Companion To: Daniel Hale Williams & Charles Drew Videos

41st Annual Seminar of The American Academy of Cardiovascular Perfusion February 5 – 8, 2020

Grand Sierra Resort Reno, Nevada

Compiled By: Steven W. Sutton, L.P., C.C.P.

February Is American Heart Month and Black History Month

- One (American Heart Month) provides an important opportunity to focus on the burden of cardiovascular disease on our global society
- The other (Black History Month) celebrates the contributions of African Americans over the course of history
- In our case, we celebrate African American contributions to cardiac surgery and cardiovascular perfusion
 - We are very grateful for these men and women who overcame and confronted barriers unimaginable!

The American Academy of Cardiovascular Perfusion

 We Proudly Welcome <u>ALL</u> People from Diverse Cultural Backgrounds

WELCOMING: "IT MAKES OUR MISSION COMPLETE"

We Deplore RACISM – DISCRIMINATION –
 BIAS Across All Sectors In Society Including
 GENDER BIAS

About The Companion To Videos

- Intended to highlight the accomplishments of these great African American Men and Women and what they accomplished all the while confronting Racism – Segregation – Prejudice – Bias – Violence – Exclusion of their medical contributions
- The videos tell the life stories the Companion clarifies any academic controversy
- Thank God for gifting these people to us!
- May We All Unite to End the toxic and senseless spirit of racism-bigotry-prejudice and embrace each other with the openness of heart and mind necessary to accomplish this aim

I, too, sing America.

I am the darker brother.
They send me to eat in the kitchen
When company comes,

But I laugh, And eat well, And grow strong.

Tomorrow,
I'll be at the table
When company comes.
Nobody'll dare
Say to me,
"Eat in the kitchen,"
Then.

Besides,
They'll see how beautiful I am
And be ashamed—



I, Too

By: Langston Hughes invokes the inevitability of a better tomorrow.

Published in 1945, around ten years before the start of the American Civil Rights Movement, Hughes' poem inspired a generation

that changed the world.

[&]quot;I, too, am America."

Does the language YOU speak influence the way YOU think?

What counts as a word:

- In English, we combine words to get compound forms like snowball and snowflake, and we can add what are called "inflectional" endings to get snowed and snowing.
- English has lots of words for snow; we have snow, sleet, slush, frost, blizzard, avalanche, drift, powder, and flurry.
- So our language doesn't force us to see only what it gives us in words, but it can affect how we put things into groups.
- Contemplate this in our diverse world of people before lumping some of them into categories that should not exist.

How We Use Words and Phrases

- Time is described as money ("spending time")
- Arguments and war ("you attack my argument,"
 "I defend my argument")
- Love is a journey ("the relationship hit a dead end")
- Emotional states in terms of directions ("he was feeling down" or "cheer up")

Relationship Between Language and People

4 Distinct Possibilities:

- Language influences society and people
- People and society influence language
- There is interaction as language influences people and society and people and society influence language
- There is no influence of either, so language is just a tool used by people and there is no social effect

We "Must" Think Before We Speak

and

"Choose" Our Words
Carefully



She recited her poem "On the Pulse of Morning" At President Bill Clinton's Inauguration

From Angelou's inauguration poem "On the Pulse of Morning":

Lift up your faces, you have a piercing need

For this bright morning dawning for you.

History, despite its wrenching pain,

Cannot be unlived, and if faced with courage,

Need not be lived again.

Lift up your eyes upon

The day breaking for you.

Give birth again

To the dream.

Women, children, men,

Take it into the palms of your hands.

Mold it into the shape of your most

Private need. Sculpt it into

The image of your most public self.

Lift up your hearts.

Each new hour holds new chances

For new beginnings.

Do not be wedded forever

To fear, yoked eternally

To brutishness.

The horizon leans forward,

Offering you space to place new steps of change.

Influence and Change Intertwined

In all the history of the world, billions of people have lived and died, most have not made an appreciable impact. Each generation supplies a handful of people who do make impact earning a place in history books. Some of these are:

- Alexander the Great
 - Napoleon
- Eleanor of Aquitaine
 - Abraham Lincoln
 - Amelia Earhart
 - Albert Einstein
- Martin Luther King
- Florence Nightingale
 - Rosa Parks

Their influence is far reaching and profound in our society.

What Is Open Heart Surgery?

- Most people consider any surgery on the heart where the chest, either the sternum or rib cage is opened – open heart surgery.
- Open refers to the chest, not the heart!
- When the chest wall is surgically opened and the heart is exposed and surgery performed on the heart or it's arteries, we refer to this as "open heart surgery."
- Controversy: Mockery was made of Daniel Hale Williams and his monumental procedure declaring it was "NOT" open heart surgery in published medical literature; some chose to exclude or deny the above definitions.

Debate over who was the first heart surgeon

- Debate occurred regarding this query in the 19th and 20th centuries to the inclusion or exclusion of some based on race or shear academic or personal bias
- It is critical to remember academic medical journals were not widely distributed as we experience today, "News Travelled Slowly"
- The National Library of Medicine was established humbly in 1836 as a small collection of a few medical books and journals in the office of the United States Army Surgeon General
- The first request for funds for the library—\$150 for medical books—appeared in the 1836 estimate of expenses for the Surgeon General's Office
- 1840 the office issued its first "catalogue of books in the library."

