

38^{ème} CONGRÈS NATIONAL
DE CARDIOLOGIE
ET DE CHIRURGIE
CARDIO-VASCULAIRE

Joint au

2^{ème} CONGRÈS
DES SOCIÉTÉS AFRICAINES
DE CARDIOLOGIE



Choc
cardiogénique

Choc cardiogénique : quelle place pour l'assistance circulatoire?

Marina CLEMENT
Paris, FRANCE



Déclaration de conflits d'intérêts





Choc cardiogénique

Définition

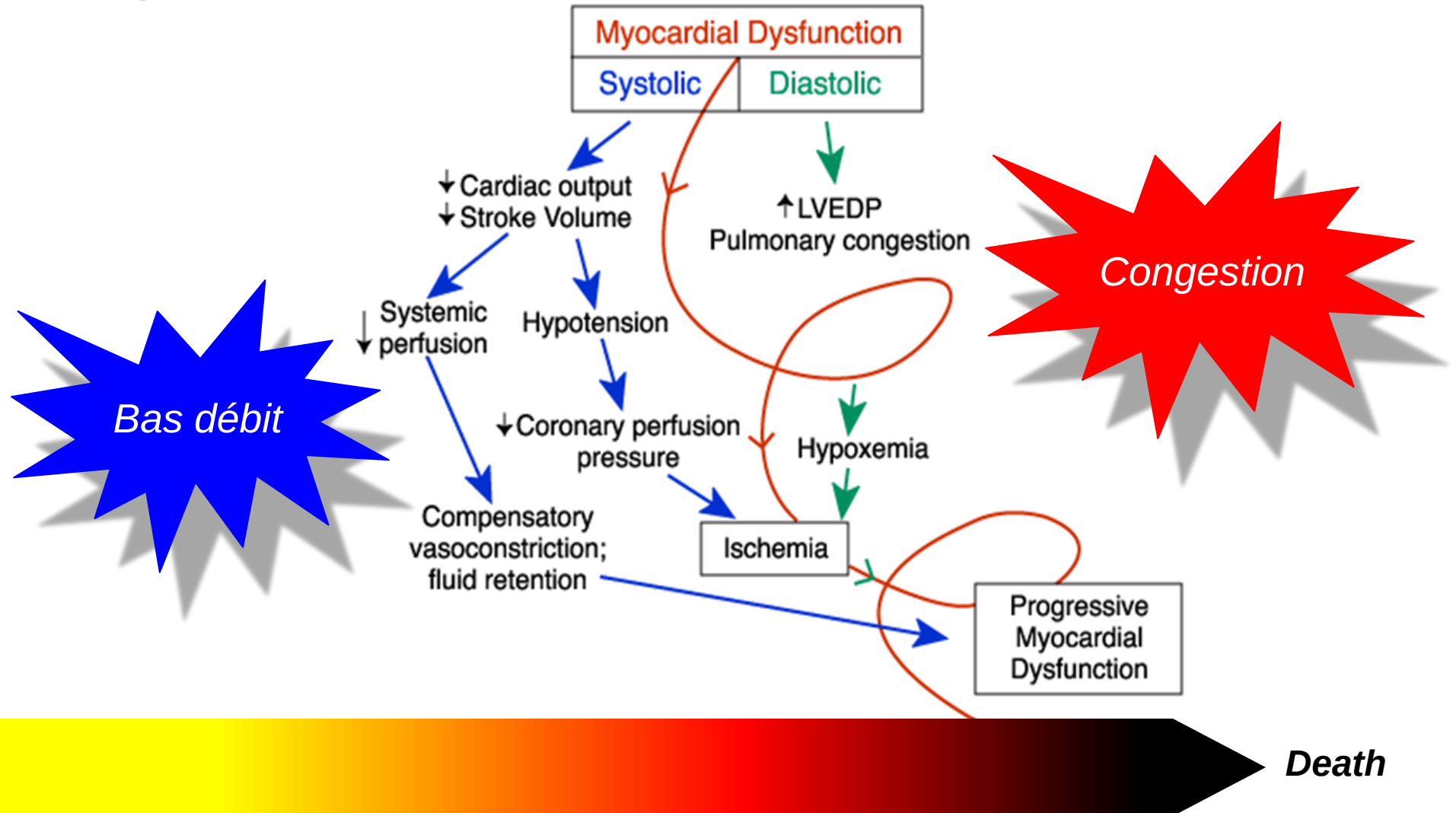
- Hypotension systémique persistante
 - PAS < 80 mmHg
 - au moins 30 minutes
- Diminution de la fonction cardiaque
 - Index cardiaque < 1,8 L/min/m²
- Hypoperfusion tissulaire - anoxie tissulaire
 - Oligurie, extrémités froides, confusion...
- Augmentation de la P de remplissage du VG
 - Pression capillaire pulmonaire > 18 mmHg





Choc cardiogénique

Physiopathologie

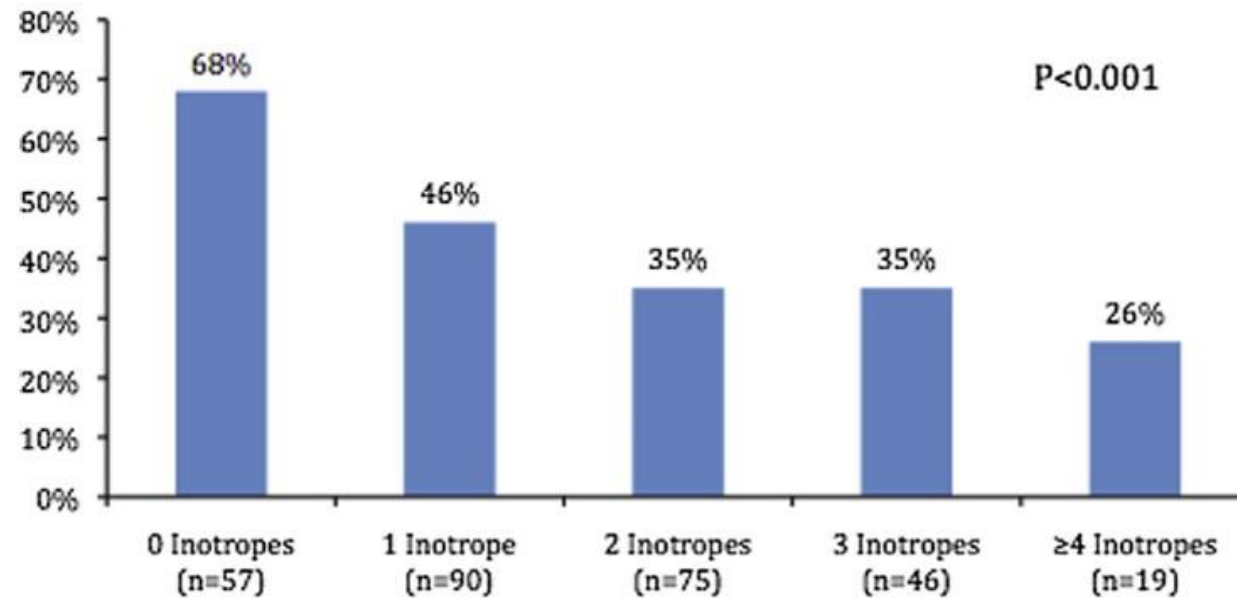




Assistance circulatoire et choc

Quand???

