Complex Issues in Return to Work following Brain Injury

Presented by:
Steve Holefelder, OTR/L
and Ann Marie McLaughlin, Ph.D.
ReMed
Presentation Focus

1. Barriers to return to work and maintenance of employment for brain injury survivors
2. Predictors of vocational success
3. Recommended pathway to return to work: individual and setting supports
Vocational Issues are Key

- 63% of Traumatic Brain Injuries occur in teens/adults in the working population, ages 15 to 64.
Brain Injury Impact on Work Varies

- Severity of initial injury
- Rate/completeness of physiological recovery
- Functions affected
- Pre-morbid personality
- Meaning of dysfunction to the individual
- Systems issues: family, employer
- Resources available to aid recovery or foster dependence ($)
- Areas of function not affected by TBI
Return to Work: Therapeutic

• Financial rewards
• May enhance recovery of the client
• Provides meaningful stable activity pattern
• Affords socialization opportunities
• Perceived status and self esteem
• Chances of secondary disability and substance abuse reduced

(Shames et.al., 2007)
Vocational Outcomes Vary

- To previous job with or without modifications
- Full time or part time
- Different but similar job
- Requires retraining
- Different, lower level job
- Competitive vs. Sheltered work
- “LOTS” of jobs: hired/quit or fired
- Volunteer position
- No job
- Variability renders Research efforts difficult, confusing
Vocational outcomes

• Financial and vocational outcomes 1 year after TBI  
  (Johnstone, Mount & Schopp, 2003)
• N = 35  (MO , TBI Model System)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Baseline</th>
<th>1 year after TBI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employed</td>
<td>69%</td>
<td>31%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>11%</td>
<td>49%</td>
</tr>
<tr>
<td>Private income</td>
<td>$1570/ mo</td>
<td>$810/ mo</td>
</tr>
<tr>
<td>Public assistance</td>
<td>$153/ mo</td>
<td>$204/ mo</td>
</tr>
</tbody>
</table>
## Return to Work and Severity of Injury

<table>
<thead>
<tr>
<th>RTW Category</th>
<th>All Patients (n=434)</th>
<th>Mild TBI (n=208)</th>
<th>Moderate TBI (n=70)</th>
<th>Severe TBI (n=156)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete resumption</td>
<td>50%</td>
<td>72%</td>
<td>43%</td>
<td>23%</td>
</tr>
<tr>
<td>Part time</td>
<td>24%</td>
<td>22%</td>
<td>30%</td>
<td>24%</td>
</tr>
<tr>
<td>Lower Level</td>
<td>13%</td>
<td>4%</td>
<td>17%</td>
<td>21%</td>
</tr>
<tr>
<td>Not Working</td>
<td>14%</td>
<td>2%</td>
<td>10%</td>
<td>32%</td>
</tr>
</tbody>
</table>

(Benedictus, Spikman, van der Naalt, 2010): Netherlands, Longitudinal Cohort study 2000-2008
Barriers to Return to Work

- **Physical**: strength/coordination, endurance, vestibular, headaches, pain, sleep dysfunction/ fatigue, visual processing deficits, chronic pain
- **Cognitive**: concentration and memory, all or nothing/ concrete thinking, executive dysfunction, communication, memory deficits, speed of processing, receptivity to feedback, unrealistic perceptions
- **Emotional**: PTSD, Anger, Depression, impulsivity, stress/overwhelm, rigid self definition
- **Systemic**: financial disincentives, family protectiveness
Parable of RTW

**Ingredients for Success**
- Participation in work readiness/volunteer
- Feels supported
- Flexibly considers RTW alternatives
- Awareness of deficits
- Meaningful activity more important than money
- Willing to have job coach
- Benevolent Employer!

**Ingredients for Stress**
- All or none perspective
- Adversarial/legal sparring
- Entitled to former self; resists identity resolution
- Financial situation is priority
- Limited awareness; resists feedback
- Client unwilling to disclose to employer
- No support to address “extraneous” issues (adjustment, loss)
Vocational Outcomes

- Patient Barriers and Strengths
- Task demands and Employer views
- System issues
Dilemmas

• Prison guard assaulted by an inmate. MTBI complicated by PTSD. Insurer does not respond to need for PTSD treatment. Prolonged Recovery

• Truck driver makes excellent recovery and cleared to RTW at 5 months post injury. DOT maintains policy of not permitting CDL return for one year post injury. System Failure
Dilemmas

• MTBI patient presents with anxiety but is following program of supported therapeutic work trial. Magnified symptoms. Diagnosed with conversion disorder. Funding ends as association to injury challenged by payor.