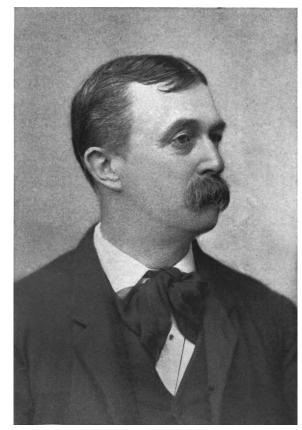
See The NIH National Library of Medicine Website https://www.nlm.nih.gov/about/briefhistory.html



15th Street and Pennsylvania Avenue, NW Washington, DC Washington, DC

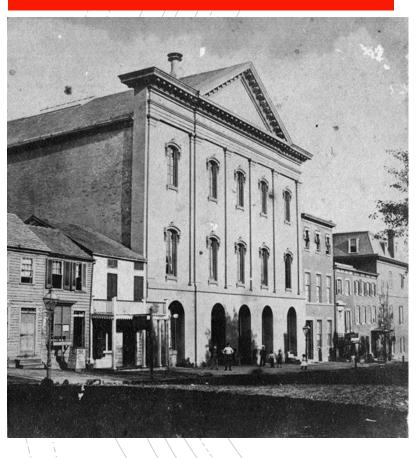
- "The entire collection [as listed in the 1840 catalog] could have been held by a four-shelf bookcase, shoulder high and 7 or 8 feet wide."
- From 1862 to 1864: At the time the late Civil War broke out nothing deserving the name of a medical library existed in Washington
- The library issued its first printed catalogue in 1864, listing approximately 2,100 volumes

- In January 1865, the Army summoned 27-year-old surgeon—and book lover—Lieutenant John Shaw Billings to take charge of the burgeoning collection.
- His appointment marked a turning point in the development of the library.
- Within six years, the library had 13,000 volumes and by 1873 the collection included 25,000 books and 15,000 pamphlets.
- By 1880, the number of books had doubled to 50,000 and the number of pamphlets had quadrupled to 60,000.



Lt. John Shaw Billings

- An enthusiastic book collector, Billings wrote physicians, librarians and editors to request donations of books, and even accosted State Department officials, asking them to bring back foreign medical works from their trips abroad.
- Before resigning from the Army in 1895, Billings had transformed the collection into the world's greatest medical library, covering the medical literature of virtually all eras and nations. Its holdings in 1895 included 116,847 books and 191,598 pamphlets.



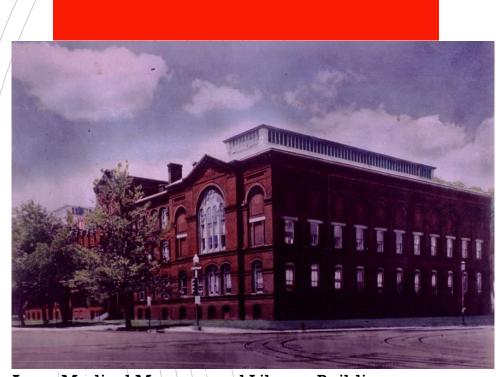
- April 14, 1865, U.S. President Abraham Lincoln was assassinated while attending a performance of "Our American Cousin" at Ford's Theater.
- Citizens protested so violently against further productions that the government took over the theater and purchased it the following year to house the Army's medical records, museum and library.
- William Welch (1850-1934), the celebrated professor of pathology and the first dean of the Johns Hopkins Medical School, pronounced the Index-Catalogue America's greatest contribution to 19th century medicine.
- The Ford's Theater era was a time of dramatic growth and change for the Surgeon General's library. A spirit of ambition took hold and, as early as 1871, Surgeon General Joseph K. Barnes and Billings started laying plans to develop the collection into the "National Medical Library."

Ford's Theater 513 10th Street, NW Washington, DC

- To Barnes, this meant that the library would contain "every medical book published in this country and every work relating to public health and state medicine," that would be, in Billings' words, "as complete as possible in all publications relating to military organization, medicine, and the allied sciences," and would be "an universal library of references."
- Up to this time, the library was known to Army physicians and visitors who passed by as they walked up to the third floor of Ford's Theater and to those who heard of it by word-of-mouth.
- Billings set out to inform the American medical profession that the library existed and would be developed for use by all physicians.



Surgeon General Joseph K. Barnes



Army Medical Museum and Library Building 7th Street and Independence Avenue, SW Washington, DC

- From 1887 to 1962, the Library of the Surgeon General's Office, officially renamed the Army Medical Library in 1922, was located with its sister agency, the Army Medical Museum, in a three-story, red brick building that Billings had designed. (The Hirshhorn Museum now stands on the site, on the Mall in Washington.)
- Inspired by Billings' vision of a great national institution, the library began offering expanded services to meet the information needs of health professionals.
- The historical collection grew significantly during this period and was shipped to Cleveland, Ohio for safekeeping during World War II.



President John F. Kennedy

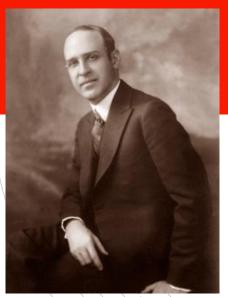
- A 1956 act of Congress transferred the library to the Public Health Service and named it the National Library of Medicine.
- Senators Lister Hill and John F. Kennedy were the driving force behind the bill.
- Kennedy would see his vision realized in 1962 when, during his presidency, NLM opened its doors on the campus of the National Institutes of Health in Bethesda,

Maryland.

Right: National Library of Medicine & National Institute of Health Bethesda, Maryland

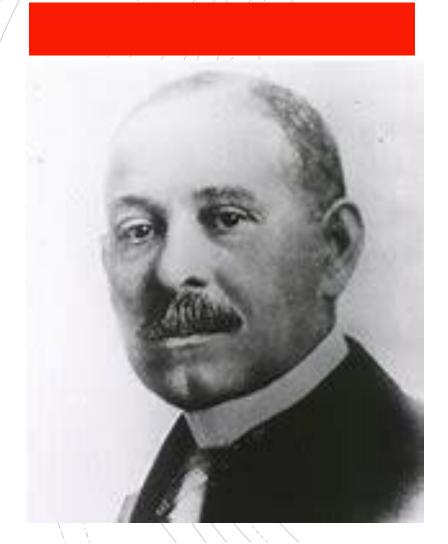


Footnote to Senator Lister Hill



- Lister Hill (named for Joseph Lister) was born in Montgomery, Alabama on December 27, 1894, his father Luther Leonidas Hill Jr., was a prominent and widely known physician-surgeon in the area who performed one of the first stab wound repairs to the heart in 1902 in a run down shack on a kitchen table – lighting supplied by borrowed lanterns
- Lister Hill (1894-1984) was Alabama's premier lawmaker of the twentieth century.
- He served in the U.S. Congress for more than 45 years and sponsored 80 pieces of major legislation.

