HÔPITAL DU SACRÉ-CŒUR DE MONTRÉAL

HSCM *Doués pour la vie*

Dr Eric Lalonde
Urgentiste HSCM

Transfert de trauma
Points Critiques

Plan

TCC

Hypothermie

Sédation/analgésie

Acide Tranexamique

Tcc prévention lésion secondaire

- Patients Anticoagulés
- Gestion des TCC sévères
  - TA
  - PCO2
  - Tête de lit

Examen neuro

- Bien documenté
- Particulièrement:
  - Pupille
  - mvt des extrémités

J Trauma. 2005 Nov;59(5):1131-7; discussion 1137-9.

Rapid warfarin reversal in anticoagulated patients with traumatic intracranial hemorrhage reduce hemorrhage progression and mortality.

Ivascu FA, Howells GA, Junn FS, Bair HA, Bendick PJ, Janczyk RJ.

- Délai avant scan: 132min → 42min
- Début renversement : 4hrs → 1.9hrs
- Mortalité : 48% → 10%

STAT

NACO

- Pradax-Dabigatran
- Xarelto-Rivaroxaban
- Eliquis-Apixaban

The Journal of TRAUMA® *Injury, Infection, and Critical Care*

The Impact of Hypoxia and Hyperventilation on Outcome after Paramedic Rapid Sequence Intubation of Severely Head-Injured Patients

Daniel P. Davis, MD, James V. Dunford, MD, Jennifer C. Poste, Mel Ochs, MD, Troy Holbrook, PhD, Dale Fortlage, BA, Michael J. Size, MD, Frank Kennedy, MD, and David B. Hoyt, MD

"Any degree of hyperventilation (ETCO2 < 30 mmHg) was associated with an increase in mortality"

J Trauma. 2004;57:1–10

The Journal of TRAUMA® *Injury, Infection, and Critical Care*

The Impact of Prehospital Ventilation on Outcome After Severe Traumatic Brain Injury

Keir J. Warner, BS, Joseph Cuschieri, MD, Michael K. Copass, MD, Gregory J. Jurkovich, MD, and Eileen M. Bulger, MD

J Trauma. 2007

Table 2 Outcomes

All Patients (N = 492)	Arrival P_{CO_2}				*p* Value
	Hypocapnia	Target Ventilation	Mild Hypercapnia	Severe Hypercapnia	
P_{CO_2} range (mm Hg)	<30	30–35	36–45	>45	
n	80 (16.3%)	155 (31.5%)	188 (38.2%)	69 (14.0%)	
Mortality	20 (25.0%)	25 (16.1%)	50 (26.6%)	25 (36.2%)	0.009
Mean discharge GCS (SD)	14.2 (2.4)	14.4 (1.9)	14.7 (1.1)	14.3 (1.9)	0.31
Discharge GCS <15	7 (13.5%)	13 (13.4%)	10 (9.1)	6 (16.2%)	0.62
Mean FIM score (SD)	9.96 (2.6)	10.2 (2.5)	10.3 (2.1)	9.43 (2.9)	0.29
Mean ICU days (SD)	5.42 (6.4)	5.59 (9.3)	5.92 (11.3)	8.97 (10.5)	0.31

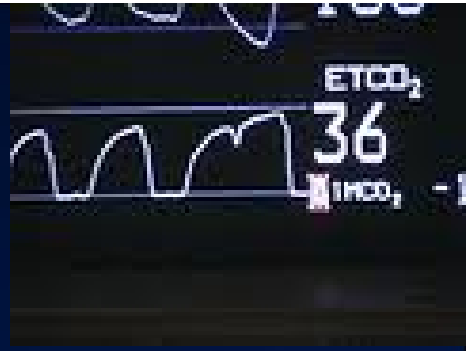
Objectifs

Après 5-10 minutes de ventilation

- $PaCO_2$ entre 35-40 mm Hg

Ne pas retarder le transfert

EtCO2



PaCO2 toujours > EtCO2

Gradient normal de 5mmHg

Patient: gradient imprévisible et varie

Donc si disponible le gaz est supérieur

- Si EtCO2 ⇧ patient est hypoventilé

Viser EtCO2 à 35

Hypotension et TCC

Probablement où on peut faire la plus grande différence

Acta Neurochir Suppl (Wien). 1993;59:121-5.

Early and late systemic hypotension as a frequent and fundamental source of cerebral ischemia following severe brain injury in the Traumatic Coma Data Bank.

Chesnut RM, Marshall SB, Piek J, Blunt BA, Klauber MR, Marshall LF.

Un seul épisode d'hypotension (TAS<90) est associé avec une ↑ x 2 mortalité

ORIGINAL ARTICLE

Hypotension, Hypoxia, and Head Injury

Frequency, Duration, and Consequences

Geoffrey Manley, MD, PhD; M. Margaret Knudson, MD; Diane Morabito, RN, MPH; Susan Damron, MS, RN; Vanessa Erickson, BA; Lawrence Pitts, MD

''Patients with hypotension during resuscitation were 3 times more likely to die compared with those without hypotension.

Repeated episodes of hypotension have an additive effect, ie, when the number of episodes increases from 1 to 2 or more, the odds ratio for death increases from 2 to 8''

Arch Surg. 2001;136:1118-1123

Quoi viser?

