

Histoire de la chirurgie cardiaque



Erwan Flécher

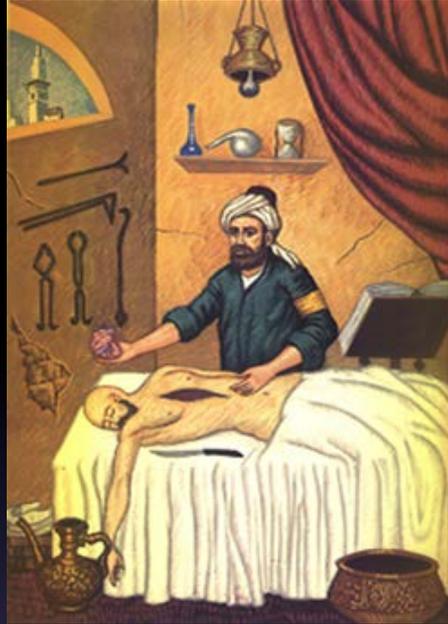
Festival des Sciences, Rennes, 8 octobre 2014

La Préhistoire

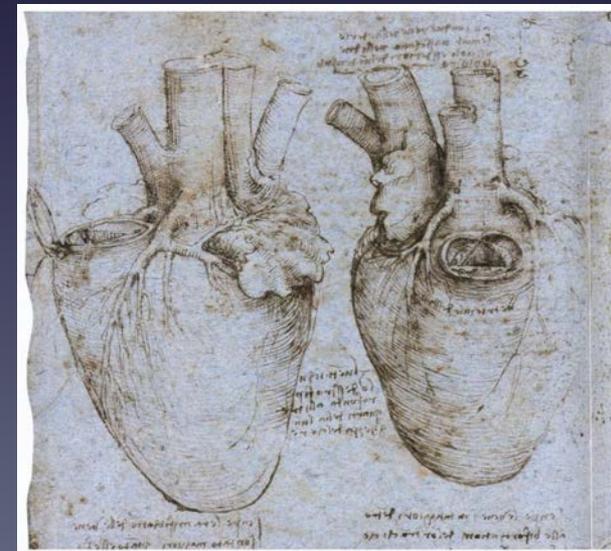
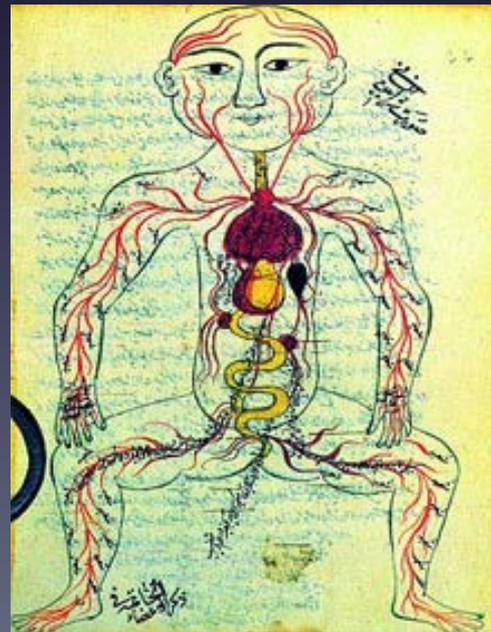
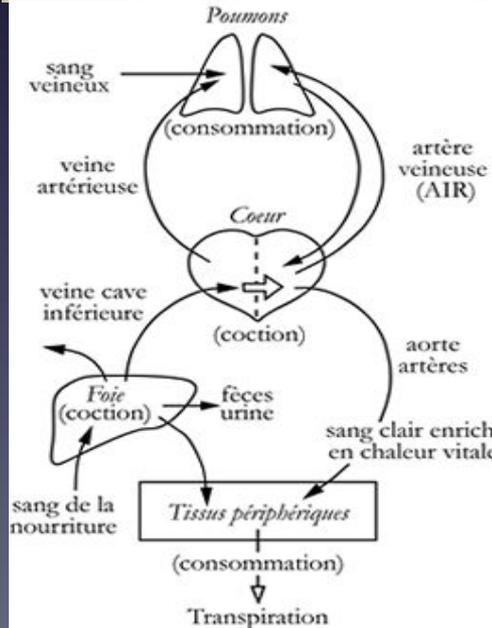
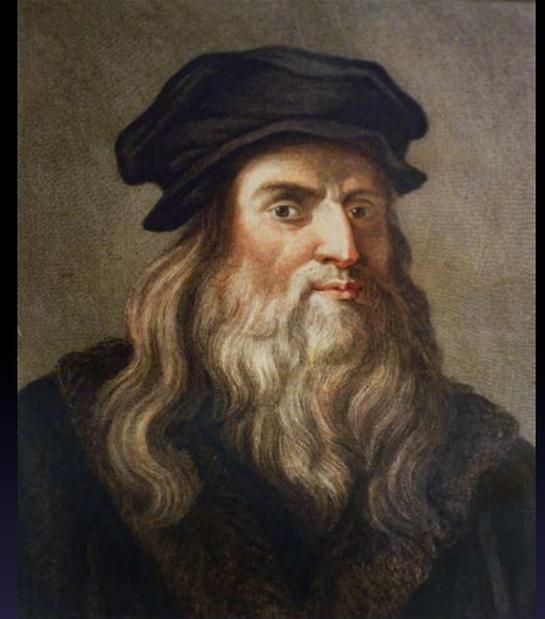
Galien (131-201)



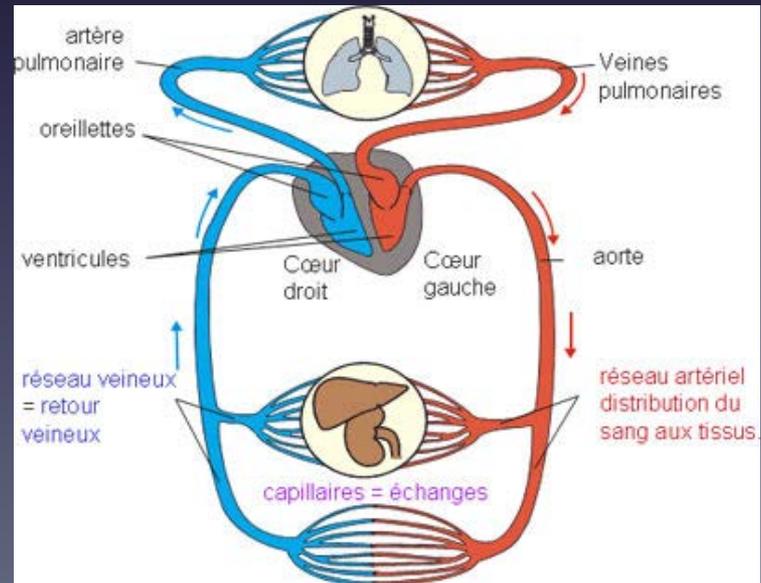
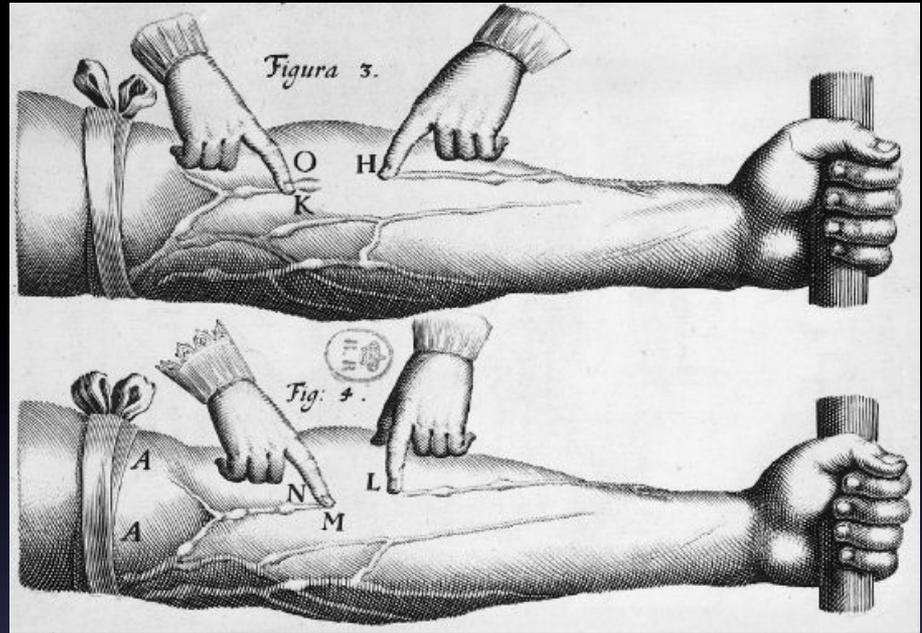
Ibn Al Nafis (1210-1288)



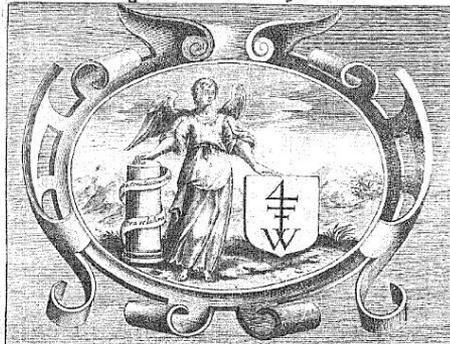
Léonard De Vinci (1452-1519)



William Harvey (1578-1657)



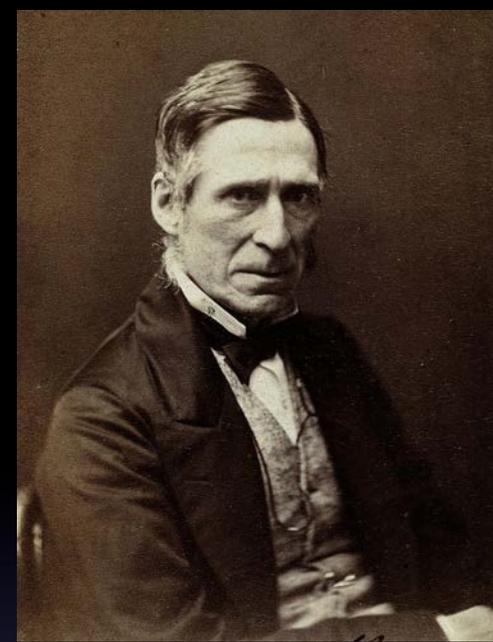
EXERCITATIO
ANATOMICA DE
MOTU CORDIS ET SAN-
GVINIS IN ANIMALI-
BVS,
GVILIELMI HARVEI ANGLI,
Medici Regii, & Professoris Anatomia in Col-
legio Medicorum Londinensi.



FRANCOFVRTI,
Sumpribus GVILIELMI FITZERI.
ANNO M. DC. XXVIII.



Et puis...plus rien



« un chirurgien qui cherche à suturer les plaies du cœur mérite de perdre la considération de ces confrères »

Theodore Billroth, 1880.

« la chirurgie du cœur représente la limite offerte par la nature à toutes les chirurgies. Aucune nouvelle méthode ni aucune découverte ne pourra dépasser les difficultés naturelles concernant une plaie du cœur »

James Paget, Surgery of the chest, 1897.

La chirurgie cardiaque « extra-cardiaque »

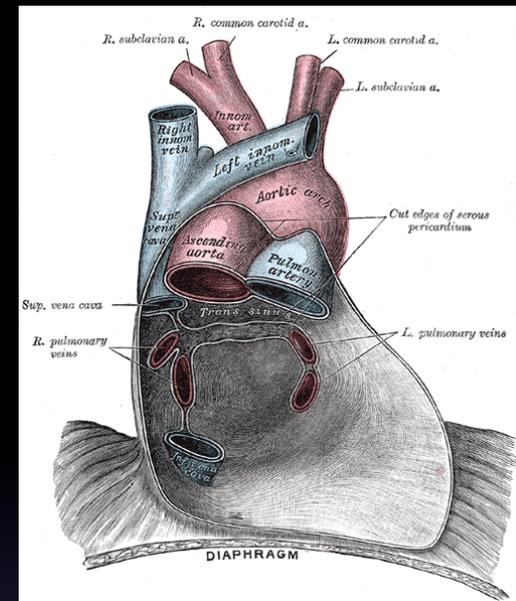
Chirurgie péricardique



Dominique Jean Larrey (1766-1842)



Ludwig Rehn
(1849-1930)



IX.
Ueber penetrirende Herzwunden
und Herznaht.

Von
Professor Dr. L. Rehn
in Frankfurt a. M. 9.

In einem verzweifelten Fall von Stichverletzung des rechten Ventrikel wurde ich durch die andauernde Blutung zum Eingreifen gezwungen. Ich wollte das Möglichste thun, um den Kranken zu retten und so kam ich im Lauf der Operation in die Nothwendigkeit, eine Herznaht auszuführen. Es blieb mir kein anderer Weg, so schwer er war, denn der Patient hätte sich unter meinen Augen verblutet.

