SIERRA SACRAMENTO VALLEY MEDICAL SOCIETY
MUSEUM OF MEDICAL HISTORY

5380 ELVAS AVENUE
SACAMENTO CA 95819

Free Admission

Open Tuesday-Friday, 10 AM - 4 PM
Closed Mondays/Weekends/Holidays

www.MuseumOfMedicalHistory.org

If possible, watching the virtual museum tour linked on our Medical Museum website might be helpful.
WELCOME TO THE SSVMS MUSEUM OF MEDICAL HISTORY

Sadie will welcome you. She has been at the SSVMS much longer than the museum.
Medical Museum
Educational Student
Virtual
“Scavenger Hunt”
One of the few Iron Lungs on public exhibit
A) What disease led to the use of the iron lung?

B) How does it work?

C) What can be used today instead of an Iron Lung
One form of this disease caused paralysis (often called infantile paralysis)
A) What disease led to the use of the iron lung?

Polio (Poliomyelitis) also called Infantile Paralysis

Caused by a virus, two varieties, one affects mainly skeletal muscles (walking etc.), the other, bulbar, affects the brain stem and prevents the ability to breathe.
B) How does it work?

When the diaphragm at the foot end of the iron lung pulls out it pulls air into the patient’s lungs (as the patient is totally “sealed” in the iron lung) a negative pressure ventilator.
C) What can be used today instead of an Iron Lung?

There are a variety of modern ventilators, except they usually require a tube down the throat or a hole in the neck (windpipe). At times “Positive Pressure Ventilation” can be used with a face mask to allow oxygen to be forced into the lungs.

There are also more compact versions of the iron lung that fit around the chest, rather than the patient’s needing to be inside the ventilator.
QUESTION 2
For what purpose are leeches used?
HIPPOCRATES
The Father of Modern Medicine
2400 Years Ago !!!

Four Humors

Blood, Phlegm, Yellow Bile and Black Bile
He believed that diseases could be caused by an imbalance of these humors.

If the patient’s disease was thought to be caused by too much blood, the treatment was to remove blood.
For what purpose are leeches used?

A century and more ago...

TO REMOVE BLOOD !!!!

Besides leeches, there were various mechanical devices that could be used.
FLEAMS and SPRING LANCET used for bleeding.
The Scarificator was a spring operated instrument. It would make multiple incisions in the skin, in this case 12 incisions made by the round blades visible below.
Bleeding has been used for at least 3000 years.

There are even references to its use after 1900, and later in the century for conditions such as those causing an increase in the red blood cells.
So for what purpose are leeches used TODAY...

STILL...TO REMOVE BLOOD...but they are used by plastic surgeons to prevent the loss of a re-attached area or a surgical flap. After applying their own anesthetic and anticoagulant (to keep the blood from clotting), leeches remove 1-2 teaspoons of blood.
QUESTION 3
What instrument is used to look at germs and blood cells?

Clostridium perfingens (bacteria) - (Food Poisoning)

Red blood cells with Plasmodium vivax (Malaria)
Blood cells and bacteria are very small objects that need to be made visible...

Definition of MICRO: extremely small or minute in scope or capability
A Dutch father-son team named Hans and Zacharias Janssen invented the first so-called compound microscope in the late 16th century.

By the late 1600s, improvements to the lenses increased the quality of the image and the magnifying power to up to 270x, paving the way for major discoveries.

In 1676, Dutch cloth merchant-turned-scientist Antony van Leeuwenhoek further improved the microscope with the intent of looking at the cloth that he sold, but inadvertently made the groundbreaking discovery that bacteria exist.

One use of the microscope was its use with...

the hemocytometer, used to examine and count blood cells. Blood is “sucked up” into the glass tube and then put into the glass chamber which is put under a microscope. Such a technique was not unusual even in the mid 1900’s.
1) Certain instruments let doctors look inside body cavities. What is this technique called?

2) Give an example of what you can look at using one of these instruments. Name three organs or areas that can be examined this way?
1) Certain instruments let doctors look inside body cavities.

What is this technique called?

“Endoscopy”

Laparoscopy refers to looking into the abdomen with an instrument inserted through a small incision. Cystoscopy is the examination of the bladder through an instrument passed through the urethra.

