

Fields of Biomedical Research & Related Careers

Cardiologists research disorders of the heart and blood vessels and develop life-saving drugs and surgical techniques such as pacemakers and artificial heart valves.



Immunologists study the body's defense mechanisms against viral or bacterial invasions and develop preventative vaccines and treatments.



Geneticists study heredity, genes, and DNA. Stem cells and genetically modified organisms are areas of such research.



Pulmonologists research ways to treat diseases of the lungs and airways such as lung cancer, pneumonia, pleurisy, asthma, sleep disorders (which often affect breathing), and emphysema.



Hematologists research ways to treat diseases of the blood, spleen, and lymph glands, such as anemia, sickle cell disease, hemophilia, and leukemia.



Research Veterinarians research the diseases and conditions associated with domestic pets, livestock, and wild animals and develop vaccines, treatments, and cures.



Toxicologists study toxic substances and their effects on organisms, helping people and animals that have been poisoned by household or industrial toxins, environmental toxins, and prescription and nonprescription drugs.



Microbiologists research the causes of disease such as viruses, bacteria, fungi, and parasites.



Endocrinologists research disorders of the endocrine system and related conditions such as diabetes, obesity, and thyroidism.



Oncologists research ways to treat and cure all types of cancer, in humans and in animals.

Career Opportunities

	Minimum Requirements/Conditions					
	High School Diploma	College Degree (2 & 4 years)	Graduate Degree	Certification Possible or Required	Work with Animals	Indirect Work with Animals
Animal Behaviorists study animals to collect data on their behavior and activity.		●			●	
Animal Care/Laboratory Animal Technicians provide food and water, clean housing, and enrichment for laboratory animals and monitor animal health on a daily basis.	●			●	●	
Animal Facility Supervisors oversee the animal facility setting, ensuring that all laws and regulations are followed.		●		●	●	
Animal Health Technicians monitor animal health and provide medical care as prescribed by a veterinarian.	●			●	●	
Biomedical Engineers work in the practical application of engineering as it relates to health and medicine.		●		●	●	●
Cagewashers and Facility Maintenance personnel keep research facilities and equipment clean, dependable, and safe.	●				●	●
Clinical Trials Associates organize the testing of new drugs and technical procedures on humans.	●					
Computer Scientists and Programmers create and design programs for use in research.		●				
Engineers design and create equipment, facilities, devices, and materials used in a research environment.		●				●
Laboratory Assistants help technicians, veterinarians, and researchers in the laboratory setting.	●			●	●	●
Laboratory Veterinarians provide medical care to animals, perform independent research, and serve as consultants and collaborators to research investigators.			●	●	●	
Medical Doctors provide medical care to humans, work on advances in medical procedures and surgical techniques, and discover new drugs and medical treatments.			●	●	●	●
Medical Technologists perform laboratory tests in medical and hospital diagnostic laboratories.	●			●		
Nutritionists design healthier diets for animals and humans and study food-borne illnesses.		●		●	●	●
Pharmaceutical Technicians assist researchers in discovering and creating new medicines.		●			●	●
Pre-Clinical Trials Associates work with scientists testing new drugs and procedures on animals prior to testing on humans.		●			●	
Regulatory Affairs Specialists maintain and enforce the laws and rules that govern the use of animals in all areas of research.		●				●
Research Associates/Technicians work with scientists, doctors, and vets in laboratories assisting in experiments, analyzing data, and maintaining equipment.		●		●	●	●
Researchers/Scientists study medical conditions and conduct experiments in all fields of biomedical research to develop new medical techniques, devices, treatments, and medicines. Look around the edges of the chart for some examples!			●	●	●	●
Statisticians use computers to help researchers design experiments and analyze the results.		●				
Technical Writers record and publish the results of research, the protocols for research, and the specifications and procedures for using new medicines and surgical advances.		●				
U.S. Department of Agriculture Inspectors are responsible for inspecting farms, meat packing facilities, zoos, and medical research facilities to ensure that all federal laws are strictly upheld.			●		●	●
Veterinary Technicians assist veterinarians with veterinary care. They can work in private animal clinics, animal hospitals, zoos, or research facilities.		●		●	●	



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