Der Chirurg wird sich bei der Durchsicht der später folgenden Krankengeschichte in meine Lage versetzen können. Was wäre Alles zu überlegen gewesen, wenn man Zeit gehabt hätte! So drängten die gegebenen Verhältnisse unwiderstehlich zu einem raschen Entschluss. Die grossen technischen Schwierigkeiten wurden überwunden und schon der momentane Erfolg der Herznaht würde mir den Muth gegeben haben, in einem ähnlichen Falle wieder zur Herznaht zu greifen. Ich habe das Glück gehabt, den Kranken mit Ueberwindung mannigfaltiger Gefahren gesund werden zu sehen. Ob spätere Folgen der Verletzung und des Eingriffs eintreten, das will ich, soviel ich kann, getreulich berichten. Einstweilen kann ich feststellen, dass ohne die Herznaht der Kranke verloren gewesen wäre. Die lineäre Vereinigung der Herzwunde durch Seidenknopfnähte, die Entleerung des mit Blut gefüllten Herzbeutels bo-

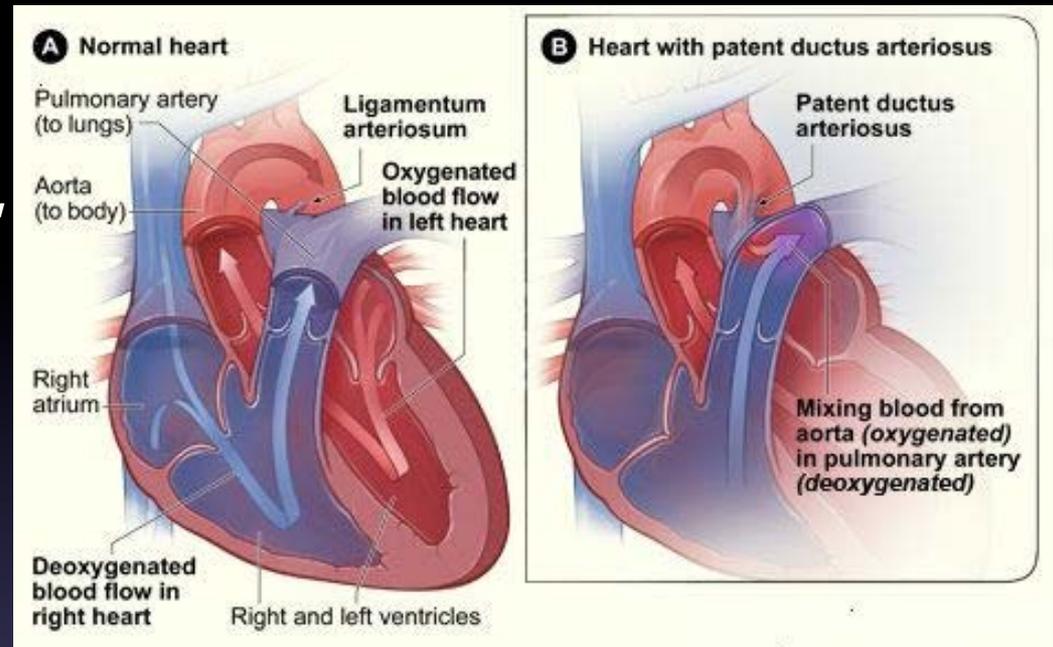
9) Abgekürzt vorgelesen am 2. Sitzungstage des XXVI. Congresses der Deutschen Gesellschaft für Chirurgie zu Berlin, 22. April 1897.

Chirurgie des gros vaisseaux: canal artériel

John Munro: 1907, cadavre

John Strieder: 1937, échec

Robert Gross (1905-1989): 26 août 1938,
Succès



Patient of Dr. Robert E. Gross
Lorraine Sweeney. The beginning of heart surgery



Lorraine Sweeney being shown details of the operation Dr. Gross performed on her in 1938 for a patent ductus arteriosus

Chirurgie des gros vaisseaux: Coarctation de l'aorte



OUR SURGICAL HERITAGE

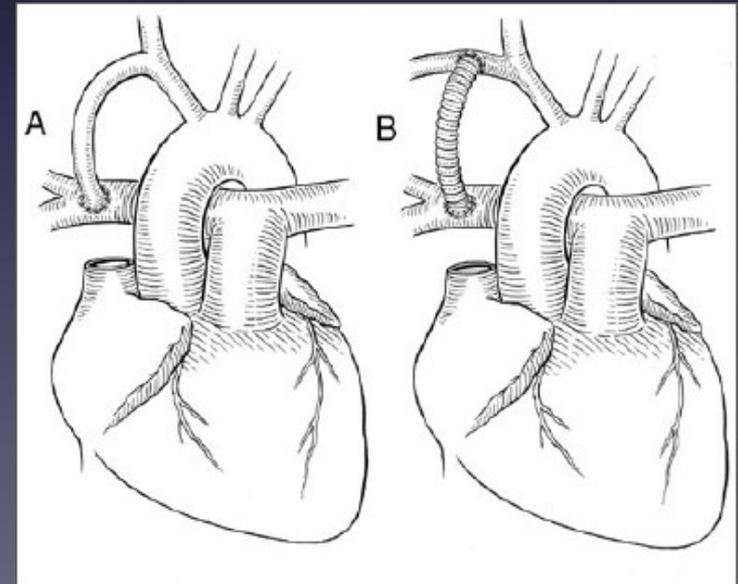
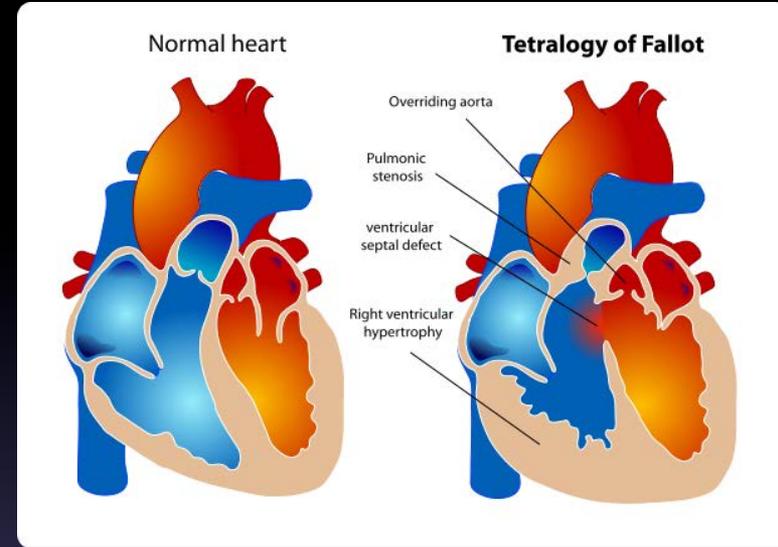
Clarence Crafoord: A Giant in Cardiothoracic Surgery, the First to Repair Aortic Coarctation

John-Peder Escobar Kvitting, MD, PhD, and Christian L. Olin, MD, PhD

Department of Cardiothoracic Surgery, Linköping University Hospital, Linköping, Sweden



L'opération des bébés bleus



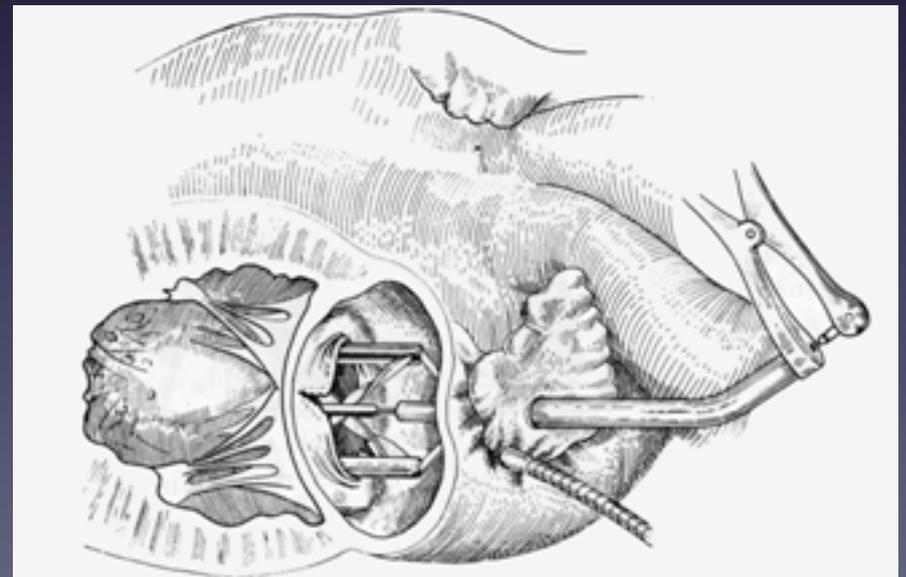
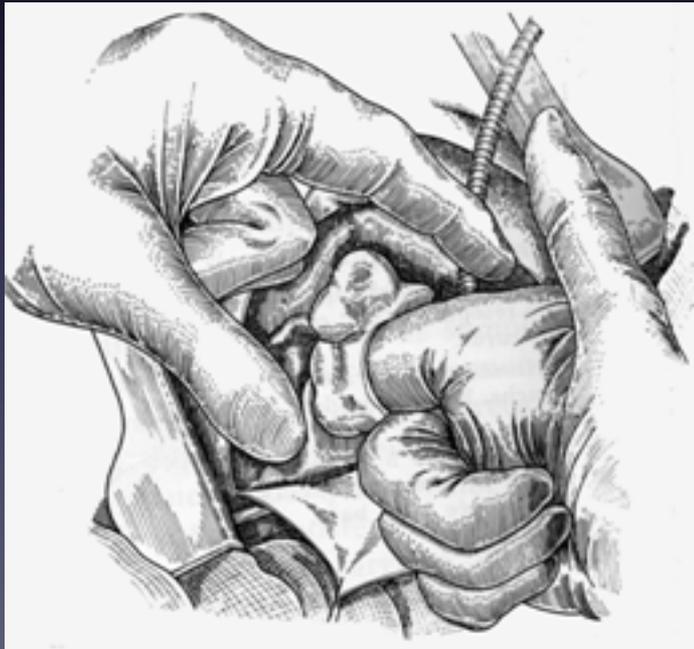
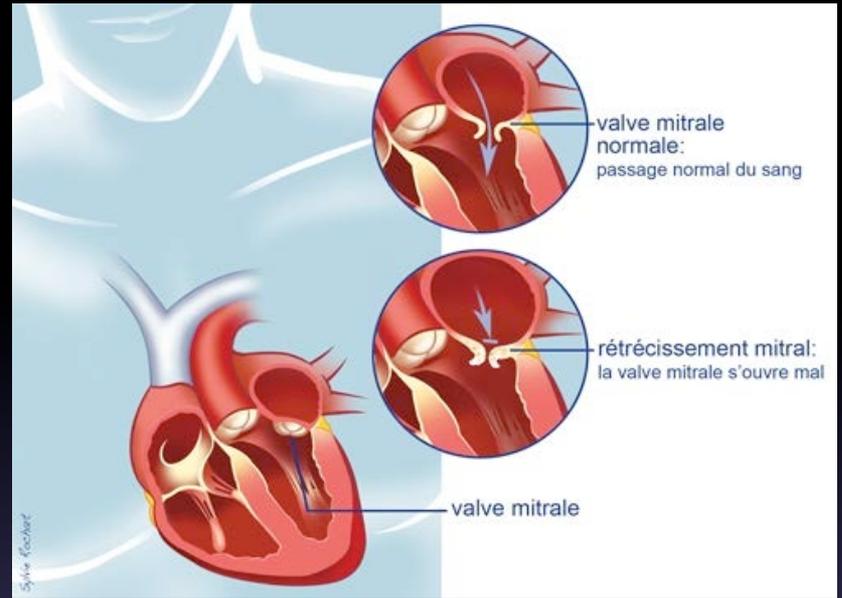
Helen Taussig
(1898-1986)
Alfred Blalock
(1899-1969)
Visite Broussais 1947:
influence Dubost

