# Cytopathology in Focus: A right and a wrong way to use CAP educational kits

Cytopathology infocus

FROM THE CAP CYTOPATHOLOGY COMMITTEE; KRISTEN E. NATALE, DO, EDITOR

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**January 2018—**The CAP Cytopathology Committee constructs educational and interlaboratory comparison kits that are distributed regularly to cytotechnologists, cytopathologists, and pathologists who want continuing education in cytopathology. The purpose of the kits is to make it possible for those who screen and diagnose cytology slides to maintain and update their skills. However, the Cytopathology Committee has been made aware that the kits have been employed for purposes other than education. We address here the potentially detrimental uses to which some laboratories are putting these educational kits and advise laboratories to use them only as they were intended.

In addition to Pap proficiency testing kits, the CAP distributes several types of cytopathology products designed for educational purposes. The kits are designated as educational and are not to be confused with proficiency testing kits. The labels are in several locations throughout the kits (**Fig. 1**). The kits are categorized as gynecologic or nongynecologic and by specimen type and preparation type: fine-needle aspiration cytology, nongynecologic cytology, touch imprint crush preparation cytology, and gynecologic cytology. The glass slide and online kits include four or five cases. With each case, a history and cytology slides stained with a Pap stain or a Diff-Quik stain, or both, are provided. The learner examines the cytology slides, and sometimes an H&E slide from the cell block and/or ancillary studies such as immunohistochemical stains online, before rendering a diagnosis selected from the multiple-choice answers. The answers are then submitted for CME or CE credits. Some of the products include self-assessment module credit when SAMs accompany the cases.

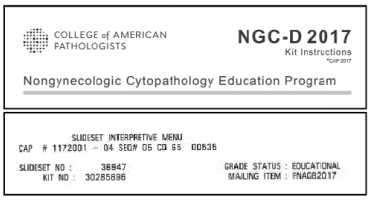


Fig 1. Sample labels indicating the educational nature of kits.

Each participant has a unique identifier. The results for all participants in a laboratory are compiled on one form and delivered to the laboratory supervisor. On this form, information and details about the performance of the laboratory can be calculated, as can the performance of each participant. The information provided on the form includes the participant's answers, the correct answer, and a compilation of all the participant and laboratory responses in each answer category.

Performance on the kits in some laboratories has been expanded beyond education to assessing the competency of the individual cytotechnologist or pathologist participant. For instance, some laboratories have set minimum "passing" scores for the CAP educational kits. The CAP does not approve of any threshold scores for assessment.

Instead, it is the institutions themselves that are setting essentially arbitrary numbers. The consequences of falling below the subjective cutoff are at the discretion of the institution. For this perceived deficiency, some laboratories have even instituted punitive actions, including remediation programs, probation from service, or a lowered end-of-year evaluation, among others. While a thorough survey hasn't been performed of how all the participating laboratories are using the results of the educational kits, it is of great concern to the CAP and members of the Cytopathology Committee that any laboratory has used or is now using these kits in opposition to the committee's intended purpose of educating the learner and keeping current the knowledge of those who practice cytology. Cytopathology Committee members do not recommend or condone the practice.

The CAP educational kits are designed for a wide participant population including cytotechnologists, cytopathologists, and general pathologists who sign out cytopathology. For scoring purposes, cytotechnologists are required only to choose a category code representing the major diagnostic category: unsatisfactory, benign, suspicious for malignancy, or malignant (**Fig. 2**). They are not required to choose a specific diagnostic category under the drop-down menu (**Fig. 3**).

