

## Engine Room of Modern Biomedical Science

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### Abstract

Biomedical Science is the engine room of modern medicine. All samples taken by a Biomedical Scientist, without biomedical scientists, doctors wouldn't be ready to diagnose diseases properly or treat patients effectively. Today's Biomedical Scientists is probably going to be found in modern, bright surroundings using the newest state of the art equipment.

In medical microbiology, we can study about the micro-organisms such as bacteria, fungi and parasites which cause disease and we can identify these organisms and establish the antibiotic treatment required to kill them therefore stopping the disease.

**Keywords:** Hematology; Leukemia; Cytology; Virology; Cellular material

### Description

Diagnosis of a disease includes meningitis, tuberculosis and food poisoning. In biomedical analyses blood and other biological materials to assist the diagnosis of disease e.g diabetes. They also perform toxicological studies, test kidney and liver functions and help to watch therapies. Some of the diseases diagnosed in hematology are leukemia, malaria and anemia.

In histology tissue samples are studied microscopically to determine the explanation for illness. Tissue could also be taken during surgery or at post mortem. Diseases like cancer are diagnosed by abnormal features in tissue cells. Cytology is the best known for its work screening cervical smears, but it also provides a non-gynecological service. Like Histology, specialized techniques are required to prepare and study samples of cellular material.

Virology is that the study of viruses and therefore the disease caused by them like German measles, HIV and Chickenpox. It is also involved in the monitoring the effects of vaccines.

Biomedical Scientists in Immunology affect the condition of the body system and its role in infectious diseases, allergies, tumor growth, tissue grafts and organ transplantation. Their work is especially important within the monitoring and treatment of diseases. Modern pathology and biomedical laboratory work involves complex and diverse investigations requiring an in-depth knowledge domain of anatomy, physiology and pathology. Since life science is continually changing and is such a dynamic profession.

Health care is a part of traditional medicine with increasing potential exploitation in clinical medicine. Although there are still many issue regarding their incorporation in clinical practice, standardization and quality control, human clinical, experimental pharmacology and toxicology, safety, biomedical applications and others. There is undeniable evidence of benefits to human health. Both botanical origin and chemical uniqueness are important because the same species name used to label the products with different chemical compositions. In traditional medicine, plant essential oils are widely used for treating respiratory, digestive, gynecological, andrological, endocrine, neural, dermatological diseases. Their beneficial effects are usually based on the joint activity of oils chemical components. However its individual constituents can show toxic, allergic, carcinogenic effects or rare contraindicative.

The science in which marine organisms are used to make or modify products to improve plants or animals or microorganisms for specific uses and the medicine prepared with these are named as biomedicine. The marine environment may contain over 80% of world's plant and animal species. Humans have been elucidating biological methods applicable to both aquatic and terrestrial organisms with the help of different molecular and biotechnological techniques.