La chirurgie à cœur fermé

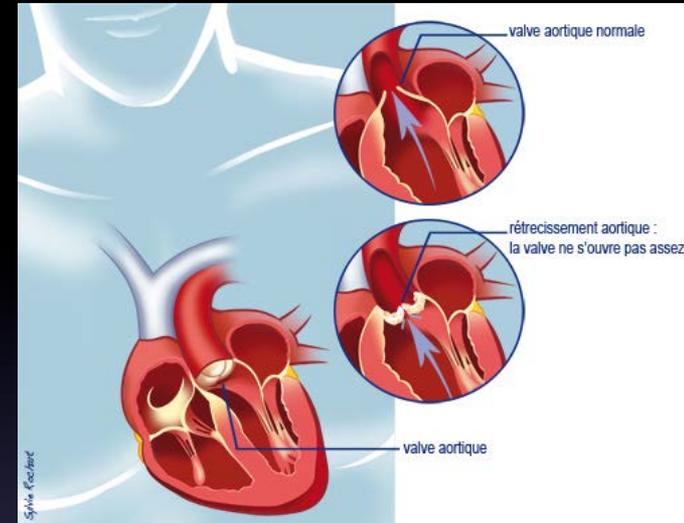


Commissurotomie mitrale

Elliot Cuttler, Boston, 1923
Henry Souttar, 1925
Charles Bailey, Philadelphie, 1948
D. Harken, Boston, 1948



Sténoses pulmonaire et aortique



Théodore Tuffier, 1912
Russel Brock, 1948

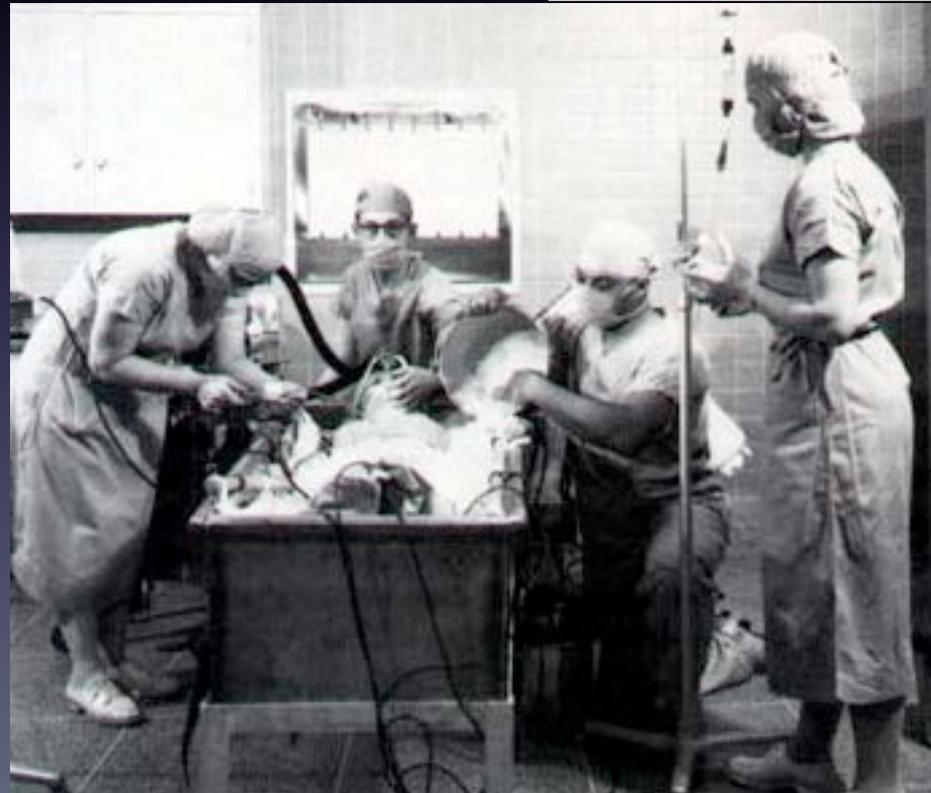
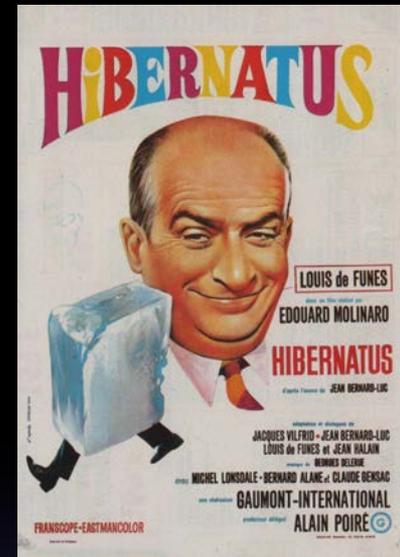
La chirurgie à cœur ouvert



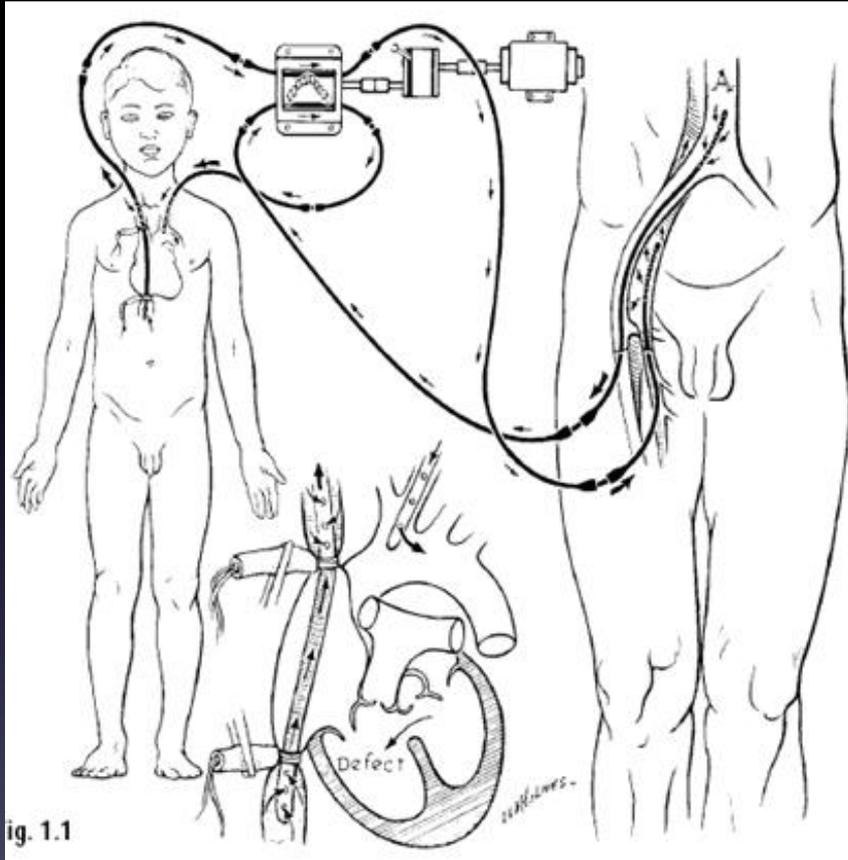
Chirurgie en hypothermie

« One night I awoke with a simple solution to the problem: cool the entire body, reduce oxygen requirements, interrupt the circulation and open the heart » *Wilfred Bigelow*

John Lewis, septembre 1952, Minneapolis.

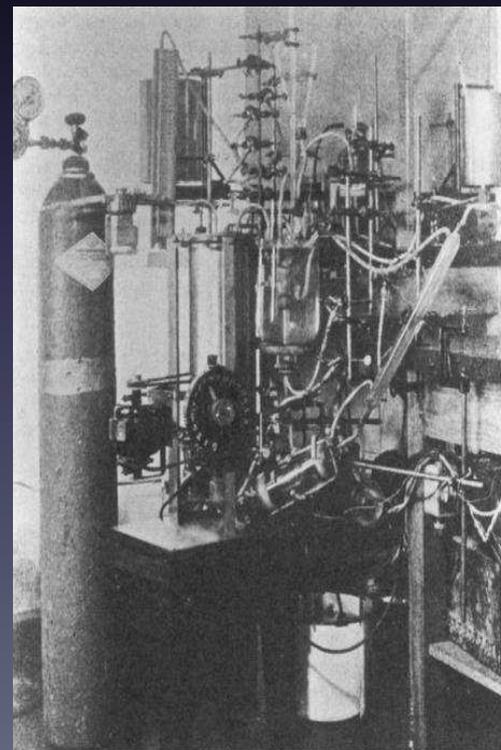
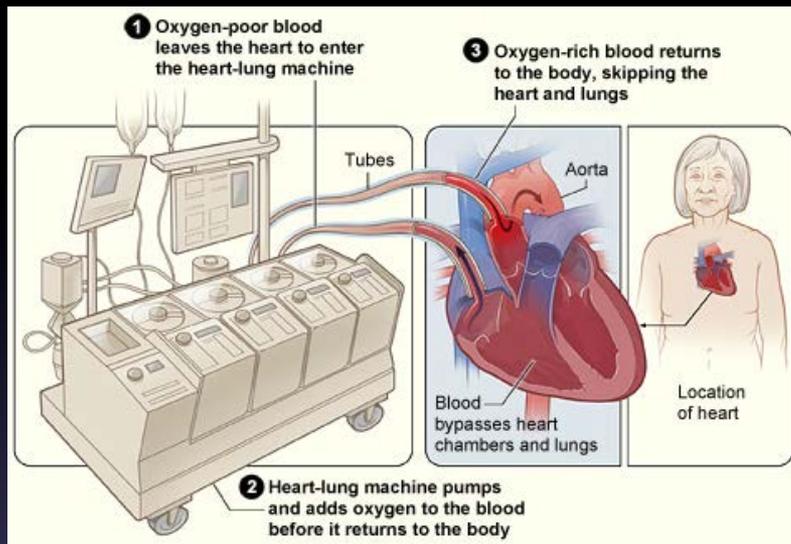


Circulation croisée



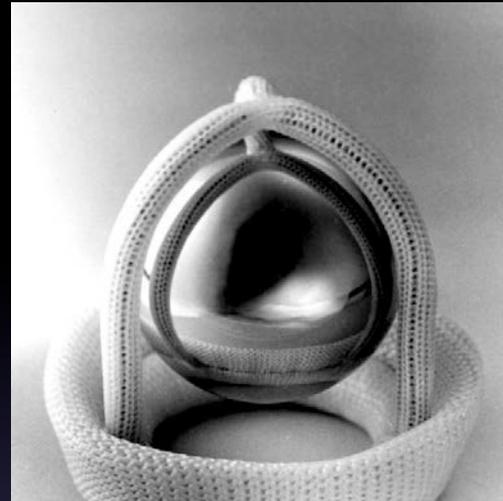
26 mars 1954: Walton Lillehei, Minnéapolis
Circulation placentaire
Ethique, mortalité possible de 200%!

La circulation extra-corporelle



John Gibbon, 1953

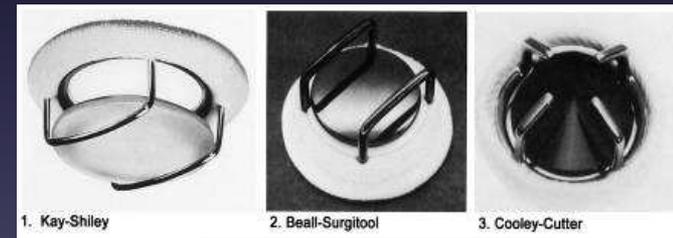
La chirurgie valvulaire (1)



