

Modifying the acute hospital environment to reduce length of PTA after brain injury: A pilot randomised controlled trial

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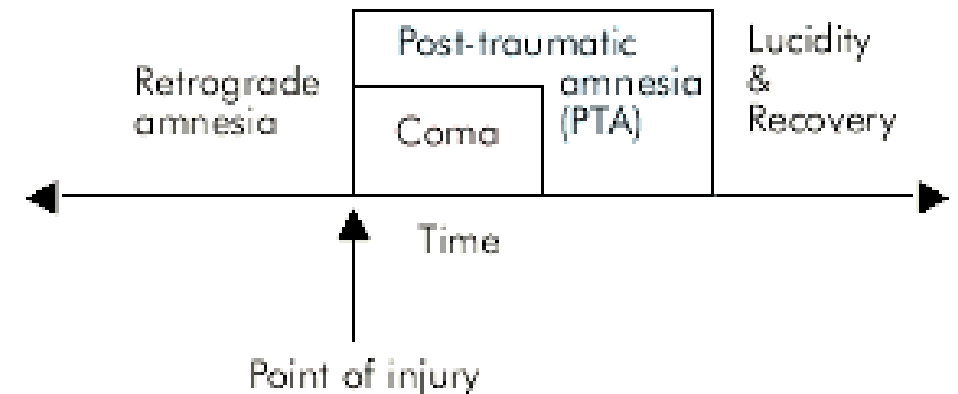
Post-traumatic Amnesia

Post-traumatic amnesia (PTA) is a transient state of confusion and disorientation

- Anterograde amnesia
- Behavioural disturbances, such as restlessness, agitation, fatigue, and confabulation
- Reduced new learning

Duration of PTA is considered to be key in prediction of outcome

- Reducing length of time in post-traumatic amnesia may ultimately lessen the severity of TBI suffered long-term.



Current Practice

Health care workers and most family members sincerely try to reorient confused patients with TBI. However, many of these efforts are performed with an undetermined measure of frequency or consistency

- Inconsistent use of the person's name
- No signage to say name of hospital
- No clock to see time
- No calendar to see date
- Difficulty seeing if its day or night- lights on in the ward all night, curtains closed
- Move beds within the hospital for clinical reasons
- Steady stream of visitors & staff



Can we do Better?

Reality orientation

- Repetition of basic orientation information
- Calendars
- Clocks

Prior studies suggest formal classroom-based reality orientation as well as informal orientation approaches improve orientation skills (Corrigan et al; Kaschel et al)
In-room calendar alone did not hasten emergence from PTA (Watanabe et al)

Aim

To investigate the effect of an environmental reorientation program on duration of PTA after TBI in an acute care hospital setting.

Primary Outcome:

Time to emergence from PTA

Measure:

Westmead PTA Scale administered daily at a consistent time by the treating occupational therapist.

Participants

N=40, waiver of consent

- Adults (≥ 18 years)
- GCS <13
- WPTAS <12

Exclusion Criteria:

- Unable to read English prior to their TBI
- In PTA for more than 48 hours prior to admission to the trauma or neurosurgery ward



Intervention

- Personal Photos
- Poster identifying WHAT led to the hospital admission & the WHEN accident happened

Person



- Poster at foot of bed identifying NAME of hospital
- Signs within room identifying NAME of hospital, context of which ward/floor

Place



- Clock at foot of bed
- Calendar
- Cueing with every meal [name of meal, time of day]
- Link each scheduled task with the time and day of week

