

# La donazione di organi: una scelta di vita



**CERTEZZE E PAURE  
COMA E MORTE**

**18 giugno 2018**

Sistema Socio Sanitario



Regione  
Lombardia

ASST Spedali Civili

**COORDINAMENTO PRELIEVI ORGANI E TESSUTI A FINI DI TRAPIANTO**  
AREA BRESCIANA – Responsabile: Dr.ssa Paola Terenghi



## Una piccola precisazione:

Espianto: asportazione di un organo  
trapiantato andato incontro a  
rigetto

Prelievo: asportazione di un organo  
da trapiantare



**VIVO O MORTO ?**



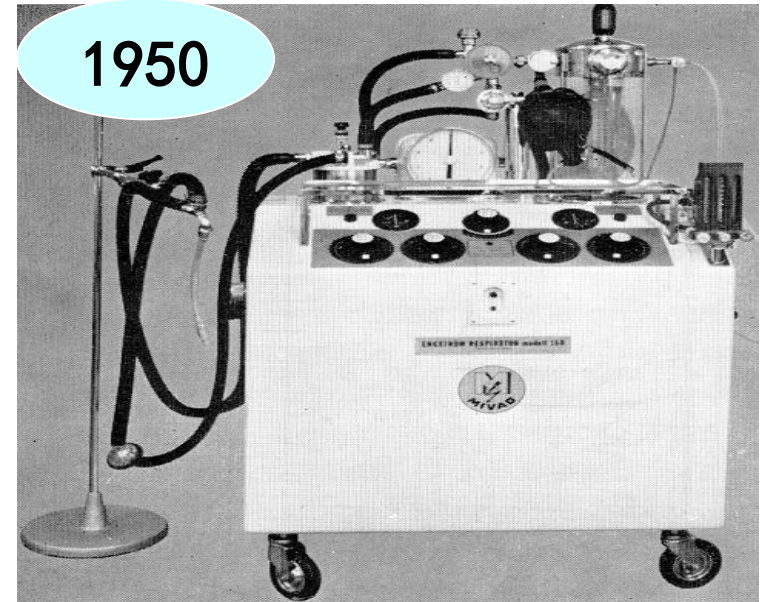


# NASCITA E SVILUPPO DELLE TERAPIE INTENSIVE

1920



1950



2018



# **CHRISTIAAN BARNARD** (1922-2001)



Il 2 dicembre 1967, a Città del Capo, in un incidente d'auto perde la vita la signora Myrtle Ann Dervall, mentre la figlia Denise, una ragazza di 25 anni, ha le ore contate, a causa delle ferite riportate. In cura all'ospedale Groote Schuur c'era in quel periodo un droghiere ebreo di 54 anni, Louis Washkansky, che soffriva di diabete e di un incurabile male cardiaco. Barnard parla con il padre di Denise, che dà il suo consenso per il trapianto. Il primo trapianto di cuore umano al mondo viene effettuato il 3 dicembre 1967. Dopo 9 ore in sala chirurgica il cuore della defunta Denise Darvall viene impiantato nel corpo di Washkansky e funziona regolarmente.



# Criteria di Harvard - 1968

## A Definition of Irreversible Coma

Report of the Ad Hoc Committee of the Harvard Medical School  
to Examine the Definition of Brain Death

Our primary purpose is to define irreversible coma as a new criterion for death. There are two reasons why there is need for a definition: (1) Improvements in resuscitative and supportive measures have led to increased efforts to save those who are desperately injured. Sometimes these efforts have only partial success so that the result is an individual whose heart continues to beat but whose brain is irreversibly damaged. The burden is great on patients who suffer permanent loss of intellect, on their families, on the hospitals, and on those in need of hospital beds already occupied by these comatose patients. (2) Obsolete criteria for the definition of death can lead to controversy in obtaining organs for transplantation.

Irreversible coma has many causes, but *we are concerned here only with those comatose individuals who have no discernible central nervous system activity.* If the characteristics can be defined in satisfactory terms, translatable into action—and we believe this is possible—then several problems will either disappear or will become more readily soluble.