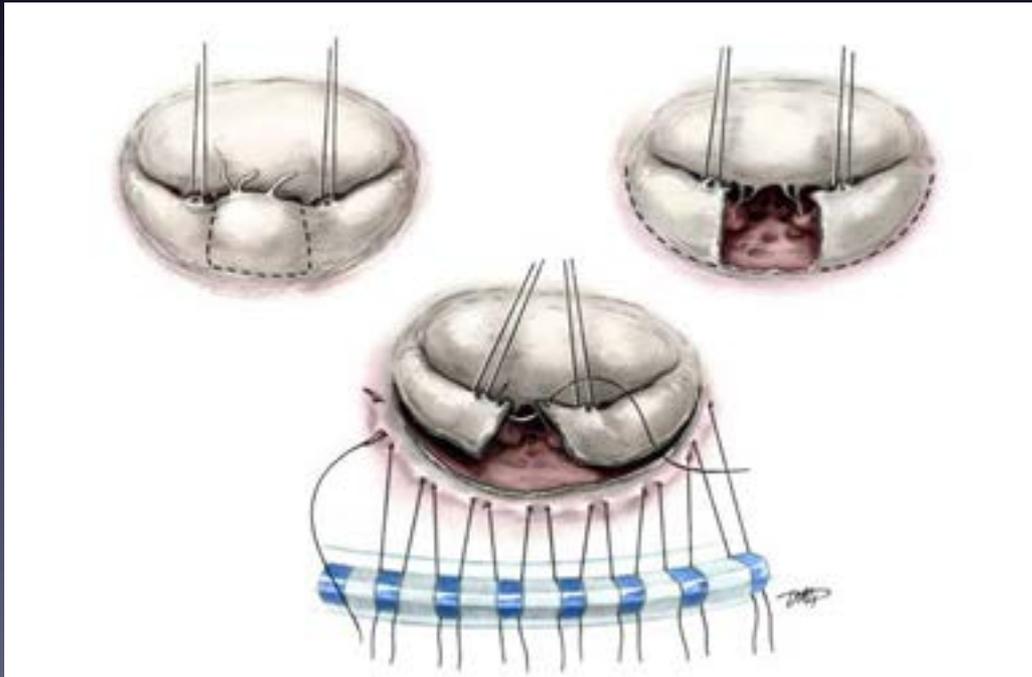
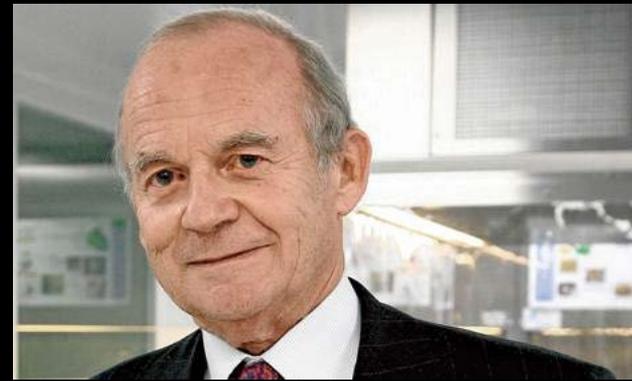
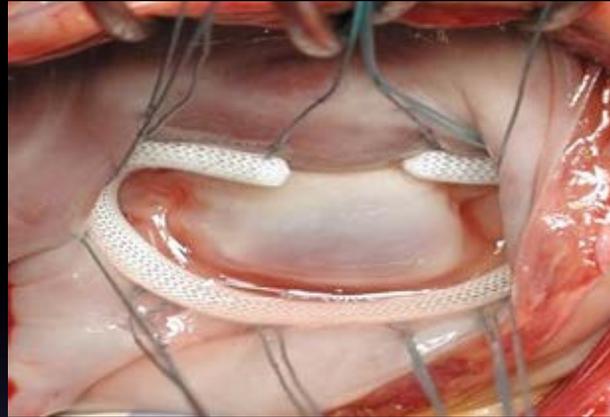
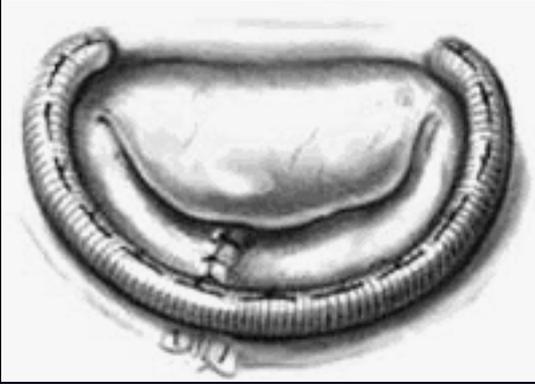
Charles Hugnagel
(1917-1989)



Albert Starr, 1962

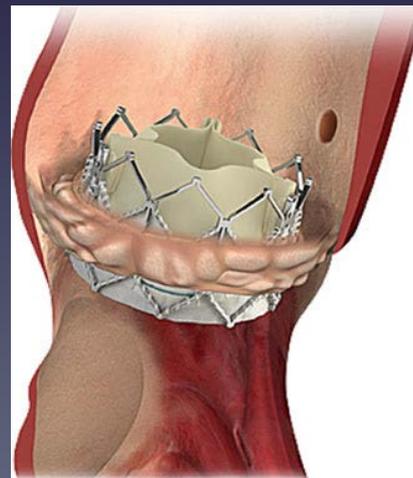
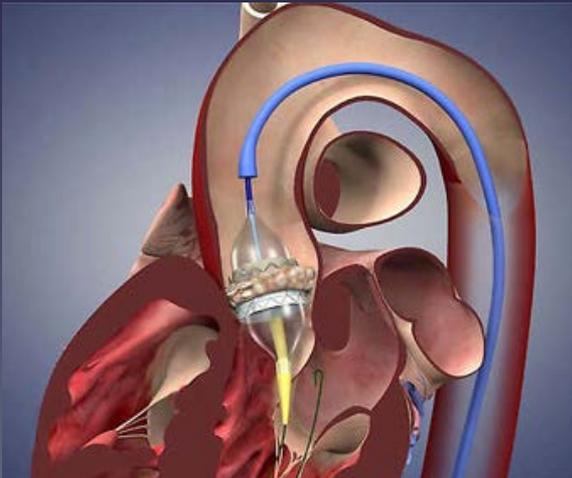
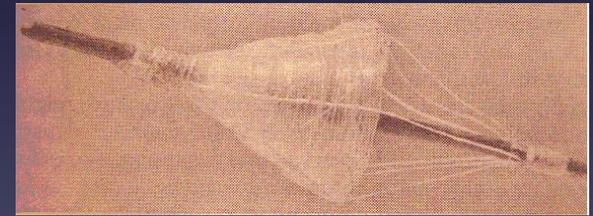


La chirurgie valvulaire (2)

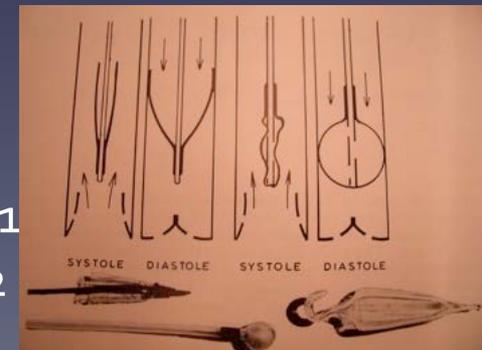


Binet, Ross, Duran
Carpentier 1967, 1968, 1983

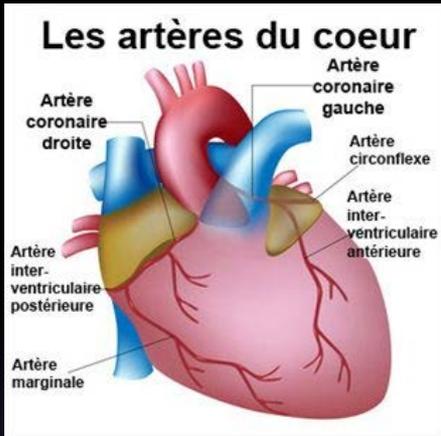
La chirurgie valvulaire (3)



Davies, 1965,
Moulopoulos, 1971
Alain Cribier, 2002



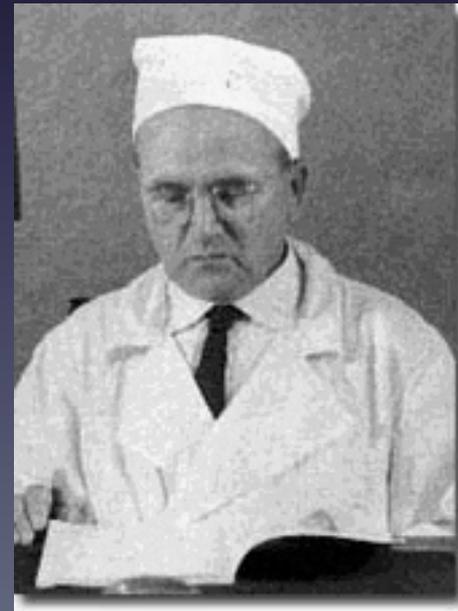
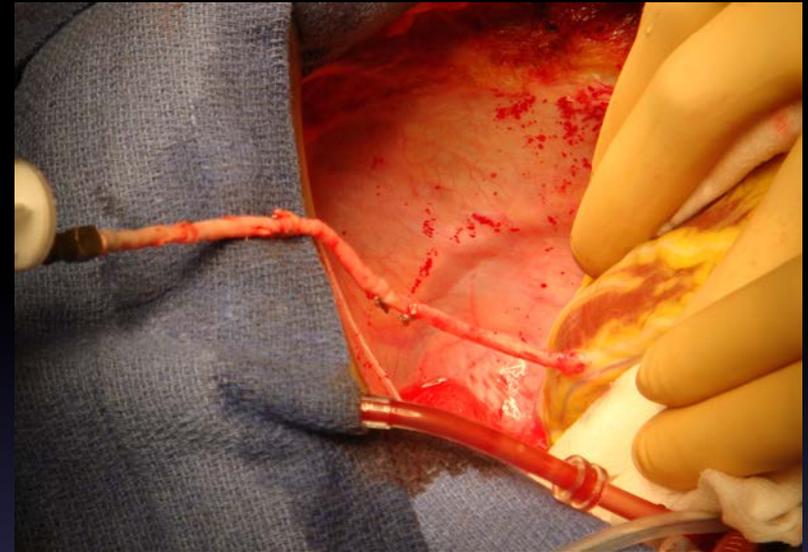
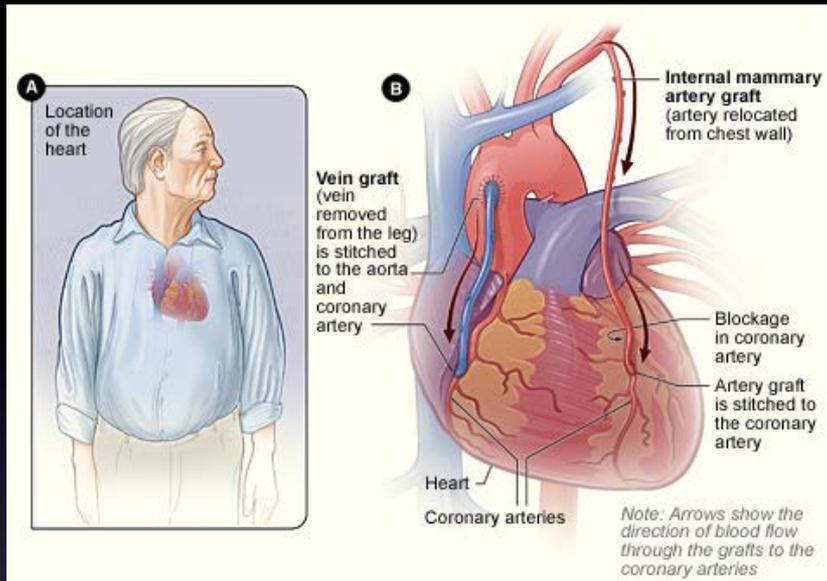
La chirurgie des coronaires (1)



Werner Forssmann, 1929
F.Mason Sones, Cleveland Clinic, 1958

Claude Beck (1894-1971)

La chirurgie des coronaires (2)



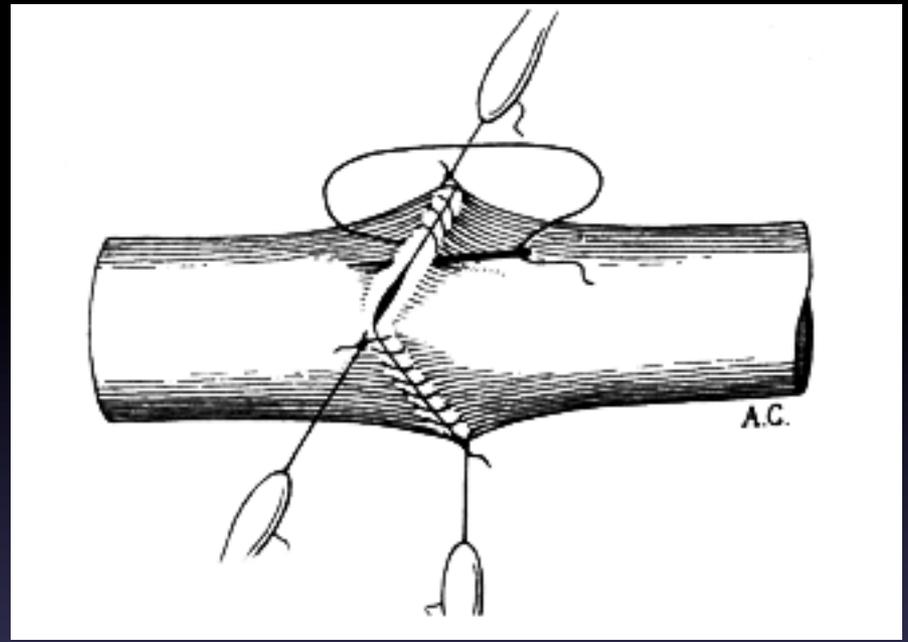
Alexis Carrel, 1910
Vasilii Kolesov, 1964
René Favaloro, 1967