Older instruments were “optical” meaning there was a rigid tube with a light and eyepiece. Modern improved instruments are smaller, flexible, and use a miniature camera so they are less invasive and more versatile.
2) Give an example of what you can look at using one of these instruments. Name three organs or areas that can be examined this way?

The organs in the abdomen such as the spleen and liver or the inside of organs such as the urinary bladder (cystoscopy), stomach (gastroscopy) or colon (colonoscopy). Also joints such as the knee.

More recently surgery can be performed with scopes, such as removal of part of the stomach (gastrectomy) or part of the colon (colectomy).
And even more recently such surgery can be done by a “robot” with the surgeon sitting at a computer console distant from the patient.
The surgeon at a computer console controls the robotic arms with attached small instruments. This allows precise movements in confined spaces and in long operations prevents tremors that normally occur in our muscles with prolonged stressful procedures.
QUESTION 5

1) What is quackery?

2) Is quackery still around?

3) Can you give an example?
QUACK definition:
The word Quacksalver had its origin in 1579 and referred to one pretending to have skills or knowledge, especially in medicine.
1) What is quackery?
Quackery is the recommendation or use of instruments, drugs, and other items that claim to cure or remedy a condition but have no beneficial effect and may even be harmful.

2) Is quackery still around?
YES!!! It can be found advertised in magazines, newspapers and television
3) Can you give an example?

The Patent Magneto Electrical Unit and the Violet Ray were two common quackery items from the early 20th century.
Do you know what these are???
1) When was the first artificial heart valve inserted?

2) Which cardiovascular surgeon in Sacramento developed artificial heart valves?
1) When was the first artificial heart valve inserted?

Dr. Hufnagle implanted the first artificial heart valve in 1952.

1960 was the first valve replacement using “open heart” surgery but various other types of valve replacements were done before that time.

2) What cardiovascular surgeon in Sacramento developed artificial heart valves?

Dr. Ed Smeloff, in the 1950’s, in conjunction with Sacramento State Bioengineering Dept. and the Sutter Research Institute.
What does an electrocardiogram (EKG) measure?
The EKG (also known as ECG) measures the electrical impulses of the heart.

It can detect abnormal heartbeats (rhythms) and provide evidence of a heart attack.
Bacteria cause many diseases like pneumonia, tonsillitis, and tuberculosis.

What types of drugs are used to treat these diseases?
Against Life = Anti - Bio

(This word, however, was first used in 1860 and described an opposition to the belief in life beyond earth)
Antibiotics such as penicillin, erythromycin, tetracycline, and numerous more recently discovered and potent drugs.

Antibiotic - a medicine that inhibits the growth of or destroys microorganisms
Antibiotics are compounds produced by bacteria and fungi which are capable of killing or inhibiting competing microbial species.
Penicillin was the first true antibiotic.

When and how was it discovered?
Penicillin was discovered in 1928 by Alexander Fleming at St. Mary’s Hospital in London, England. He had left the cover off a Petri Dish and discovered that where a mold (Penicillium) had grown the bacteria that had been inoculated on the plate would not grow.

It was not until 1938 however, when technology had improved, that Howard Flory was able to isolate Penicillin for medical use. He, along with Ernst Chain and Alexander Fleming, shared the Nobel Prize in 1945 for creating the first mass-produced antibiotic. It was first used in the 1942 and played an important role in World War II.
Viruses cause many diseases like measles, mumps, chicken pox, polio and the flu.

1) What can prevent these diseases?
2) Do antibiotics work against viruses?
3) Can you explain why?
they all got vaccine except dad...

This actually happened to the man in the iron lung... James Wood, 36, of Charlotte, Mich. He was the only member of his family not vaccinated against polio and the only one to come down with the disease. Wood and his wife both planned to be vaccinated. One night last April they were about to go out for their Salk shots when friends dropped in and the trip was postponed.

Later, an extra-money night job kept Wood from going to a vaccine clinic with his wife.

The children, of course, had been vaccinated. Robert, 13, Norman, 11, Nancy, 10, James, 6, and Sarah Jane, 3, had all three shots; Edgar, 2, had two. Baby John was born after dad was stricken. "Jim just didn't get to it," Mrs. Wood says of the ill fortune that befell her husband.