• Injured worker able to return to landscaping job but complains of increased overwhelm and headaches. MD lowers cleared work hours. Learn that client also working jobs on the side due to significant financial stressors. Patient mis-representation/maneuvering.
Ten Years Post TBI
(Draper, Ponsford, Schonberger, 2007)

• 20% clinically significant anxiety
• 46% clinically significant depression
• 12% aggression significant problem
• 32% using alcohol in “hazardous” range
• Higher levels of fatigue associated with poorer psychosocial functioning
Work Barriers after Brain Injury

(Fraser, Baarslag-Benson, 1994)

52 clients, 86% had 2 categories

• 63% cognitive
• 35% emotional
• 31% physical/motor
• 31% pre-existing characterological
• 31% pre-existing characterological
• 15% financial disincentive
• 12% communication deficit
• 12% transportation
A Different Person

• Self centered
• Impulsive and impatient
• Poor initiative
• Emotional: apathy, silly, irritable, hypo or hypersexuality
• Limited learning from experience

(M. Lezak, 1978)
Psychological Issues as Barriers

• Anxiety, Depression, PTSD, Anger, Loss
• Coping and adjustment interventions
• Include “desensitization” model to allow rehearsal of skills
• Formally assess effort
• Feedback about discrepancies in performance
Concussion with Conversion Disorder?

- 40 year old male
- Heavy equipment related work injury
- Goal: “to get back to exactly the way I was before”
- Behind the scenes: about to take over the business; anxiety; litigation
- Inconsistent performance in therapy
- Variable performance on Neuropsych. Low Effort testing.
The highest and lowest T scores possible on each scale are indicated by a "--". For information on FBS, see Ben-Porath, Y. S., & Tellegen, A. (2006). The FBS: Current Status, a report on the Pearson web site (www.pearsonassessments.com/tests/mmpi_2.htm).
Return to Work and Brain Injury (Veach & Taylor, 1989)

• The head injured survivor’s readiness for vocational planning is highly dependent upon the degree to which they have accepted their “changed self” and their capacity for becoming aware of their strengths and limitations...affect ability to set realistic goals..as well as their physical endurance for work.
# Contrasting Behaviors

## Brain Injury Behaviors
- impulsive
- poor judgment
- self focused
- defensive
- immature, my way
- short fuse
- depression, anxiety, low self esteem
- Attends to task

## Worker Characteristics
- detail oriented
- open to supervision
- gets along
- accepts feedback
- follows procedures
- calm, controlled
- positive attitude
- Distractible
Job Placement: Vocational Model
(Buffington & Malec, 1997)

- Specialized BI
- early outreach
- on the job eval/treat
- place and train
- employer education
- psychosocial issues
- supported risk
- team
- short term goals

- Traditional
- client applies
- interest/aptitude test
- train and place
- as arise on job
- counselor
- 1 long term goal
VOCATIONAL OUTCOMES AND PREDICTORS
Wide Range of Return to Work Rates

- Severity of injury varies
- Time post injury
- Different definitions and thresholds for RTW
- Varied compensation systems
- Inconsistent VR services

Accurate prediction is not feasible, with RTW rates in the 12-70% range.

(Shames, Treger, Ring, Giaquinto, 2007)
Return to Work Statistics

• 45% returned to work-related activity but 19% in competitive employment (McMordie, Barker, Paolo, 1990)

• Four years post injury, 34% stably employed (Kreutzer, Marwitz, Walker, Sander, Sherer, Bogner, 2003)

• Between 30-65% RTW found for traumatic and non traumatic BI (VanVelzen, VanBennekom, Edelaar, Sluiter, Frings-Dresen, 2009)
Brain Injury and Work Re-entry

- Unemployment among BI is reported to be up to 70-80%
- At least 50% experience long term unemployment
- If a job is obtained, 75% lose it in 90 days
  - 1/2 are fired
  - 1/2 quit

(Missouri Model Systems)
Brain Injury and Work Re-Entry

Even if return to work, 1/3 clients have significant difficulties:

• decreased production
• frequent job changes
• lowered responsibilities
  ▪ (Goran, Gabiano, Crewe, 1997)
“An estimated 40% of the overall TBI population will have regained work one year after injury and with mild head injury, most patients start working within 1 and 3 months after injury, with 91% working a full time job at 6 months post-injury.”

