

Clinical Laboratory Science

Career
Opportunities



Clinical Laboratory Personnel
Cytotechnologist • Histology Personnel

Clinical Laboratory Personnel

Average Salary Range

\$32,000 – \$45,000 (lab scientists)
\$26,000 – \$35,000 (technicians)

Educational Requirements

Students intending to pursue a clinical laboratory career should prepare by taking the most challenging high school courses available in science, math and English.

To become a clinical laboratory scientist, students must either have a bachelor's degree in clinical laboratory science (medical technology) or an acceptable combination of higher education plus laboratory experience.

To become a clinical laboratory technician, an individual must have an associate's degree in medical laboratory technology or an acceptable combination of an associate's degree and laboratory experience. Individuals seeking to become technicians or laboratory scientists must pass a national certification examination.

Educational Institutions

Clinical laboratory technician:

Thomas Nelson Community College, J. Sergeant Reynolds Community College, Northern Virginia Community College, Southside Virginia Community College, Wytheville Community College

Clinical laboratory technologist or scientist:

University-based programs – Augusta Health Care, Bluefield College, Norfolk State University, Old Dominion University, Virginia Commonwealth University

Hospital-based programs – Augusta Health Care, Carilion Consolidated Laboratories, INOVA Fairfax Hospital, Rockingham Memorial Hospital

The following institutions have affiliate programs with the above hospitals – Averett University, Bridgewater College, Eastern Mennonite, Ferrum College, George Mason University, James Madison University, Longwood University, Mary Baldwin College, Radford University, Roanoke College

Professional Associations

Virginia Society for
Clinical Laboratory Science
P.O. Box 1077
Warrenton, VA 20188
www.vscls.org

American Medical Technologists
710 Higgins Road
Park Ridge, IL 60068
(847) 823-5169
www.amt1.com

American Society for
Clinical Laboratory Science
6701 Democracy Blvd., Suite. 300
Bethesda, MD 20817
(301) 657-2768
www.ascls.org

Clinical laboratory scientists and clinical laboratory technicians (medical technologists and medical laboratory technicians) perform lab tests to detect, diagnose and treat diseases. Most clinical laboratory personnel work in hospital laboratories. Many also are employed by private physicians, medical groups, public health and environmental laboratories, research facilities, pharmaceutical and biomedical companies, universities, industrial medical laboratories, molecular diagnostic laboratories and the armed forces.

Clinical laboratory technicians:

- perform laboratory procedures on the fluids, cells and tissues of the body.
- use microscopes, sophisticated precision instruments and computers.
- collect blood specimens.
- inoculate culture media to identify bacteria.
- monitor the quality of tests and procedures.
- report unusual or abnormal results to clinical laboratory scientists or pathologists.

Clinical laboratory scientists:

- perform complex and standard laboratory analysis.
- evaluate the effect of a patient's physiological condition on test results.
- confirm test results and provide physicians with data needed to determine the presence, extent, cause and treatment of disease.
- design, establish and monitor quality control programs to ensure accurate test results.
- manage financial operations, marketing and human resources to assure cost-effectiveness and quality of clinical laboratory services.
- conduct research for publication and evaluate published studies.
- use information management systems to report laboratory data.
- evaluate emerging diagnostics, test systems and interpretive algorithms.
- provide education and consultative interactions with members of the healthcare team, customer service, and patients.

With additional education, clinical laboratory scientists and technicians can become specialists in the following areas: clinical chemistry, microbiology, hematology, immunology, blood banking, virology, molecular biology and laboratory safety.



Cytotechnologist



Cytotechnologists are specially trained laboratory technologists who study the structure and function of cells in the human body. They examine cell samples under a microscope to detect any changes that could indicate a disease, such as cancer.

Cytotechnologists:

- prepare slides of cell samples for examination.
- examine smears of cell samples on slides using a microscope.
- detect and report abnormalities in the color, size and shape of cellular components and patterns.
- use automated equipment and instruments, including microscopes, to prepare samples for microscopic study.
- analyze test results with pathologists and relay them to physicians.
- may assist physicians with collecting cell samples.

Most cytotechnologists work in hospitals, clinics or private laboratories under the supervision of pathologists. Some may work in universities as professors or researchers. Histotechnologists and histologic technicians prepare tissue samples for examination by a pathologist. Their work is an essential part of determining whether a patient is suffering from a disease, dysfunction or malignancy.

Average Salary Range

\$38,000 – \$53,000

Educational Requirements

Students intending to pursue a career as a cytotechnologist should prepare by taking challenging high school courses in science, math and English. Students must complete three years of college prior to entering a 12-month clinical internship program in cytotechnology (offered at a college or hospital).

Educational Institutions

There are currently no programs available in Virginia.

Professional Associations

American Society for Cytotechnology
1500 Sunday Drive, Suite 102
Raleigh, NC 27607
(919) 861-5571 or 1-800-948-3947
www.asct.com

American Society of Cytopathology
400 W. 9th St., Suite 201
Wilmington, DE 19801-1555
(302) 429-8802
www.cytopathology.org

American Society for Clinical Pathology
2100 W. Harrison St.
Chicago, IL 60612
(312) 738-1336, ext. 440
www.ascp.org

Average Salary Range

\$36,000 – \$52,450 (histotechnologist)
\$28,000 – \$34,000 (technician)

Educational Requirements

Students intending to pursue one of these careers should prepare by taking challenging high school courses in science, math and English.

Histotechnologists must either have a bachelor's degree in an approved major (e.g. biology, chemistry) and one year of experience in a histopathology lab or complete a formal histotechnology educational program. They also must pass a national exam.

There are three paths to becoming a histologic technician. Students can earn a high school diploma and complete two years of clinical laboratory experience in histopathology. They can complete an accredited program in histotechnology, or they can earn an associate's degree and complete one year of clinical lab experience in histotechnology. They also must pass a national exam.

Educational Institutions

There are currently no programs available in Virginia.

Professional Associations

National Society for Histotechnology
4201 Northview Drive, Suite 502
Bowie, MD 20716
(301) 262-6221
www.nsh.org

American Society of Clinical Pathologists
2100 W. Harrison St.
Chicago, IL 60612
(312) 738-1336, ext. 440
www.ascp.org



Histologists and histologic technicians prepare tissue samples for examination by a pathologist. Their work is an essential part of determining whether a patient is suffering from a disease dysfunction or malignancy.

Histotechnologists:

- prepare sections of human, animal or plant tissue for diagnostic, research or teaching purposes.
- process tissue and embed into paraffin blocks, then mount thinly-sliced tissue sections onto a glass slide for microscopic study.
- stain tissue to differentiate various structures or components. The slide is then evaluated by a pathologist or other scientific investigator.
- supervise and manage a histology laboratory.

Histologists/histotechnologists receive more training and perform more complex procedures than histologic technicians. Histologic technicians perform routine specimen preparation procedures and assist histologists.

Most histology personnel work in clinical pathology labs; some may work in veterinary plant or marine histology, pharmacology and medical or research laboratories.