Time

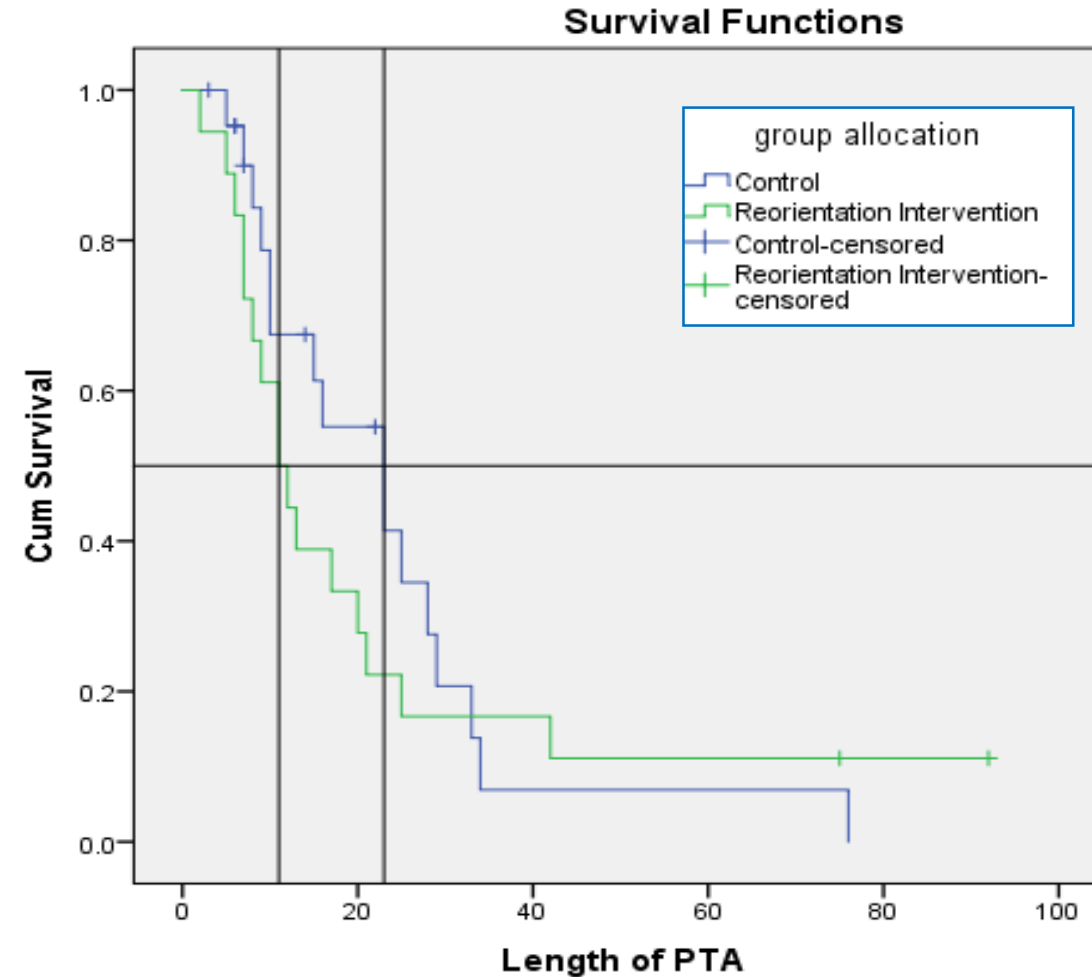


Demographics

| Variable | Control, n=20 | Intervention, n=20 |
|----------------------------|---------------|--------------------|
| Sex (Male), n (%) | 15 (75%) | 17 (85%) |
| Age, mean (sd) | 36 (14) | 36 (15) |
| Education | | |
| High school or less | 10 (50%) | 9 (45%) |
| Trade | 4 (20%) | 11 (55%) |
| University / Post-graduate | 6 (30%) | 0 (0%) |
| Cause of TBI | | |
| Assault | 2 (10%) | 3 (15%) |
| Fall | 3 (15%) | 3 (15%) |
| Occupational Accident | 0 | 4 (20%) |
| RTA- Car | 6 (30%) | 4 (20%) |
| RTA- Cyclist | 2 (10%) | 1 (5%) |
| RTA- Pedestrian | 3 (15%) | 1 (5%) |
| RTA- Motor Cyclist | 2 (10%) | 1 (5%) |
| Sport/Rec | 2 (10%) | 1 (5%) |
| Other | 0 | 2 (10%) |
| GCS at Scene, mean (sd) | 9 (4) | 10 (4) |
| Function (SMAF), mean (sd) | -47.7 (17.6) | -47.3 (23.4) |

Results

| Group | Median Time to Emergence | Std. Error | 95% Confidence Interval | |
|--------------|--------------------------|------------|-------------------------|-------------|
| | | | Lower Bound | Upper Bound |
| Control | 23 days | 6.24 | 10.76 | 35.23 |
| Experimental | 11 days | 2.12 | 6.84 | 15.16 |
| Overall | 16 days | 3.57 | 9.00 | 22.99 |



Thank-you

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