More than medical problems are present. There are moral, ethical, religious, and legal issues. Adequate definition here will prepare the way for better insight into all of these matters as well as for better law than is currently applicable.

The Ad Hoc Committee includes Henry K. Beecher, MD, chairman; Raymond D. Adams, MD; A. Clifford Barger, MD; William J. Carran, LL.M., SMHyg; Derek Denny-Brown, MD; Dana L. Farnsworth, MD; Jordi Folch-Pi, MD; Everett L. Mendelsohn, PhD; John F. Merrill, MD; Joseph Murray, MD; Ralph Potter, PhD; Robert Schwab, MD; and William Sweet, MD.  
Reprint requests to Massachusetts General Hospital, Boston 02114 (Dr. Henry K. Beecher).

### Characteristics of Irreversible Coma

An organ, brain or other, that no longer functions and has no possibility of functioning again is for all practical purposes dead. Our first problem is to determine the characteristics of a *permanently* nonfunctioning brain.

A patient in this state appears to be in deep coma. The condition can be satisfactorily diagnosed by points 1, 2, and 3 to follow. The electroencephalogram (point 4) provides confirmatory data, and when available it should be utilized. In situations where for one reason or another electroencephalographic monitoring is not available, the absence of cerebral function has to be determined by purely clinical signs, to be described, or by absence of circulation as judged by standstill of blood in the retinal vessels, or by absence of cardiac activity.

1. *Unreceptivity and Unresponsivity.*—There is a total unawareness to externally applied stimuli and inner need and complete unresponsiveness—our definition of irreversible coma. Even the most intensely painful stimuli evoke no vocal or other response, not even a groan, withdrawal of a limb, or quickening of respiration.

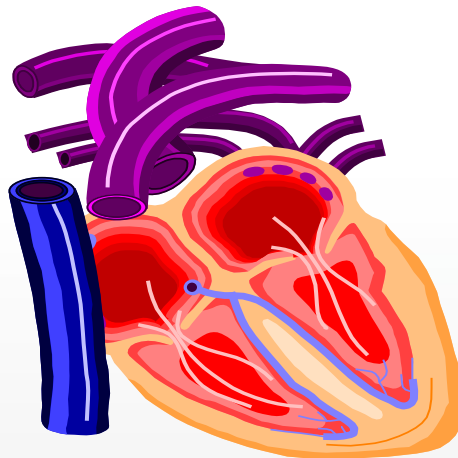
2. *No Movements or Breathing.*—Observations covering a period of at least one hour by physicians is adequate to satisfy the criteria of no spontaneous muscular movements or spontaneous respiration or response to stimuli such as pain, touch, sound, or light. After the patient is on a mechanical respirator, the total absence of spontaneous breathing may be established by turning off the respirator for three minutes and observing whether there is any effort on the part of the subject to breathe



## **Art. 2 Accertamento di morte**

**Legge  
578/93**

- 1. La morte per arresto cardiaco si intende avvenuta quando la respirazione e la circolazione sono cessate per un intervallo di tempo tale da comportare la perdita irreversibile di tutte le funzioni dell'encefalo.....**

