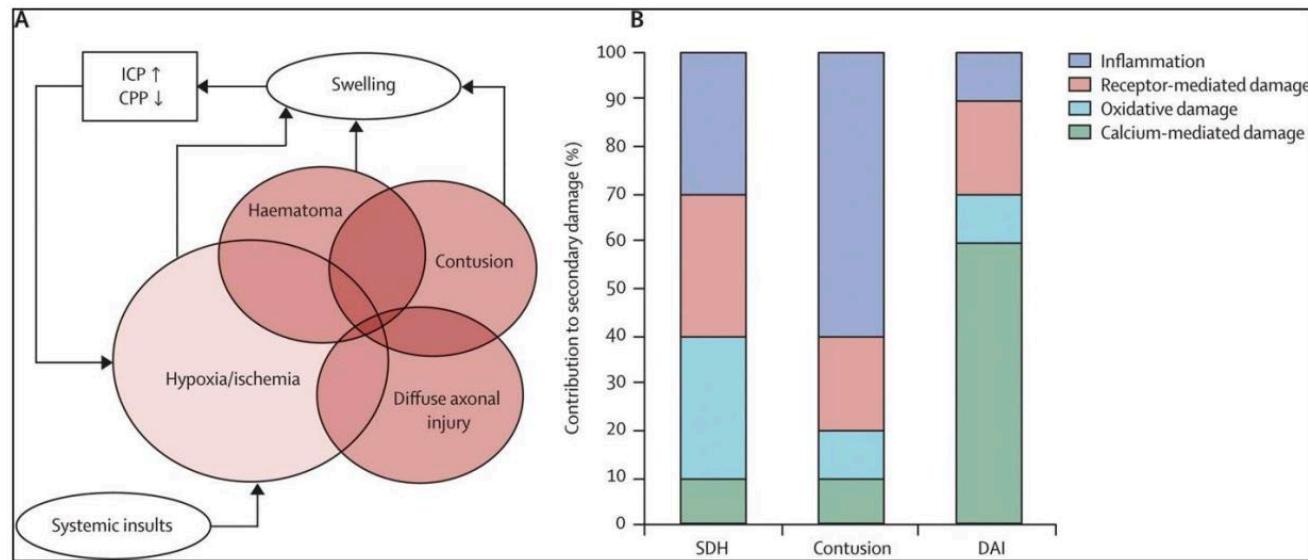


Melania Geymonat Ramírez

## 1. Primary injury

2. Secondary insults → in Critical Care we try to reduce the magnitude of these



# Aim

Outstanding level of care provided in >90% of patients presenting  
with severe brain injury by 

# Measures: outcomes

## Outcomes

- Clear targets documented for BP, PaO<sub>2</sub>, PaCO<sub>2</sub> during the 1st 48 hours<sup>1</sup>
- <x2 BPs >10mmHg below than target (or above the target is upper limit set) – when on one or no vasoactive drugs
- <x2 PaO<sub>2</sub> below target (when FiO<sub>2</sub> not 1.0)
- <x2 PaCO<sub>2</sub> outside target
- No unnecessary hypo-osmolar fluids used in ICU
- <x2 Temps > 37.5 (+ None >38)
- Specific action to increase [Na] if [Na] is < 140.

## In TBI

- interventions taken to normalise coag/platelets
- anticonvulsants used (or specific documented decision not to use)
- Neurosurgical advice documented in notes)

<sup>1</sup>(if no targets set then take CO<sub>2</sub> target as 4.5-5.3, O<sub>2</sub> >9 in OOHCRA/>13 in TBI or other, MAP >65 OOHCRA/>90 in TBI)

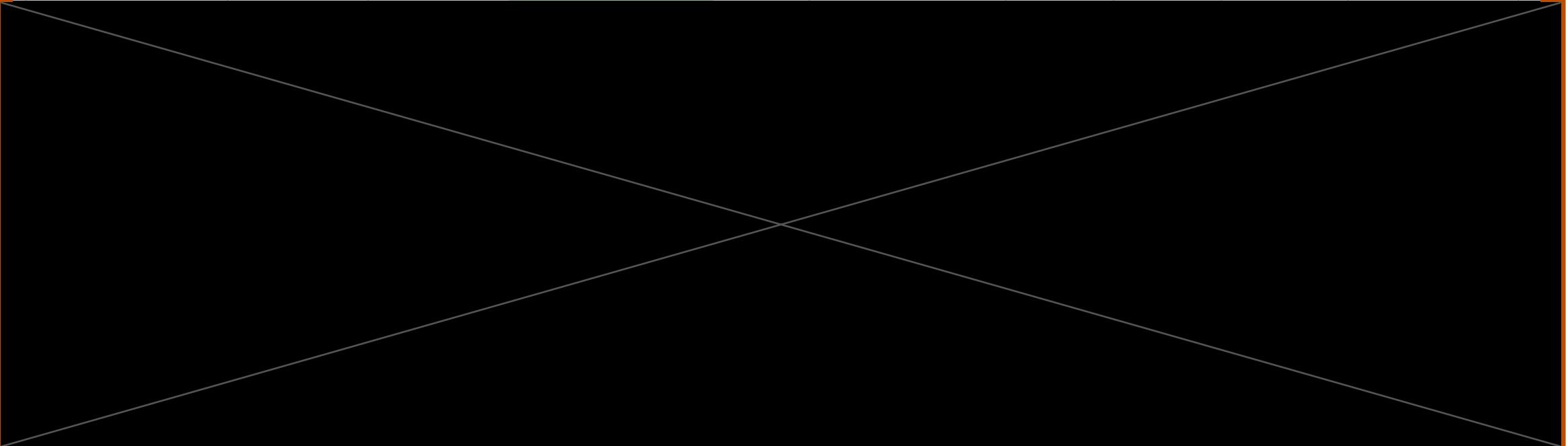
# Measures: process

- Each element of above definition
- Use of neuroprotection tool (Yes vs No for individual patient)
- Elements completed on tool
- Evidence of action taken (including vent/infusion rate changes or ACCP/doctor asked for review) when target missed

# Measures: balancing

- Median Length Of Stay
- Standardised Mortality Ratio

# Example of data collection

Targets documented for BP by admitting team	target documented for PaCO <sub>2</sub>	Targets documented for PaO <sub>2</sub>	PO <sub>2</sub> outwith target >/=2 occasions during period of neuroprotection (up to 72 hours max)	PCO <sub>2</sub> outwith >/=2	MAP>10mmHg outwith >/=2 (unless >/=2 press Temp>38 or x2>37.5)	Was temp<36 ever?	Hypo-osmolar fluids given	[Na]<140	HR
									

# Data collection

- Team of 5-10
- 10 patients per month
  - Screen possible patients
  - Then complete data collection on spreadsheet
- Team meetings to discuss the project

# QI reflection

- Big project aiming to improve practise at departmental level
- Collective effort
- Some measures changed since project started
- Better outcomes for patients