



## Various Types of Pathology and its Medical Interventions

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### Description

The development and progression of disease and injury are the main topics of pathology investigation. The study of illness as a whole, which includes a variety of biological research fields and medical specialties, is commonly referred to as “pathology.” In the modern medical field of “general pathology,” which consists of a number of distinct but related medical specialties that diagnose disease, primarily through examination of tissue, cell, and bodily fluid samples, the term is frequently used more specifically to refer to the procedures and examinations that are a part of that field.

The idiomatic term “pathology” can also refer to the anticipated or actual evolution of an illness, and the prefix “pathy” is sometimes used to signify a sick state in the context of both medical and psychological issues. A medical specialist in pathology is known as a pathologist.

### General pathology

The field of pathology is currently divided into a multitude of sub disciplines that all fall under the two distinct but closely related purposes of biological inquiry and medical practice. Biomedical research into disease involves the work of a wide spectrum of life science specialists, unlike pathology, a medical specialty that requires completion of medical school and earning a licence to practice medicine. The study of disease is divided into a variety of structurally distinct domains that look into or discover disease-related markers using methods and tools specialised to certain scales, organs, and tissue types.

**Anatomical pathology:** Anatomical pathology, also referred to as anatomic pathology, is a field of medicine that deals with the diagnosis of disease utilizing mac-

roscopic, microscopic, chemical, immunologic, and molecular investigations of organs, tissues, and the entire body.

**Cytopathology:** Cytopathology is a branch of pathology that studies and categorizes disease at the cellular level. It is frequently used to assist the diagnosis of cancer, but it can also be helpful in the diagnosis of thyroid lesions, conditions affecting sterile body cavities, and a number of other body sites, as well as some viral illnesses and other inflammatory issues.

**Dermatopathology:** Dermatopathology is a branch of anatomic pathology that focuses on the entire integumentary system, including the skin. There are two possible paths a doctor might take to specialize, which distinguishes it. A 1-2 year fellowship in dermatopathology can be completed in the US by either a general pathologist or a dermatologist. The word “dermatopathologist” refers to either of these who have attained a particular level of accreditation and experience because all general pathologists and general dermatologists receive training in the pathology of the skin.

**Forensic pathology:** Forensic pathology is concerned with determining the cause of death by examination of a corpse or some of its remains following a post-mortem. An autopsy is often carried out by a coroner or medical examiner, frequently as part of a criminal investigation; in this position, they are frequently asked to establish the identity of a corpse.

**Histopathology:** The microscopic examination of various types of human tissue is referred to as histopathology. Histopathology specifically refers to the study of a biopsy or surgical specimen by a pathologist following the processing of the specimen and the placement of histological sections onto glass slides.

## Overlap with other diagnostic medicine

Many areas of research in medicine and medical science, despite being distinct fields in terms of medical practise, have substantial overlap with general pathology, collaborate with it, or make a significant contribution to our understanding of the pathology of a particular disease or its course in an individual. Oncology practise makes extensive use of both anatomical and clinical pathology in diagnosis and treatment since a sizable amount of general pathology practise is focused on cancer. Pathology investigations, including as biopsy, resection, and blood testing, is particularly important for the diagnosis of many types of cancer and for staging malignant tumours.

Similar to this, general pathology's tissue and blood analysis methods are crucial to the study of dangerous infectious diseases and, as a result, have a big impact on the disciplines of epidemiology, aetiology, immunology, and parasitology. General pathology techniques, commonly referred to as "experimental" or "investigative" pathology, are crucial to biomedical research into disease.

The creation of visual representations of a body's interior for clinical study and medical intervention is known as medical imaging. Medical imaging shows internal phys-

iology information that aids in the planning of effective treatments for tissue infections and injuries. In order to establish baseline aspects of anatomy and physiology and improve the precision with which early or minute anomalies are recognized, biometric data from medical imaging is crucial.

These diagnostic tests are frequently carried out in tandem with general pathology investigations and are frequently crucial in and of themselves for gaining new insights into the pathophysiology of a certain disease and monitoring the progression of disease in particular medical cases.

Radiology magnetic resonance imaging, medical ultrasonography, endoscopy, elastography, tactile imaging, thermography, medical photography, nuclear medicine, and functional imaging methods like positron emission tomography are a few examples of significant subfields in medical imaging. Readings from diagnostic tests involving electroencephalography, magneto encephalography, and electrocardiography frequently provide suggestions as to the status and function of certain tissues in the brain and heart, respectively, even if they do not precisely relay images.