

# OCCUPATIONAL IMPLICATIONS OF COMBAT-EXPOSED MILD TRAUMATIC BRAIN INJURIES: EVALUATION AND TREATMENT

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Walter Reed National Military Medical Center  
September 13 - September 14, 2011

# Application to Practice

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Case Studies by Debbie Turley, OTR/L

# Case Study: Joan

- 58 y.o. female.
- Married with grown children
- Nurse in a supermax security prison in rural Illinois
- Mild brain injury in April of 2010 when a fast-close steel door hit her in the head as she was bending forward
- She finished her shift, drove home 25 miles (taking 90 minutes) then went to bed waking up with:
  - Constant severe head ache in the front and back of head
  - Hypersensitivity to light and sound
  - The need to sleep in a quiet, dark room for 23 hours
  - Dizziness
- Workers comp. doctor told her to take Tylenol and recommended she get a sleep study

# Neuropsychology

- Information processing speed: **mild impairment**
- Verbal fluency: **slightly reduced**
- Attention, working memory, naming, reasoning and visuoperception: **Normal**
- Short term memory varied
- Depression, anxiety and behavioral changes
- Tentative, cautious approach to tests noted
- Recommended: OT in the Occupational Performance Center (OPC) for job simulation and eventual return to work in the near future

# Initial interview

- Joan presented to the Occupational Performance Center (OPC) in September 2010
- Dx: Post Concussive Syndrome
- She arrived with her husband & c/o:
  - Constant headaches, worse when tired
  - Anxiety especially in new situations
  - Hypersensitivity to light and sound
  - ↓ Short term memory, attention and processing speed.
  - ↓ Emotional control & changes in personality
  - ↓ Balance occasionally
  - ↓ Depth perception
  - Word-finding difficulties

# OT intake summary

- Joan has worked in the field of mental health for over 20 years.
- Currently employed for 2 years as a nurse in a super max security prison: high job satisfaction
- Client's description of job:
  - Duties: Structured work routine: Lots of walking, pass through several security posts, receive report, organize meds in a noisy room, climb steel stairs up to jail cells to pass meds, walk along narrow "cat walk", maintain emotional control with difficult prisoners and their complaints, 120 prisoners under her care, constant need for vigilance with her surroundings
  - Work Environment: Noisy, bright lights, steel stair cases, walking a "cat walk" at heights to deliver meds
  - Population served: "the worst of the worst"

# OT intake: Joan's perspective:

- Client discussed changes in her personality impacting her independence at home and in the community
- Her goals: Realistic. “If I could get to the point where I could work partial days, I’d be happy”.
- Self-reported work-related concerns
  - Memory
  - Walking at a height
  - Bright lights, noise
  - Emotionally dealing with being yelled at/called names

# Initial OT Assessments

- PTI: Oral Directions Test
- Wonderlic Personnel Test
- Job Performance Measure
- Work Confidence Measure
- Family/Self-report insight questionnaires



# Initial OT Assessments

- PTI: Oral Directions Test
  - Scored 35/39
  - Placing her in the 90<sup>th</sup> %-tile
  - Noted to give full concentrated effort

# Initial OT Assessments

- Wonderlic Personnel Test
  - Timed (12 minutes) Raw Score: 21
  - Age Adjusted Score: 25
  - Suggested Min. test score for a nurse: 26

# Initial OT Assessments

- Job Performance Measure
  - Identifies essential job tasks using the clients job description
  - Self-perceived rating of current ability to perform essential job functions on 1-10 scale
  - Self-perceived rating of the client's satisfaction with their perceived ability

# Questionnaires

- Self report vs. Independent scorer report
  - Daughter and client scored separately
- Topics of Questionnaires:
  - Emotional Adjustment
    - Mood and emotions
    - Social Skills assessment
  - Executive Skills

**Results:** Some differences noted on scores (client's vs. daughter's) resulting in a good discussion and insight-building session

# Post Initial Eval Impressions

- Joan is currently adjusting to changes in self
- Her self-awareness is building
- She is very motivated
- Need more job simulation to challenge cognitive skills
- Major barriers to returning to work:
  - Hypersensitivity to light and sound
  - Problems controlling her emotions
  - Anxiety and how it affects her cognitive function

# OT Goals

## LTG:

1. Client readiness for return to increased community participation/work role with accommodations as needed.

## STG's:

1. The client will trial 60+ minutes of physical job simulated tasks with good safety/ judgment.
2. The client will use cognitive strategies for increased success with job simulation after education.
3. The client will participate in pre-driving screening when appropriate.

