

CAREERS IN MEDICINE—ANSWERS

Today's health care professionals work hard to promote hygiene, prevent and detect disease, cure patients, and reduce their suffering. The modern practice of medicine has not always been with us but was developed over thousands of years. Today you will examine a variety of health careers some have been around since ancient times and others that have developed with modern medicine.

APOTHECARY

Pharmacists are responsible for dispensing drugs prescribed by physicians and they provide information to patients about medications and their use.

Name one major difference between a modern pharmacist and the one in the 19th Century Apothecary.

19th Century pharmacists mixed and measured drug products from raw materials according to doctors' prescriptions. Modern pharmacists are responsible for formulating, storing, and providing correct dosages of medicines, which are now usually produced by pharmaceutical companies as pre-measured tablets or capsules.

FIRST
FLOOR

DENTIST OFFICE

Dentists examine patient's mouths, treat dental problems, and provide preventive education.

List three differences between the dentist office from the early 1900's and a modern dentist office.

Examples may include: lack of electricity and running water, improved lighting, wooden handles on tools, materials for tables and chairs.

STAIRWAY LANDING

Alternative Medicine Practitioners use non-Western techniques for treating illnesses. On the wall are drawings that show anatomic points where very fine needles are inserted into the skin to treat symptoms and reduce pain.

What is the name for this technique?

Acupuncture

List other types of alternative medicine.

Examples may include: massage therapy, art therapy, etc.

HALL OF IMMORTALS

A Pathologists studies the nature of diseases and their origins.

Who is considered the father of pathological anatomy?

Giovanni Battista Morgagni

Women have not always been accepted as medical professionals, researchers, or academics.

What noted woman researcher was awarded two Noble Prizes, paving the way for women in the medical field?

Marie Sklodowska Curie

SECOND
FLOOR



International Museum of Surgical Science

WINDOWS TO THE WORLD

Ophthalmologists are physicians who diagnose and treat eye disease and injury. They also perform eye surgery.

List two forms of eye surgery.

Corneal transplants, cataract surgery, glaucoma surgery, reattaching a detached retina, laser eye surgery, LASIK eye surgery

SECOND
FLOOR

POLIO

The large gray machine, known as the Iron Lung, was used to help polio victims breathe when their diaphragms were paralyzed. Polio was a terrifying disease caused by a virus, but it was conquered in 1955 with the development of a vaccine.

*Who was the **Research Scientist** who developed this vaccine?*

Jonas Salk

LIBRARY

This room is filled with medical texts, some of which are quite old and rare. These books help to educate medical students as well as serve as a reference for physicians.

List three medical specialties covered by these books.

Examples may include: pediatrics, obstetrics, gynecology, general surgery, pharmacology, dermatology, ophthalmology, public health, plastic surgery, orthopedic surgery, abdominal surgery, thoracic surgery, cardiovascular surgery, neurosurgery, clinical surgery, infectious diseases, and cancer

LATIN AMERICA

Surgery is performed by specially trained medical physicians known as **Surgeons**. A surgeon is often trained in a specific field of surgery called a specialization.

List the three procedures taking place in the paintings.

1. **Cesarean Section**

2. **Splenectomy**

3. **Ovariectomy**

THIRD
FLOOR

EUROPE

Education and training is very important to building a career in medicine. As you look around this room, one painting in particular shows students interacting with a teacher.

What method is the teacher using to educate his students on the anatomy of the human body?

This method of teaching is cadaver dissection—the cutting apart or separating of tissue to learn about the anatomy of the human body.

JAPAN HALL OF FAME

Surgical Technologists assist in surgical operations. They help prepare the operating room, get the patients ready for surgery and assist during the procedure. To prepare the operating room, they set up the surgical equipment and tools.

What equipment is used to close wounds?

Sutures and staples



International Museum of Surgical Science

MEDICAL IMAGING

Radiologists diagnose and treat diseases by obtaining and interpreting medical images of the body.

List three methods other than the x-ray for looking inside the body.

Angiography, ultrasound imaging, computed tomography CT, Magnetic Resonance Imaging MRI, Nuclear Medicine, PET, SPECT

THIRD
FLOOR

NURSING

Registered Nurses (RNs) work to promote health, prevent disease, and help patients cope with illness.

How many registered nurses work in the United States?

Over 2.6 million

A **Midwife** attends childbirth, provides support during labor and delivery, and supervises the general care of women and children directly after birth.

Name three organizations that Midwives can join for support and accreditation.

American College of Nurse-Midwives, the Midwives Alliance of North America, the International Confederation of Midwives

FOURTH
FLOOR

ENDURING PAIN

Anesthesiologists are physicians, or sometimes dentists, who administer drugs that cause insensitivity to pain and may render a patient unconscious. **Anesthetists** are nurses or technicians trained to do the same thing, administer anesthesia.

Since the Civil War, which group has been the principal providers of anesthesia in combat zones?

Nurse Anesthetists

HALLWAY

A **Urologist** is a physician who specializes in diseases of the urinary organs. Suffering from gallstones and bladder stones can be quite painful. Most people did not run the risk of having them surgically removed before the 20th century, because death was almost certain during or shortly after surgery.

Where in the human body could you expect to find stones like those on display?

Stones can be found in the gallbladder, bladder, kidney, salivary duct, and urinary tract. Most of the stones in the Museum's display come from the gallbladder and urinary tract.

How do you think stones form inside the body?

The stones form by a tiny piece of solid material being deposited in an organ, and then additional material clinging to the first speck, gradually building into a solid object.



ORTHOPEDICS

Prosthetists and **Orthotists** evaluate, design and fabricate prostheses (artificial limbs). Due to the high number of amputees during the Civil War era and the demand for artificial limbs, this profession became a very specialized science and art.

What materials did ancient peoples use for implants and prostheses?

Ivory, animal bone and wood

Orthopedic surgeons or **Orthopedists** treat acute, chronic and traumatic injuries, as well as other disorders, of the musculoskeletal system.

What do the Greek roots "ortho" and "pais" mean?

Ortho = straight

Pais = child

CANADA

Biological/Research Scientists study reproduction, growth and development, function, structure, behavior and other aspects of living organisms to develop medicines, prevent disease, and promote health.

Who were the scientists who discovered insulin?

Fredrick Banting, J.B. Collip, J.J.R. MacLeod, Charles Best

SUPPORTING STRUCTURE

Medical Illustrators are artists who work in the medical field and create visual material to help promote medical knowledge. Medical illustrations are graphic designs and/or three-dimensional models.

Name the early pioneers of medical illustration.

Andreas Vesalius (1514-1564), Leonardo da Vinci (1452-1519), Bartolommeo Eustachi (1524-1574), Matteo Realdo Colombo (1515-1559), Bernhard Siegfried Albinus (1697-1770), William Cheselden (1668-1752)

CONQUERING HEART DISEASE

Electrocardiograph Technicians operate and maintain electrocardiogram equipment.

What is an electrocardiogram?

An electrocardiogram is a noninvasive test that records the electrical activity of the heart.

A **Perfusionist** is a member of an open-heart surgical team responsible for the selection, setup, and operation of the heart-lung machine.

What device was used before the heart-lung machine?

The Lindbergh perfusion pump

FOURTH
FLOOR

FOURTH
FLOOR
(ANNEX)