(Benedictus, Spikman, Van de Naalt, 2010)
Predicting Return to Work

- Best Clinical Predictors on Neuropsychological Testing
  - Abstract Reasoning/ executive function
  - Social Comprehension/flexibility
  - Remote Memory Skills/speed of information processing
Predicting Return to Work

• Critical Components for success:
  ▪ Aware of deficits
  ▪ Ability to evaluate own performance
  ▪ Accept implications of deficits for job selection and job performance
  ▪ “Positive relationship between accurate self awareness and favorable employment outcome”
    (Sherer, Vergloff, Levin, High, Oden, Nick, 1998)
Predictors of Success

• 24% of people with moderate to severe TBI who are in the TBI Model Systems national database are working at 1 year post injury.

• Recommend a shift from medical, neurological, rehab efforts to improve recovery and focus on specific vocational services

  (Johnstone, Vessell, Bounds, Hoskins & Sherman, 2003)
Predictors of success

Two specific services should be the focus:


2. On the job training: strategies, employer education

Paradigm shift: ”disability research should focus more on the environmental factors that affect the community participation of individuals with disabilities and less on traditional medical and psychosocial variables”

(Johnstone, Vessell, Bounds, Hoskins & Sherman, 2003)
Effective RTW interventions

Review of 9 studies

• “Strong evidence that work directed interventions in combination with education and coaching are effective regarding RTW”

• Components: early intervention, involve patient and employer, work accommodations, work practice, train social skills including coping

(Birgit, Donker-Cools, Daams, Wind & Frings-Dresen, 2015)
Job Placement/ Job Coaching

• Selling it to the employer
• Job coach completes tasks until client can
• Gradual tapering of supervision needed
• Written strategies or procedures
• Job coach notebook
• Constant collaboration with employer
Co-worker model: Natural Support

- Trained co-workers to “tell, show, watch, coach” (paid < $400, 4 hrs. training)
- regular performance feedback
- advocacy role
- 9 TBI ......Co-workers highly rated
- 7 out of 9 clients maintained long term employment

(Curl & Fraser, 1996)
Addressing the Challenges

Building self awareness:

• Immediate feedback
• Practice in real life, supportive settings
• Supported failure experiences
• Volunteer situations with coaching/facilitation
• Use of tracking sheets, understand triggers
• Attention to problems/issues outside work
Importance of medication management

• Mood Stabilizers (depakote, tegretol): frustration tolerance, irritability, disinhibition
• Cognitive enhancing: arousal, memory, decrease neurogenic fatigue
• Anti-depressants and anti-anxiety
• Atypical anti-psychotics: Thought organization thought flexibility
The Transition Back To Work

Barriers and Strategies
Types of Interim Steps

• VOLUNTEER WORK with support

• STRUCTURED ACTIVITY SCHEDULE

• SUPPORTED THERAPEUTIC WORK TRIAL
Volunteer work

• Provide client with relevance to tx goals
• Finding a good fit
• Selling it to the volunteer coordinator
• Flexibility in schedule, duties, timeframes
• Blending in with the crowd
Structured Activity Schedule

• Identify or generate activity pattern components
• Simulated vocational tasks in the home or community
• Routine exercise program
• Routine HH management tasks
• Routine schedule simulating work days/hrs
• Practice strategies in real world
Supported Therapeutic Work Trial

“Onsite Therapy Program”

• Be clear about the therapist’s role while onsite
• Be specific about client’s limitations and goals
• Identify employer’s expectations
• Emphasize “THERAPY”
• Allows employer to be part of recovery process
Goal Areas for Interim Steps

- Endurance building
- Activity tolerance
- Fatigue mgt.
- Problem solving, planning, organizational skills
- Good worker characteristics training
- Ergonomic training

*Functional application of compensatory strategies*
What Role Does the ADA Play in RTW?

