



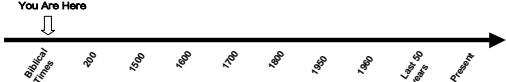
Redefining Resuscitation: A Historical Perspective



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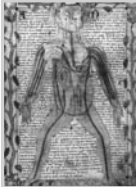
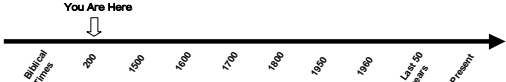
Resurrection or Resuscitation? Biblical Times

A young boy suffered a severe headache and collapsed. His grief stricken mother brought her lifeless child to the prophet Elijah, who put his eyes on the child's eyes, his lips on his lips, and his hands on his chest and stretched himself against the child 3 times and brought him back to life


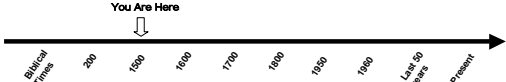
Galen (200 AD)

- The first of physicians and philosophers
- A spirit air that travels from the lungs to the left side of the heart and then passes through pores to the right side of the heart and then thru the veins to the rest of the body
- Innate heat of life was produced in the furnace of the heart, turned on at birth and turned off at death – never to be lit again


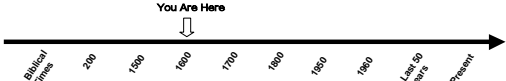
Renaissance: Andreas Vesalius (1500 AD)

- First to refute Galen
- Availability of cadavers
- Attempt to resuscitate hearts of dead animals
 - Tracheostomy, intubation, bellows to expand the lungs


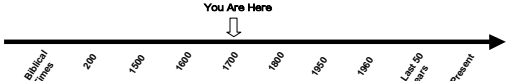
Renaissance: William Harvey (1600 AD)

- Definitive description of the circulatory system
- Revolutionized medicine and biology
- Continued to follow religious belief that spiritual judgment took place immediately at death and any attempt at resuscitation was blasphemous
- Secularization of society


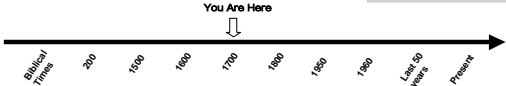
Period of Enlightenment (1700 AD)

- Explosion of experimentation and growth in knowledge of human body
- Rise of secularism and science
 - Separation from religion
- Viewed life and death in scientific terms
- Use of mouth to mouth to resuscitate a victim of smoke inhalation from a coal fire
- Rectal smoke to stimulate respiration in a drowning victim


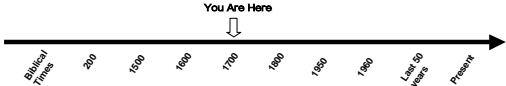
William Tossach 1732

I applied my mouth close to his and blew my breath as strong as I could, but having neglected to stop all his nostrils, all the air came out of them, wherefor taking hold of them with one hand I blew again my breath as strong as I could, raising his chest fully with it and immediately I felt 6 or 7 beats of the heart... Within an hour, he walked home.


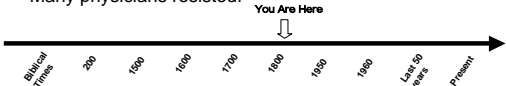
Rescue Societies (late 1700's)

- Founded with a goal to find a way of successful resuscitation
- City of Hamburg posted notices in public places describing assistance to be given to drowned, strangled, and frozen persons and those overcome with noxious gas
- Amsterdam Society for Recovery of Drowned Persons
 - Claimed 150 lives saved in first 4 years

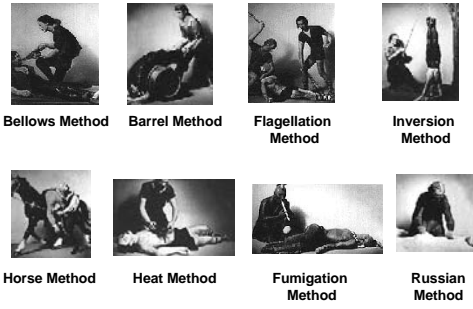



New Techniques (1800's)

- Raising the victims arms above their head to pull the rib cage and facilitate breathing
- Putting arms on chest and pressing, causing exhalation
- Placing the victim on the back and pulling tongue forward, pushing the upper abdomen and squeezing the ribs 15 times per minute
- Prone CPR to open airway and increase gas exchange
- Many physicians resisted!


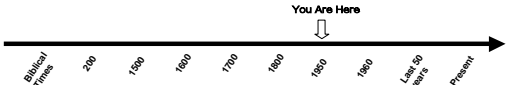



Resuscitation Methods




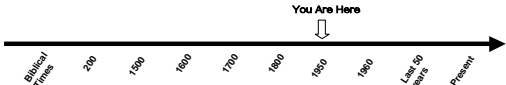
Archer Gordon (1950)

- Measurement of artificial respiration in fresh corpses in Cook County Hospital, Chicago
 - Tube in trachea hooked to respirometer
 - Bellows for ventilation
- Anesthetized and paralyzed medical student volunteers with curare


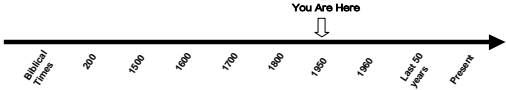
James Elam

- First contemporary investigator to determine expired air was sufficient to maintain adequate oxygenation
- Mouth to nose breathing to victim of polio paralysis
- Birth of contemporary artificial ventilation
- Zealot's passion he spoke out where ever he could to convince people to change their behavior for treating these patients



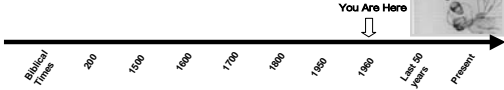
Peter Safar

- Chance meeting with Elam
- Experiments in paralyzed volunteers
- Proved
 - Tilting head back opens airway
 - MTM provided excellent ventilation (better than other manual techniques at the time)
 - Anyone could perform MTM successfully
- 1957 US Military adopts MTM ventilation






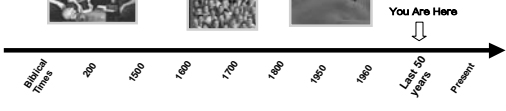
Kouwenhoven, Knickerbocker, & Jude

- Fathers of modern day chest compression
- Accidental finding in the animal lab
- Presented at Maryland Medical Society meeting in 1960
 - "Our purpose is to bring to you a new idea. It cannot be considered appropriate to separate ventilation and circulation.. They must be parts of a whole and complete approach to resuscitation."







Contemporary

- Conventional CPR
- Defibrillation
- EMS / Hospital code teams
- Training programs
- AEDs
- Biphasic defibrillation
- Quality and sequencing of CPR




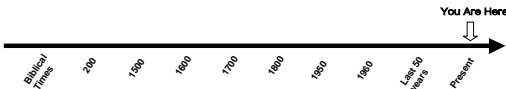
Wizard of Oz Approach

She's not only merely dead, she's truly most sincerely dead

Rapid Response Systems

- Contemporary pioneers
- Focus on the living to prevent death
- Focus on what allows patients to come near to death
- Focus on proactive systems, not on reactive individuals

Rapid Response Systems are Really an Evolution... Not a Revolution