Effect of Early Initiation of Mechanical Circulatory Support on Survival in Cardiogenic Shock





Assistance circulatoire et choc

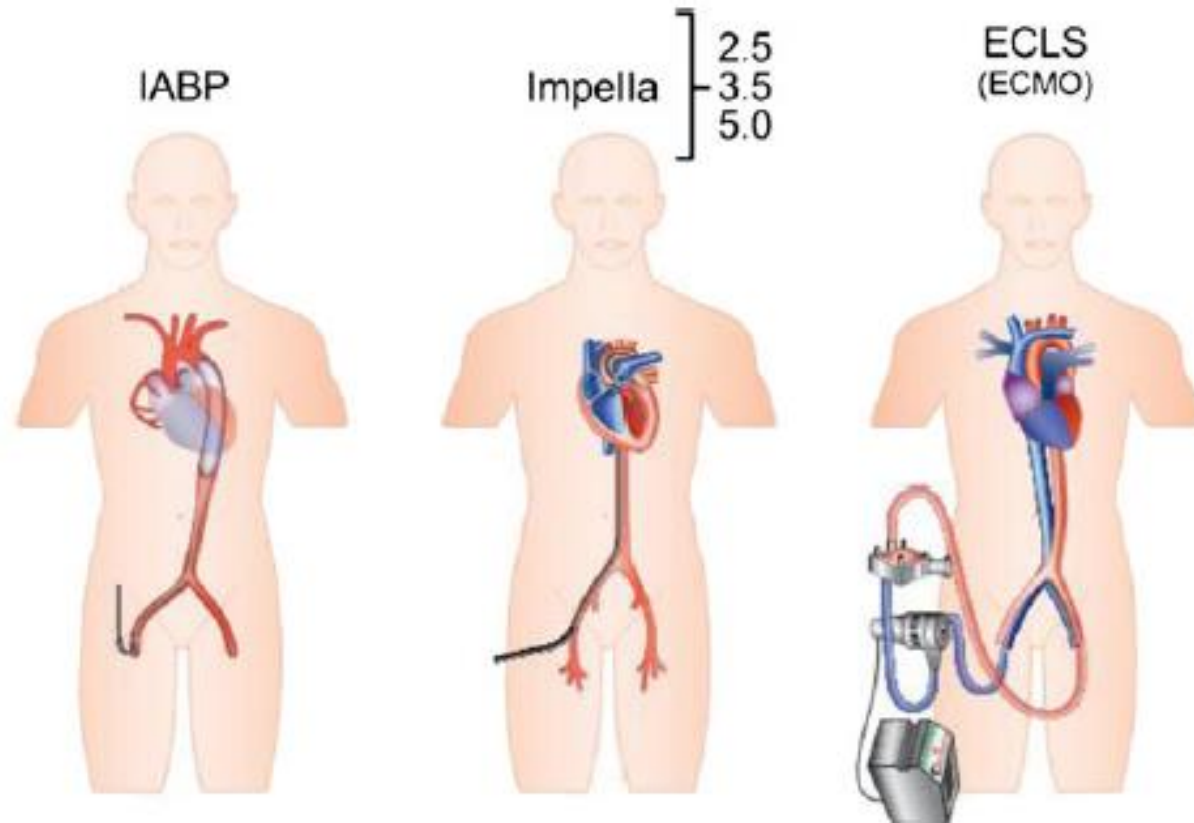
Quand???





Assistance circulatoire et choc.

Quelle machine???





Assistance circulatoire et choc. *Quelle machine???*

Advanced Percutaneous Mechanical Circulatory Support Devices for Cardiogenic Shock

P. Elliott Miller, MD¹; Michael A. Solomon, MD^{1,2}; Dorothea McAreavey, MD¹ *Crit Care Med* 2017

DEVICE SELECTION

Once a decision to deploy mechanical support has been made for cardiogenic shock, the device should be inserted without delay to prevent progressive myocardial dysfunction. As discussed, definitive evidence for choice of device is lacking.

