

## Clinical Laboratory Scientist/Medical Technologist

Laboratory tests play an important role in the detection, diagnosis, and treatment of many diseases. Clinical laboratory scientists/medical technologists perform these tests in conjunction with pathologists (physicians who diagnose the causes and nature of disease) and other physicians or scientists who specialize in clinical chemistry, microbiology, or the other biological sciences. Clinical laboratory scientists/medical technologists develop data on the blood, tissues, and fluids of the human body by using a variety of precise methodologies and technologies.



### Career Description

In addition to possessing the skills of clinical laboratory technicians/medical laboratory technicians, clinical laboratory scientists/medical technologists perform complex analyses, fine-line discrimination, and error correction. They are able to recognize the interdependency of tests and have knowledge of physiological conditions affecting test results so that they can confirm these results and develop data that may be used by a physician in determining the presence, extent, and, as far as possible, cause of a disease.

Clinical laboratory scientists/medical technologists assume responsibility and are held accountable for accurate results. They establish and monitor quality assurance and quality improvement programs and design or modify procedures as necessary. Tests and procedures performed or supervised by clinical laboratory scientists/medical technologists in the clinical laboratory focus on major areas of hematology, microbiology, immunohematology, immunology, clinical chemistry, and urinalysis.



### Employment Characteristics

Most clinical laboratory scientists/medical technologists are employed in hospital laboratories. Others are employed in physicians' private laboratories and clinics; by the armed forces; by city, state, and federal health agencies; in industrial medical laboratories; in pharmaceutical houses; in numerous public and private research programs dedicated to the study of specific diseases; and as faculty of accredited programs preparing medical laboratory personnel. While many graduates are employed in the clinical laboratory setting, career options are abundant, with opportunities in all areas of health care. As a clinical laboratory scientist/medical technologist, one may decide to specialize in:

- Biomedical research and development
- Andrology and assisted reproductive technology laboratories
- Organ transplantation
- Genetic testing
- Infection control
- Health information management
- Health care industry
- Consultative and entrepreneurial opportunities
- Forensic testing



### Salary

Salaries vary depending on the employer and geographic location. Based on a 2005 survey published in *Laboratory Medicine*, median salaries ranged from \$44,500 to \$52,000, and median manager salaries ranged from \$69,500 to \$72,000. Data from the US Bureau of Labor Statistics for 2007 shows that wages at the 10<sup>th</sup> percentile are \$35,460, the 50<sup>th</sup> percentile (median) at \$51,720, and the 90<sup>th</sup> percentile at \$72,040 ([www.bls.gov/oes/current/oes292011.htm](http://www.bls.gov/oes/current/oes292011.htm)). For more information, refer to [www.ama-assn.org/go/hpsalary](http://www.ama-assn.org/go/hpsalary).



### Educational Programs

**Length.** Programs are at least 1 year of professional/clinical education in conjunction with either a baccalaureate or a master's degree.

**Prerequisites.** College courses and number of required credits are those necessary to ensure admission of a student who is prepared for the clinical educational program. Content areas should include general chemistry, general biological sciences, organic and/or biochemistry, microbiology, immunology, and mathematics. Survey courses do not qualify as fulfillment of chemistry and biological science prerequisites, and remedial mathematics courses will not satisfy the mathematics requirement.

College/university programs that integrate preprofessional and professional coursework are structured with professional courses in the junior and senior years or at the graduate level.

**Curriculum.** There must be a structured laboratory program, including instruction pertaining to theory and practice in hematology, clinical chemistry, microbiology, immunology, and immunohematology. The program must culminate in a baccalaureate degree for those students not already possessing the degree but may also culminate in a master's degree.



### Inquiries

#### Careers/Curriculum

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**Certification/Registration**

American Society for Clinical Pathology  
Board of Registry  
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National Certification Agency for Medical Laboratory Personnel  
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**Program Accreditation**

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