Daniel Hale Williams



- Daniel Hale Williams was the most prominent African-American physician and surgeon in the late 19th and early 20th century, perhaps in history
- Williams in the conduct of his seminal 1893 procedure believed he had done something unprecedented
- He explored a cardiac stab wound to the right ventricle which he determined was non-penetrating (no need for repair) and sutured a pericardial laceration
- Being an ardent scientific and medical researcher, he conducted an intense search of available medical literature and found no publications
- He reported his success in the Medical Record in 1897
- He missed an 1895 paper reporting repair of the pericardium in 1891 by Henry Dalton of St. Louis in the Annals of Surgery

Medical Record

A Weekly Journal of Medicine and Surgery

Vol. 51, No. 13. Whole No. 1377.

New York, March 27, 1897.

\$5.00 Per Annum. Single Copies, 10c.

Original Articles.

THE PRESENT STATUS OF CREOSOTE IN THE TREATMENT OF PULMONARY TUBERCULOSIS, WITH AN ANALYTICAL REVIEW OF FORTY-FIVE RECENT CASES!

By JAMES K. CROOK, A.M., M.D.,

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The first real impetus to the modern use of creosote in consumption was created by the report of Bouchard and Gimbert a little less than twenty years ago. The publication of so favorable an account of the drug by these distinguished authors speechly led to its widely extended use, and it has since been employed in all parts of the civilized world. It would seem that the vast amount of clinical experience which has accrued during this period would be ample to give to this substance some fixed status in practical therapeutics.

doses and with entire tolerance and without injurious effects; that such dosage apparently possesses no advantage over a much smaller one, and that it has no greater effect upon hectic and upon night sweats; that subcutaneous injections possess no advantage over administration by the mouth, and that whatever influence creosote may exert in pulmonary tuberculosis can be effected in a comparatively small dosage. Kinnicutt's researches go further to show that creosote possesses but feeble, if, any antibacillary power within the body, and that its good effects are brought about by promoting the general bodily nutrition. The drug did not cause albuminuria in any of Kinnicutt's cases, but in one patient who already had nephritis the amount of albumin was slightly increased. S. Solis-('ohen' believes that creosote, being a complex product, like opium or digitalis, is not entirely represented by any of its constituents. He believes that in small doses it assists digestion and prevents and checks diarrhea. In large doses it reduces the temperature, and, as shown by the altered condition of the discharges, tends to correct the septic processes in exca-

From: Classics In Thoracic Surgery
In Proper Perspective: Daniel Hale Williams, M.D.
By: Albert F. Olivier, M.D.

Address: The Desert Samaritan Building, Phase II

1500 S. Dobson Rd. Suite 215

Mesa, AZ 85202

STAB WOUND OF THE HEART AND PERI-CARDIUM—SUTURE OF THE PERICAR-DIUM—RECOVERY—PATIENT ALIVE THREE YEARS AFTERWARD.

BY DANIEL H. WILLIAMS, M.D.,

SURGEON, FREEDMEN'S HOSPITAL, WASHINGTON, P. U.

THE following case is deemed of sufficient importance to be reported three and a half years after its occurrence. The writer's illness about the time of the patient's recovery and a change of duties to his present position have prevented previous publication.

James Cornish, an expressman, aged twenty-four years, during an altercation received a stab wound through the fifth costal cartilage, injuring the internal mammary vessels and wounding the pericardium and heart. The kind of knife and length of blade could not be determined from the patient.

He was admitted to Provident Hospital, Chicago, July 9, 1893, at 7:30 P.M., with a stab wound about one inch long, three-fourths of an inch to the left of the sternum, through and in the long axis of the fifth cartilage. A probe recognized only a superficial wound, but during the night there were such persistent

Fig 3. Title and first paragraphs of Dr. Williams's article from the Medical Record [1].

"Characterize people by their actions and you will never be fooled by their words." Anonymous

- These are the qualities of Daniel Hale Williams, "His Actions"
- A man whose vision for the world we desperately need today
- He reviewed the literature available to him, he took the next honorable step in publishing – aiding future men or women who may be thrust into the cardiac trauma setting to treat a stab wound to the heart
- Today, we know that neither men were first Francisco Romero was first and Dominique Larrey was a close second in the early 19th century – this information would not have been available to Williams or Dalton being printed in Europe in foreign language
- They were first and second in the United States and Daniel Hale Williams was the first African American to suture a wound to the heart

"Excellence is the result of habitual integrity." Anonymous

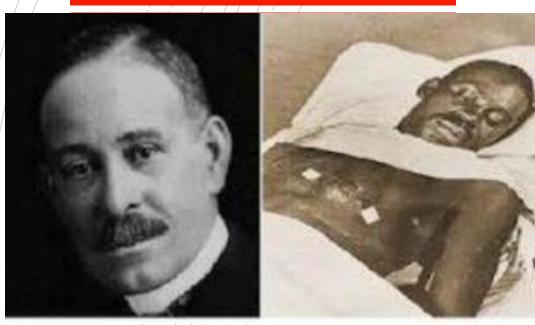
His Patient: James Cornish

- A 24 year old Expressman, who had the duty of packing, managing, and ensuring the delivery of any cargo
- During the late 19th and early 20th centuries, an expressman was someone whose responsibility it was to ensure the safe delivery of gold or currency, being shipped by railroad, which was secured in the "express car"
- This job included guarding the safe or other strongboxes or coffers against outlaws, and memorizing the safe's combination to use at delivery
- On one occasion a bad day at work placed him in a state of wanting to do anything but go home, fate would dictate this was not a good decision

