

**DON'T**

**GIVE**

**UP**

**DON'T  
GIVE  
UP**

**Clinical  
Nihilism**

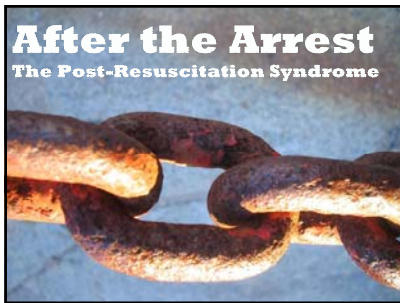
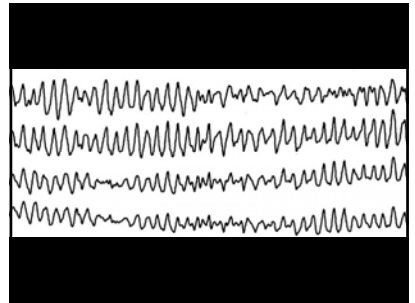



**Mr. W**


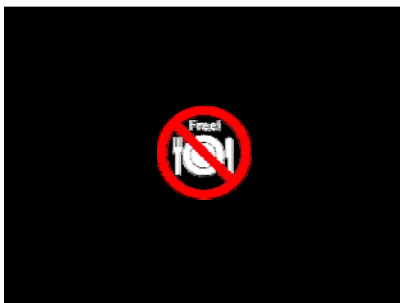
**28** y/o

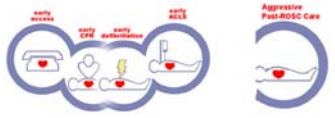
**eating  
dinner...**

**20 minutes later**

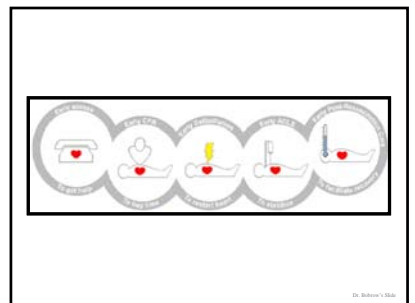


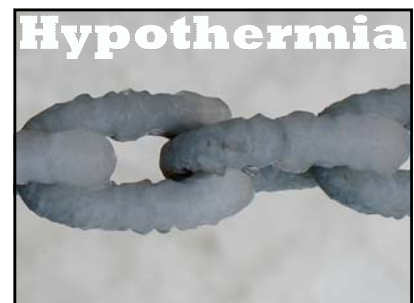
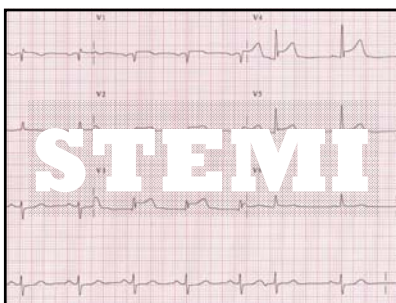
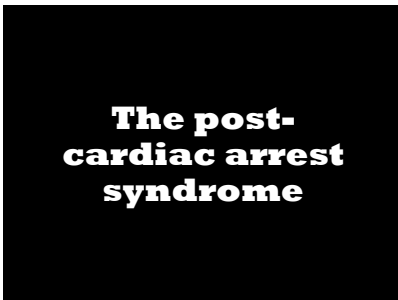
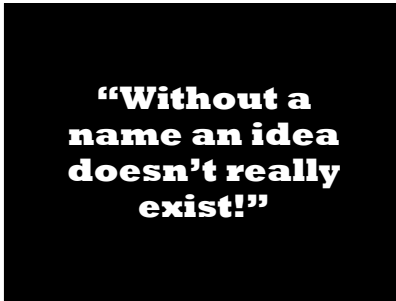
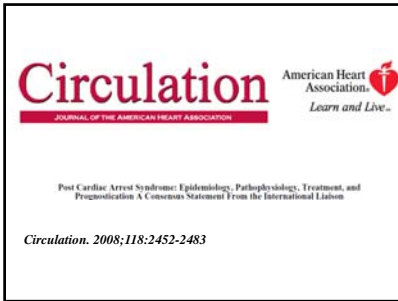

