

NATIONAL MUSEUM OF HEALTH AND MEDICINE

Innovations Discovery Guide

ACTIVITIES AND INFORMATION FOR AGES 8 - 14



A lab technician checks blood types of wounded men brought in from the battlefield, Korea, July 30, 1950.

SC 0344909



2500 Linden Lane, Silver Spring, MD 20910

Main: 301.319.3300 • Tours: 301.319.3312

www.medicalmuseum.health.mil •    @MedicalMuseum



Welcome!

Welcome to the National Museum of Health and Medicine! NMHM was founded in 1862 during the Civil War to “study specimens of morbid anatomy.” Photographs, drawings, letters, bones, bullets, and surgical tools were all collected to understand and improve the care of service members. Today, we inspire interest in the past, present, and future of American military medicine.

This family guide will help you explore the museum’s collections.

This guide will explore:



- Challenges and triumphs
- Inventions
- Materials
- Pioneers in Military Medicine
- Illustrations and Images

Now, pretend you are a researcher and “explore” the museum’s collections!

Vocabulary

ALTERNATIVE MEDICINE

Medical therapies that are not considered to be part of the traditional fields of medicine, such as acupuncture

BIOMEDICAL ENGINEERING

Applying engineering concepts to biology or medicine for health care purposes

INNOVATION

A new method, idea, or product

INVENTOR

A person who invents a particular process or device

MICROSCOPE

A tool used to look at very small objects, such as cells

PRESERVATION

The process of preserving something, such as an organ

PROSTHETIC

An artificial body part, such as an arm or leg

TRAUMA

A physical injury

TRAUMATIC BRAIN INJURY

An injury to the brain as a result of a blow or force to the head

Challenges and Triumphs



The military constantly faces challenges in keeping its service members healthy both at home and abroad. The military researches possible drugs and vaccines to treat and prevent diseases. In order to get the best results from their research, they will often use human test subjects. Today, to volunteer as a test subject, you must sign a consent form or contract that says you understand the risks associated with the research. Maj. Walter Reed created one of the first informed human consent forms for the Yellow Fever Commission in 1900.

Find the consent form and answer the following:



Who wrote this document?

Who was the document written for?

List three things that the author said that you think are important.

Why was this document written?

What evidence in the document helps you know why it was written (provide a quote from the document)?

List two things this document tells you about the Army or medical care.

Write a question to the author that you think the document leaves unanswered.

Did you know?

The yellow fever contract was also written in Spanish for the Cuban participants in the research trial.



Inventions

Locate the inventions pictured



Inventions are new or unique methods, products, or processes that change the way something is done. Due to the extreme conditions of battlefield medicine, the military is always looking for innovations that can improve the care and protection of service members.

1. A MACHINE USED TO REPLACE THE FUNCTION OF AN ORGAN
2. A MANNEQUIN USED TO RESEARCH HUMAN RESPONSES TO EXTREME CONDITIONS
3. A TECHNIQUE USED TO PRESERVE SPECIMENS BY USING POLYMERS
4. A TOOL USED TO DEVELOP A NEW DRUG
5. A TOOL USED TO IMPROVE THE IMMEDIATE CARE OF THE SERVICE MEMBER
6. A TOOL USED TO PROTECT THE HEAD FROM INJURY

Name some examples of innovation in the museum.

What do these objects tell you about their uses?

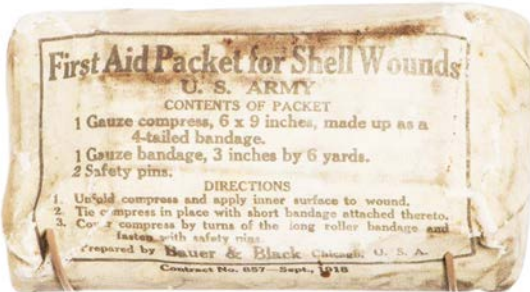
What makes these objects inventions or innovations?