- It was an exceptionally hot summer night in Chicago, everyone was beside themselves
- He went to his favorite bar, a fight erupted, one of the fighters in the confusion knifed Cornish
- Stabbed him through the left anterior chest during this brawl
- 7:30 p.m. Admitted to Provident Hospital, Chicago July 9, 1893
- The wound was probed superficially and Dr. Williams elected to observe the patient overnight
- July 10, 1893 Cornish continued to experience blood loss and was in shock and declining clinically
- Dr. Williams knew he must operate if Cornish had any chance of survival

Clarifying Notes

- In this era, cardiac trauma was considered fatal and the heart unapproachable surgically
- No one knew definitively if the heart itself would even tolerate manipulation and exploration
- Atraumatic sutures, needles, instruments were not yet developed, no X-Ray images, no antibiotics – no heart-lung machine – all of these would be discovered into the future
- Blood Groups and Blood Transfusion was not yet
- 1895 Axel Cappelen surgery on the heart in Oslo, Norway, his patient had been stabbed in the coronary artery, Cappelen was able to repair the wound, the patient recovered, but then about a day later started showing signs of infection and died three days after the surgery
- The first successful surgery on the heart itself was performed by Dr. Ludwig Rehn of Germany in 1896, the patient had a stab wound to the right ventricle, he repaired the wound on the beating heart



Left: Daniel Hale Williams

Right: James Cornish

- In the presence of Dr. George H. Hall, Dr. Howard C. Chislett, Dr. E.E. Barr, Dr. William E. Morgan and Dr. William Fullar the perforation was explored, he extended the original knife wound medially and laterally
- The internal mammary artery had been transected and was sutured closed
- He described a pericardial laceration and a myocardial puncture wound to the right ventricle "about one-half of an inch to the right of the right coronary artery
- The right ventricular wound was determined to be nonpenetrating so no suture was applied, he felt the wound would heal on its own
- The pericardium was sutured closed with fine catgut suture and the chest closed

- Over the next 18 days Cornish maintained a stable clinical course
- On August 2, 1893 Williams observed a clinical decline in the form of a cardiac tamponade, suspecting "pericarditis with effusion," he performed an open pericardiocentesis and drained "80 ounces (2.4 Liters) of bloody serum"
- August 30, 1893 Cornish was discharged from the hospital, two years later Dr. Williams found him working at the Union Stockyards
- Three years after the operation, he was reported well and in good condition
- Cornish lived another 38 years dying of a head wound from another bar fight in 1931 at approximately 62 years of age (see reference below), Dr. Williams died the same year
- Dr. Williams was reluctant to assume that he was the first to suture the pericardium

Raman, J. Access to the heart – Evolution of surgical techniques. Global Surgery, (2015) ISSN: 2056-7863.

Note:

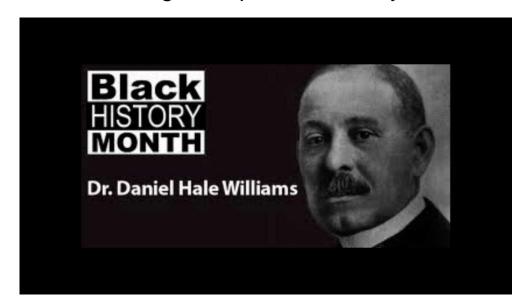
Galen

Cardiac tamponade is a life-threatening emergency. Claudius Galen (131-201 AD) first described pericardial effusions in gladiators suffering from stab wounds to the chest and the English physician, Richard Lowe (1669) first described its physiology.

- After an intense search of medical literature, finding no reports of a successful or unsuccessful suture of the pericardium, he concluded in academic honesty that he was the first and published his case
- Williams, DH. Stab wound of the heart and pericardium suture of the pericardium – recovery – patient alive three years afterward. Med Rec 51 (March 27): 439, 1897.
- Until very recently, no textbooks, no journals of national or international origin ever mentioned
 Daniel Hale Williams as among the first physicians to undertake cardiac exploration – suture pericardium – surgically manage a cardiac trauma victim

Daniel Hale Williams "Hail To Thee"

- 1st African American to suture the pericardium after a traumatic stab wound to the right ventricle
- He had immense Integrity Vision Character
- Medicine was open to "ALL," Patient or Student of "ANY" race – a shining example of humanity



As a sign of the esteem of the black medical community, to this day, a "Code Blue" at the **Howard University Hospital** emergency room is called a "Dr. Dan"

Cardiac Trauma and History



U.S. Library of Medicine Parke-Davis Collection

"A wound in the heart is mortal,"

Hippocrates made this statement over two thousand years ago, until very recently he was correct!



Iliad, Book VIII, lines 245–53, Greek manuscript, late 5th, early 6th centuries AD.

History of Cardiac Trauma

Homer and His Guide (1874) by William-Adolphe Bouguereau Homer was the first author to narrate a cardiac injury in the classical epic the Iliad (ca. 950 B.C.) when the Greek commander, Idomeneus, killed the Trojan, Alkathoos

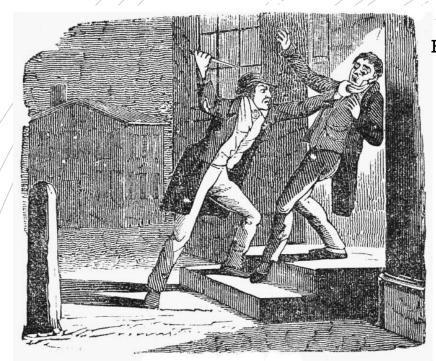
"Idomeneus smote him with a thrust of his spear full upon the breast, and clave his coat of bronze around him, that aforetime ever warded death from his body, but now it rang harshly as it was cloven about the spear. And he fell with a thud, and the spear was fixed in his heart, that still beating made the butt thereof to quiver." Hector Kills Patroclus stabbing him in the stomach, Achilles with Patroclus. Clipart.com



The Iliad and the Odyssey

- Numerous references to Cardiac Injuries
- Achilles' best friend, Patroclus, killed Sarpedon, the son of Zeus, with a spear to the heart.

