

## Cytotechnologist

Cytology is the study of the structure and the function of cells. Cytotechnologists are specially trained technologists who work with pathologists to evaluate cellular material from virtually all body sites primarily utilizing the microscope. Paramount to cytotechnologists is the microscopic recognition of normal and abnormal cytologic changes, including, but not limited to, malignant neoplasms, precancerous lesions, infectious agents, and inflammatory processes in gynecologic, non-gynecologic, and fine needle aspiration specimens. Cytotechnologists possess the technical skills for a wide variety of cytologic laboratory specimen preparations and a basic knowledge of contemporary procedures and technologies.



### History

In the pioneer days of clinical pathology, it was the rare pathologist who did not have an assistant. These first technical "assistants," some of whom were trained by George N Papanicolaou, MD, famed American anatomist and cytologist, were always the product of an apprentice-type training. As their number and the number of apprentice programs grew, there was a need to certify that the apprentices had learned their tasks well. The Board of Registry of the American Society for Clinical Pathology (ASCP) offered the examination for the cytology technician for the first time in 1957. Five years later, in 1962, the *Essentials of an Acceptable School for the Cytotechnologist* were developed by the Cytology Committee of the ASCP and the ASCP Board of Schools and were adopted by the AMA House of Delegates.

Until 1975, representatives of the ASCP served on the Cytotechnology Review Committee of the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), which replaced the ASCP Board of Schools in 1974. In 1975, the American Society of Cytology (ASC) was recognized as the organization that would collaborate with the AMA Council on Medical Education, and the ASC formed the Cytotechnology Programs Review Committee, which assumed the responsibilities formerly handled by NAACLS.



### Career Description

Cell specimens may be obtained from various body sites, such as the female reproductive tract, the lung, or any body cavity shedding cells. Using special techniques, slides are first prepared from these specimens. Cytotechnologists then examine the slides microscopically, mark cellular changes that are most representative of a disease process, and submit to a pathologist for final evaluation. Using the findings of cytotechnologists, the pathologist is then able, in many instances, to diagnose cancer and other diseases long before they can be detected by other methods. In recent years, fine needles have been used to aspirate lesions, often deeply seated in the body, thus greatly enhancing the ability to diagnose tumors located in otherwise inaccessible sites.



### Employment Characteristics

Most cytotechnologists work in hospitals or in commercial laboratories. With experience, cytotechnologists may also work in private industry or in supervisory, research, and teaching capacities.



### Salary

Employment opportunities and salaries vary depending on geographic location, experience, and ability. According to the American Society for Cytotechnology, the average hourly pay for cytotechnologists was \$30.51 in 2007. For more information, refer to [www.ama-assn.org/go/hpsalary](http://www.ama-assn.org/go/hpsalary).



### Educational Programs

**Length.** The length of the program depends significantly on its organizational structure. In general, after completion of the prerequisite course work, at least one calendar year of structured professional instruction in cytotechnology is necessary to achieve program objectives and to establish entry-level competencies.

**Prerequisites.** Applicants should be well grounded in the biological sciences and in basic chemistry. This entails that students have a minimum of 28 semester hours of biological sciences and chemistry upon completion of a cytotechnology program, and 3 semester hours of mathematics and/or statistics. In addition, applicants are also required to have a baccalaureate degree in order to qualify for the national certification exam.

**Curriculum.** The curriculum includes the principles of cytopreparation of cell samples, cytologic evaluation of cell samples from all body sites, introduction to principles of management, research, and education as they apply to the cytology laboratory, and cytology as applied in clinical medicine. Also, as molecular diagnostics becomes increasingly important in the field of pathology, programs are incorporating instruction in immunohistochemistry, cytogenetics, in situ hybridization, polymerase chain reaction, and flow cytometry. Upon completion of a cytotechnology program, graduates will possess the technical skills to evaluate a wide variety of cytologic preparations and have a basic knowledge of contemporary procedures and technologies used in cytopathology.



### Inquiries

#### Careers/Curriculum

American Society of Cytopathology  
400 West 9th Street, Suite 201  
Wilmington, DE 19801  
302 429-8802  
302 429-8807 Fax  
E-mail: [asc@cytopathology.org](mailto:asc@cytopathology.org)  
[www.cytopathology.org](http://www.cytopathology.org)

American Society for Cytotechnology  
1500 Sunday Drive, Suite 102  
Raleigh, NC 27607  
919 861-5571 or 800 948-3947  
919 787-4916 Fax  
E-mail: [info@asct.com](mailto:info@asct.com)  
[www.asct.com](http://www.asct.com)

#### Certification/Registration

American Society for Clinical Pathology Board of Registry  
PO Box 12270  
Chicago, IL 60612  
312 738-1336  
E-mail: [bor@ascp.org](mailto:bor@ascp.org)

**Program Accreditation**

Commission on Accreditation of Allied Health Education Programs  
(CAAHEP) in collaboration with:  
Cytotechnology Programs Review Committee  
American Society of Cytopathology

400 West 9th Street, Suite 201  
Wilmington, DE 19801  
302 429-8802  
302 429-8807 Fax  
E-mail: [dmacintyre@cytopathology.org](mailto:dmacintyre@cytopathology.org)