GAPS IN KNOWLEDGE

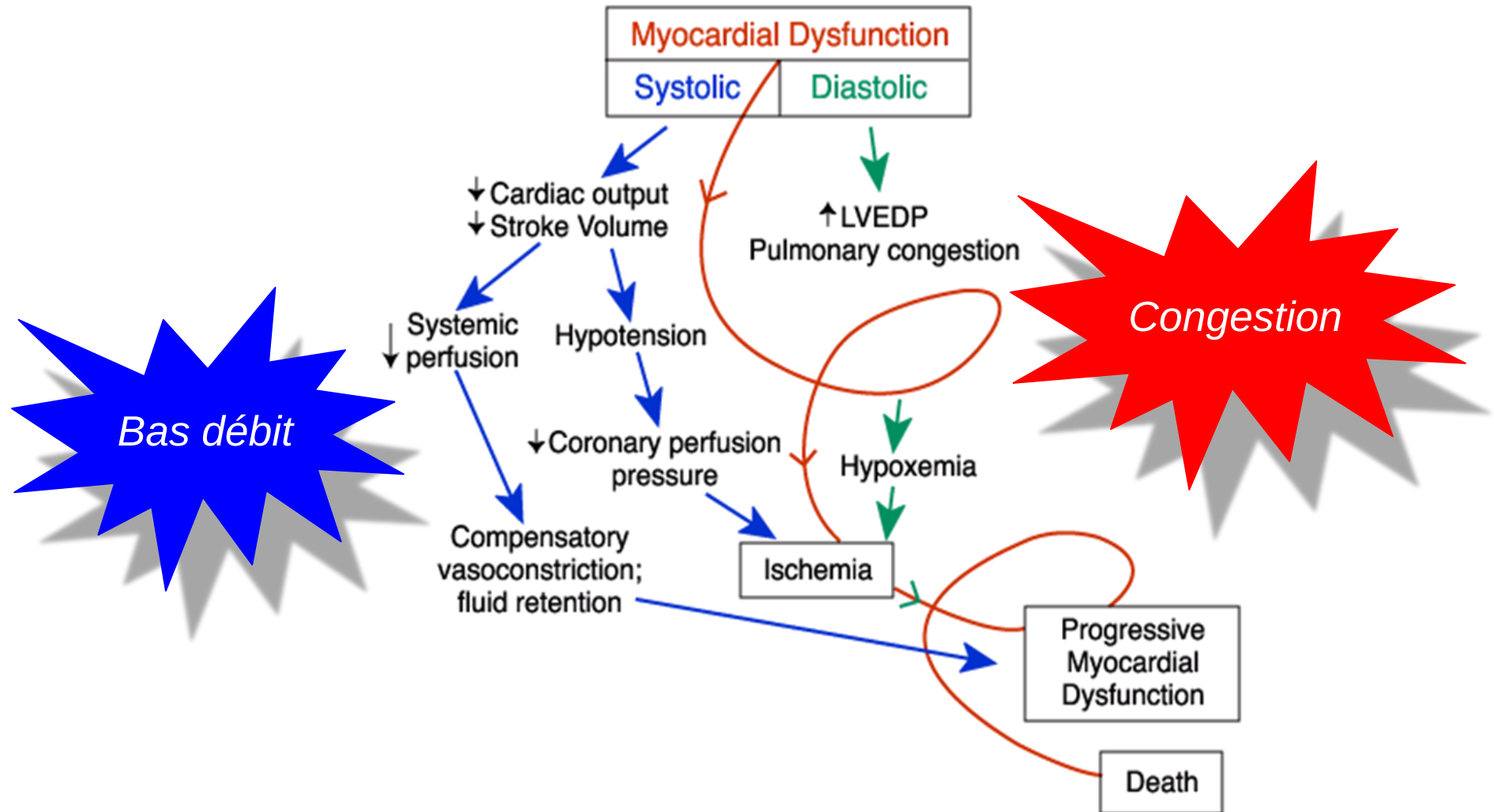
CONCLUSIONS

The prognosis for patients with cardiogenic shock remains poor despite current therapy. Temporary pMCS offers the opportunity to improve these outcomes but still requires large studies powered to evaluate mortality and continued improvements in technology to decrease complications.



Assistance circulatoire et choc.

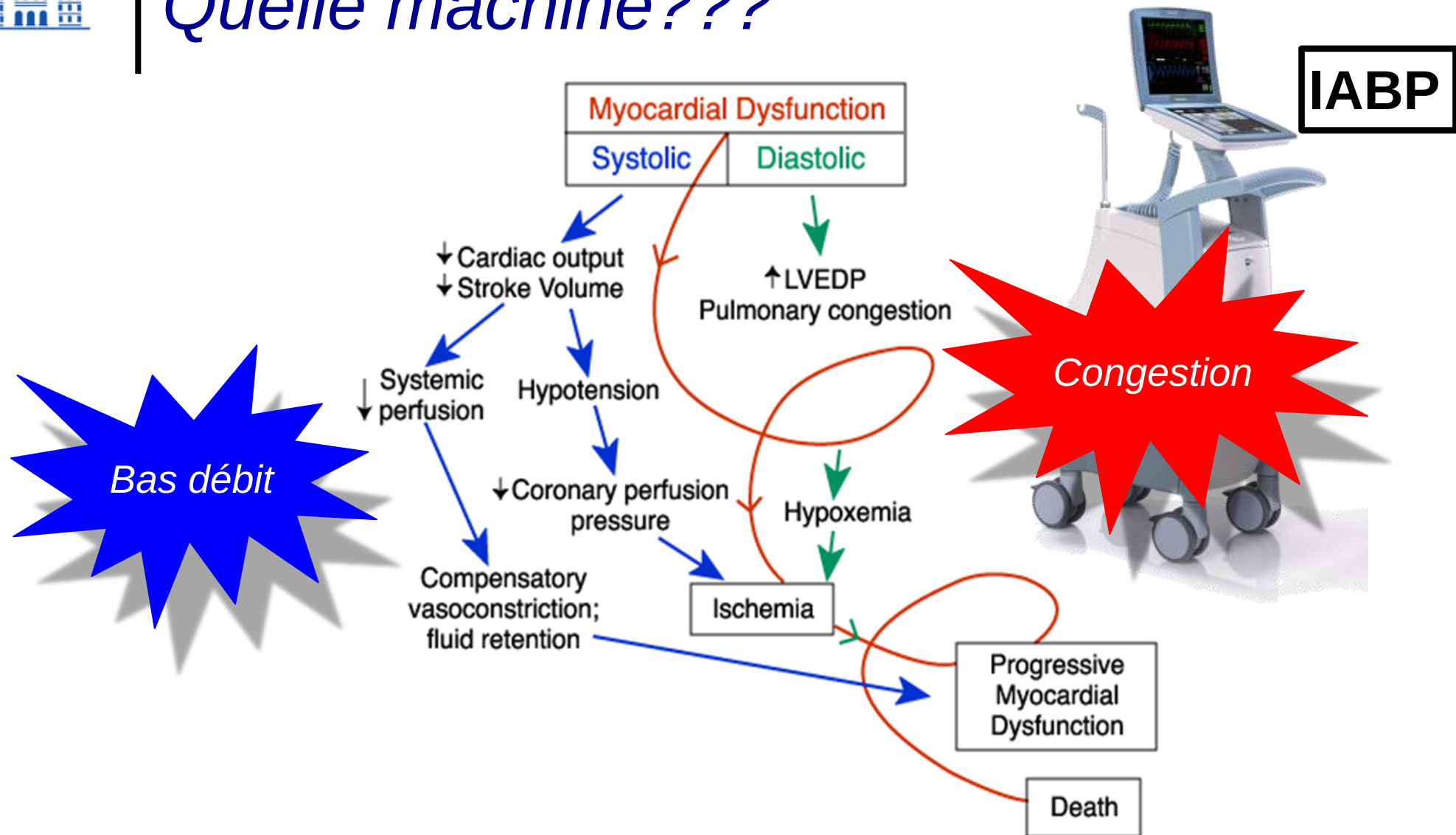
Quelle machine???





Assistance circulatoire et choc.

Quelle machine???