"The prostrate prince, and on his bosom trod; Then drew the weapon from his panting heart, The reeking fibers clinging to the dart; From the wide wound gush'd out a stream of blood, And the soul issued in the purple flood."



Cardiac Trauma and History

Figure. A depiction of Jereboam O. Beauchamp stabbing Solomon P. Sharp.

- Ovid "a javelin (unknown from whose hand) came from the left and wounded Cyllarus, landing below the place where the chest joins the neck—a slight wound, but when the point was pulled away, cold grew his damaged heart and cold his limbs. Hylonome embraced him as he died, caressed the wound and, putting lips to lips, she tried to stay his spirit as it fled."
- Aristotle (384-322 BC) wrote "the heart again is the only one of the viscera, and indeed the only part of the body, that is unable to tolerate any serious affection."
- Celsus in the first century A.D. recognized the clinical features of shock associated with cardiac injury
- Pliny the Elder (23-79 AD) felt that the heart "is the only one among the viscera that is not affected by maladies, nor is it subject to the ordinary penalties of human life; but when injured, it produces instant death."

Cardiac Trauma and History

- Galen, Ambrose Pare, Boerhave, and Fallopius were all sentimentally knowing the fatality of cardiac injury
- Hollerius (1498-1562) first to raise the question on the idea that not all cardiac wounds were fatal
- 1604 Cabriolanus first to contradict past teachings that all heart wounds were fatal, he discovered during autopsy studies of hanging victims – a case of healed scar of the heart and a case of an unhealed cardiac wound
- 1642 Wolf described a healed wound to the heart
 1749 Senac reached the same conclusion
- 1761 Morgagni was the first to recognize cardiac tamponade from an injury of the coronary artery and that blood in the pericardial sac could compress the heart and restrict its movement
- The fatality sentiments continued to 1804 and the writings of John Bell in his "Discourses of nature and care of wounds"



Alex Hermansen Cappelen September 4, 1895 First To Suture Heart and Coronary Artery

Cardiac Surgery Emerges

OBSERVATIO

EXPERIMENTIS CONFIRMATA,

PRO HYDROPE PECTORIS, PULMONUM

NASARCA, ET HYDROPERICARDIO COGNOSCENDI

ET NOVA METHODUS

DICTOS MORBOS OPERANDI,

Cum eliis utilibus Notionibus Apollineam profitentib Ariem.

A Fausesco NOMERO, Medicine Doctore, Exerciusum Rispasirum aniquish Melico, Serroriano, Hacesuis Universitatiin Arzgonii, olim Melicin Pablico Predictore, Balerorum kiepaalium Alanum Directore, Barcinopensis Collegii chirurgii Liceocius, giaodem civitatis Academia Melicin predice, et Societuis Medica Schole Parisicusi in aziranoorum Cluse recenter creato Socio, e Theologico Universitatis Cercanicois Becchlavero.

Novum posteritati sanitatis condidi signum,

Lond videam Januarenne, in vit dieta Hantefenille

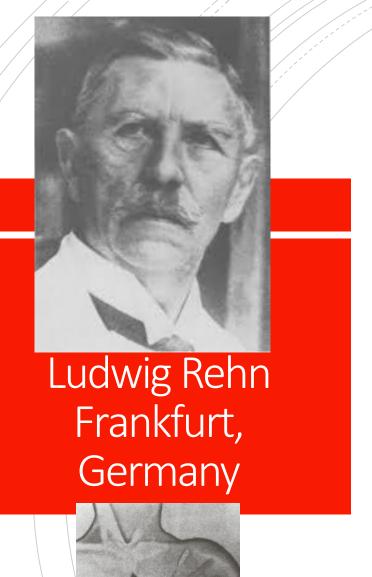
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- Francisco Romero, a Catalonian physician, became the first heart surgeon when he performed an open pericardiostomy to treat a pericardial effusion in 1801. He presented his work at the Society of the School of Medicine in Paris in 1815
- 1810 Baron Dominique Larrey whose procedure was conducted on Bernard Saint-Ogne a 30 year old infantryman who attempted suicide March 10, 1810
- 1868 Georg Fischer of Germany collected 452 cases of heart wounds, found healing rate of 10% with 90% mortality rate
- 1895 Ansel Cappelan of Oslo, Norway sutured a 2 cm wound to the left ventricle and the LAD coronary artery

Cover page of the memoir presented by Francisco Romero in Paris. The year of the first pericardiotomy (1801) is indicated. (Reprinted with permission from the publisher, J. Uriach & Cía, SA.)



- September 9, 1896 First successful cardiac repair
- 22 year old Wilhelm Justus arrived at the hospital in a state of collapse from hemodynamic shock following a stab wound in the fourth intercostal space
- He had a gaping wound to the Right Ventricle which was sutured with a small intestinal needle and three silk sutures, all bleeding then controlled, patient recovered and returned to work
- 1897 Duval described median sternotomy incision

Modification to the original approach described in his 1897 publication by joining a vertical incision at the sternal border to the intercostal incision, with resection of the ribs at the costal cartilage.

