

Back to School Conference 2013

New Ideas in acute care
Physiotherapy

Elizabeth Farquharson
Sunnybrook Health Science Centre

New ideas in TBI : an acute care PT perspective

- 1) TBI protocol in our ICU
- 2) Early mobility in ICU
- 3) Continued emphasis on mobility once the patient reaches the ward and the least restraint policy on the trauma floor
- 4) The collaborative team approach to the TBI patient on the trauma floor

New ideas in TBI : ICU management

Improved outcomes in TBI with specialized
Neurocritical care teams possibly due to :

- (1) Improved consistency in goal setting
- (2) Attention to detail
- (3) Improved collaboration between specialties

New ideas in TBI : ICU management

- Definition of severe traumatic brain injury is :
- GCS 8 or less (physician assessment for sedation/drug/alcohol effect) and an abnormal CT

OR

A normal head CT with at least 2 of the following

- Age >40yrs
- GCS motor 3 or less
- SBP <90 mmhg at any time from injury to ICU admission

New ideas in TBI : ICU management

- Management consists of a specific protocol that includes attention to
 - Head of bed ≥ 30
 - Temperature 35-37 C
 - PaO₂ 90-105mmhg
 - Paco₂ 35-40mmhg
 - SJO₂ $\geq 55\%$
 - ICP ≤ 20 mmhg
 - CPP 60-70 mmhg
 - MAP ≥ 80 mmhg
 - Nutrition ≥ 25 kcal/kg/by day 7 (no nasal tube)
 - Blood sugar 5.1-8.0mmol/l
 - Fluid balance Euvolemia



Mobility in the ICU

Not specific to the TBI population but research has shown that interruption of sedation and P.T/O.T in the earliest days of the critically ill patient has resulted in a reduction in delirium and better functional outcomes at discharge .(Schweickert et al. 2009)

Patients in the ICU are given a sedation vacation daily (provided there are no contraindications medically such as raised ICP) . PT is involved with active assisted exercises, functional mobility such as sitting, transfers and ambulation as appropriate.



Mobility in the Trauma Ward

- Continued emphasis on functional mobility
- Treatment along the Rancho Los Amigos Scale of Cognitive Recovery
- Management of agitation with a least restraint policy.
- Utilizing observers as team members and educating them regarding mobility, daytime activity, management of agitation and promotion of functional activity.
- Continued intervention by PT and OT directed towards function and using an NDT/Bobath centred approach



Team Approach to TBI Recovery

- The treatment of the TBI patient on the trauma unit at SHSC is enhanced by a collaborative team approach.
- PT and OT operate in a co treatment model that maximises the resources available to provide therapy .
- Also allows assessment of the TBI patient who may have decreased attention, agitation and poor tolerance to intervention
- Common goals between nursing and the rehabilitation team.
- Pharmacy input to manage the agitated patient.
- All staff on the unit involved



References:

- Schweickert, W.D.; Pohlman, M.C.; et.al. Early physical and occupational therapy in mechanically ventilated, critically ill patients: a randomised controlled trial. *Lancet* 2009;373:1874-82
- Chapman, M and Phan, N. Advancing the acute care of Severe Traumatic Brain Injury. Presentation for Brain Care Ontario.
- Ranchos Los Amigos Scale of Cognitive Recovery.