Assistance circulatoire et choc. *Quelle machine???*

The NEW ENGLAND JOURNAL *of* MEDICINE

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Intraaortic Balloon Support for Myocardial Infarction with Cardiogenic Shock

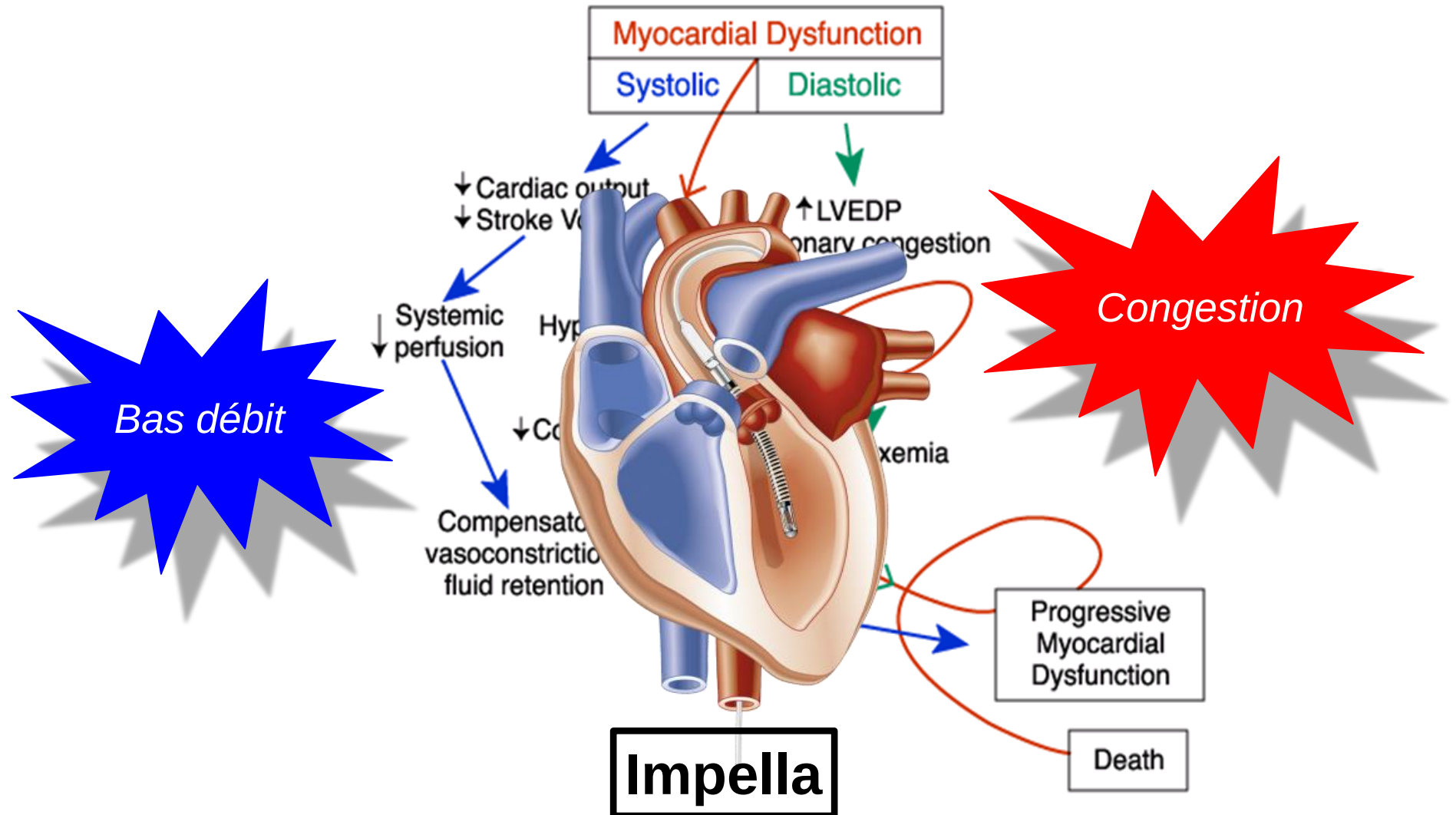
CONCLUSIONS

The use of intraaortic balloon counterpulsation did not significantly reduce 30-day mortality in patients with cardiogenic shock complicating acute myocardial infarction for whom an early revascularization strategy was planned. (Funded by the



Assistance circulatoire et choc.

Quelle machine???



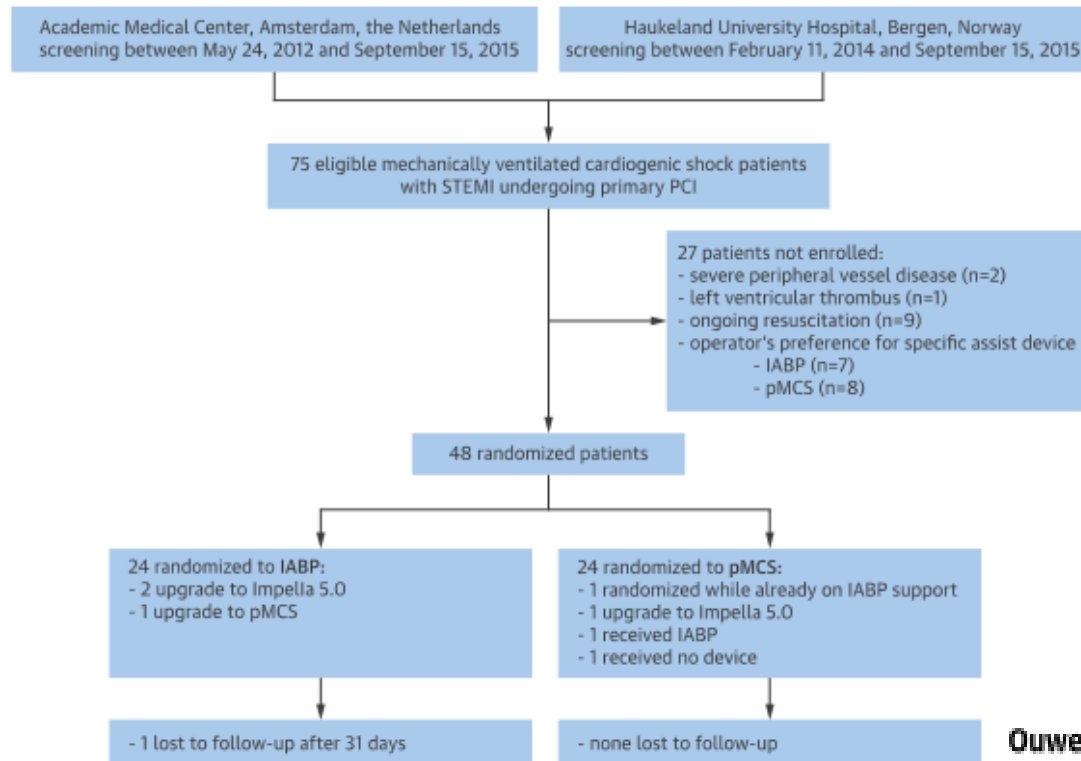


Assistance circulatoire et choc.

Quelle machine???

Percutaneous Mechanical Circulatory Support Versus Intra-Aortic Balloon Pump in Cardiogenic Shock After Acute Myocardial Infarction

JACC, 2017





Assistance circulatoire et choc.

Quelle machine???