"The Road To The Heart Is Only 2-3 Centimeters In Length In A Direct Line, But It Has Taken Surgery 2400 Years To Travel It." Harry Sherman, 1902



Worldwide Medical Literature

His Call For Physician / Hospital Awareness and Preparedness

- 1896 Three operations for suture of wounds of the heart were done
- 1897 Two were recorded as having been done
- 1898 Four are credited to have been performed
- 1899 The heart was sutured eleven times
- 1900 Three procedures
- 1901 Nine procedures
- 1902 At the time of his writing, two had been done

Published Reports of Cardiac Trauma

- 1900 1969 1,500 cases of penetrating injuries to the heart appeared in the literature
- 1895 1969 31 Cases of lacerated coronary artery / 19 lived
- 1901 Pagenstecher first reported operation to ligate a lacerated left coronary artery, patient died four days later
- 1909 Foramitti ligated a lacerated distal coronary artery reporting the first recovery of the patient

1912-1914

- 75 Cardiac Operations Conducted
- 45% Mortality

Defining Reports: Stab Wounds of the Heart

- Elkin DC. The Diagnosis and Treatment of Cardiac Trauma. Ann Surg. 1941 Aug;114(2):169–185.
- Bigger, I. A.: Diagnosis and Treatment of Heart Wounds: Summary of 34 Cases Med. Ann. District of Columbia, 9, 390, 1940.
- Griswold, R. A., and Maguire, C. H.: Penetrating Wounds of the Heart and Pericardium. Surg., Gynec., and Obstet., 74, 406, 1942.
- Beck, C. S.: Wounds of the Heart: The Technic of Suture. Arch. Surg., 13, 205, I926.

Elkin, Bigger, and Griswold described the Repair of penetrating wounds of the heart. See: Annals of Surgery April, 1942 Further Observations On Stab Wounds Of The Heart. Claude S. Beck. Ann Surgv. 115(4); 1942 Apr

Charles Richard Drew, M.D.

The Father of Blood Banking

"A Man Who Saved Millions of Lives"

Charles Richard Drew, M.D.June 3, 1904 – April 1, 1950



Charles Drew's Gift To Humanity "Blood Knows No Bias"



Christi Mead Nielsen 1963-2010

In 1998, Christi Mead Nielsen's life was first touched by American Red Cross blood donors when she had two valves in her heart replaced. Over the next 12 years, she received more than 50 blood transfusions, all from generous volunteer blood donors.

Christi passed away in September 2010 at the age of 47 after many years of complications from heart disease. Her funeral sermon included these words: "Chris found joy in life because she was filled with gratitude."

The aspiring author's gratitude extended to the Red Cross blood donors who gave her more time, more life and more stories to tell. Following Christi's death, her husband, Kim, found the following poem that she once wrote.

Credit: American Red Cross

The Gift of Life

Someone saved my life today.

I don't know who they are or even know their name.

I don't know if they are male or female or the color of their eyes or skin or hair.

I don't know how they make their living or what they dream of doing when they go out to play.

I don't know if they believe in God or just the kindness of strangers.

I don't know what made them open that door and leave a part of themselves inside.

I do know their priceless gift was the difference between life and death.

My life. My death.

Continued next slide:

Charles Drew would have been deeply touched!



Without their gift
my husband would be without his wife,
my son without his mother.
People I love would mourn
a sister, a daughter, a friend.
Without their gift
my dreams would have died
unrealized, unshared, unexplored.
But someone saved my life today
with a sacrificial gift of blood.

My family lives together whole.

I live a life of dreams I now make real.

Someone saved my life today.

I don't know who or where or why.

Whoever you are, I would just like to say
Thank you.

Christi Mead Nielsen



L- Amherst Student Photograph R- Amherst College Football Team U.S. National Library of Medicine

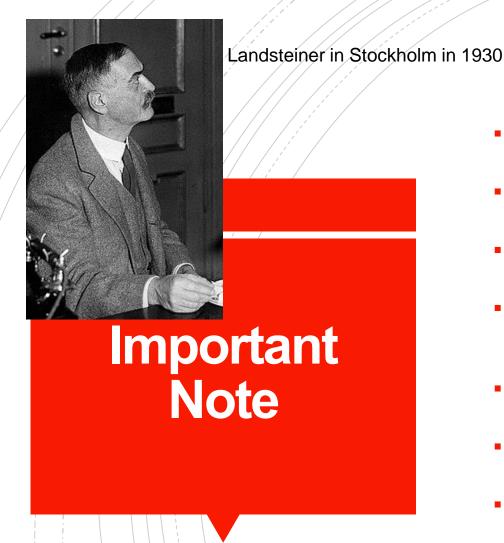
- A native Washingtonian, Drew was an average student but gifted athlete recruited in 1922 on a football and track and field scholarship by Amherst College in Massachusetts
- He was one of only 13 African Americans in a student body of 600, where the racial climate exposed him to hostility from opposing teams
- His own football team at Dunbar High School passed him over as captain his senior year even though he was the team's best athlete

Dunbar High School Football 3rd From Right Top Row And Basketball Back Row Left



Drew with lab apparatus, c. 1940.

- 1928 Medical School: McGill University in Montreal,
 Canada
- He distinguished himself, winning the annual scholarship prize in neuroanatomy; becoming elected to the medical honor society Alpha Omega Alpha; and staffing the McGill Medical Journal
- He also won the J. Francis Williams Prize in medicine after beating the top 5 students in an exam competition.
- In 1933, Drew received his MD and CM (Master of Surgery) degrees, graduating second in a class of 137.



- 1900 Karl Landsteiner found out that the blood of two people under contact agglutinates (clumping of particles)
- 1901 he found that this effect was due to contact of blood with blood serum
- 1901 He succeeded in identifying the three blood groups A, B and O, which he labelled C, of human blood
- also found out that blood transfusion between persons with the same blood group did not lead to the destruction of blood cells, whereas this occurred between persons of different blood groups
- Based on his findings, the first successful blood transfusion was performed by Reuben Ottenberg at Mount Sinai Hospital in New York in 1907
- 1939-1940 The Rh blood group system is discovered by Karl Landsteiner, Alexander Wiener, Philip Levine and R.E. Stetson.
- 1940 John Elliott develops the first blood container, a vacuum bottle extensively used by the Red Cross.
- 1940 Early blood processing program for relief of English war victims, called Plasma for Britain, begins under direction of Charles R. Drew, MD.
- 1941 The Red Cross begins National Blood Donor
 Service to collect blood for the U.S. military
 with Dr. Charles R. Drew, formerly of the Plasma for Britain program, as medical director.
- 1941 Soldiers injured during the Pearl Harbor attack are treated with albumin for shock.