Did you know?

Penicillin chrysogenum, the fungus that produces the antibiotic penicillin, can be found naturally on salted food products.

Materials



Bandages or dressings are used to stop bleeding and protect the wound from dirt and infection. Bandages are easily transportable and can be applied to a wound at any location. Bandages can be made of many things, including from lint, cloth, gauze, or even silver. **Find the first aid packet for shell wounds.**



What material is used in this bandage?

How would this bandage have been used?

Who would have used this bandage?

What type of bandages do you have at home?

If you were an inventor, what type of materials or methods would you use to make a bandage?

Can you find other bandages in the museum?

Did you know?

Optical fibers can be woven into bandages to help monitor wounds.



Meet the Inventors, Pioneers, and Patients

Can you identify the following people as an inventor, pioneer, or patient?

Hint: Look for the solid-colored panels!

	INVENTOR	PIONEER	PATIENT
1. Dr. Gurdon Buck			
2. Peter Cluckey			
3. Dr. Gunther Van Hagens			
4. Lt. Col. J.J. Woodward			
5. Dr. Willem Kolff			
6. Dr. Peyton Rous			
7. Dr. Jonathan Chisholm			
8. Dr. Mary Walker			
9. President Abraham Lincoln			
10. Maj. Walter Reed			
11. Col. Emma Vogel			
12. Dr. Ellis Kerley			
13. Dr. Jules-Émile Péan			
14. Sgt. 1st Class Eric Smeed			
15. Pvt. Julius Fabry			

15



14



13



12



11



10



9



2



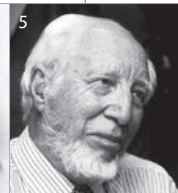
3



4



5



6



7



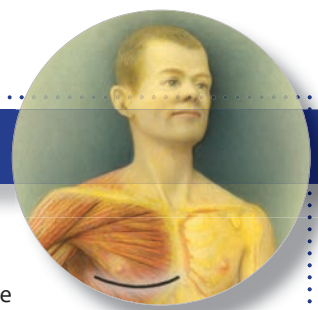
8



Illustrations and Images



Illustrations, images, and models can be used to record or interpret human anatomy, disease, battlefield images, and injuries. These different types of mediums can help us understand military medicine in order to educate future caregivers.



List the different types of images you see in the museum.



Go to the “Normal Anatomy” exhibit.



Choose an image from the collage and answer the following questions.

- *What is the image?*
- *What are the parts of the image?*
- *How was the image created?*
- *Who do you think is the intended audience for the image?*

Choose a specimen or artifact in the museum and draw an image of it.



Did you know?

The Army first used X-ray machines during the Spanish-American War in 1898.

NATIONAL MUSEUM OF HEALTH AND MEDICINE



The National Museum of Health and Medicine was established during the Civil War as the Army Medical Museum, a center for the collection of specimens and artifacts for research related to trauma and pathology. The museum's mission to preserve and explore the impact of military medicine spans more than 150 years and includes each major U.S. armed conflict. However, military medicine does not exist in a vacuum, and it is the museum's vision to preserve, inspire, and inform the history, research, and advancement of military as well as civilian medicine through world-class collections, digital technology, and public engagement. Visit the museum to learn about topics ranging from combat casualty care and traumatic brain injury, to the history of vaccine development and techniques used in forensic identification.

The museum's exhibits and programs provide forums for both informal and structured learning that connect the mission of the Department of Defense museum with the public. The museum is a division of the Defense Health Agency Research and Engineering Directorate.

NMHM is located at 2500 Linden Lane, Silver Spring, MD 20910, and is open Wednesday - Sunday from 10:00 a.m. to 5:30 p.m.

Visit www.medicalmuseum.health.mil or call 301-319-3300 for information on tour programs and special events.

EVENTS:

Brain Awareness Day, Bugapalooza, Scout Day, Teddy Bear Clinic, Lecture Series