- The **Americans with Disabilities Act (ADA)** became law in 1990. The **ADA** is a civil rights law that prohibits discrimination against individuals with disabilities in all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public.
What is “Reasonable”

- A reasonable accommodation is assistance or changes to a position or workplace that will enable an employee to do his or her job despite having a disability. Under the ADA, employers are required to provide reasonable accommodations to qualified employees with disabilities, unless doing so would pose an undue hardship.
Legal Definition of REASONABLE ACCOMMODATION

• something done to accommodate a disabled person that does not jeopardize safety or pose an undue hardship for the party (as an employer or landlord) doing it; *also*: something done to accommodate a religious need that does not create undue hardship for an employer

(Merriam Webster)
Employers’ Practical Guide to Reasonable Accommodation Under the Americans with Disabilities Act
Contacting the Employer

• WHO should do it?
  WC Case manager
  Adjuster
  Employee/IW
  Therapist
  Attorney

• HOW should it be done?
  Phone call
  Email
  Site visit
  Send a letter
Preparing for Initial meeting with Employer

• Review Job Description with client/IW
• Explore alternate positions with client/IW
• Identify Employer’s representative most open and influential [ask client/IW]
• Know the client’s Cognitive and Physical barriers
• Expect lack of TBI knowledge from employer
Goals for Initial Meeting/Site Visit

• Establish Rapport
• Complete “Activity Analysis” of current position
• Look for alternate positions
• Site safety
• Provide Brain Injury Education specific to client
• Language counts!
• Identify employer’s needs and degree of flexibility
Activity Analysis of Job and Environment

- Cognitive components
- Physical components
- Social components
- Sensory components
- Emotional components

* Review findings with treatment team*
Common Barriers and Possible Solutions

- Physical Limitations
- Visual Limitations
- Physical and Cognitive Fatigue
- Attention and Concentration Difficulties
- Organizational Skills/Time Management
- Memory Problems
- Stress Management
- Rigid Thinking Style
Physical Limitations

- Ramps, Handrails, Parking Spaces
- Accessible Door handles, light switches, break room equipment
- Modify workspace for accessibility/ergonomics
- Clear cluttered workspaces/walkways
- Adaptive Techniques training [one-handed]
- Introduce adaptive equipment
Visual Barriers

• Contact National Council of State Agencies for the Blind  http://www.ncsab.org/
• Evaluate lighting [overhead and task]
• Large Print options, glare resistant screens
• Speech recognition software “Dragon Naturally Speaking”
• Evaluate visual demands of essential job duties and modify accordingly
Physical and Cognitive Fatigue

• Establish concrete break-taking guidelines with employer before RTW
• Negotiate a modified work schedule if needed
• Develop awareness of fatigue-related signs and symptoms prior to RTW
• Establish a formal Fatigue Mgt. Strategy prior to RTW
• Identify a location for breaks
Attention and Concentration

- Minimize sensory distractions in environment [sound, light, movement]
- Limit simultaneous and attentional shifting demands
- Use adaptive techniques/equipment [tinted eyewear, earplugs, visual partitions]
- Explore lower stim. workspace options
- Ask employer for additional time for new learning tasks
- Divide larger assignments into smaller steps
- Practice attention to one task at a time
Organizational Skills/Time Mgt.

- Develop EFFICIENT “To Do Lists” with priorities and realistic projected timeframes
- Use a visually accessible calendar
- Use electronic organizers, cellphone alarms/reminders/timers [if acclimated]
- Structure use of “sticky notes” and various
- Identify a supervisor to assist in prioritizing, problem solving and monitoring progress
- Set-up a routinely scheduled formal feedback session with supervisor
Memory Barriers

- Tape record meetings
- Practice note taking skills
- Ask for written instructions along with verbal instructions
- Post written instructions next to complicated equipment requiring multi-step procedures
- “Live-Scribe” pen
Stress Management

• Establish relaxation technique practices/skills
• Identify triggers
• Identify environment
• Develop a tool box [audio recordings, imagery, positive self talk, movement, breathing exercises]
• Biofeedback sessions
• Employee Assistance Programs
• Negotiate break needs with employer
Rigid Thinking Style

• Identify a trusted supervisor/resource
• Provide supervisor with training for efficient communication style
• Schedule routine feedback sessions with supervisor
• Keep an Issues/Concerns log
• Employ a Structured Problem Solving strategy
Maintaining Employment

- “Memory loss and attention/concentration concerns were the most common functional limitations reported.”