La transplantation cardiaque

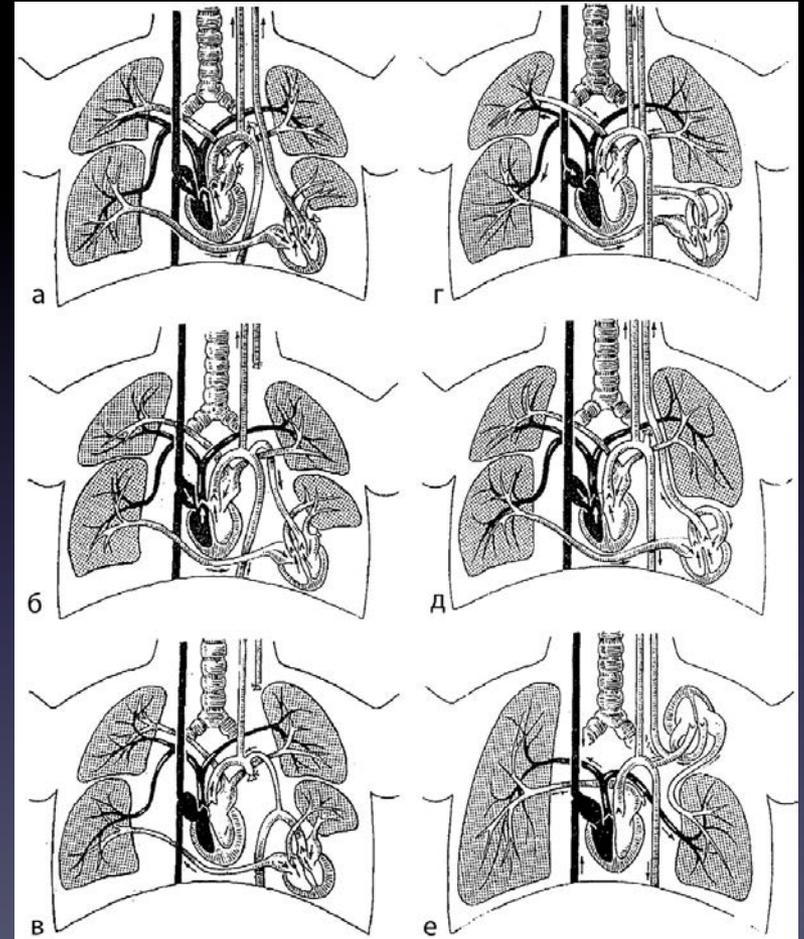


Saint Côme et Saint Damien, Huile de Balbases vers 1495

Alexis Carrel (1873-1944)

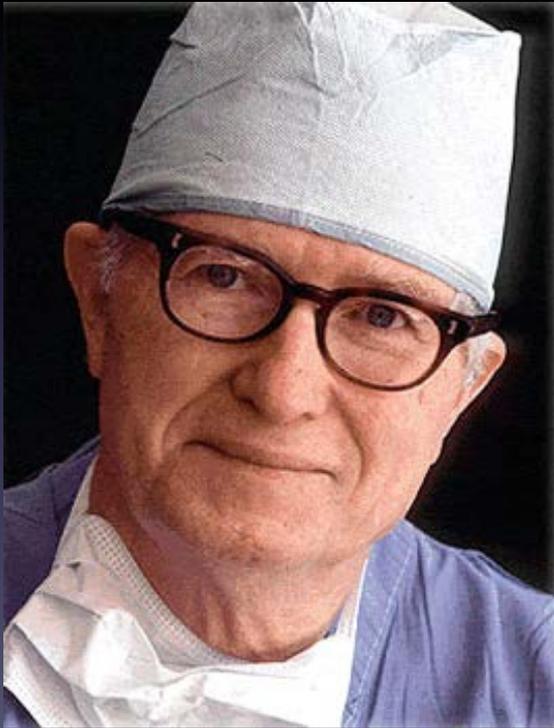
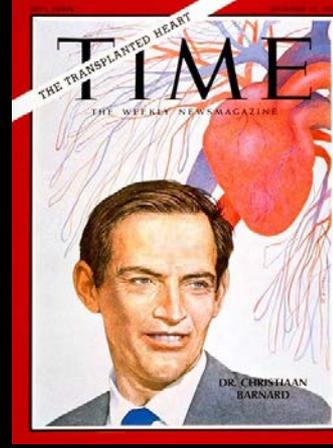
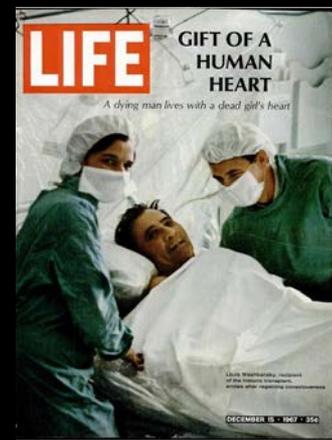


Et pendant ce temps là, en Russie...



Vladimir Demikhov (1916-1998)

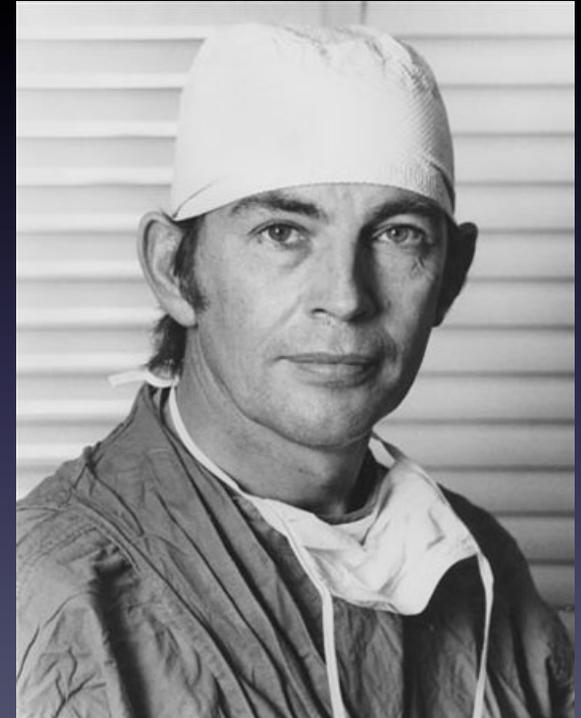
En occident...



James Hardy, Jackson,
Mississippi, 1964



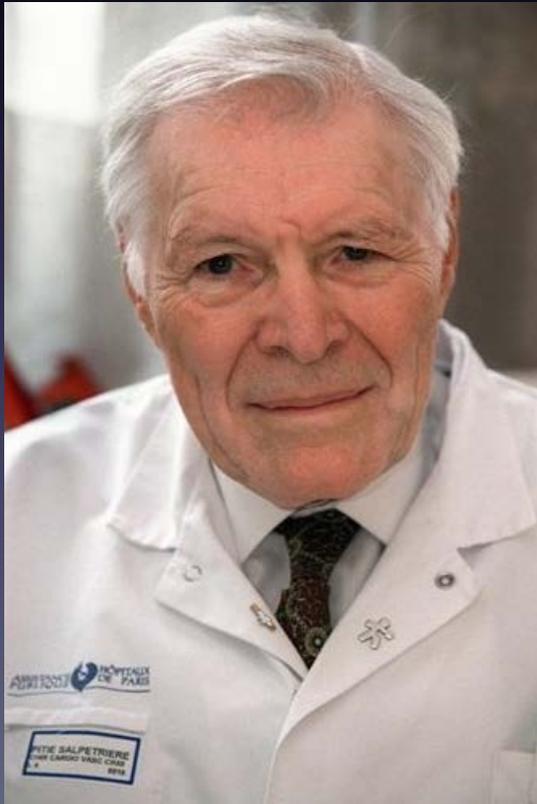
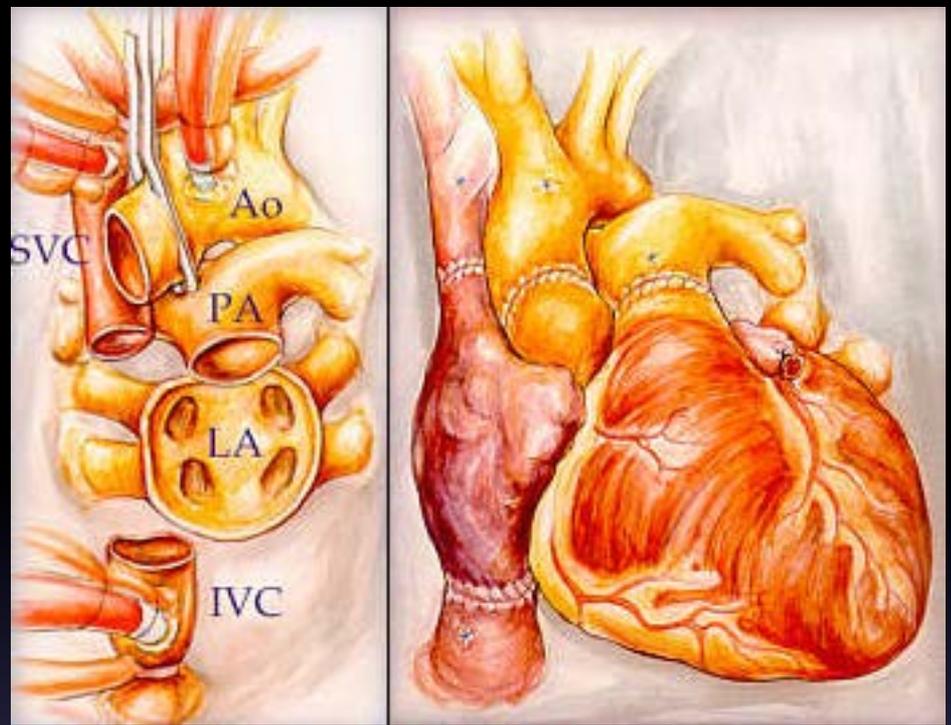
Norman Shumway,
Californie, 1968