 Scott Weingart, MD RDMS  
 Director, Division of Emergency Critical Care  
 Department of Emergency Medicine  
 Mount Sinai School of Medicine  
[me@emcrit.org](mailto:me@emcrit.org)

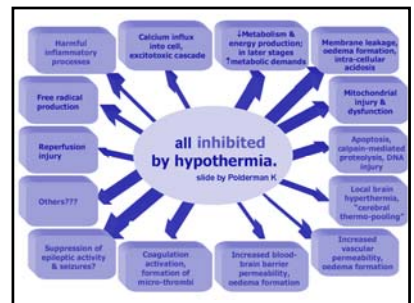
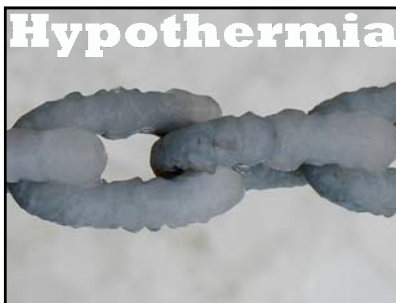
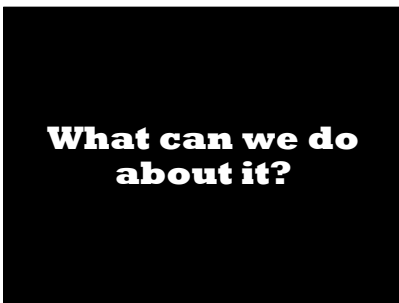
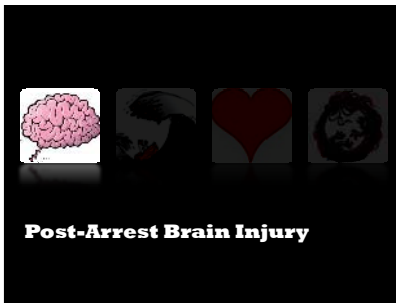





The missing link in the chain







**Who do  
we  
cool?**

**Cooling out of  
hospital VF/VT**  
1. Yes  
2. No

**Cooling all  
rhythms**  
1. Yes  
2. No

**non-trauma,  
post-arrest patient,  
who doesn't follow  
commands, being  
admitted to an  
ICU**

**Other  
Brain  
Protective  
Stuff**



**Respiratory  
Optimization**

**Euoxemia  
Eucapnia**

**Sedation/  
Analgesia**

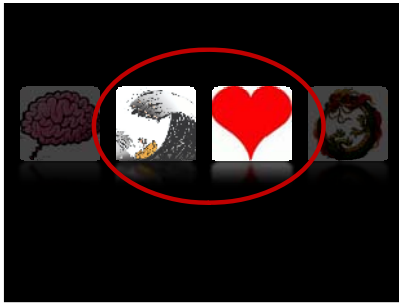
**NO  
REFLOW**

**Maintain CPP  
(MAP Push)**

**MAP of >65  
(>80 probably better)**

**Glucose**

**180**  
NEJM 2009;360:1283-1297  
Resuscitation 80 (2009) 624-630



**Ischemia/Reperfusion Response**

**Circulation** American Heart Association  
JOURNAL OF THE AMERICAN HEART ASSOCIATION *Learn and Live.*

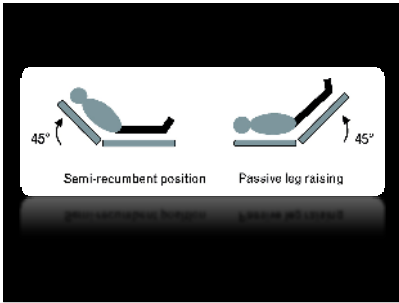
**Successful Cardiopulmonary Resuscitation After Cardiac Arrest as a "Sepsis-Like" Syndrome**  
Christophe Adrie, Mitsuomi Adachi-Conguy, Franck Laurent, Mehrihan Monchi, Christophe Vinsonneau, Catherine Fitting, François Fraissse, A. Tuan Dinh-Xuan, Pierre Carli, Christian Spaulding, Jean-François Dhainaut and Jean-Marc Cavallion  
*Circulation* 2002;106:562-568; originally published online Jul 8, 2002;

