Survivors of TBI have been found to experience sleep disorders with a 50% rate of occurrence and sleep-wake cycle disturbances 67% of the time. Sleep disturbances can have a profound impact on the rehabilitation of the TBI survivor. These negative impacts have been documented to include: deficits in language processing, attention and memory. (2) Occupational Therapists can have a key role in improving sleep performance for TBI survivors through knowledge of sleep physiology, sleep disorders and sleep promotion practices via addressing effects on occupational performance. (3) Poor quality of sleep in acute TBI can impact general functioning and ADLs due to the impaired cognitive functions of attention and memory. (4)

Sleep wake disturbances are temporarily disorganized and variable episodes of sleeping and waking behaviors. (5) Sleep diaries showed an average of 7.10 hours per night. Comprehension sleep strategy was implemented that included techniques such as Texas catheter to avoid bowel/bladder voiding cue schedule, use of bowel/bladder management devices such as Dohm. Using Dohm machines, monitoring and/ or use of Fit bit. Understanding role of stimulants in improving learning and memory: (1) Understanding role of stimulants in improving learning and memory: (1) Understanding role of stimulants in improving learning and memory: (1) Understanding role of stimulants in improving learning and memory: (1) Understanding role of stimulants in improving learning and memory: (1)

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**Introduction**

Pain (noted EEG derivations)(6) TBI related medications

**Case Study**

Annie O. is a 34 year old female who sustained a TBI in February, 2010 as a result of a MVA. Her residual deficits include left sided hemiparesis, expressive and receptive aphasia, cognitive deficits plus mood and sleep disorder. She admitted to ReMed for short term rehab and disposition planning from nursing home to home with family. A sleep disorder was evident from time of admission as Annie was only sleeping an average of 5:36 hours per night. Comprehensive sleep strategy was implemented that included dietary, environmental, and pharmacological interventions. Sleep improved to an average of 7.10 hours per night.

**Dietary planning** - decrease/ avoid fluid and food intake two hours prior to sleep. Foods to improve sleep include whole grains, decaf herbal tea and foods high in potassium (bananas).

**Medications** - Understanding role of stimulants (Ritalin, Amantadine) Role of sleep aids (Trazadone, Ambien). Atypical/ sec gen. anti psychotics (Seroquel, Geodon).

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**Evidence Based Practice**

Individualized treatments for sleep/wake disorders that included sleep hygiene recommendations showed improvements in attention, memory and language processing in response to optimization of sleep for TBI survivors. (7).

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**Areas shown to be impacted by sleep disorders in TBI patients**

- Lapses in Attention
- Memory
- Language Processing
- Depressed Mood

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**OT Interventions to Improve Sleep**

**Education on Sleep Hygiene** – avoid use of phones /TV prior to and while sleeping, avoidance of stressful conversations.

**Environmental modifications** - Use of Dohm (white noise) machine, room temperature.

**Relaxation techniques prior to sleep** - Deep breathing, Emwave, guided imagery, reading.

**Pain Management** - Education on stretching, use of modalities and interdisciplinary discussion with nursing on timing of pain medication.

**Bowel/Bladder Management** - Creation of bowel/bladder voiding cue schedule, use of devices such as Texas catheter to avoid incontinence that would wake patient.