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## **Innovative use of the environment to reduce the length of post-traumatic amnesia after brain injury**

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**Introduction/Rationale:** Adults in post-traumatic amnesia (PTA) after traumatic brain injury (TBI) are disoriented to who they are, what has happened and where they are (including time). Reorientation programs improve environmental orientation and increase awareness of time, and are therefore an important component of acute occupational therapy after TBI.

**Objective:** To determine the effectiveness of an environmental reorientation program on time to emergence from PTA after TBI.

**Method:** Randomized controlled trial of n=40 adults who were recruited on admission to hospital. The control group received usual care (inconsistent verbal orientation) and intervention group received a standardised environmental reorientation program led by an occupational therapist aimed at improving orientation to person (signage, photographs and familiar items), place (signage and cueing) and time (calendar clock and cueing to environment). Outcome of time to emergence from PTA was measured on the Westmead PTA Scale which was administered daily by an occupational therapist.

**Results:** There were no adverse responses to the environmental orientation program. Median days in PTA was less for those who received the environmental reorientation program (11 days, 95% confidence interval (CI) 6.84 - 15.16) than for the control (23 days, 95% CI 10.77 - 35.23). Kaplan-Meier survival curve supports finding that experimental participants emerged from amnesia earlier on average after the intervention.

**Conclusion:** Our occupational therapy environmental re-orientation program received good acceptance from patients, families and staff, and showed early efficacy. Despite the small sample size, our intervention appears to result in a shorter time to resolution of PTA; a larger trial is warranted.