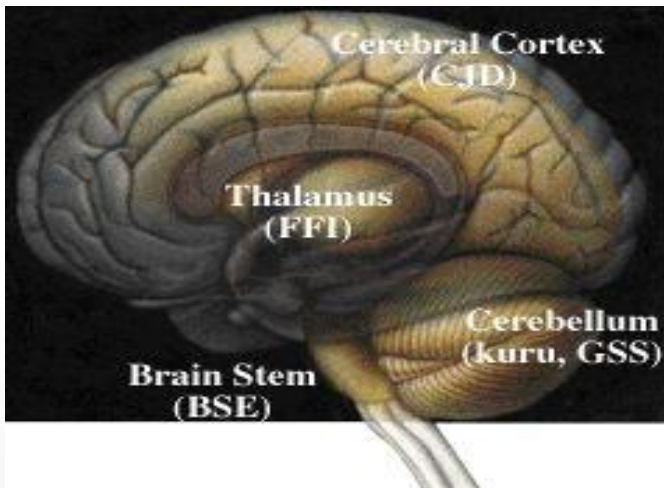


**20  
minuti**

## **Art. 2 Accertamento di morte**

**Legge  
578/93**

**2. La morte nei soggetti affetti da lesioni encefaliche e sottoposti a misure rianimatorie si intende avvenuta quando si verifica la cessazione irreversibile di tutte le funzioni dell'encefalo ed è accertata con modalità clinico-strumentali...**



**LA MORTE E' UNA SOLA**





**LA DIAGNOSI DI MORTE SI  
IMPONE**

**INDIPENDENTEMENTE**

**DALLA EVENTUALE  
SUCCESSIVA DONAZIONE DI  
