to screen for other gynecological cancers. A question asking obstetrician–gynecologists about extending the interval of routine gynecological examination from annually to every 3 years elicited a majority of responses that women and clinical practices would be negatively affected.⁶

Although no population-based studies have been performed to explore the risks and benefits of external inspection and speculum examinations in older women, obstetricians–gynecologists have the general belief that it is beneficial, especially in older women, to find rare asymptomatic cancers (melanoma, vulvar and vaginal cancers) and benign lesions that may cause symptoms in the future (prolapse, vaginal atrophy). Although the likelihood of such benefits is unknown, it is likely to be small for the women in these vignettes. The prevalence of vulvar and ovarian cancers in asymptomatic women is much lower than that of other cancers,^{1,7} even in older women. A recent systematic review found that the diagnostic accuracy of pelvic examinations for ovarian cancer is low and that the morbidity and mortality benefits of routine examination have yet to be found.⁸ Instead, asking about common gynecological symptoms that older women experience would be more appropriate in enabling well-being and person-centered care than one-size-fits-all screening examinations that may lead to treatment of asymptomatic conditions without benefit.

Nevertheless, all women in these vignettes would have been at risk for the potential harms of a one-size-fits-all approach to gynecological care, which includes unnecessary surgery, complications from biopsies and other

testing, discomfort from examinations, and time and resources taken that might be used to address other health problems in the visit.⁸ Such harms may be acceptable for older women with urogynecological symptoms, such as urinary incontinence or vaginal bleeding, but in asymptomatic older women, who may continue to see an obstetrician–gynecologist out of habit or out of concern because of a remote history of pelvic surgery, these examinations require an individual decision in which benefits and harms are weighed according to each woman's situation and preferences. The ACOG guidelines are concordant with this approach, suggesting that the decision to perform the complete examination be a shared one after discussion between the woman and her provider, although the content of this discussion is undefined.

This study benefits from a high response rate and separate questions about the different components of the pelvic examination. Nevertheless, there are several limitations. First, reliance on survey data may not reflect clinical practices, although vignettes have been validated against standardized patients and chart review for measuring physician competency and quality of care.⁹ Second, the survey responses are subject to social desirability bias when physicians believe certain responses may be more acceptable. Thus, the results reflect an idealized version of clinical practice. Third, the clinical vignettes did not include older women with multiple comorbidities, which may affect screening decisions. Last, the study survey was conducted before significant changes in evidence-based guidelines on routine pelvic examinations were issued. The most-recent ACP guidelines on pelvic examinations in healthy women conflict with those from the ACOG and might lead fewer physicians to rate pelvic examinations as being very important, although given that the ACP guidelines were published in 2014 and changes in practice lag behind guidelines, this study can still be helpful in focusing research and discussion of screening pelvic examinations.

This study showing that routine pelvic examinations are widely considered important suggests that, for a more person-centered approach, a better understanding of the long-term benefits and harms of the external genital inspection and speculum examination beyond cervical cancer screening is needed. Although there are no recommendations to screen for vaginal or vulvar neoplasms, most obstetrician–gynecologists consider this screening part of the routine physical examination that provides benefit.¹⁰ It would be useful to have evidence to make recommendations based on whether external inspection and speculum examination can identify cancerous or benign lesions of significance and whether these examinations lead to better health outcomes or provide reassurance. Future research is also needed to evaluate the nondiagnostic benefits of these examinations, such as providing an opportunity to discuss questions or educate women about their anatomy, and why these benefits would not be expected from the visit itself apart from such examinations.¹¹ Given that current guidelines are based on incomplete evidence and do not distinguish between different levels of health or account for comorbid conditions, it is important to discuss these limitations and elicit health goals from older women to provide more person-centered gynecological care.

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Conflict of Interest: The editor in chief has reviewed the conflict of interest checklist provided by the authors and has determined that the authors have no financial or any other kind of personal conflicts with this paper.

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