# OT Interventions

- Education and reinforcement of strategies during job-simulated tasks
  - The client already used a notebook for memory on a daily basis
  - Determining strategies for attention
  - How is her attention affected with noise/stimulation
    - Sustained attention: good
    - Divided attention: difficult
  - Use of strategies during nursing SWAG tasks
    - Report rounds
    - Triage message taking
    - Medication delivery task
    - ER Background noise cd

# Structured Work Activity Group's: (SWAG's)

- Each SWAG is a suite of work-related activities centered on a “real world” theme
- Client is challenged with progressive demands, based on demonstration of capabilities
- Client’s “employee behavior” (feasibility) is frequently evaluated
- Easy to layer or grade the activity for more challenge



# SWAG 3: Healthcare activities

1. Medical triage telephone call center
2. Emergency Department report rounds
3. Medicine administration activity
4. Patient Treatment Unit Clerk
  - Chart assembly
  - Patient survey
5. ER background noises

**FOR: ANY PATIENT  
CARDIZEM CD CAPSULES 240 MG  
TAKE ONE CAPSULE BY MOUTH  
EVERY MORNING**

**FOR: ANY PATIENT  
NICOTINE PATCH 14MG  
USE ONE PATCH EVERY DAY AS  
NEEDED FOR NICOTINE  
WITHDRAWLS**

**FOR: ANY PATIENT  
INSULIN GLARGINE  
10 UNITS SUBQ EVERY DAY**

**FOR: ANY PATIENT  
NAPROXEN TABLETS 500MG  
TABLET BY MOUTH EVERY 12  
HOURS AS NEEDED FOR JOINT  
PAIN**

**FOR: ANY PATIENT  
COUMADIN TABLETS 1MG  
TAKE ONE TABLET BY MOUTH  
EVERY DAY AT BEDTIME #30**

**FOR: ANY PATIENT  
ALBUTEROL MDI  
TWO PUFFS THREE TIMES DAILY  
FOR WHEEZING**

**FOR: ANY PATIENT  
ZOLFRAN TABLETS 2 MG ONE  
TABLET BY MOUTH TWICE DAILY  
PRN #60**

**FOR: ANY PATIENT  
GUAIFENESIN TABLETS 600MG  
TAKE ONE TABLET BY MOUTH  
EVERY 12 HOURS FOR  
CONGESTION**

**TYLER JOHNSON**

**JERRY GARCIA**

**PAUL HEWSON**

**TIMOTHY WHEELER**

**GERALDINE PHILLIPS**

**ALEJANDRO RAMIREZ**

**FRANCINE HENRY**

**JENNIFER HILL**

pt. #	908415	718592	3624711		8199636	434401	908414		434014	125647	963147		851796	624852
Bed #	1	2	3	4	5	6	7	8	9	10	11	12	13	14
pt. name	Mary Choi	Francis Henry	Jennifer Hill		Sally Clark	Paul Hewson	Tyler Johnson		Jerry Garcia	Allan Gray	Alejandro Ramirez		Theresa Early	Geraldine Phillips
meds		cardizem cd 240 mg po q am (12 white)				xanax .5 mg po bid prn anxiety (5 red)	lantus 10 units sc q day (9 black)		ativan .5 mg po q 6 prn motor restlessn ess (5 white)	12.5 mg HCT2 po q am (10 black)	Guaifene sia 600mg Q12 (8 pink)			coumadin 10 g I cap po q hs (8 red)
		lisinopril 2.5 mg po qAM (24 pink)	hydrocortisone cream 2.5 top. Qd/prn (6 white)			KCL liq	continue sliding scale lispro insulin (15 pink)		percocet 2 tabs q4hrs/prn (2 red)					tylenol 500 mg po q6 hours/prn for 3 days
						zofran 2mg po bid prn (16 black)			nicotine patch 14 mg transdermal qd/prn (2 pink)		decadron 2mg po q12hrs for 4 days (11 red)			naproxen 500 mg po q 12 hours prn joint pain (35 pink)
											THEN Decadron 1mg po q 12hrs for 6 days			
pt. #	908415	718592	3624711		8199636	434401	908414		434014	125647	963147		851796	624852