- “Medical symptoms and emotional dysregulation were reliably and inversely associated with job maintenance.”

(L.K. Artman and B.T. McMahon 2013)
Maintaining Employment

• “return to productivity in a long-term perspective after a TBI is possible, in particular when the individual is young, has sustained a mild TBI and has a milder form of overall disability.”

(J.Lexell, A.K. Wihlney, L.J.Jacobsson 2016)
QUESTIONS?
Components of a Successful RTW
59 Y/O male Truck Driver fell from loading dock found unresponsive at scene
GCS was 13
Bilateral subdural hematomas[left greater than right], 7mm left to right midline shift, displaced fracture of right occipital and posterior parietal bones, left orbital fracture, C-5 and C-7 spinous process fractures.
• Underwent left craniectomy, cervical collar, Keppra for seizure prophylaxis
• Stabilized and 3 weeks later transferred to Rehab Hospital
• Initially displayed confusion, agitation, impulsivity, and restlessness, required bed net, blue belt, and one on one supervision for safety
• Made good physical progress at Rehab over 4 weeks progressed to independent ambulation status.
• Required “one on one” supervision upon admission to ReMed’s STRS program due to impulsivity, disorientation, intermittent confusion, and poor judgement and awareness.
• Participated in full compliment of Rehab services.
• Received successful cranioplasty after 3 months.
• 5 months post discharged home with S.O. and HHA’s during daytime hours.
Upon admission to ReMed’s Outpatient program IW presented with following barriers; memory deficits, visual-spatial skills, reasoning abilities, problem solving, sequencing, organizational skills, word finding with fluent aphasia [empty language], judgement, reduced cognitive and physical endurance, poor awareness of barriers and insight into functional impact.
• Initial Outpatient program was 3 days week in clinic and 2 days in home and community.

• Initial treatment focus was on developing awareness of barriers, establishing safety precautions and guidelines, establishing a structured routine schedule.

• Participated in various home mgt. and maintenance/repair tasks of a multi-step nature with cognitive and physical support.

• HHA’s slowly reduced and discharged after 6 weeks with successful demonstration of following established safety guidelines.
- Improved communication skills
- Improved planning and organizational skills
- Increased physical and cognitive endurance
- Improved visual perceptual skills
- Completed Adaptive Driver’s Evaluation
- Demonstrated improved awareness
Back to Work

• Began a Supported Therapeutic Work Trial 2 days per week 2 hours per day 11 months post injury
How did we get back to work?

• Employer and family remained engaged with treatment teams throughout Rehab process
• Employer allowed therapists on-site to tour facilities to identify what types of jobs IW might be able to perform
• Employer allowed therapists on-site “Job Coaching” over several months
• Employer sought guidance from treatment team regarding timeframe for RTW
• Employer allowed modifications to environment and productivity requirements
• Employer sought BI education and encouraged therapists to provide education to IW’s co-workers.
• Employer and WC Case Mgr. negotiated reimbursement modifications.
• Representatives from HR, Risk Mgt. and QA attended and participated in treatment team mtgs.
• Employer sought treatment team’s direction to address IW’s requests for alternate positions.
• Assigned a supervisor immediately available to assist IW in problem solving and act as mentor.
• IW was provided with daily verbal and written feedback on performance based on predetermined production measures
• Therapist provided supervisor/mentor with role modeling of interaction style when providing feedback to IW
• Family routinely communicated with treatment team and WC case mgr.
• Family followed through with treatment team recommendations in home setting.
• Physiatrist actively sought treatment team input to assist in establishing RTW timeline
• 15 months post injury IW was working full time assembling and packaging electronic devices performing a repetitive 14 step task at 80% of normal productivity rate.
Remaining Issues

- Limited insight into limitations
- Limited cognitive endurance
- Obtained CDL against treatment team recommendations
- Pursuing alternate positions at place of employment
- Employer remains in contact with ReMed to address IW’s ongoing awareness and insight limitations and how to effectively communicate.
Questions???

Thank You