Return-to-Work in Stroke Survivors

Why does it matter?
How can clinicians help?

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Benefits of Work

• Provides income
• Central to identity, social roles and status
• Meets psychosocial needs
• Employment and socio-economic status are primary drivers of social gradients in health
Unemployment

Long-term associated with:

• Higher mortality
• Poorer general health
• Poorer mental health (distress, anxiety, depression, suicide)
• Higher health use and hospitalization rates
Work for sick & disabled people:

- Is (generally) therapeutic
- Minimises harmful physical, mental and social effects of long-term absence
- Reduces poverty and social exclusion
Is Work Good for Health?

“The beneficial effects of work on physical and mental health generally outweigh the risks of work and the harmful effects of unemployment.”

- Waddell and Burton 2006
Outline of Presentations

1. Introduction
   - Epidemiology
   - Why is RTW important?
   - Why don’t stroke survivors RTW?
   - Why isn’t rehabilitation successful at times?

2. Factors that influence RTW

3. RTW assessment

4. Treatment and Practical RTW suggestions

5. Case Scenarios
Epidemiology

• Typically 20-25% of stroke patients of working age

• Varies: 45% under 65, 27% under 55 (Wolfe 2009)

• Rates increasing as people are working longer and survival rates are improving

• ~44% RTW, often in the first 3-6 months

• Canadian study: 80% don’t RTW
  - Teasell 2000, London ON
Canadian study of Young Stroke Survivors

Teasell et al, 2000

Retrospective file review (London, ON)

15% of survivors were under age 50 (n = 83)

48% Anxious about RTW (15% anxiety about return home)

<table>
<thead>
<tr>
<th>Work Status</th>
<th>Pre-stroke</th>
<th>3-months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Full-time</td>
<td>64%</td>
<td>6%</td>
</tr>
<tr>
<td>Post Part-time</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Student</td>
<td>8%</td>
<td>4%</td>
</tr>
<tr>
<td>Unemployed</td>
<td>23%</td>
<td>84%</td>
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Why is RTW important post-Stroke?

• Work contributes to life satisfaction, well-being, self-worth and social identity
• Provides financial stability and independence
• Reduces daily boredom
• Workplace often provides a social network
• May assist in stroke recovery
• Helps reduce the social stigma of stroke
• Significant societal cost for not RTW
Why don’t stroke survivors RTW?

Those not returning reported:
• Can no longer do required job tasks (62%)
• They aren’t fit enough to RTW (61%)
• Afraid of losing wage replacement benefits (32%)
• Can’t drive or use public transport (31%)
• Can’t meet work expectations (30%)
• Forced to retire by employer (19%)
Why don’t survivors return to work?

• Alaszewski et al., 2007
  – Qualitative study of 43 individuals under 60yrs
  – Participants valued work and viewed work (especially paid work) as more desirable than not working

Non-RTW subjects – felt RTW was desirable however, were unable to overcome barriers

RTW subjects – recognized the barriers however, found ways to manage them
Why isn’t rehab successful for RTW?

Singapore study of OT RTW program outcomes:

- Require further rehabilitation (21%)
- Failed to attend assessment (10%)
- Deemed unfit to work generally (7%)
- Further medical/ surgical care required (3%)
- Withdrawal from job trial (3%)
Factors Influencing RTW

- Stroke location?
- Physical/Functional Factors
- Vocational /Work Environment Factors
- Psychosocial Factors
- Cognitive Factors
- Other Factors
Stroke Location

• Anatomic location of ischemic stroke is relatively *unimportant* compared with functional status in predicting RTW
  - Wozniak et al. 1999

• Side of brain damage and stroke location were NOT found to be correlated with RTW
  - Treger et al. 2007
Physical and Functional Factors

- Stroke severity measured by the Barthel Index
- Motor strength score at 7 days
- Function of hemiplegic hand/ADL independence
- Aphasia
- *Fatigue*
Vocational/Work Environment Factors

- Physical and mental job demands
- Education and wage level
- Perception of supportive colleagues and employer
- Perception of more autonomy in decision making
- Perception of job security and satisfaction
- Flexible work environment/ supportive social networks
- Self-employed more likely to RTW
Psychosocial Factors

• Positive attitude
• Low self-esteem
• Substance abuse
• Difficulty dealing with anger and frustration
• Psychiatric morbidity
  – Insomnia
  – Anxiety
  – Depression (~50% report depressive symptoms)
Cognitive Factors

• Decreased ability to concentrate

• Reduced attention

• Challenges with executive functioning (i.e. abstract reasoning, planning, and the capacity to govern self-directed behavior)
Other Factors/ Barriers

• Adequacy and appropriateness of health care

• Insurance/ wage replacement benefit issues

• Transportation issues
  – Loss of drivers license.
  – Inability to take public transportation
Work Disability Paradigm

Work disability is not just the lesion, but a complex Person – Environment problem