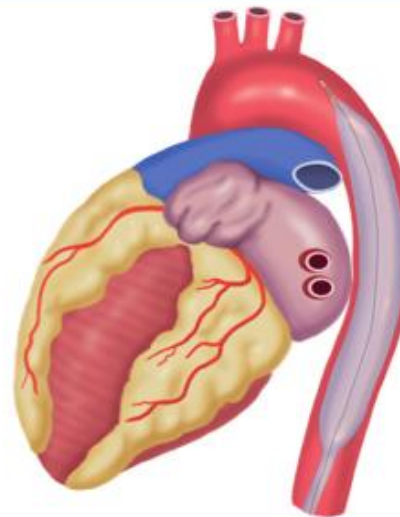
Impella

Percutaneous Mechanical Circulatory Support Versus Intra-Aortic Balloon Pump in Cardiogenic Shock After Acute Myocardial Infarction

JACC, 2017

A. Impella CP

B. Intra-Aortic Balloon Pump



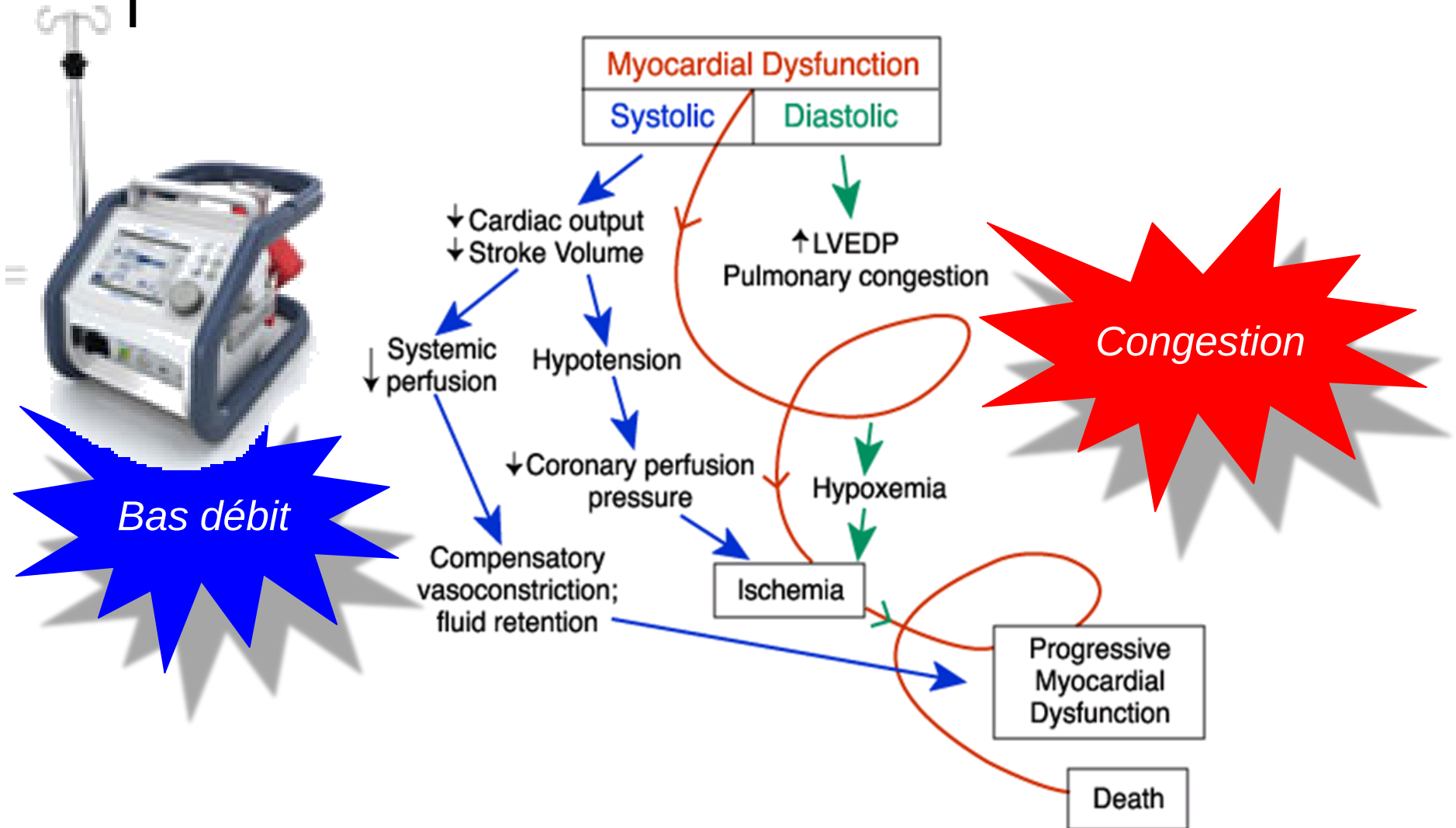
C. All-cause Mortality. ≤6 Months





Assistance circulatoire et choc.

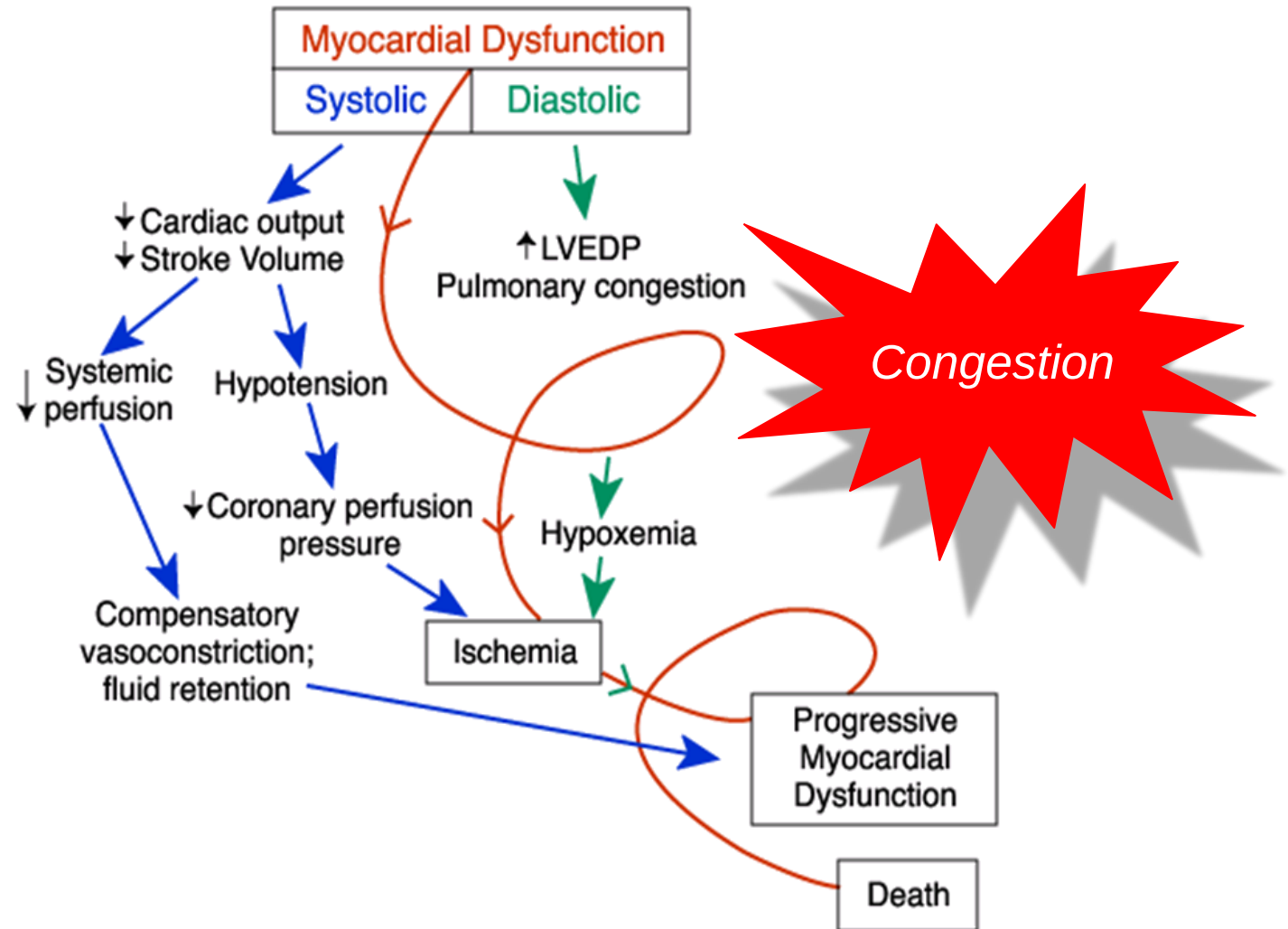
Quelle machine???