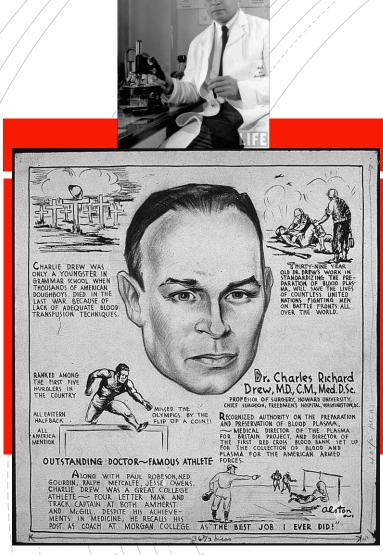
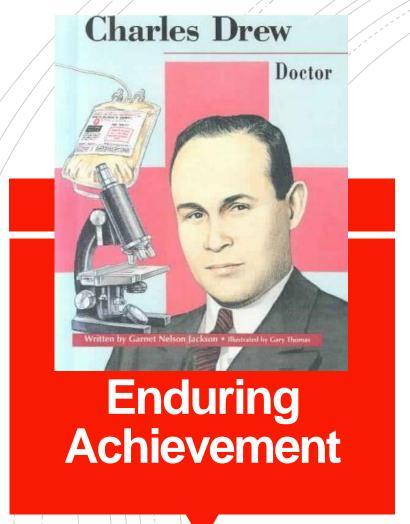


Illustration of Drew by Charles Alston in the collection of the National Archives

- He researched in the field of blood transfusions, developing improved techniques for blood storage, and applied his expert knowledge to developing large-scale blood banks early in World War II. This allowed medics to save thousands of lives of the Allied forces.
- 1940, before the U.S. entered World War II and just after earning his doctorate, Drew was recruited by John Scudder to help set up and administer an early prototype program for blood storage and preservation. He was to collect, test, and transport large quantities of blood plasma for distribution in the United Kingdom.
- Drew went to New York City as the medical director of the United States' Blood for Britain project. The Blood for Britain project was a project to aid British soldiers and civilians by giving U.S. blood to the United Kingdom.
- In 1941, Drew's distinction in his profession was recognized when he became the first African-American surgeon selected to serve as an examiner on the American Board of Surgery.



 British Red Cross examines bottles of plasma donated through the Blood for Britain Project headed by Charles Drew during World War II



- His expertise revealed in the "Blood for Britain" program was monumental in documentation of donor blood units, proper storage, and type labelling to avoid any potential for error or mismatched transfusion
- Thousands of lives were saved in the Allied Forces which contributed mightily to victory in World War II
- Of course, racism had to be infused along with the blood of gracious donors
- The U.S. Army in its infinite wisdom elected to employ donor blood segregation according to race, this lead to the moral imperative of Drew's resignation
- This was actually highlighted in an episode of MASH in the 1970's (along with false claims surrounding his death)



Charles and Lenore with their children



Minnie Lenore Robbins (Drew's spouse) with NIH Director, Donald Frederickson, unveiling of bust and exhibit of her husband, 1981

- Drew started what would be later known as bloodmobiles, which were trucks containing refrigerators of stored blood; this allowed for greater mobility in terms of transportation as well as prospective donations.
- Drew created a central location for the blood collection process where donors could go to give blood.
- He made sure all blood plasma was tested before it was shipped out.
- He ensured that only skilled personnel handled blood plasma to avoid the possibility of contamination.
- The Blood for Britain program operated successfully for five months, with total collections of almost 15,000 people donating blood, and with over 5,500 vials of blood plasma.
- As a result, the Blood Transfusion Betterment Association applauded Drew for his work. Out of Drew's work came the American Red Cross Blood Bank.

Desegregating blood: A civil rights struggle to remember



Sicily, 1943: Whose blood was this U.S. soldier getting?

- He felt that the policy of segregating donor blood to avoid white patients from receiving black donor blood was ridiculous and insulting
- He said "it was a bad mistake for three reasons: (1) no official department of the Federal Government should willfully humiliate its citizens, (2) there is no scientific basis for the order, (3) they need the blood." Words of wisdom indeed!
- 1942 Drew left the Red Cross and returned to Howard University as Chief of Surgery at Freedmen's Hospital
- He became a beloved and inspirational teacher continuing his research and publishing and denouncing governmental racism and its practice of unscientifically founded transfusion practice

The Tragedy of Segregation

- In December 1941, a few days after the bombing of Pearl Harbor and the U.S. entry into World War II, a Detroit mother named Sylvia Tucker visited her local Red Cross donor center to give blood.
- Having heard the "soul-stirring" appeals for blood donors on her radio, she was determined to do her part. But when she arrived at the center, the supervisor turned her away. "Orders from the National Offices," he explained, "barred Negro blood donors at this time."
- "Shocked" and "grieved," Tucker left in tears, later penning a letter of protest about the whole ordeal to first lady Eleanor Roosevelt.

"The test of morality of a society is what it does with it's children." Dietrich Bonhoeffer

Pictured Below



- Dietrich Bonhoeffer; February 4, 1906 April 9, 1945) was a German pastor, theologian, anti-Nazi dissident, and key founding member of the Confessing Church
- His writings on Christianity's role in the secular world have become widely influential, and his book "The Cost of Discipleship" has been described as a modern classic.
- Apart from his theological writings, Bonhoeffer was known for his staunch resistance to Nazi dictatorship, including vocal opposition to Hitler's euthanasia program and genocidal persecution of the Jews
- He was arrested in April 1943 by the Gestapo and imprisoned at Tegel prison for one and a half years. Later, he was transferred to Flossenbürg concentration camp
- After being accused of association in the July 20 plot to assassinate Adolf Hitler, he was quickly tried, along with other accused conspirators, including former members of the Abwehr (the German Military Intelligence Office), and then hanged on April 9, 1945 as the Nazi regime was collapsing



Charles Drew with the first mobile blood collecting unit, February 1941.