# Joan's Performance

- Good use of strategies for memory
  - Problem-solved memory strategies at work
- Good at tuning things out; not as good at dividing her attention
  - Practiced with background noise cd during complex nursing tasks
  - Job simulation around noisy hospital/cafeteria being given other tasks to attend to as they came up
- Required breaks for nervousness and light/noise sensitivity
- Increasing her exposure to more challenging situations as she improved
- Exposure to new people and places in the community while simultaneously challenging her cognition
- Hugs, ability to tolerate physical touch

# Joan's Progress

- Memory: improved with proficient use of strategies
- Attention: improved for completion of tasks in more noisy environments
- Hypersensitivity to noise and light: still present but reduced
- Anxiety in unfamiliar environment: lessened with increased exposure
- Sense of humor and personality came to the surface
- Emotional control improved per client/family
- Client participating in more community activities on own (extensive volunteer work)

# Job Performance Measure #2

#'s in red indicate prior ratings

Task Required y/n	Task Description	Performance Rating 1-10	Satisfaction Rating 1-10
	walking long distance on concrete floor & at heights	9 <sup>7</sup>	9
	up & down stairs	9 <sup>6</sup>	9
	set up meds. (45min)	10 <sup>3</sup>	10
	crush meds - keep it all separate - write on plastic bag	10 <sup>10</sup>	10
	match up prisoner # = meds / name if 2 are same.	10 <sup>5</sup>	10
	assess prisoner's med. status - vital signs; draw blood	10 <sup>8</sup>	10
	documentation of 1:1 interactions sick, complaints, psych needs. Incident report forms	8 <sup>7</sup>	8
	Rounds - initial that you saw each inmate on your shift	9 <sup>7</sup>	9
	maintain non-emotional affect = inmates	7 <sup>1</sup>	7

write it down if can

# Work Confidence Scale #2

✓: Refers to prior ratings from 1<sup>st</sup> scale

Name: \_\_\_\_\_

Date: 8/22/11

How confident are you that you would be able to ...	Very Confident		Somewhat Confident		Not at all Confident
	5	4	3	2	1
Complete the amount of work required on a job?		X	✓		
Perform the quality of work required on a job?	X			✓	
Report to work every day?	X		✓		
Remain at work as long as you are scheduled?		X			✓
Report to work and return from breaks on time?	X ✓				
Understand instructions at work?	X		✓		
Remember instructions and rules at work?		X		✓	
Start and complete a task at work?		X	✓		
Focus your attention at work?		X			✓

Brain fatigue  
if 16 hr.  
mandated

emergency vs  
non emergency  
situation

↓ Noise levels.

# Current status/ Joan's Outcome

- Worker's comp. claim still active
- Work-site visit recommended
  - Prison would not allow me to come and would not allow Joan to observe someone doing her old job
  - Joan observed a nurse doing a different job in a different (clinic) environment (useful?)
  - OT has requested that Joan shadow her old job now.
  - If that goes well...



# Return to work Recommendations

- Sent to the MD, Attorney, Worker's Comp. Company
- Joan should shadow her actual job first, if all goes well...
- Start back to work partial days
  - 4-hour work days for 4 weeks progressing to...
  - 6-hour work days for 4 weeks...
  - 8-hour work day
- No overtime: mental rest
- Orientation as if she were a new employee again
  - Teach and review of all duties while shadowing
  - Someone to shadow her for the first week of "independence"

# Plan B for Joan

- Exploration of volunteer in the community
  - Currently already does with American Heart Association
  - Other options which would challenge work skills more?
- Exploration of alternative jobs elsewhere
  - Teaching: Given opportunity to explore with OT class
  - Other: rehab liaison, nurse in doctor's office, health clinic

# Questions?

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