ORGANI**



# **CERTEZZA DELLA MORTE** *(criteri neurologici)*

## **CAUSA NOTA**

- Stato di incoscienza
- Assenza riflessi del tronco e di respiro spontaneo
- Silenzio elettrico cerebrale

legge 578/93



# **GARANZIE...: IL COLLEGIO MEDICO**

**per l'accertamento della morte con criteri neurologici**

**1 MEDICO LEGALE  
1 NEUROLOGO EEG  
1 RIANIMATORE**

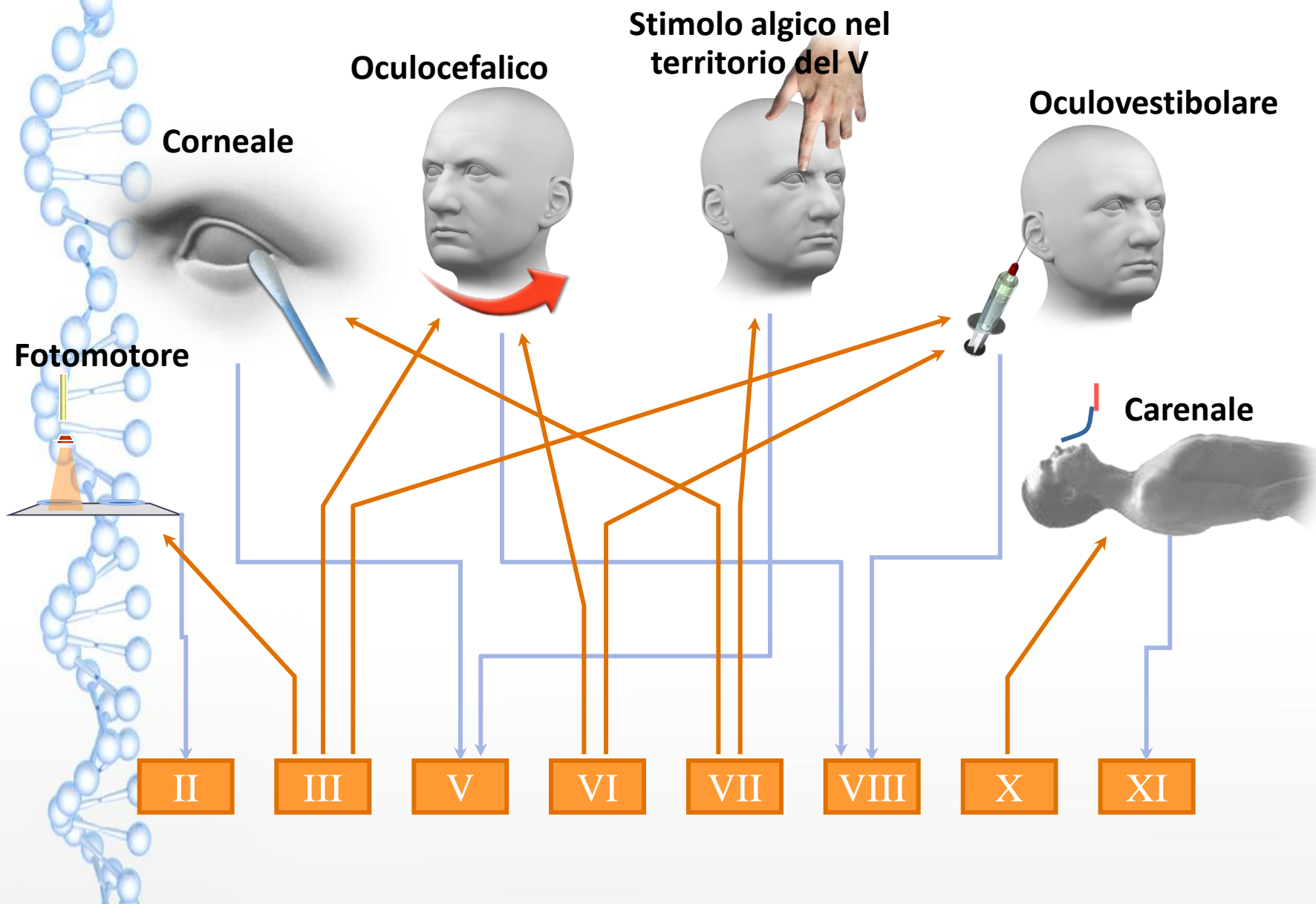
devono **confermare** la sussistenza dei segni  
previsti dalla legge per la diagnosi di morte