"Now, the only good will be if what happened to us helps somebody else."

don't take a chance...take your polio shots!

THE NATIONAL FOUNDATION FOR INFANTILE PARALYSIS

301 EAST 42nd STREET, NEW YORK 17, N. Y.
1) What can prevent these diseases?
Immunizations, also known as vaccinations.

Smallpox vaccination was responsible for completely getting rid of smallpox in the world.
2) Do antibiotics work against viruses?  
   No

3) Can you explain why?  
   Viruses are not “living” organisms like bacteria, but depend on the cells of the patient to reproduce.
BONUS QUESTION

Who was the first person to immunize against Smallpox, and what did he use?
The English Physician, Edward Jenner, used the Cowpox virus in 1796.

(And he confirmed its effectiveness by exposing the patient to Smallpox.)
QUESTION 11

1) In 1918 more than 20 million people worldwide died of what disease?

2) How was it spread?
Sacramento 1918
1) In 1918 more than 20 million people worldwide died of what disease?

Influenza (Flu)

2) How was it spread?

Respiratory spread (coughing, breathing, sneezing)
In modern times, anesthesia and sterile technique have been important advances in the operating room.

In the following photo what seems to be missing?
from:
Doctors of the Old West
A Pictorial History of Medicine on the Frontier
by
Robert F. Karolevitz

Original Image from:
Northwest Medicine, “100 years of Medical Education in Oregon”
In the photo, no one is wearing special clothing (sterile gowns), caps, facemasks or gloves. There are no sterile surgical instruments. The patient is not covered with sterile drapes. The operating room window is open allowing contaminants and insects into the room.

These all lead to an increased risk of infection.
QUESTION 13

1) The first surgery using general anesthesia occurred in what city in 1846?

2) What kind of anesthesia was it?
Surgery in Boston about 1847
1) The first surgery using general anesthesia occurred in what city in 1846?
   Boston (Massachusetts)

2) What kind of anesthesia was it?
   Ether
QUESTION 14

What was the best thing you learned today?
For advanced or secondary schools, or bonus work, here are additional questions
QUESTION 15

1) Who discovered X-Rays and when?

2) Name two advances in Body Imaging
William Conrad Roentgen
1845-1923

A German physicist who, in 1895, produced and detected a wavelength of electromagnetic radiation known as X-Rays or Roentgen Rays. In 1901 he earned the first Nobel Prize in Physics for that discovery.

X-RAY TUBE
circa 1900

This Case is Dedicated to the Memory of Fred Valdez
A) Wilhelm Roentgen - He received the first Nobel Prize awarded for physics in 1901

B) Computerized Axial Tomography (CAT Scan) and Magnetic Resonance Imaging (MRI) and Positron Emmission Tomography (PET) Scan
1) What important Ethnic group in 19th century Sacramento had valuable medicines to treat illness?

2) Give two examples
**PU HUANG**
(Pollen Typhae)
Common Name: Cattail Pollen
Functions: Stops both internal and external bleeding, and promotes the circulation of Blood.
Note: Often used with Wu Ling Zhi (Trogopterori seu Pteromi) for menstrual pain.

**DENG XIN CAO**
(Medulla Junci Effusii)
Functions: Promote urination
Note: Often used with Hua Shi (Talcum) for painful urination due to Heat and Dampness in the Heart, Bladder, and Lung Channels.

**LU FENG FANG**
(Nidus Vespae)
Common Name: Hornet Nest
Functions: Used topically as an ointment or wash for skin rashes, itching, scabies, ringworm, or carbuncles.
Cautions and Contraindications: Poisonous, contraindicated in skin sores that have already burst open.

**WU LING ZHI**
(Excrementum Trogopterori Seu Pteromi)
Common Name: Flying Squirrel Feces
Functions: Used for menstrual pain, epigastric pain, or postpartum abdominal pain.
Note: Traditionally this herb is contraindicated in combination with Ren Shen (Radix Ginseng).

**XIA KU CAO**
(Spica Prunellae Vulgaris)
Functions: Used for swollen glands, neck lumps or nodules, or red painful swollen eyes.
Note: Often used with Ju Hua (Flos Chrysanthemi Morifolii) for headache and redness in the eye.
**WU GONG**
(Scolopendra Subspinipes)
Common Name: Centipede

Functions: Used for seizures, childhood convulsions, and facial paralysis.