Christian Barnard, Le
Cap, 1967



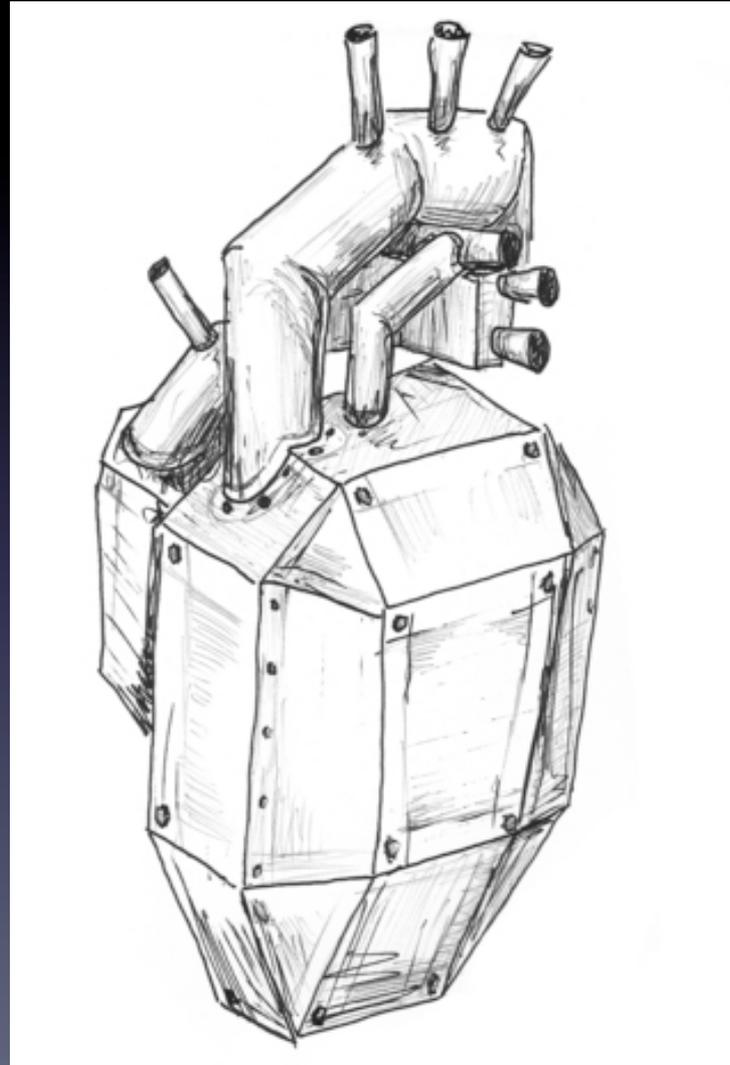
© 2002 GSM

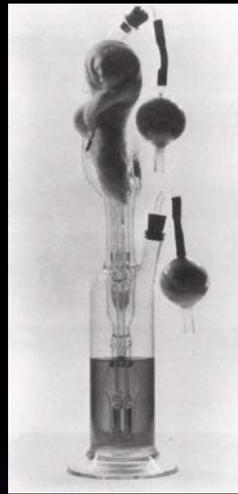


Christian Cabrol, 1968
Christian Barnard, 1974
Jean François Borel, 1972



Le cœur artificiel

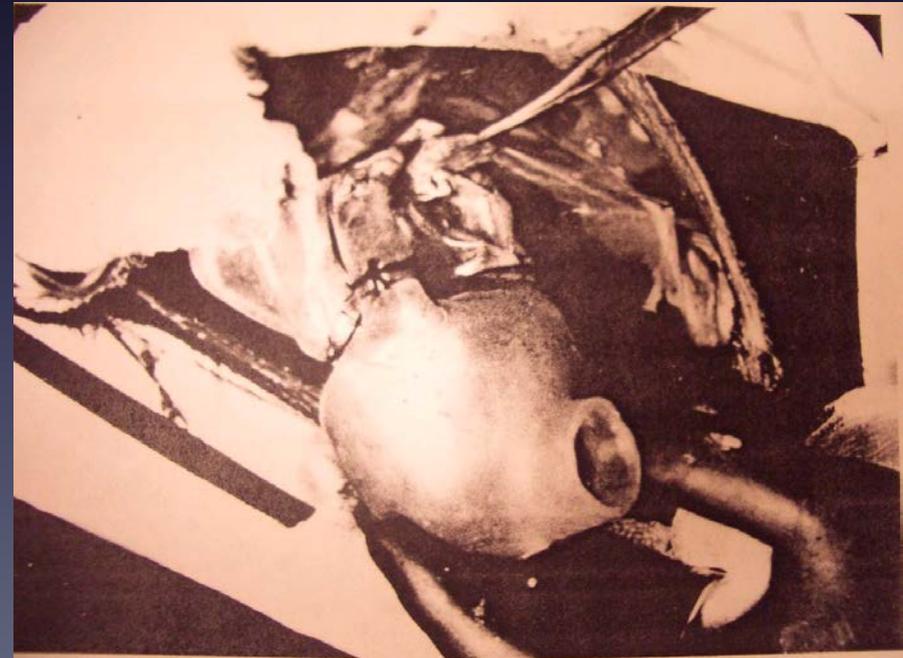




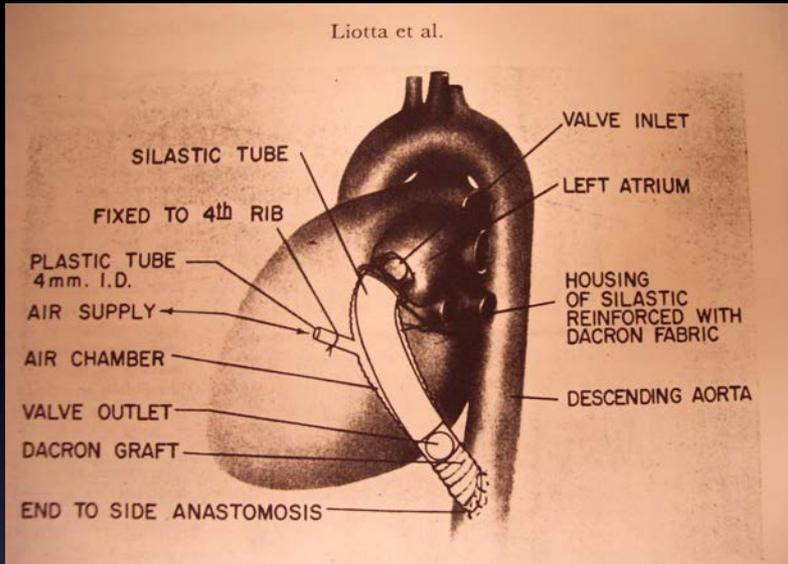
Julien César Le Gallois, 1913

A. Carrel, 1931

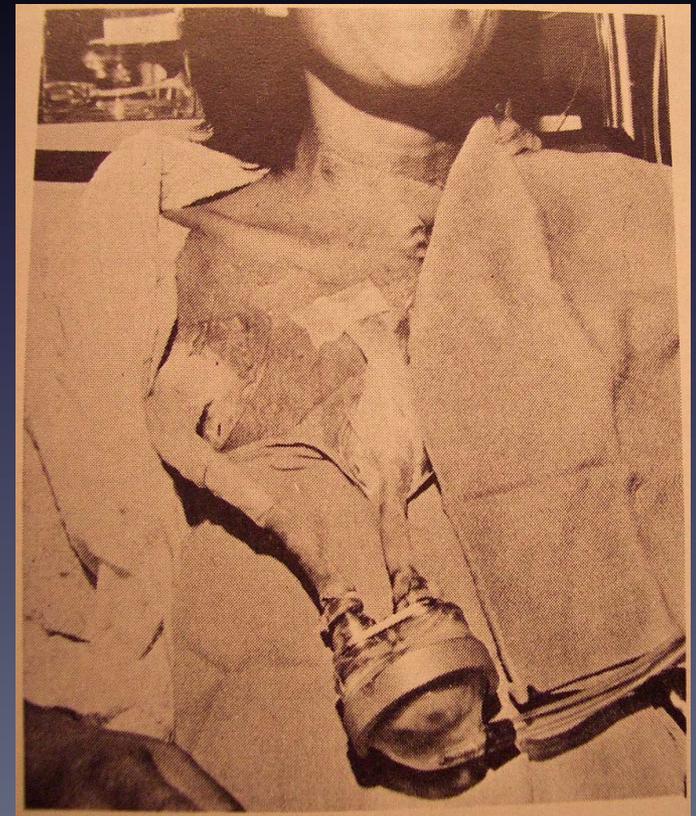
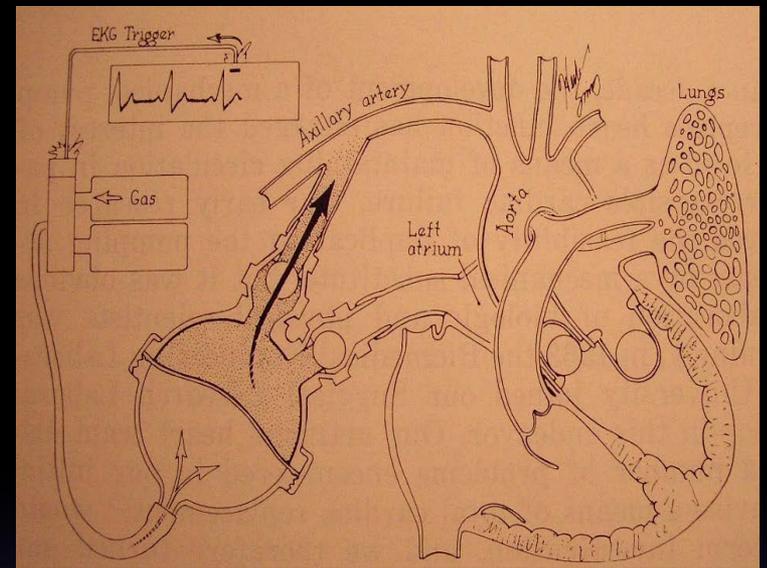
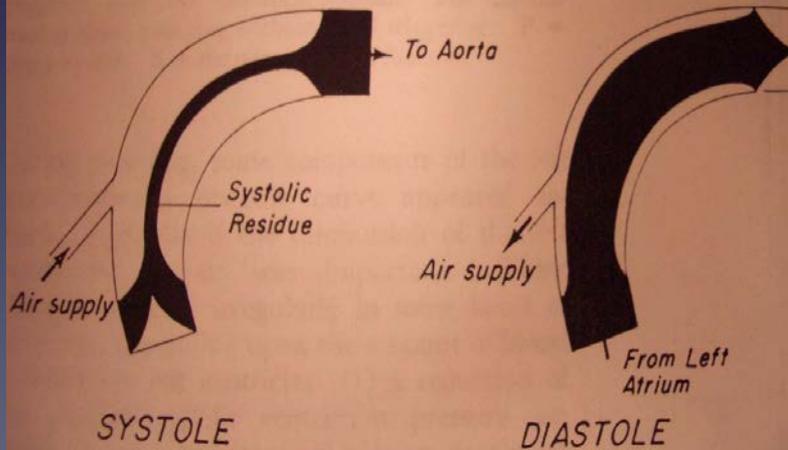
B. W.Kolf, 1957

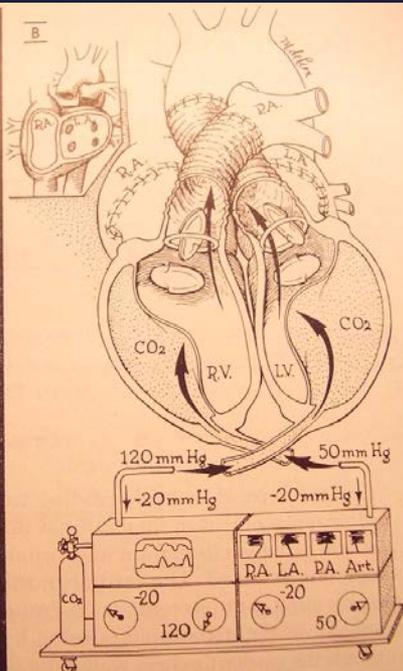
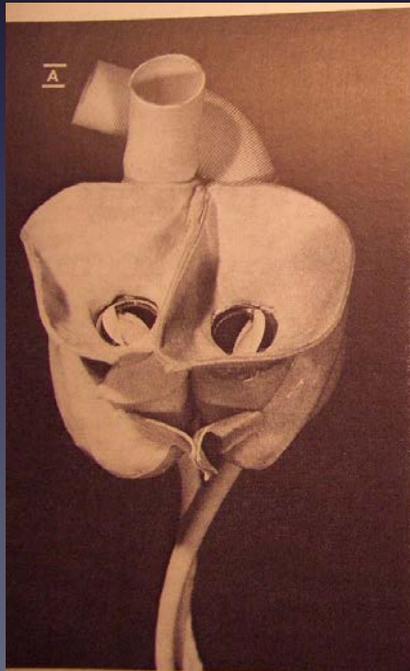
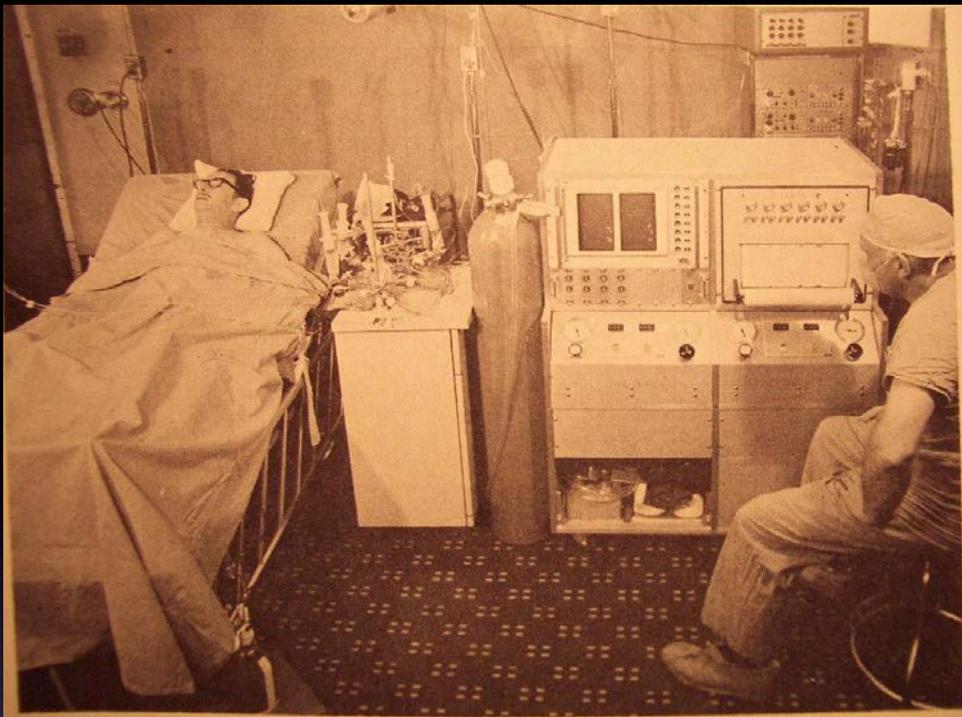