TA :

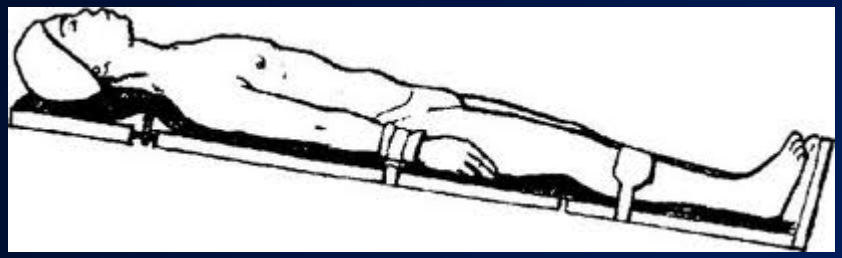
- BTF : éviter SBP < 90
  (Brain Trauma Foundation)
- HSCM : TAM 70-80

Anticiper-traiter rapidement

- Bolus pré-intub
- ↓dose agent induction
- Volume sous pression
- Volume sous pression
- Volume sous pression
- En dernier recours pour compenser haute dose sédatif: amine

Élévation tête de lit

- 30°= ⬇ PIC sans affecter perfusion cérébrale



Neurosurgery. 2004 Mar;54(3):593-7; discussion 598.

Effects of head posture on cerebral hemodynamics: its influences on intracranial pressure, cerebral perfusion pressure, and cerebral oxygenation.

Ng I, Lim J, Wong HB.

TCC en résumé

- Suivre PCo2 ou EtCo2
- Hypotension = urgence
- Tête de lit 30°
- TCC et Aco = toutes les étapes doivent être rapides

BTF

BRAIN TRAUMA FOUNDATION

Translating neuroscience into effective solutions

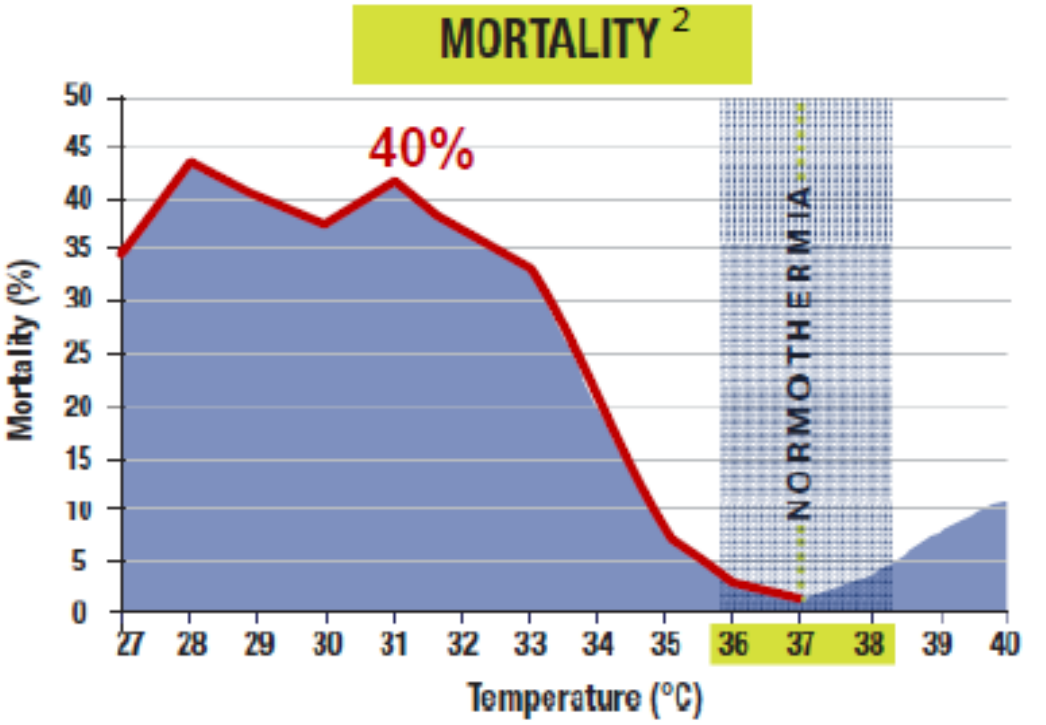
ABOUT BTF | RESEARCH | DONATE TO BTF | TBI FAQS | BTF GUIDELINES | TBI GLOSSARY

The Brain Trauma Foundation

Improving the outcome of Traumatic Brain Injury patients

Dernier guide de pratique
TBI adulte 2007
TBI pédiatrique 2012

Hypothermie



Percentage of mortality at each admission body temperature.

A review of data from 700,304 patients demonstrates a marked increase in mortality as admission temperature falls below normothermia.

Prévention hypothermie

Tout liquide doit être chaud

Couverture

Ambulance

Milk Of Amnesia

You KNOW It's Gonna Be a Good Transport...

Analgésie

Débuter IV

R-x bassin

Acide Tranexamique

- **NNT: 67 (pour sauver une vie)**
- Importance des 3er heures
- S'il y a
  - choc
  - saignement externe important
  - à risque de devenir en choc

    (ex : EDU positif, fracture bassin/fémur, hématome RP)

Acide tranexamique

- **ATX 1g IV en 10 min** (dilué 100 ml NS) **puis 1g en 8 h**