Requires collaboration
Two Key Roles of Rehab Therapists

1. Assessment of work ability/RTW readiness

1. Guide occupational rehabilitation
Assessment of Return to Work Readiness for Stroke Clients
 Abilities Should Match Requirements

Functional Testing
• Performance testing
  (i.e. Functional Capacity Evaluation)
• Self-report questionnaires
  (i.e. Workability Index)

Job Demands Analysis
• Worksite visit
• Employer report
  (i.e. Physical Demands Analysis form)
• Worker report

Assessment important but not perfect
Physical and Functional Assessments

• VALPAR Systems
• Baltimore Therapeutic Equipment (BTE)
• Purdue Pegboard
• Jamar Dynamometers
• Tap Dance Typing Speed Test
• ‘Five Finger Typist’
• *Fatigue Severity Scale (FSS)*
• [Matheson](#) – FCE for individuals with Acquired Brain Injury
Many Commercial FCE Protocols

**Key**

- **Isernhagen**
- **WorkWell**
- **Ergoscience** (PWPE)
- **Matheson** *(Epic)*

- **Arcon**
- **Blankenship**
- **WorkAbility**
- **BTE/ Hanoun**
- **Valpar/Joule**
Psychological Status Tools

- General health tool that looks at physical and mental health (Short Form – 36)
- Beck Depression Inventory (BDI)
- Beck Anxiety Inventory (BAI)
- Pain Disability Index (PDI)
General Cognitive Assessment Tools

Montreal Cognitive Assessment (MoCA) assesses a wide range of cognitive functions

www.mocatest.org

Cognitive Assessment of Minnesota (CAM) is designed to assess a hierarchy of cognitive skills

www.pearsonsassessments.com

Loewenstein OT Cognitive Assessment

www.lotca.com/lotca-cognitive-battery
Specific Cognitive Tools (1)

Rivermead Behavioral Memory Test III evaluates memory function including; verbal, auditory and visual memory

Test of Everyday Attention (TEA) assesses selective, sustained and divided attention, auditory-verbal working memory and attentional switching

Behavioral Assessment of Dysexecutive Syndrome (BADS) designed to assess shifting, planning and multitasking

Behavioral Rating Inventory of Executive Functions (BRIEF) measures various aspects of executive functioning including:

   Inhibition, Self-monitoring, Planning and organizing, Shift (ability to make transitions), Initiate, Task Monitor, Emotional Control, Working memory
Specific Cognitive Tools (2)

Multidimensional Assessment of Fatigue severity, distress, degree of interference and timing (frequency)

Visual Perceptual Tests – Numerous
  – Test of Visual Perceptual Skills (TVPS)
  – Occupational Therapy Adult Perceptual Screening Test (OT-APST)

Sensory Processing
  – Adolescent/Adult Sensory Profile
Physical Job Demands Analysis

- Worksite visit with direct measurements
- Client reported demands (standardized forms)
- Employer reported demands
  - Physical Demands Analysis form (PDA)
Cognitive Job Demands Analysis

• Evaluation of the following areas related to the job (Matheson and Associates 2010)
  – Attention
  – Memory
  – Structure and routine
  – Characteristics of the tasks (single vs. multiple steps)
  – Problem solving
  – Information processing
  – Initiation, planning and organizing.
  – Safety and judgment
  – Others...

**Job Demands Analysis is an area that needs considerably more development**
Guiding Occupational Rehabilitation for Stroke Survivors
RTW Focused Rehabilitation for Stroke Survivors

1. General Information

2. Physical and Functional Intervention

3. Psychological Int.


5. Vocational Int.
Generalities...

• What is recovery to rehab professionals may be different than what the patients view as recovery
  – Professional - Independence in ADL and mobility
  – Patient – RTW

• Independent ADL no guarantee of RTW

• Must avoid early discharge from hospital with no follow-up

• Improvements can be seen for months and years post stroke

  “RTW should be a major goal”
Readiness to RTW?

• Many patients are not given explicit advice or do not agree with their medical practitioners

• Absence of clear guidance leaves patients in limbo

• Decisions guided by assessment findings but...

• Decision shouldn’t be completely up to the medical team
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Physical/Functional RTW Interventions

Enhance workability

Increase Capacity/ Decrease Demands

Dealing with fatigue and practical advice for phased RTW
General Principles to Aid RTW

• Importance of a RTW focus
  - Tschernetzki-Neilson et al 2007

• Realize and educate that RTW can be therapeutic

• Stroke survivor must be in charge

• Flexibility, collaboration and support from others is crucial
Dealing With Fatigue

• Incidence rates: 39 – 72% (incidence increases with time since stroke)

• Not just tiredness or general sleepiness

• *Pervasive* fatigue or exhaustion – ‘*mind-numbing*’

• At times long lasting (months to years)

• Can be unpredictable or experienced daily

• Physical and cognitive

• At times does not improve with rest
Dealing with Fatigue (1)

• Complete medical work-up as fatigue can be multi-factorial (depression, sleep, medications etc.)