Assistance circulatoire et choc.

Quelle machine???

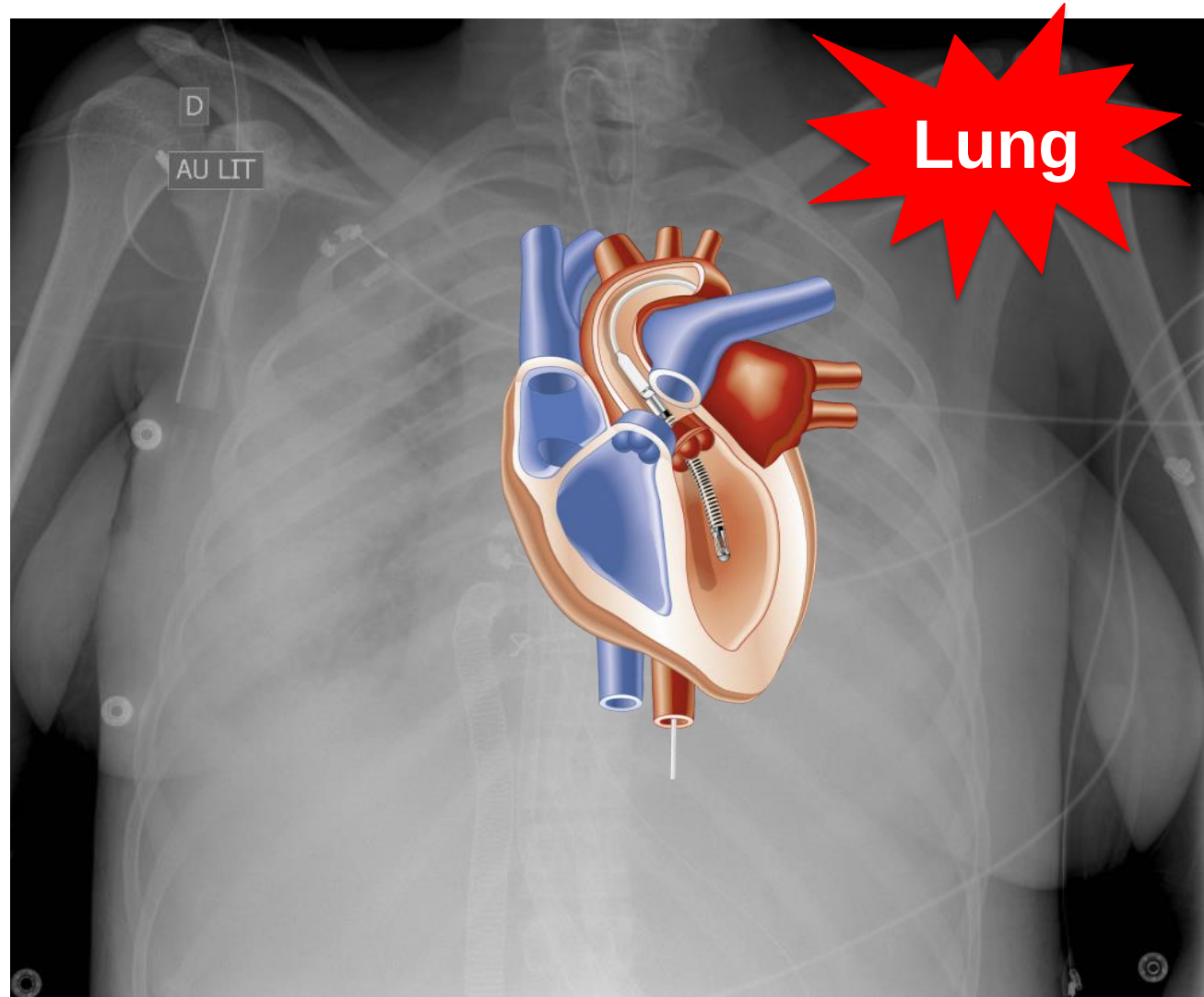




ECMO VA périphérique

Congestion du VG...