–**due** verifiche durante il periodo

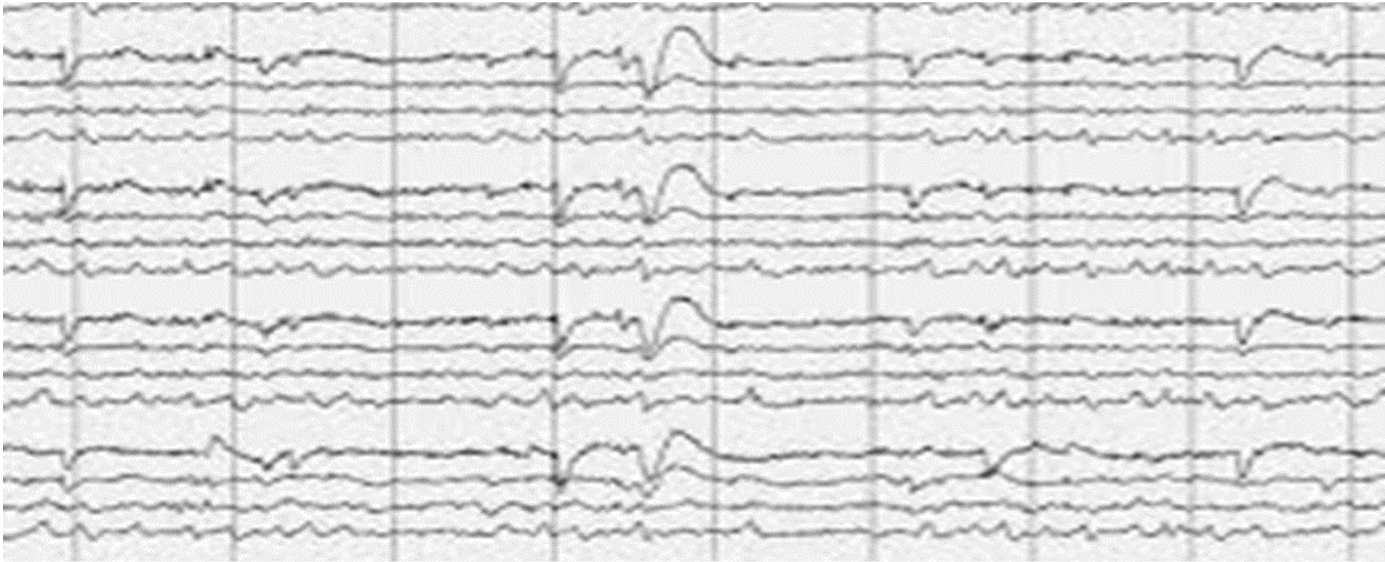
–**6 ore** tra prima e seconda verifica



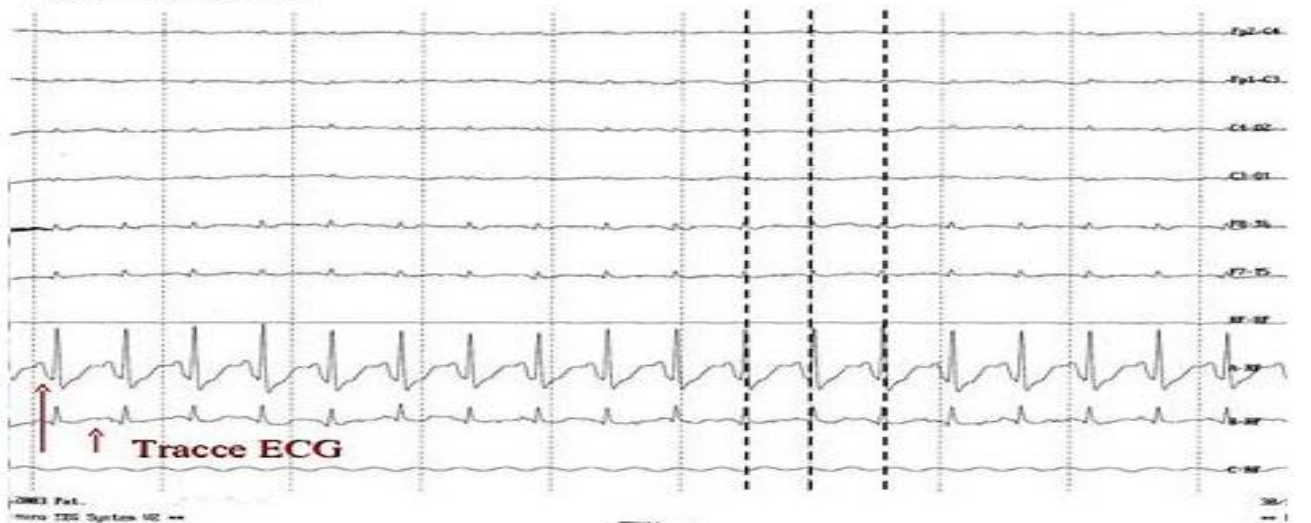
# RIFLESSI DEL TRONCO CEREBRALE:



# Normal EEG

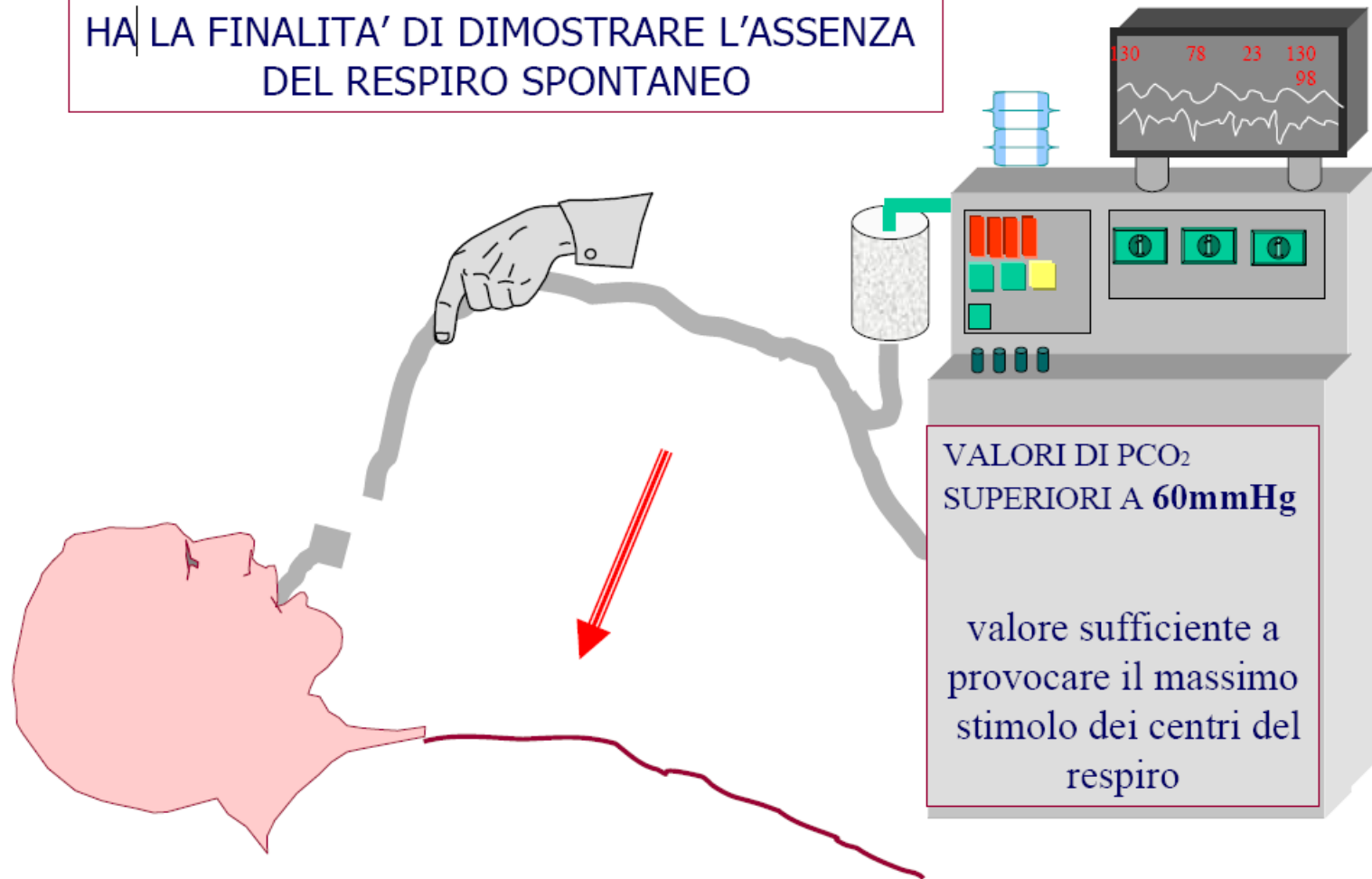


## EEG PIATTO



# TEST DELL'APNEA

HA LA FINALITA' DI DIMOSTRARE L'ASSENZA  
DEL RESPIRO SPONTANEO





# **VALUTAZIONE DI ASSENZA DI FLUSSO CEREBRALE (FEC)**



**MORTO**





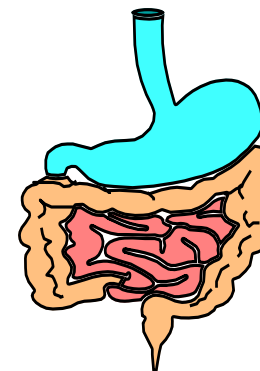
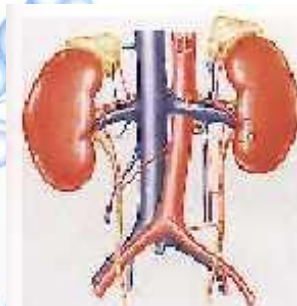
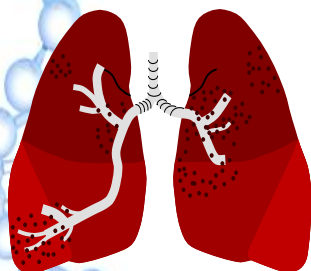
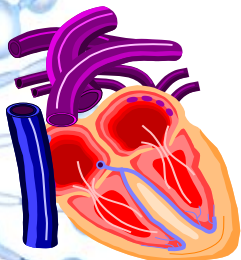
# CHE COSA PUÒ ESSERE PRELEVATO?

