



International Museum of Surgical Science

A Division of the International College of Surgeons

## **ANATOMY STUDY GUIDE**

*Surgery is the branch of medicine concerned with treatment of diseases, deformities, and injuries through procedures called operations. People have practiced surgery since ancient times. The modern practice of medicine has developed over thousands of years. Modern surgery looks very different from those early days. This tour will help you to discover some of the advances in medicine that made modern surgery possible.*

### **SURGICOGENOMICS & PATHOLOGY**

On the cutting edge of medicine today is a field called surgicogenomics that is emerging from the intersection of genetics and stem cell research and surgical practice.

*How are surgeons of the Genomic Era different from the predecessors? How are they able to look at their patients differently? How is this beneficial to the treatment of their patients?*

The suffering from gallstones and bladder stones can be quite painful. Most people did not run the risk of having them surgically removed before the 20<sup>th</sup> century, due to the fact that death was almost certain during or shortly after surgery.

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

*How do you think stones form inside the body?*

### **AMPUTATION PAINTING**

Look at the painting *Early Amputation*.

*If this painting depicted a modern amputation, what would be different?*

### **TREPHINING PAINTING**

Look at the painting *Primitive Trephining*.

*What is trephination? Why was it performed?*

### **HALL OF MURALS**

Find the painting *War and Surgery*. In 1536, the procedure of cauterization by pouring boiling oil onto an amputee's wounds was used to stop the bleeding.

*What problems would cauterization have caused?*

*How did Ambrose Paré change this practice?*

## **OPHTHALMOLOGY**

Inside the eye is a lens similar to those used in eyeglasses to correct vision. When the lens within the eye becomes clouded, the patient has a cataract.

*When was the first cataract surgery performed?*

## **POLIO**

Poliomyelitis is a \_\_\_\_\_, which cannot live on its own as bacteria, but must infect a living cell to survive. The only way to treat a disease like this is through prevention using a \_\_\_\_\_, like the one developed in 1955.

## **HALL OF IMMORTALS**

Today we know that hormones and other secretions in the body maintain homeostasis, or a strict balance that keeps the body's temperature, pH, and other physiological processes steady. This idea of balance in the body to maintain health is not new.

*What theory of Hippocrates' is based on the idea of balance? What four things did Hippocrates say had to be in balance to maintain good health?*

Antisepsis is the elimination or reduction of the spread of microorganisms that cause infection and disease.

*Read the stories next to the statues to help you identify the names of the three men who contributed to the understanding of antisepsis.*

- 1.
- 2.
- 3.

## **GYNECOLOGY**

Look at the two examination tables on display.

*What time periods are each of these tables from? What are the major differences between the two tables and how would this affect patient comfort and care?*

## **ENDURING PAIN**

Observe the different surgical tools and find the tools used for blood letting.

*Why was blood letting performed? How would a doctor/surgeon use these tools?*

Pain can be classified according to its source, whether it is internal or external to the nervous system.

*Where does neuropathic pain originate from?*

## **JAPAN HALL OF FAME**

Anastomosis is the surgical connection of two hollow organs, for example, blood vessels or parts of the intestine, to ensure a continuous passageway.

*What type of surgical tools are used with this procedure?*

*What was the procedure used in the 10th Century BC in Japan for closing a wound?*

## **MEDICAL IMAGING**

The discovery of the x-ray changed the way doctors viewed the human body and diagnosed diseases.

*Who discovered the x-ray? Why was the discovery of the x-ray so important to the study of medicine?*

*What were some of the early uses of the X-ray?*



## **TREPHINING**

The skulls are from ancient Peru, dating back to 2000B.C.

*Can you tell who lived after a trephining procedure? What clues can you find on the skull?*

Look at the green tools used to perform this procedure. Can you imagine how they might have been used?

## **NURSING**

Modern nurses dedicate their lives to helping those who are sick and injured; working to promote health, prevent disease and help patients cope with illness.

*Who is considered the "Founder of Modern Nursing"?*

*What method did Rosemarie Acuna come up with to help the visually impaired live independently with their dialysis?*

*What is an "IV House Ultra Dressing"?*

## **WOUND HEALING**

Knowledge of many different tools and techniques for wound cleansing, closure, debridement, dressing and bandaging have been documented throughout the ancient world. While traditional methods remain highly reliable, wound care is also a rapidly advancing field.

*What theory was adopted in the late 19th century which allowed physicians to improve significantly on traditional methods of wound care?*

*What insect is commonly used to clean wounds? List at least one interesting fact about this insect.*

## **DENTIST OFFICE**

**Dentists** examine patients' mouths, treat dental problems and provide preventive education. Their job description hasn't changed that much in the past two hundred years, yet in many ways there have been so many advances in the field we cannot imagine the profession 100 years ago.

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

## **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.*