D. Liotta, 1963
 M. De Bakey, 1966

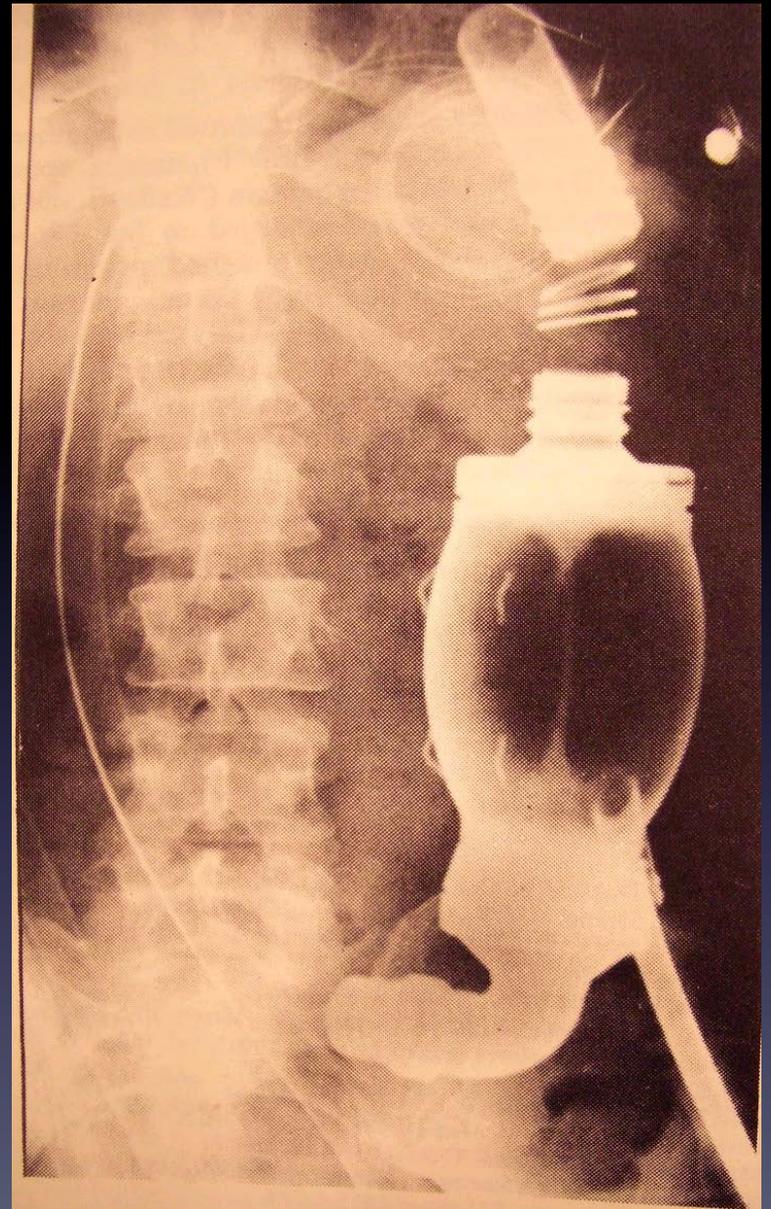
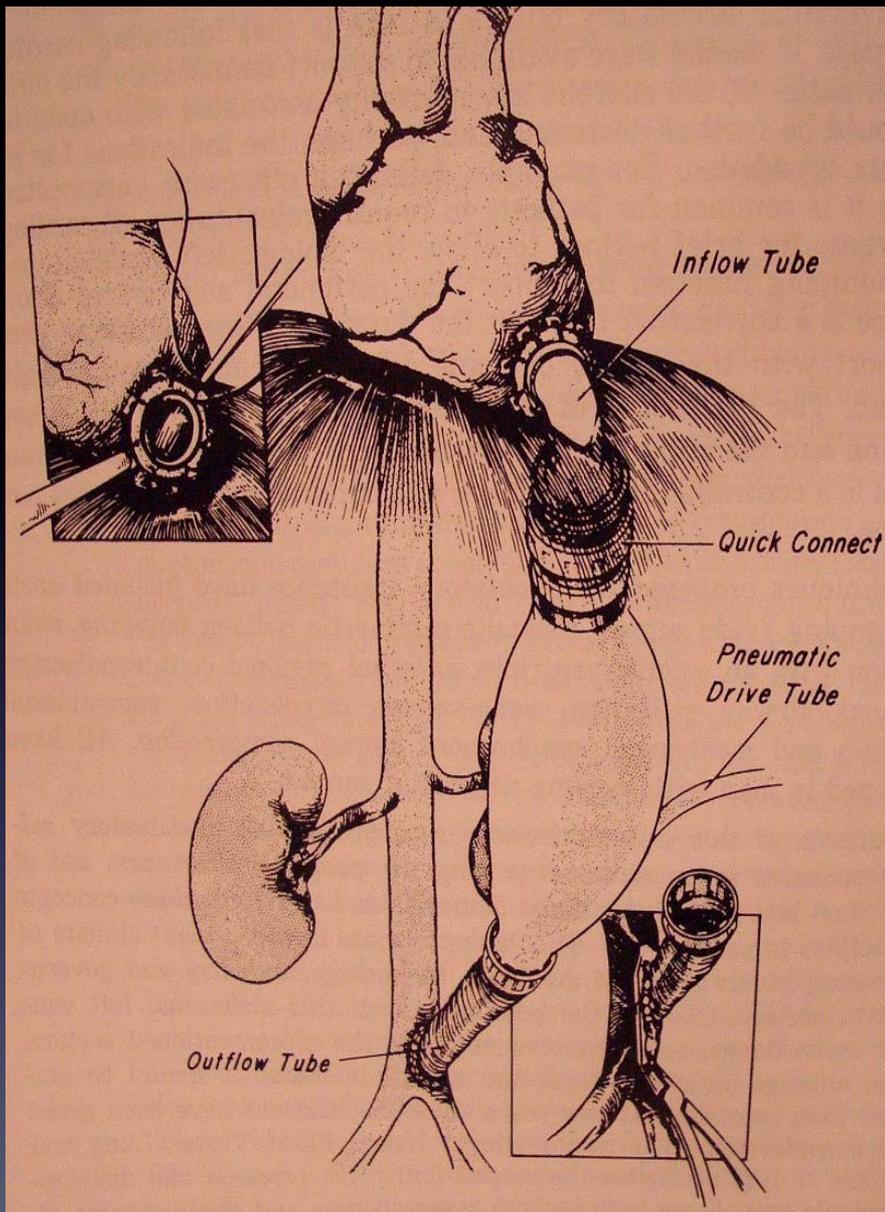


AIR DRIVEN SYSTEM TUBE TYPE PUMP FOR INTRACORPOREAL CIRCULATION





Denton Cooley, 1969
(Liotta Heart en BTT)

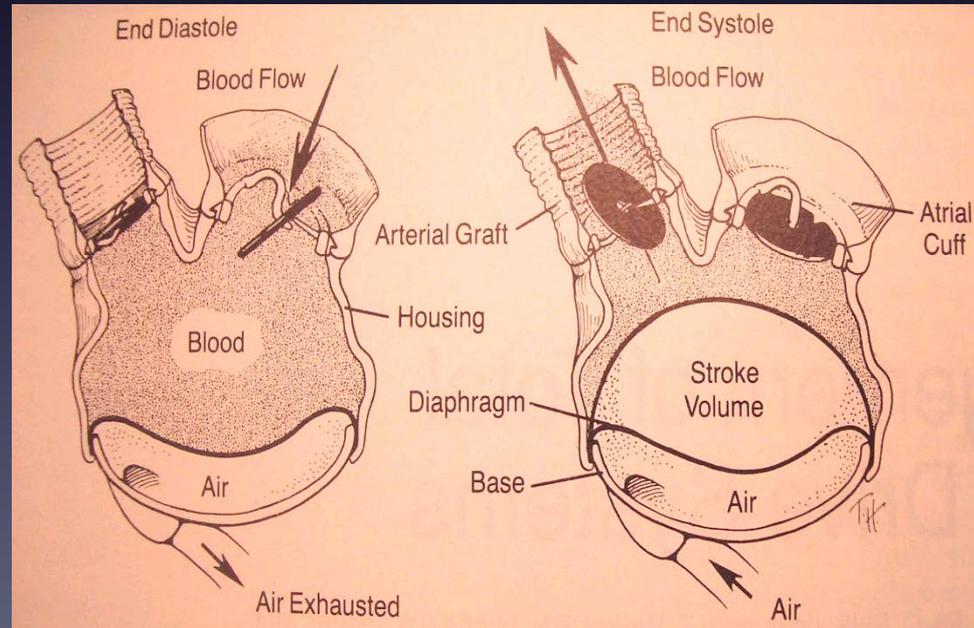
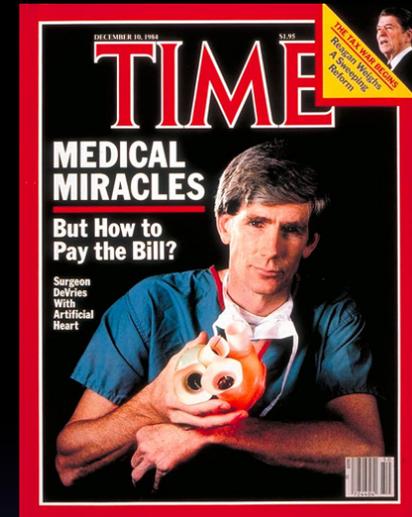
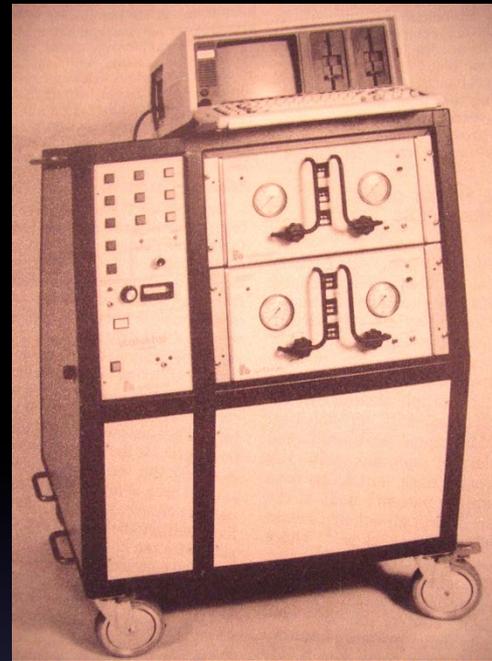
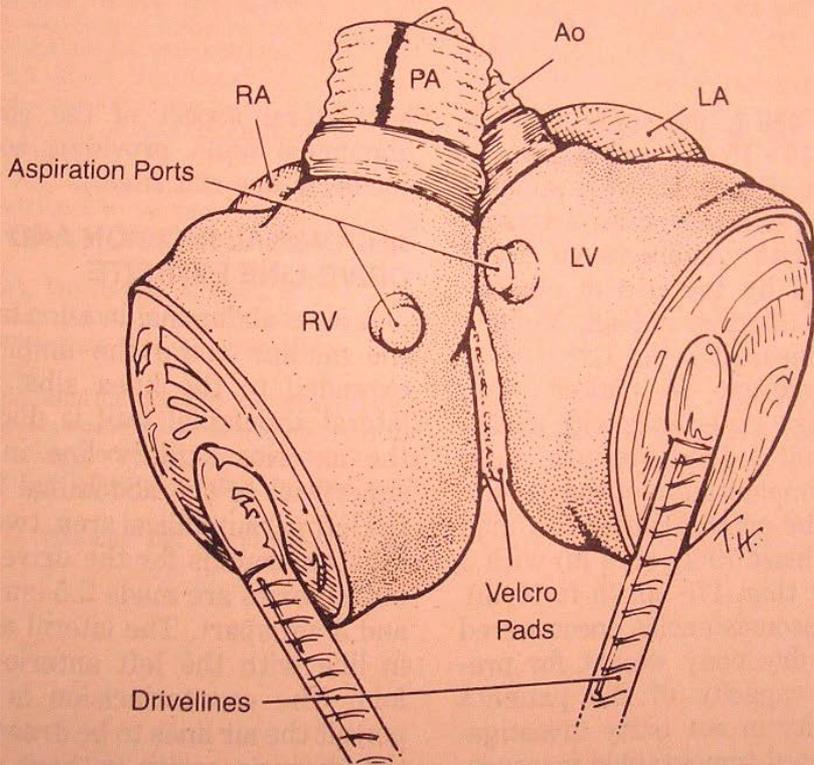
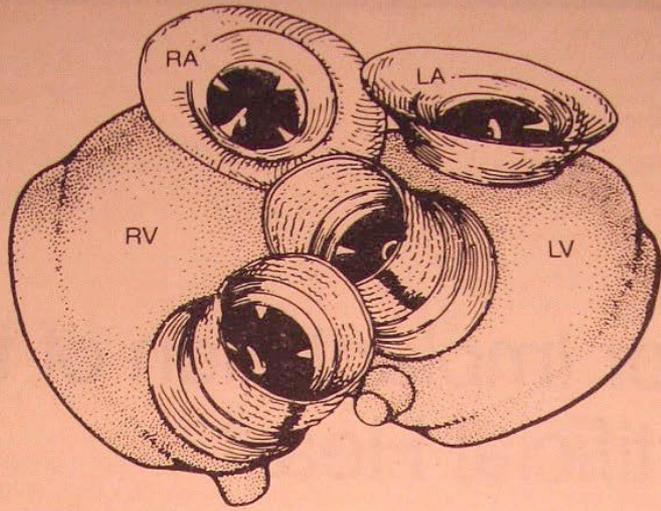


