

their survey. Family practice residents do have a dearth of role models for the general internist who relates well to family medicine as a specialty and also has a comprehensive internal medicine knowledge base and incisive clinical skills. However, it also appears that the bias against the general internist has become institutionalized. For example, the editorial advisory board of *American Family Physician* (received by all of the respondents in the current survey) consists of 45 physicians and one dentist representing 34 separate clinical disciplines. There are no general internists on this list. Continuing medical education programs for family physicians, while frequently featuring a high proportion of specialist speakers, almost never include a general internist. Is it a wonder that the average practicing family physician is subtly discouraged from regarding the general internist as a valuable resource? Perhaps further research and debate in this area will change these ingrained opinions and bring us back to Sir William Osler's sentiment that "the student of internal medicine cannot be a specialist."

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Papanicolaou Smear

To the Editor: Dr. Crump's clinical essay on the Papanicolaou Smear¹ was a succinct and accurate review of an extremely powerful secondary prevention screening tool used by family physicians. Other key points that relate to understanding the success or failure of Papanicolaou smear screening can be categorized into areas of (1) patients at risk, (2) physician performing the examination, (3) cytology service, and (4) natural history of cervical carcinoma.

All sexually active women² are at risk but certain others are at higher risk. In addition to risk factors noted in Dr. Crump's review, one must consider cervical herpes infections³ and women whose sexual partners have multiple partners.⁴ Physicians need to determine the status of these risk factors and adjust the frequency of screening for those at high risk. No studies have examined physicians' adherence to these standards. I have found anecdotal evidence that many physicians do not inquire about social-behavior habits. In addition, multiple studies have shown that those at highest risk for cervical carcinoma are the least likely to seek screenings.^{5,6} Physicians need to address this fact as a public health issue and not regard it as a compliance problem outside the confines of one's office practice.

The physician's skill in performing the examination is central to effective screening for cervical carcinoma, but equally critical are patient education, tool selection and adherence to protocol for use of tools, follow-up smears (normal, inadequate, and abnormal), and interaction with the cytology service.

The patient should receive preparation instructions when calling to schedule a Papanicolaou smear. These include:

1. Scheduling the examination during midcycle and avoiding menses.
2. Avoiding vigorous intercourse or douching for 24 hours before the examination.
3. For new patients, having available all previous Papanicolaou smear reports.

It is important to perform the examination during midcycle to avoid contamination of the slide with blood or serosanguinous material of menses, and there are other critical steps that influence reliability and validity of Papanicolaou smears. The American College of Obstetrics and Gynecology⁷ has offered a protocol for cell collection that is presented below. Additions from other sources are noted by asterisks.

- * 1. Patients seeking the Papanicolaou smear should not douche or engage in vigorous sexual activity before the examination (the usual time limit is 24 hours). The appointment should be scheduled during the midpoint of the cycle.
- * 2. Risk factors for cervical carcinoma should be determined (i.e., first intercourse before age 18, multiple sexual partners, partner who has multiple sexual contacts, herpes infection, papilloma virus infection, other sexually transmitted diseases, and previous dysplasia).
3. The vagina and cervix must be visualized with a *nonlubricated* speculum. The Papanicolaou smear must be performed before any other procedure. Identification of the squamocolumnar junction is desirable.
- * 4. Vaginal discharge, when present in large amounts, should be carefully removed. *Do not* routinely clean the cervix.
5. Separate the sampling of the endocervix and ectocervix results in the highest rates of detection.
6. The endocervical sample should be taken first via suction bulb, cotton swab (moistened), or cytobrush.
7. The ectocervical sample should be taken next via a scraping tool (e.g., Ayre spatula, extended tip spatula).
- * 8. The sample material should be placed on a separate slide in a uniform manner for endocervical and ectocervical samples. The best methods to achieve such slides are counterclockwise movements of the spatula and reverse rolling of the cotton swab or cytobrush, both with moderate pressure.

9. The smears should be fixed immediately (within 10 seconds) to avoid drying artifacts.
10. DES-exposed patients require smears from the outer two-thirds of the vagina at its circumference.

Tool selection is not as critical as long as the physician approaches the sampling as described in the protocol above. A number of tools are available for sampling. Very few studies have evaluated the true false-negative rate of individual tools; numerous others have evaluated the frequency of capturing endocervical elements. Because greater than 95 percent of cervical carcinoma originates at the squamocolumnar junction or transformation zone, this is the area to sample. Endocervical elements (endocervical cell, metaplastic cells, or dysplastic cells) originate in this area; thus, the presence of endocervical elements should be a sign of an accurate smear. Therefore, a sound theoretical model exists for the significance of endocervical elements. Gondos, et al.⁸ found that 92.5 percent of routine Papanicolaou smears in women aged 45 years and less contained endocervical elements. Elias, et al.⁹ found that 93.1 percent of smears contained endocervical elements and that these smears had a higher proportion of atypical epithelial changes than those without endocervical elements. Vooijs, et al.¹⁰ found in two successive screenings that smears with endocervical elements had significantly higher numbers of epithelial abnormalities than smears without endocervical elements. Finally, Rylander¹¹ found 56 women who had developed cervical carcinoma within 4 to 5 years of a negative Papanicolaou smear. Of these 56 women, 14 had slides correctly interpreted as negative smears but they lacked endocervical elements. Thus, the data suggest that endocervical elements contribute to accuracy, but this theoretical model has not been tested.

The importance of the family physician's interaction with the cytology service should be addressed. First, the family physician must select a quality and cost-effective laboratory that meets the following criteria:

1. Registered with a nationally recognized cytology/pathology society.
2. Quality control program that has all abnormal smears and at least 10 percent of normal smears reviewed by a second screen.
3. Use of a certified cytotechnologist, who is not working on a production basis, as the primary screen.
4. All smears retained and reviewed in conjunction with each new smear.
5. Cytology report that uses standard classification of findings and includes comments on the quality of

the smear, presence of infections, and the presence or absence of endocervical elements.

Second, after selecting a cytology service, regular contact with the laboratory must be maintained to follow the quality of smears submitted. The physician must initiate this interaction because laboratories are reluctant to criticize a customer. Finally, physicians must be aware of the recent emphasis in the popular literature on the reporting errors of cytology laboratories.¹²⁻¹⁴ By selecting a laboratory using the above guidelines and maintaining regular interaction, the family physician can confidently assure the patient that the Papanicolaou smear is a valuable tool in screening for cervical carcinoma. We must increase our awareness about Papanicolaou smears and move away from the remark, "It's only a routine Pap."

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