## Organi

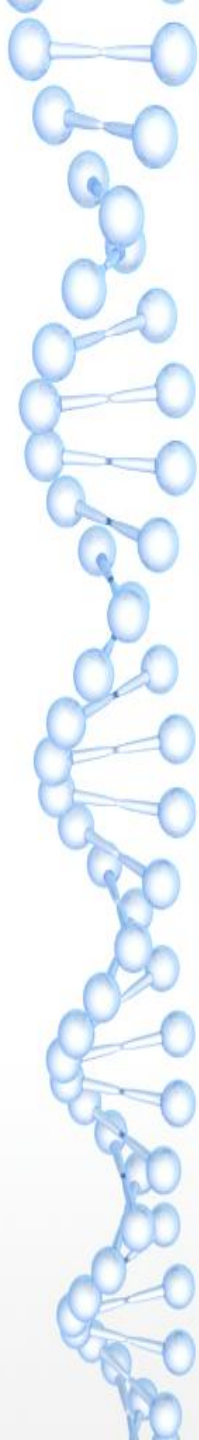
- Reni
- Cuore
- Fegato
- Pancreas
- Polmoni
- Intestino

## Tessuti

- Midollo osseo
- Cornee
- Arterie e Vene
- Valvole cardiache
- Osso
- Cute







*Nuove frontiere nel prelievo di organi:  
la donazione a cuore fermo*

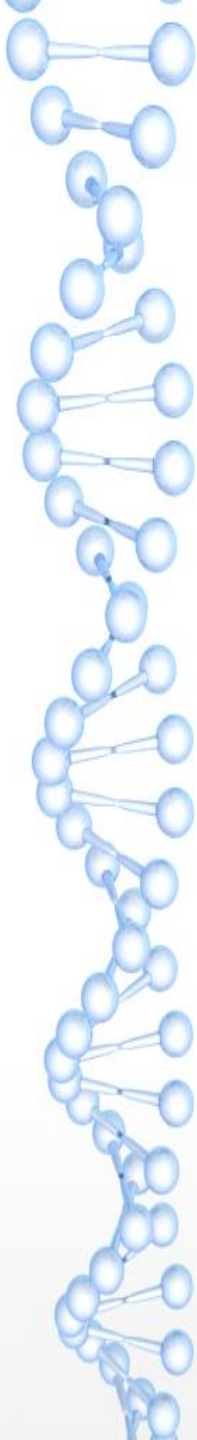
*PSDA 81: aspetti medici*

*Dott.ssa Paola Terenghi*



*ASST degli Spedali Civili di Brescia*

*Aula Montini 19 giugno 2018*



**Fedez**

8 febbraio alle ore 17:45 · 🌐

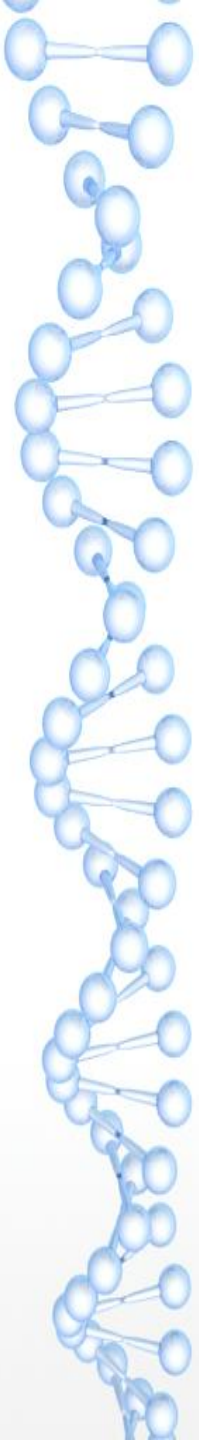
Noi doniamo gli organi  
(a parte il fegato 🤔)  
Un saluto agli amici dell'AIDO





**QUINDI RICORDATE!!.....**





***Grazie per l'attenzione***