**SIRS**



**Adequate  
Preload**

**How?**



**Adequate  
Afterload**

**Adequate Hb**

**Check for  
Adequate  
Oxygen Delivery**

**Lactate  
ScvO2 > 70**

**Hypercoagulable**

**Immunosuppressed**

**Starved**

**DVT / VAP / SUP**

**Lung Protective  
Ventilation**

**Low Tidal  
Volume**  
(6-8 cc/kg and PEEP  
Optimization)

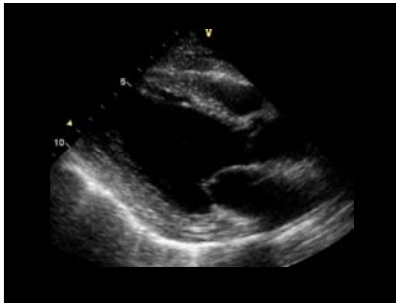


**Post-Arrest Myocardial Depression**

**Cardiac Stunning**

**Why?**

**Iatrogenic?**  
Chest. 1994 Nov;106(5):1499-507.



**Reversible**  
~~REVERSIBLE~~

**Inotropes**



**Dobutamine**  
**Milrinone**  
**Levosimendan**

**Balloon Pump**

**Extra-corporeal Life Support (ELS)**

**Cardiopulmonary resuscitation with assisted extracorporeal life-support versus conventional cardiopulmonary resuscitation in adults with in-hospital cardiac arrest: an observational study and propensity analysis**

Wu Cheng Chen<sup>1</sup>, Jun Wang<sup>2,3\*</sup>, Shi Yu<sup>1,2</sup>, Wen Jiao<sup>1,2</sup>, Jie Sheng Peng<sup>1,2</sup>, Wen Fan Cheng<sup>1,2</sup>, Wen Jun Chen<sup>1,2</sup>, Shi Chuanming He<sup>1,2,3,4</sup>, Xiaomin Wang<sup>1,2,3,4</sup>, Yi Huo Tao<sup>1,2,3,4</sup>, Xue Jian Wang<sup>1,2,3,4</sup>, Jun Guo Wang<sup>1,2,3,4</sup>

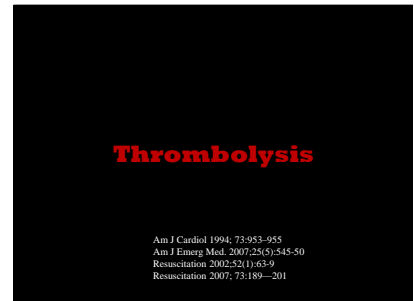
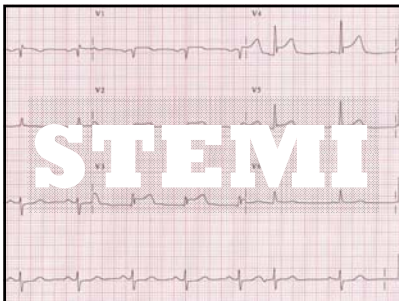
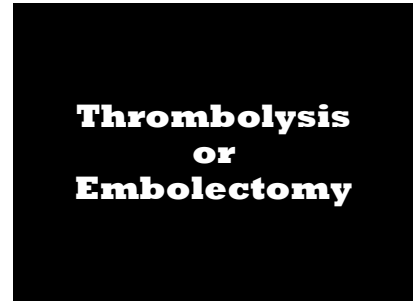
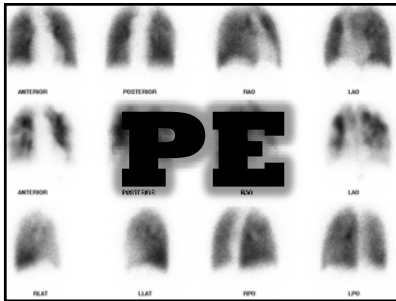
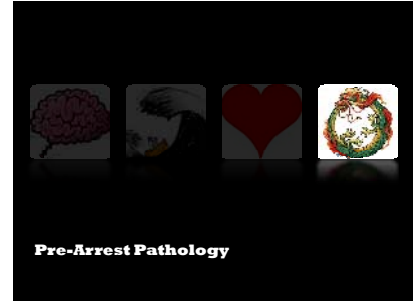
**Summary**