- Centralisation
- BCPIA
- Impella

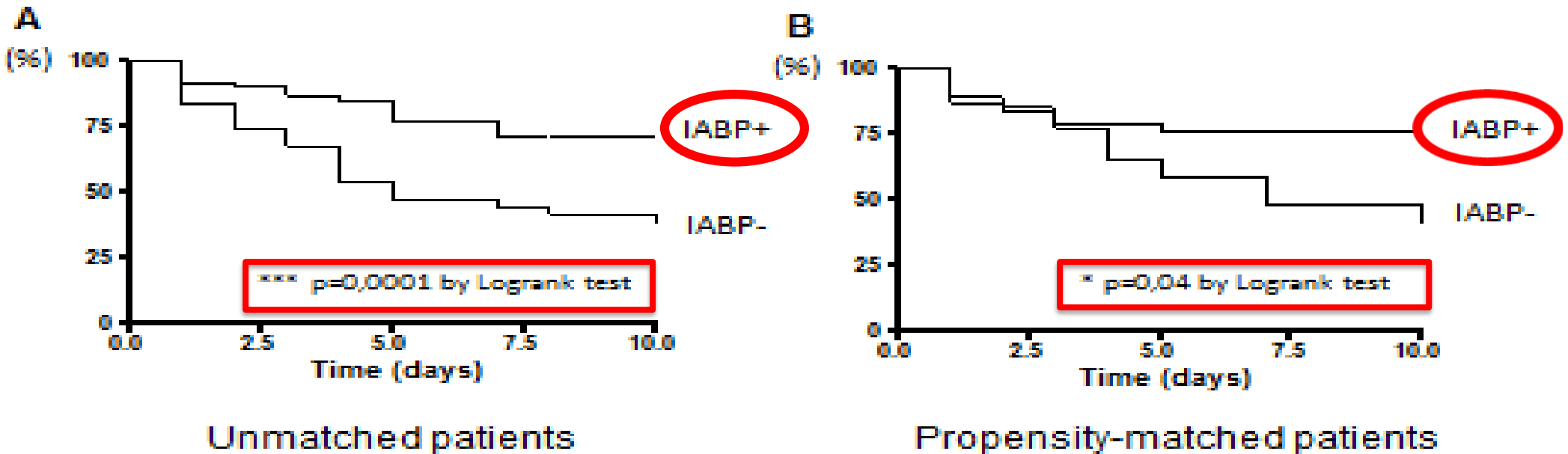




ECMO VA périphérique

Congestion du VG...

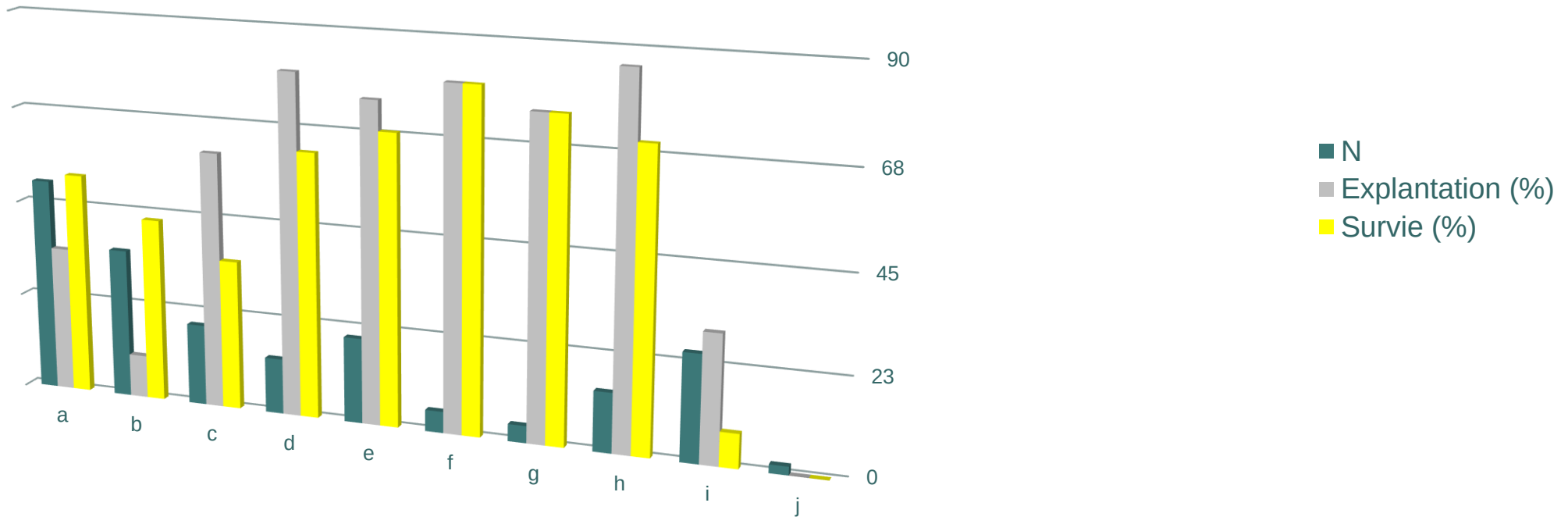
Survival without clinical Pulmonary Oedema





ECMO VA périphérique

Expérience de la Pitié



a. IDM

b. Cardiopathie dilatée

c. Post-cardiotomie

d. Dysfonction primaire du greffon

e. Myocardite

f. Intox médicamenteuse

g. EP

h. Choc septique réfractaire

i. ACR extra hospitalier

j. Dysfonction de greffon tardive

2010-2011

200 ECMO VA périph

La Pitié-Salpêtrière Database



ECMO VA périphérique

Complications

- Mécaniques
 - OAP
 - Ischémiques
- Infectieuses
- Thrombotiques
- Hémorragiques
- Hémolytiques
- ... Accident...

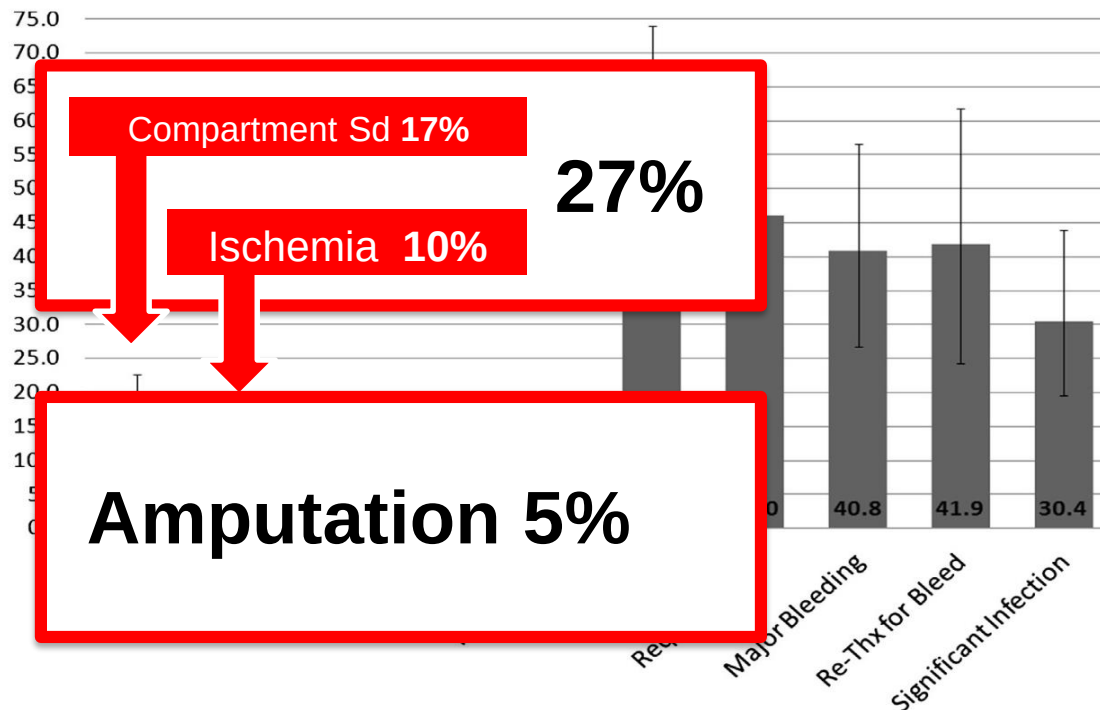




Complications of Extracorporeal Membrane Oxygenation for Treatment of Cardiogenic Shock and Cardiac Arrest: A Meta-Analysis of 1,866 Adult Patients