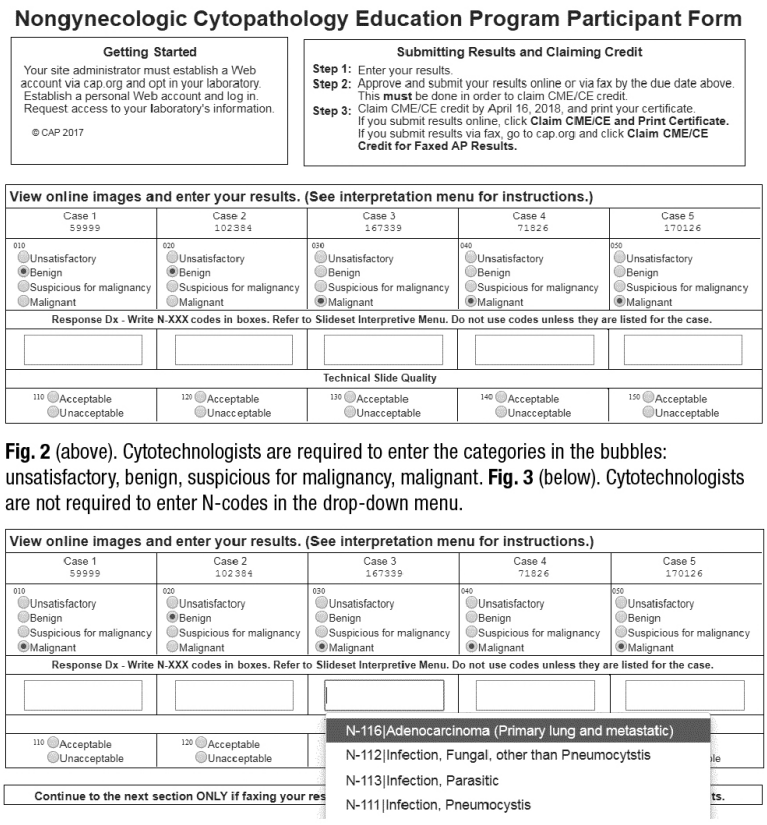


**Fig. 2** (above). Cytotechnologists are required to enter the categories in the bubbles: unsatisfactory, benign, suspicious for malignancy, malignant. **Fig. 3** (below). Cytotechnologists are not required to enter N-codes in the drop-down menu.




Two additional types of questions can appear in these kits. One would be related to the use of ancillary stains, such as immunohistochemical stains. For the pathologist, immunohistochemical stain results are often an integral component of a diagnostic evaluation. While many cytotechnologist schools are beginning to integrate information on immunohistochemical stains into the curriculum, many cytotechnologists do not interpret stains regularly and may be unfamiliar with their assessment. From an educational perspective, attempting these questions holds considerable value. Unfortunately, cytotechnologists may be reluctant to answer questions about ancillary stains because an incorrect answer could affect their evaluation or even livelihood. Moreover, if a wrong guess or answer translates to a lower score, the motivation to learn withers and the educational value of the kit is compromised. Over the long term, these disincentives may lead the cytotechnologist to a more limited role in participation, education, and cytopathology in general.

Some CAP cytopathology educational products also have SAM questions, and the potential problems here are like those of the ancillary studies. The SAM questions are written for the pathologist, not the cytotechnologist, but the cytotechnologist can learn a great deal from engaging with the questions. Again, learning is enhanced in an encouraging rather than a punitive environment.

Rather than grade cytotechnologists based on these educational materials, the CAP Cytopathology Committee suggests alternative modalities for assessing cytotechnologist skills. We recommend using formats that are established and crafted for this purpose. CAP proficiency tests, which are also regularly distributed tests, are designed to assess the skills of cytotechnologists and pathologists, as well as meet CLIA '88 requirements. These tests have been shown by surveys to be an effective method for establishing good laboratory practices.[1] Institutional quality assurance programs provide another means of assessing diagnostic skills. Methods that

produce a quantitative measurement include cytology-histology correlations, cytotechnologist-pathologist correlations, and calculations of rates for different diagnostic categories. More qualitative measurement programs include multiheaded scope sessions, rescreening results, and participation in research, conferences, online educational kits, and continuing education.[2]

The value of positive reinforcement cannot be overemphasized. An encouraging learning environment can motivate and foster cooperation.

Cytotechnologists are integral and invaluable members of the cytology team. They provide professional as well as technical skills. Advancing their skills is a significant part of their careers. Cytopathology is in a constant state of change. Changing guidelines for cytopathologic diagnoses, new neoplastic entities, and the explosion of molecular pathology have added breadth and substantial complexity to cytopathology. We ask laboratories that use the CAP cytopathology educational products as a measure of a cytology member's competence to reconsider. Use the kits only as they have been intended: to educate by disseminating pertinent diagnostic nuances to enrich cytology skills and to encourage participation in learning.


1. Howell LP, Nayar R, Savaloja L, et al. The role of proficiency testing in ensuring quality: findings from the College of American Pathologists Gynecologic Cytopathology Quality Consensus Conference working group 3. *Arch Pathol Lab Med.* 2013;137(2):183–189.
2. Tworek J, Nayar R, Savaloja L, et al. General quality practices in gynecologic cytopathology: findings from the College of American Pathologists Gynecologic Cytopathology Quality Consensus Conference working group 3. *Arch Pathol Lab Med.* 2013;137(2):190–198.


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