**Background:** Extracorporeal life-support as an adjunct to cardiac resuscitation has shown encouraging outcomes in patients with cardiac arrest. However, there is little evidence about the benefit of the procedure compared with conventional cardiopulmonary resuscitation (CPR), especially when continued for more than 30 min. We aimed to assess whether extracorporeal CPR was better than conventional CPR for patients with in-hospital cardiac arrest of cardiac origin.

**Methods:** We did a 1-year prospective observational study on the use of extracorporeal life-support for patients aged 16–75 years with observed in-hospital cardiac arrest of cardiac origin undergoing CPR of more than 30 min compared with patients receiving conventional CPR. A matching process based on propensity score was done to register potential prognostic factors in both groups, and to formulate a balanced 1:1 matched cohort study. The primary endpoint was survival to hospital discharge, and analysis was by intention to treat. This study is registered with ClinicalTrials.gov number NCT00742573.

**Results:** Of the 375 patients with in-hospital cardiac arrest events who underwent CPR for longer than 30 min, 197 patients in the conventional CPR group and 178 patients in the extracorporeal CPR group. Unmatched data showed that those who underwent conventional CPR had a higher survival rate to discharge (34.9% vs 30.4%) and a higher survival rate than those who underwent conventional CPR (34.9% vs 30.4%) compared with those who underwent extracorporeal CPR. There was no significant difference in survival to discharge (34.9% vs 30.4%, *p* = 0.06), in-hospital mortality (38.8% vs 40.5%, *p* = 0.66), and 1-year mortality (50.7% vs 55.8%, *p* = 0.06) favoring extracorporeal CPR over conventional CPR.

**Interpretation:** Extracorporeal CPR had a short-term and long-term survival benefit over conventional CPR in patients with in-hospital cardiac arrest of cardiac origin.



# Mr. W's Course

28 y/o

28 y/o

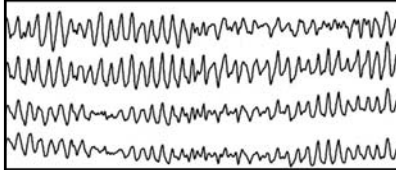
eating  
dinner...



28 y/o

eating  
dinner...

20 minutes post arrest



1<sup>st</sup> 20 minutes

Neuro Exam  
Rectal Temp  
12 Lead EKG

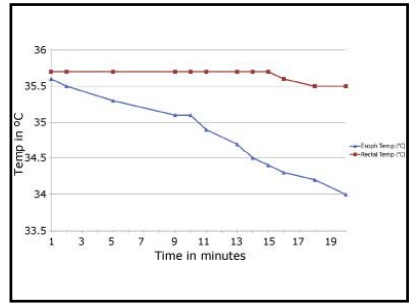
Start  
Hypothermia

1° C q 10 Min

takes ~ 1 liter

**Labs  
RUSH Exam**

**Sterile Neck Line  
Femoral A-line  
OGT  
Foley  
Esoph Temp Probe**



**Fluids  
Norepi  
Dobutamine  
Calcium**

**Heparin  
PPI  
HOB 45°  
Vent**

**Neuro Checks  
Shivering  
Sedation Scale**

**15 Hours in our department**

**To Review**


**The first 20 minutes**



**Post-Arrest Brain Injury**



**Hypothermia**




**Ischemia/Reperfusion Response**



**Post-Arrest Myocardial Depression**



**Pre-Arrest Pathology**



**All refs at:**  
[NYChypothermia.org](http://NYChypothermia.org)

**Contact me at:**

me@emcrit.org

**blog.emcrit.org**

**Mr. W**

**Brugada??**

**If you get  
them through  
the first 48  
hours, things  
can get much  
better**

**“Don’t give up”**

