

# Histotechnologist

Physicians (usually pathologists) and other scientists specializing in biological sciences or related clinical areas such as chemistry work in partnership with medical laboratory workers to analyze blood, tissues, and fluids from humans (and sometimes animals), using a variety of precision instruments. The results of these tests are used to detect and diagnose disease and other abnormalities.

The main responsibility of the histotechnologist in the clinical laboratory is preparing sections of body tissue for examination by a pathologist. This includes the preparation of tissue specimens of human and animal origin for diagnostic, research, or teaching purposes. Tissue sections prepared by the histotechnologist for a variety of disease entities enable the pathologist to diagnose body dysfunction and malignancy.

## Career Description

Histotechnologists process sections of body tissue by fixation, dehydration, embedding, sectioning, decalcification, microincineration, mounting, and routine and special staining. In addition, histotechnologists perform the more complex procedures for processing and staining tissues, including troubleshooting and problem solving routine and special stains, immunohistochemistry, and muscle enzyme histochemistry. They identify tissue structures, cell components, and their staining characteristics and relate them to physiological functions; implement and test new techniques and procedures; make judgments concerning the results of quality control measures; and institute proper procedures to maintain accuracy and precision. Histotechnologists apply the principles of management and supervision when they function as section supervisors and of educational methodology when they teach students.

## Employment Characteristics

Most histotechnologists work in hospital, reference, or research laboratories.

## Salary

According to the 2010 Wage and Vacancy Survey conducted by the American Society for Clinical Pathology (ASCP), available at <http://labmed.ascpjournals.org/content/42/3/141>, histotechnologists at the staff level earn a median average wage of \$26 per hour or \$54,080 annually; for those at the supervisory level, these figures are \$32.10 and \$66,768, respectively.

For more information, refer to [www.ama-assn.org/go/hpsalary](http://www.ama-assn.org/go/hpsalary).

## Educational Programs

**Length, Award.** Programs based in colleges/universities are four years and lead to a baccalaureate degree; those based in hospitals require a baccalaureate degree for admission, and culminate with a certificate.

**Prerequisites.** A high school diploma or equivalent is required for entrance into a college/university-based program. A baccalaureate degree with courses in biology, chemistry and math is required for entrance into a hospital-based program.

**Curriculum.** The curriculum includes both didactic instruction and practical demonstration in the areas of

- Medical ethics
- Medical terminology
- Chemistry
- Laboratory mathematics
- Computer technology
- Organic and/or biochemistry
- Immunohistochemistry/Immunofluorescence
- Electron microscopy
- Management
- Anatomy
- Histology
- Histochemistry
- Quality Control
- Instrumentation
- Microscopy
- Processing techniques
- Preparation of museum specimens
- Record and administration procedures
- Muscle enzyme histochemistry
- In situ hybridization
- Laboratory safety
- Management principles
- Education methodology
- Cost analysis
- Research techniques
- Federal, state, and accrediting agencies rules and regulations

The baccalaureate-level program includes coursework designed to provide supervisors and teachers with advanced capabilities.

### **Inquiries**

#### **Careers/Curriculum**

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10320 Little Patuxent Parkway, Suite 804  
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#### **Certification/Registration**

American Society for Clinical Pathology  
Board of Certification  
33 West Monroe, Suite 1600  
Chicago, IL 60603  
(800) 267-2727, option 2  
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#### **Program Accreditation**

Dianne M Cearlock, PhD, Chief Executive Officer  
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