• Avoid de-conditioning in the first place (Physical rehabilitation when medically stable and early RTW avoids de-conditioning)

• Education – worker, family members and employer
  – Educate the worker early after the stroke
  – Validate their experience and provide assurance
  – Education fosters acceptance and adaptation
Dealing with Fatigue (2)

- Teach energy conservation and coping strategies.
  - Pacing (No “good or bad days” – even keel)
  - Schedule and plan daily activities.
  - Use an activity diary and set realistic goals.
  - Often napping must be part of the daily routine (that’s OK!)
- Increase endurance and capacity via physical rehabilitation
- Proper sleep hygiene
- Cognitive Behavioral Therapy?
Exercise

• Include exercises aimed at body functions and structures (cardiovascular, endurance and strengthening), BUT…

• Understand the patient’s job and focus exercises specific to work demands

• “RTW specific training”

• Individually-tailored programs (what does the patient want to focus on?)

• Include the partner/family members

• Reinforce and focus clients on their abilities
Exercise and Work Simulation

Focus exercise and work simulation to patients pre-accident job or vocational goal.
Work Simulation

• Tailor activities to physical AND cognitive demands

• Pattern work simulation activities that reflect a working day

• Teach energy conservation techniques that can be used realistically in the work environment

• *BEST* form of work simulation is actually getting the client back into the workplace
  – Educate employer with regards to RTW challenges that the patient will face.
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Psychological Interventions that support RTW

*General Thoughts:*

• Normalize the client’s experience and feelings (anxiety, fear, anger, depression)

• Help the client process and grieve the loss (perceived or actual loss)

• All team members can support the client and assist in stabilizing them psychologically (this is not exclusively the role of the psychologist)
Psychological Interventions that support RTW

• Cognitive Behavioral Therapy
  – Focuses on the patients present problems, rather than focusing on the past
  – Use of motivational interviewing to understand why a patient thinks the way they do and understand their motivations
  – Structured exercises to change distorted thoughts and inappropriate behaviors
  – Homework assignments to practice and reinforce what they have learned
  – Helps to develop realistic goals
Psychological Interventions that support RTW

• Stress management and relaxation therapy
• Biofeedback
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Cognitive Rehabilitation

- Attention training activities for alternating, selective, divided and sustained attention

- Memory training activities and external cues to prompt memory such as; diary, visual prompts, alarm or calendar
Work Simulation

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Participatory Ergonomics

• Collaborative approach
  
  *Top down approach rarely works*

• Involve all stakeholders
  
  • Worker
  
  • Employer
  
  • Union representative
  
  • *Case manager or rehab coordinator*

• Brainstorm and negotiate suitable/acceptable duties
Participatory Ergonomics

- Focus on the outcome rather than specifying means to achieve it

- Stroke survivors may use different means to achieve equivalent result

Worker makes final decision
Other RTW Options

• Start with voluntary instead of paid work to enhance confidence
• Graduated (phased) return to full duties
• Transitional (weaning off rehab) return to full duties
  – Both require advanced planning and monitoring
• Work trial (few weeks to a month)
• Supernumerary – additional helper
Modified Duty

• ‘Duty to Accommodate’ legislation

• Modified tasks: Physical and mental

• Phased return: Modified hours or days (morning or afternoon only?)

• Work from home?

• Typically easier with large employers

• Modified duties have a tendency to linger
Supportive Employer and Colleagues (1)

• Communication – should keep in touch without pressuring to RTW
• Pre-RTW interview – what (if any) adjustments are needed
• Shouldn’t make assumptions regarding ability, discuss with worker
• Constant encouragement to increase confidence
Supportive Employer and Colleagues (2)

• Any modifications must be in place for the person’s first day back
• Follow-up regularly after initial RTW
• Allow time to adjust – may take months to years
• May require a separate ‘resting’ room or a complete break at lunch and other times (avoid working lunches)
• Ensure schedule accommodates follow-up medical and rehab appointments
Supportive Employer and Colleagues (3)

- Confidentiality
  - Stroke awareness must be handled with sensitivity
  - Some prefer medical conditions to be confidential
  - Others prefer providing information
  - Educational resources may be helpful
    (i.e. pamphlets)

Regardless of confidentiality needs, RTW won’t be successful unless employers and co-workers are educated regarding a stroke survivor’s abilities.
What if worker can’t return to original job?

- Predominately social issue, no longer medical
- Vocational assessment and placement services
- Assess ability, aptitude, interests
- Supported job searching
- Very high rates of success (up to 80% sustained work) with **Supported Employment** for individuals with serious mental disorders and learning disabilities.
Supported Employment Principles

• Client determines eligibility
• Integrated with treatment/ rehabilitation
• Competitive employment is the goal
• Searching for a job begins rapidly (assessment and re-training is de-emphasized)
• Jobs fit the individual
• Follow-up supports are not time-limited
Resources

• Alberta Stroke Info Card

• Vocational Rehabilitation Association of Canada

• Work After Stroke:
  Patient Document
  Employer’s Guide
  Information for Family and Friends