Richard Cheng, MD, Rory Hachamovitch, MD, Michelle Kittleson, MD, PhD, Jignesh Patel, MD, PhD, Francisco Arabia, MD, Jaime Moriguchi, MD, Fardad Esmailian, MD, and Babak Azarbal, MD

Cedars-Sinai Heart Institute, Los Angeles, California, and Department of Cardiovascular Medicine, Heart and Vascular Institute, Cleveland Clinic, Cleveland, Ohio



Meta-analysis

- 22 studies
- 1866 patients
- VA ECMO
- Survival 21 to 65 %

Conclusions. Although ECMO can improve survival of patients with advanced heart disease, there is significant associated morbidity with performance of this intervention. These findings should be incorporated in the risk-benefit analysis when initiation of ECMO for cardiogenic shock is being considered.

(Ann Thorac Surg 2014;97:610–6)

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ECMO VA périphérique

Expérience de la Pitié

- Jan 2015- Dec 2017, 1017 VA ECMO
 - 72 % ♂, Age : $55 \pm 1,7$ (18; 84).
 - Lactates pre-ECMO : $5,8 \pm 5,7$ (0,4;21,5)

Fémoro-fémorale	<i>Percut</i>	<i>Chirurgicale</i>	<i>Total</i>
Ischémie de membre	10,0%	6,8%	8,9%
Amputation	0,9%	0%	0,6%
Revascularisation chirurgicale	6,4%	3,34%	4,1%
Infection	12,7%	30,5%	18,9%
Debridement	4,5%	10,2%	6,5%

Durée ECMO = 6,1 jours (0-40)

Survie = 60,5%

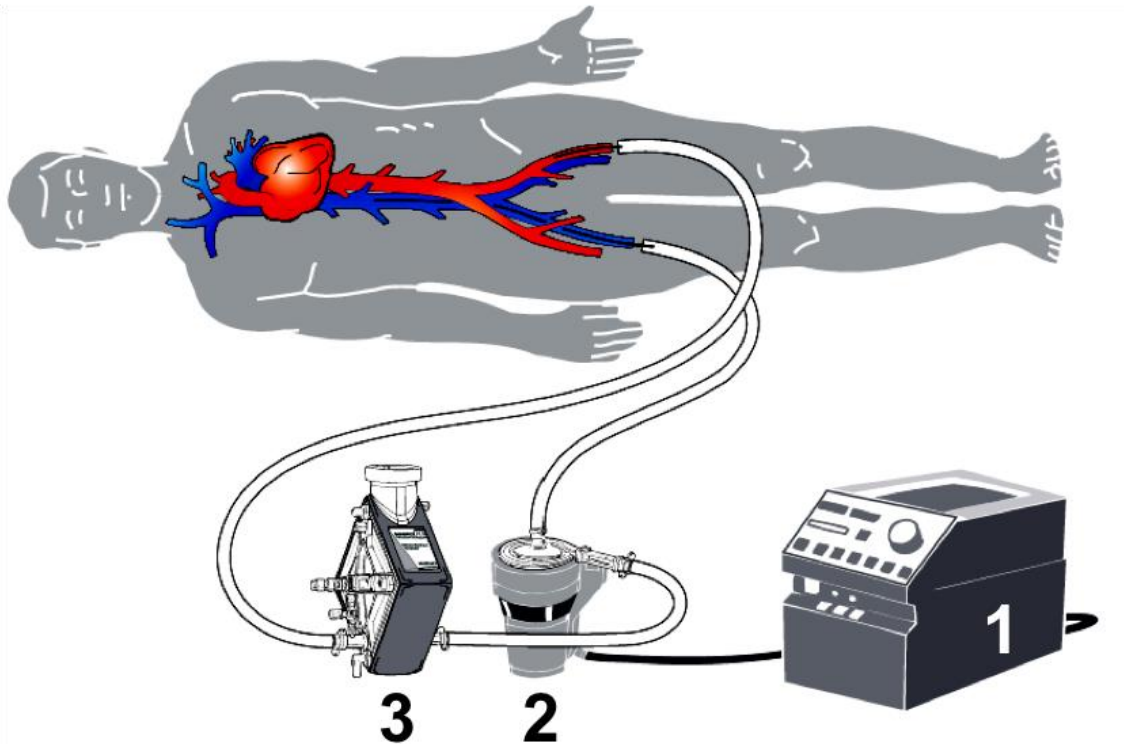


Accidents





L'ECMO... *“Gold standard”*?



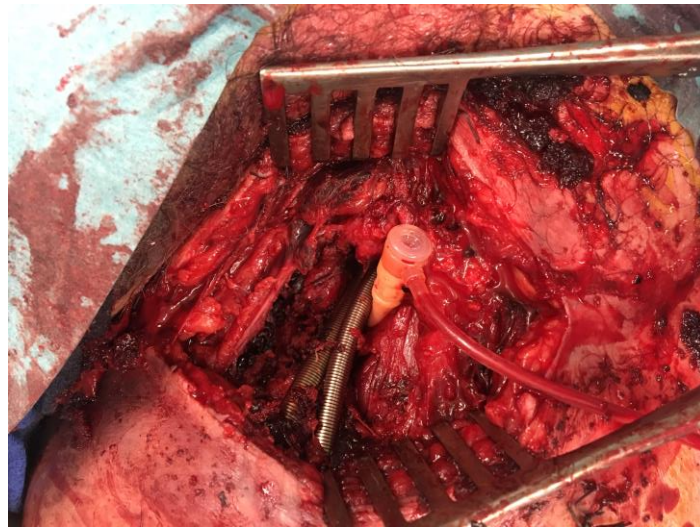
Assistance circulatoire (5-6L/min)

- Oxygénation
- Rapport coût efficacité
- Simple et rapide (lit)

Limitations:

- augmentation Post-Charge
- complications.
- équipe spécialisée

L'ECMO...équipe spécialisée +++





Assistance circulatoire et choc cardiogénique





Choc cardiogénique & Réponse appropriée **Choc cardiogénique**



***Inotropes
IABP***

Impella

ECLS

Death



**Merci pour
votre
attention**

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