Norman, 1978: Lancet, Tx Cœur et rein

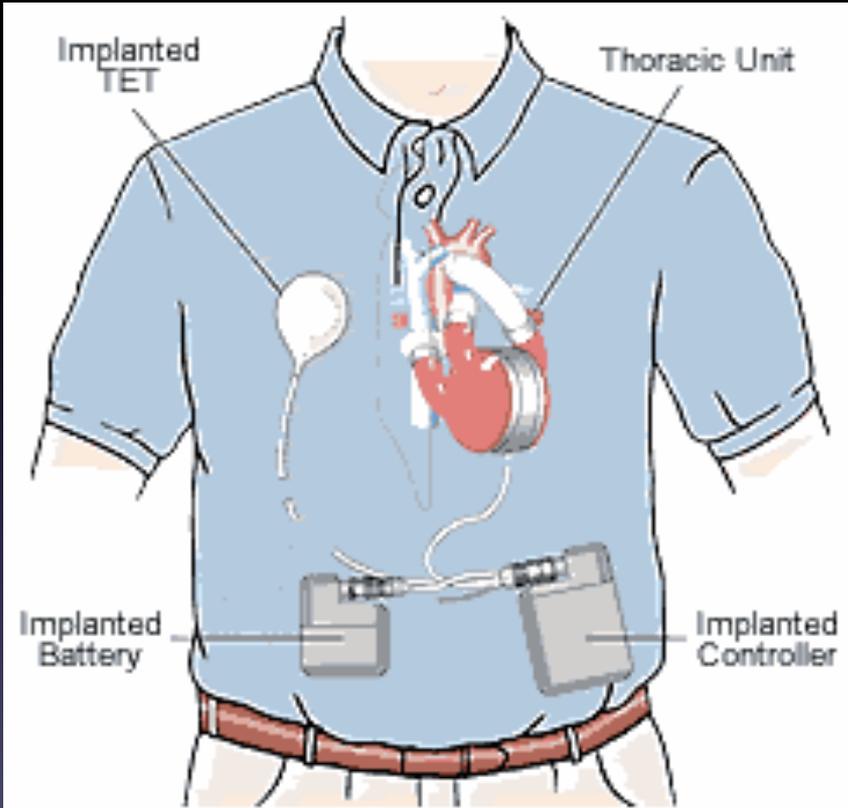
Le cas Barney Clark

« Sputnik du cœur artificiel? »





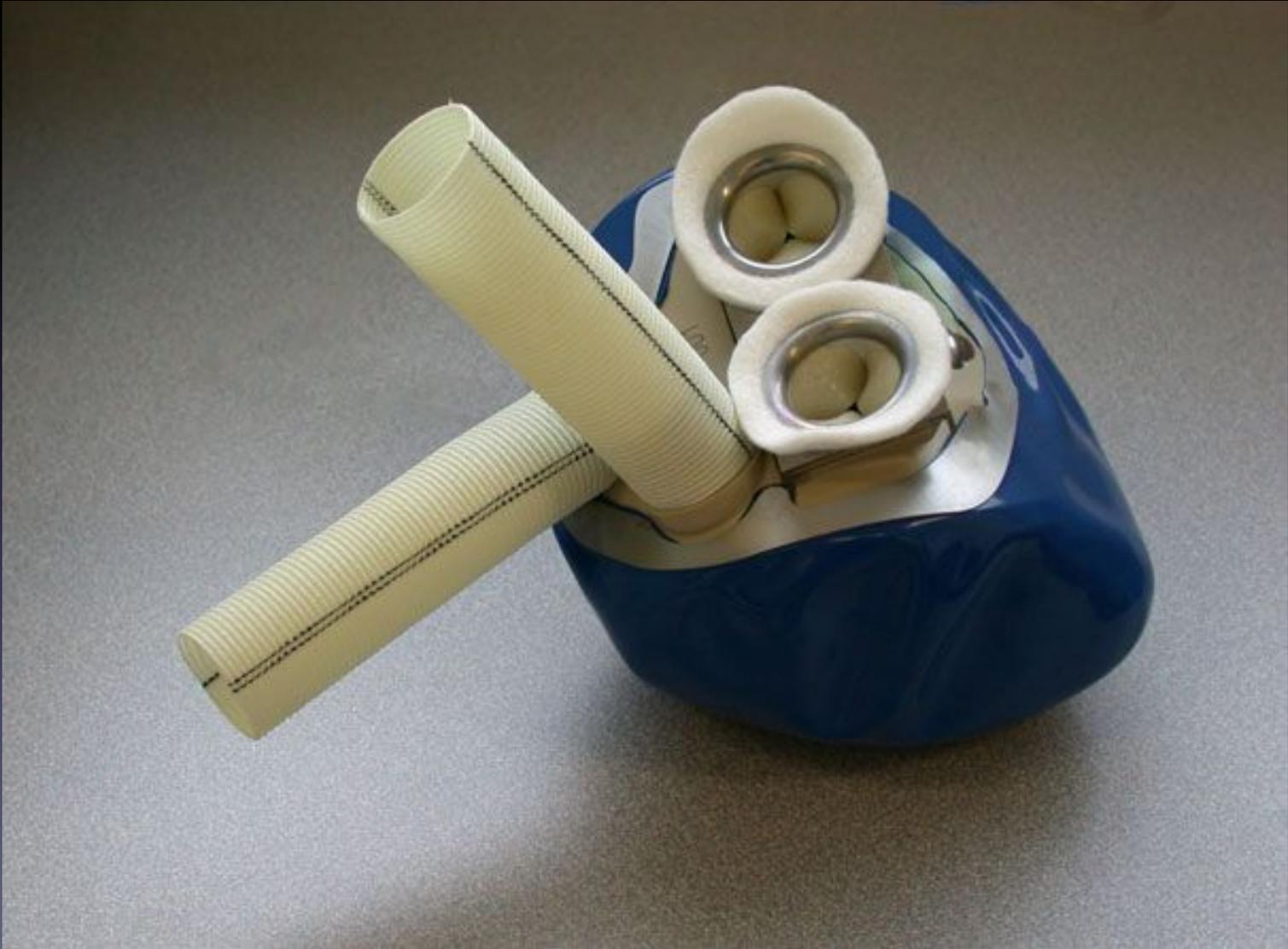
Cœur artificiel Abioco



The Abioco System has four main parts that are implanted inside the body.



Quid de Carmat?



Révolution technologique...ou médiatique?



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Le cœur à l'ouvrage

Marlene Beth-Cussey

07/12/2008 | Mise à jour : 16:39 | Commentaires = 1

Mis au point par des chercheurs français, ce cœur artificiel, bio-technologique, devrait être disponible d'ici cinq ans et permettre de sauver de nombreuses vies.

L'innovation a bon cœur. Le Pr Alain Carpentier, spécialiste des cardiopathies, a mis au point ce cœur artificiel en collaboration avec EADS. Une magnifique mécanique qui pourrait sauver bien des malades initialement atteints en 1988. Les premiers essais cliniques sont prévus dans deux ou trois ans, et le développement effectif, réalisé par la société...

L'EXPRESS · fr

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Pr Carpentier: "Après tout, le cœur n'est qu'une grosse pompe"

Par Estelle Saget, mis à jour le 29/10/2008 11:18:43 - publié le 28/10/2008 12:11



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Le projet français de cœur artificiel commence à battre

Marie-Madeleine

28/10/2008 | Mise à jour : 13:16 | Commentaires = 7

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French try plane technology in artificial heart

Posted 10/20/2008 2:50 PM | Comments: 103 | Recommended: 2

By Maria Cheng, Associated Press

LONDON — In the race to build a better artificial heart, French scientists have turned to technology from satellites and airplanes to create a heart that they say responds better to the human body.

So far, the new device, shown at a news conference in Paris on Monday, has only been tested in animals. Its makers hope it might one day help people survive without needing a human heart transplant.

American companies have already produced artificial hearts, and scientists in Japan and South Korea are also working on versions.

But the French artificial heart is the first to be able to determine its patients' needs and respond accordingly. And its maker is a subsidiary of the parent company of Airbus, the European Aeronautic Defense and Space Co., or EADS.



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Un cœur artificiel et total testé en France «d'ici deux ans et demi»

Après quinze ans de recherche, le professeur Alain Carpentier, spécialiste des greffes cardiaques à l'hôpital européen Georges Pompidou, à Paris, lance la réalisation industrielle de la prothèse.

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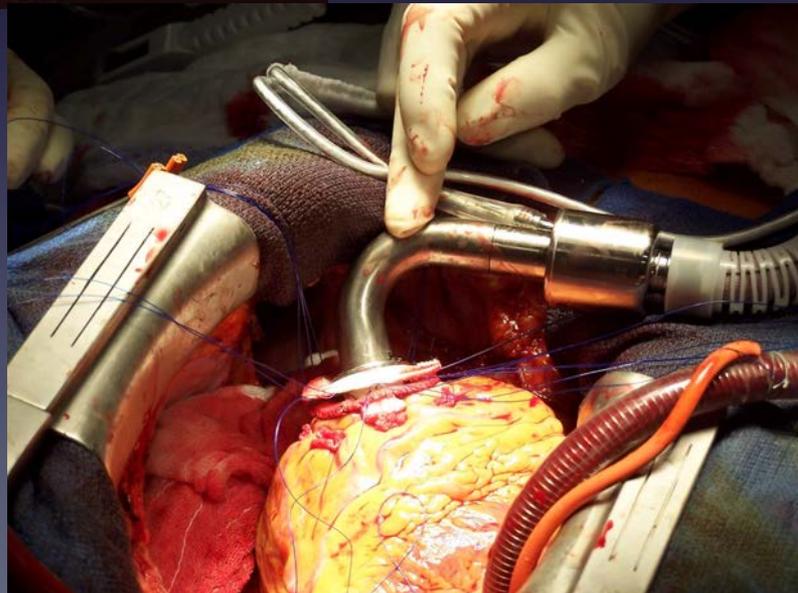
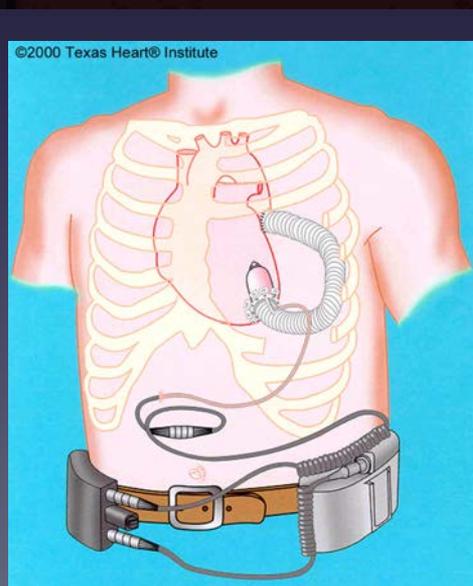
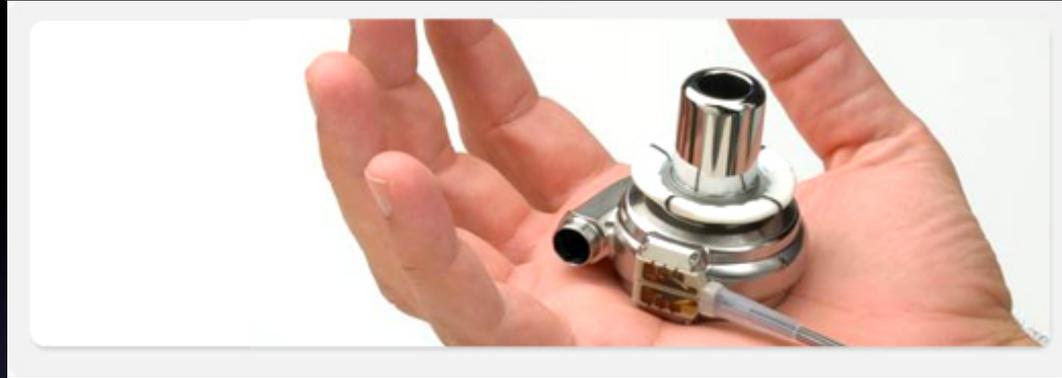
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Une équipe française présente le premier prototype d'un cœur artificiel

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Assistances ventriculaires



"We" is more important than "I". In medicine, the advances are always the result of many efforts accumulated over the years".

René Favaloro

Merci de votre attention