**Cautions and Contraindications:** Poisonous.

**LU FENG FANG**
(Nidus Vespae)
Common Name: Hornet Nest

Functions: Used topically as an ointment or wash for skin rashes, itching, scabies, ringworm, or carbuncles.

**Cautions and Contraindications:** Poisonous, contraindicated in skin sores that have already burst open.

**XING REN**
(Semen Prunis Armeniaca)
Common Name: Almond Kernel

Functions: Relieves cough and wheezing, and moistens and moves the stool.

**Cautions and Contraindications:** Over dose of this herb can cause dizziness, nausea, vomiting, and headache, which can progress to coma. Cooking and removal of outer coat decreases toxicity. The bark of an apricot tree is used as an antidote.

**TIAN MEN DONG**
(Tuber Asparagi Cochinchinensis)
Common Name: Tuber of Chinese Asparagus

Functions: Used for a dry mouth and thick or blood-streaked sputum that is difficult to expectorate.

**HUANG QI**
(Radix Astragali)

Functions: Often used with Ren Shen (Radix Ginseng) for reduced appetite, fatigue, and spontaneous sweating.
1) Chinese Immigrants brought their traditional medicines and therapies.

2) See 2 prior slides for multiple items in the exhibit case.
QUESTION 17

Who invented the stethoscope

The Diagnostic Case contains a wide variety of stethoscopes...

Laennec stethoscope
Dr. Rene Laennec, a French Physician, in 1816.
QUESTION 18

What was allowed during Prohibition, but only with a Doctor’s prescription?

Prohibition:
January 17, 1920 to December 5, 1933

Clue
Alcohol (ethanol) which included liquor, beer and wine.
QUESTION 19

Name three diseases caused by viruses
Name three diseases caused by viruses

CHILDHOOD DISEASES
- Chickenpox
- Measles (Rubeola)
- Mumps
- Poliomyelitis
- Rubella (German Measles)
- Smallpox

OTHER DISEASES
- Influenza
- Hepatitis
QUESTION 20

Name three diseases caused by bacteria
Name three diseases caused by bacteria

CHILDHOOD DISEASES
- Diphtheria
- Pertussis (Whooping Cough)
- Scarlet Fever
- Tetanus

OTHER DISEASES
- Cholera
- Tuberculosis
- Leprosy
- Anthrax
- Impetigo
- Strept Throat (Tonsillitis)
QUESTION 21

What are Patent Medicines

Give 4 examples
What are Patent Medicines

Non-prescription compounds sold for medical treatment (remedy or cure) that often do not work as promoted. They often contain a significant amount of alcohol. Also occasionally called nostrums.

Give 4 examples

Carter’s Little Liver Pills
Lydia Pinkham’s Pink Pills
Doan’s Kidney Pills
QUESTION 22

How did people die of Diphtheria
Asphyxiation (Inability to breathe) due to a “membrane” formed over the trachea and by a Toxin produced by the bacteria.
Before the days of immunizations and antibiotics, treatments such as these were required to try to save patients, especially children, from dying (in this case from Diphtheria).
QUESTION 23

Name six diseases prevented by immunizations
There are also numerous other vaccines/immunizations used less frequently. They are used to prevent diseases when traveling to other countries, such as for cholera and rabies.
QUESTION 24

How were extremity injuries often treated during the Civil War...and why?
Clue
How were extremity injuries often treated during the Civil War…and why?

Amputation

If a broken bone penetrated the skin, and before the days of antibiotics, the mortality was about 100% from infection. The mortality rate from amputation was only about 50%, so 1 in 2 survived.
Thank you for taking our virtual medical museum “scavenger hunt”
THANKS FOR YOUR ATTENTION AND INTEREST IN OUR MUSEUM......

PLEASE VISIT US... (After our Pandemic)

5380 ELVAS AVENUE
MONDAY-FRIDAY 9 AM - 4 PM
CLOSED HOLIDAYS

DR. BOB LAPERRIERE, CURATOR
ssvmsmus@gmail.com
You can ALWAYS visit us at our website:

www.ssvms.org/museum

or just go to www.ssvms.org

There you can choose the museum section, but also see our publications including our bi-monthly journal SSVmed.