- Drew teaching interns and residents during rounds at Freedmen's Hospital, c 1947
- He was tireless in his devotion to medicine

Charles Drew's Tragic Death

Dr. Charles Drew, Blood Expert, Killed in Crash

GREENSBORO, N. C. (Special to NY Age)—The blood plasma he turned into a powerful weapon against shock failed to save the life of Dr. Charles R. Drew, 48, here last week as the chief surgeon of Washington's Freedman's Hospital failed to rally to emergency treatment at a local hospital where he had been rushed following an automobile accident in which three other doctors were instruct many here.

Death came to the surgeonscientist Friday, just one day after the sixth anniversary of his nomination for the 1943 Spingarn Award, presented by the NAACP in appreciation for his monumental work with blood plasma.



We we

It was largely under the direction of Dr. Drew's perfected system of preparing and shipping blood plasma that Great Britain proper was able to weather the blitakrigs of World War II. As director of the Blood Transfusion Ass'n in New York, Dr. Drew conducted thousands of experiments finally perfecting a preparation shipment system that guaranteed the arrival of "safe" blood plasma in blitzed areas and in all war-

time Theatres or Operations
Dr. Drew, a native of Washington, D.C., attended McGill University, Montreal and Columbia University, winning a Rockefeller
Fellowship in surgery. He served
at Howard University since 1836
with the exception of the period
1938-41 when he headed the N.Y.
Blood Plasma program. An examiner for the American Board
Surgeons, Dr. Drew was also a
member of the member of the columbia
Surgeons and Washington's Nineteenth Street Espitat Church.
OVERPES NATIFEED

Also injured in the automobile accident in which the machine driven by Dr. Drew overturned near Haw River, N.C., were Dra. John R. Ford, Samuel Bullock and Walter S. Johnson, all of the Freedman Hospital staff. They were en route to a medical meeting at Tuakegee Institute. Ala Dr. Drew is aurured by a widew.

- March 31, 1950 awoke early, performed surgery, lectured his students, and had dinner with his family
- He returned to the hospital after midnight making rounds before driving all night from Washington, D.C. to Tuskegee, Alabama for an African American physicians conference
- April 1, 1950 He, a colleague, and two interns travelled by car enroute to Atlanta, Georgia on the first leg of their trip
- Drew drove to the conference so that his interns could attend the meeting, they could not afford to fly
- He planned to drive to Atlanta without stopping one of the interns recalled, "since in these times it was not easy to find places for black people to spend the night"

Charles Drew's Death

- In rural North Carolina near Burlington and Greensboro, his travel companions dozing, Drew fell asleep at the wheel
- The car hit the shoulder, he jerked the wheel hard left, the car flipped and skidded across the highway
- He was rushed to the Alamance Hospital, bleeding and in shock
- He died in the emergency room where white surgeons, who recognized him, struggled to save his life

Controversies Surrounding Charles Drew's Death

- Rumors circulated that he was refused admission to Alamance Hospital and he died in transit to a Negro Hospital where he died
- This Account Never Happened: (1) he was driven by ambulance to Alamance County General Hospital, (2) doctors there administered plasma and other emergency treatment, (3) He did not die from blood loss alone
- The death certificate stated conditions leading to his death as brain injury, internal hemorrhage, lungs and multiple extremity injuries
- Alamance County General Hospital though it segregated white and black patients, was not a "whites-only" institution and did not refuse Drew treatment

Origin of The Legend of Drew's Death

- Many psychologists, sociologists, and anthropologists have written on the topic of myth and legend
- An ordinary event happened to an extraordinary man
- 1950 Every black American knew someone who had suffered from separate and grossly unequal medical care
- It is a story which was told to curse and fight inequality
- Powerful myths are true and meaningful to the people who believe them, fulfilling psychological and social needs

The Myth Grows

- The myth had real-life experience to some, eight months after Drew's death
- 24 year old Maltheus Avery, a veteran who was victim of an automobile accident in rural North Carolina, died on the way to a Negro hospital after Duke University Hospital turned him away
- Duke's "Black Beds," 15 out of a total 120 were full
- It was Avery's death and countless others like it, that sparked and sustained the rumors about Charles Drew
- From: Death of A Legend. By: James Goodman. The Washington Post, July 14, 1996.



A new chapter in publishing? Illustration: Daisy de Villeneuve

- "Racism has rightly been called America's original sin. It remains a blot on our national life and continues to cause acts and attitudes of hatred, as recent events have made evident.
- The need to condemn, and combat, the demonic ideologies of white supremacy, neo-Nazism and racism has become especially urgent at this time.
- Our efforts must be constantly led and accompanied by prayer—but they must also include concrete action."
- People of faith call on the Divine Physician, Christ the Lord, to heal the wounds of racism throughout our land.

From: United States Conference of Catholic Bishops A Prayer Service for Racial Healing in Our Land



Source: iStock

Our Prayer for ALL

Wake Me Up Lord

Wake me up Lord, so that the evil of racism finds no home within me.

Keep watch over my heart Lord,
and remove from me any barriers to your grace,
that may oppress and offend my brothers and sisters.

Fill my spirit Lord, so that I may give services of justice and peace.

Clear my mind Lord, and use it for your glory.

And finally, remind us Lord that you said,
"blessed are the peacemakers,

for they shall be called children of God."

Amen.

United States Conference of Catholic Bishops A Prayer Service for Racial Healing in Our Land



God Bless The Life and Contributions of Charles Richard Drew

He Gave So Much!

THANK YOU!