Post-Acute Rehab: Community Re-Entry After Stroke?

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2014
Neurocognitive Deficits After Stroke: The Hidden Disability

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Consequences of Stroke and Brain Injury

- Physical/Medical
- Cognitive/Intellectual
- Behavioral
Consequences of Stroke and Brain Injury

Physical

- Hemiparesis
- Perceptual deficits
- Swallowing
- Continence
Consequences of Stroke and Brain Injury

Thinking Skills

- Memory
- Attention
- Communication
- Spatial Thinking
- Executive Skills
- Awareness
Consequences of Stroke and Brain Injury

Behavioral

- Primary changes
- Secondary or reactive changes
- Depression
- Anxiety
- “Personality”
Consequences of Stroke and Brain Injury
Continuum of post-acute rehabilitation services

AHA Scientific Statement

• Recommendations for the Establishment of Stroke Systems of Care
Continuum of post-acute rehabilitation services

• A stroke system should ensure that all stroke patients receive a standardized screening evaluation during the initial hospitalization to identify patients with residual impairments so that these patients receive appropriate rehabilitation.
Continuum of post-acute rehabilitation services

• A stroke system should periodically assess its level of available rehabilitation services and resources.
Continuum of post-acute rehabilitation services

• Stroke patients should be referred to an inpatient facility, an outpatient facility, or a home care service that provides for their medical and functional needs.
Continuum of post-acute rehabilitation services

• A stroke system should establish support systems to ensure that patients discharged from hospitals and other facilities to their homes have **appropriate follow-up** and primary care arranged on discharge.
• Neurology
• Rehabilitation Medicine
• Rehabilitation nursing
• Physical therapy
• Occupational therapy
• Speech-language pathology
• Audiology
• Recreational therapy
• Nutritional care
• Rehabilitation counseling
• Social work
• Psychiatry/Psychology /Neuropsychology
• Chaplaincy
• Patient/Family education
• Support groups
Continuum needed but not “natural”

- Transitioning from these acute inpatient settings to in- and outpatient rehabilitation or long-term care environments has consistently been identified as an obstacle to quality stroke rehabilitation.
- The fragmentation of the current poststroke chain of care could benefit from the introduction of case managers or "navigators," discharge planning, electronic medical records, and evidence-based neurorehabilitation guidelines.
- By aiding in successful care transitions, these proposed efforts could advance post-acute stroke patients along the care continuum to achieve their rehabilitative goals.

- Navigating the poststroke continuum of care. 2013
- Wissel J1, Olver J, Sunnerhagen KS.
• Review evidence based recommendations for cognitive and behavioral rehab after stroke
Recommendations for Clinical Practice

Practice Standards

• **Visuospatial** rehabilitation for deficits associated with **visual neglect** after right hemisphere stroke.

• **Cognitive-linguistic** therapies for language deficits related to left hemisphere stroke.

• Gestural or strategy training for **apraxia** after left hemisphere stroke (acute rehab)
Recommendations for Clinical Practice

Practice Guidelines

• Visual scanning training, particularly when neglect is present, after right hemisphere stroke.

• Cognitive interventions for specific language impairments after stroke or TBI

• Problem solving strategies for everyday situations and functional activities following stroke or TBI

• Treatment intensity should be considered as a key factor in rehab of language deficits after left hemisphere stroke
Recommendations for Clinical Practice

Practice Guidelines (continued)

• Treatment intensity

• Recent study on movement practice by Lang et al (2009): “It is possible that current doses of task-specific practice during rehabilitation are not adequate to drive the neural re-organization needed to promote function poststroke optimally”
Recommendations for Clinical Practice

Practice Options

• Systematic training of visuospatial and organizational skills without neglect after right hemisphere stroke

• Integrated treatment (cognitive and psychosocial) in the context of holistic neuropsychological rehabilitation

• Computer based interventions if therapist mediated and part of a multi-modal program.

• Limb activation or electronic technologies for visual scanning training for neglect after right hemisphere stroke
Recommendations for Clinical Practice

Practice “Warnings”

• Sole reliance on computer based tasks
• Isolated use of computer training for left neglect
Evidence-Based Cognitive Rehabilitation:

“Future research should move beyond the simple question of whether cognitive rehabilitation is effective, and examine the therapy factors and patient characteristics that optimize the clinical outcomes…”
• Outline how neurodevelopmental theory can be applied to physical therapy during stroke recovery
Neuro-IFRAH Approach

Integrates concepts related to normal movement, musculoskeletal biomechanics and function, sensory, cognitive, communicative, perceptual-motor, and emotional considerations into activities of daily living and other functional activities.
Neuro-IFRAH Approach

• to achieve carryover there needs to be opportunity for practice- this encourages therapist to create opportunities for repetitious practice of a particular thing (movement, activity) and then to incorporate this into meaningful activities.

• The approach is a Whole Person Approach- and therapists need to be aware that there are many variables that affect normal movement and normal function- including- cognitive, perceptual-motor status, psychological – therefore these aspects need to be considered by each team member and a team of experts is needed to rehabilitate this persons brain.

• There is an emphasis on the patient’s ability to adapt to the environment.

• Waleed Al-Booed, OTR/L
Neuro-IFRAH Approach

• Identify the primary and secondary impairments, movement or otherwise, underlying the functional limitations in various postures including function in upright posture.
• Identify musculoskeletal biomechanics and differentiate between normal and abnormal movement throughout the body in various postures and transition in functional activities.
• Impact of whole body alignment and control
• Identify missing components/processes necessary for interaction with the environment, effective learning, and generalization of skills/carry over.
• Review the challenge of generalization of rehab and share an example of a therapeutic “lab” that facilitates community re-entry (WestEnd Coop)
GENERALIZATION
Challenge of generalization-

- even if we can make a difference in one area will we see it carry over to another?
Challenge of generalization-

- What are some of the generalizations (transfers of learning) that we are expecting patients to make?
Challenge of generalization-

Factors contributing to lack of generalization

- Environmental
- Interpersonal
- Cognitive set
- Social
- Administrative
a therapeutic program that integrates small business functions into daily therapy operations of a comprehensive interdisciplinary brain injury and young stroke program.
The ‘How”- West End Co-op

As a therapy lab

- Priority of therapeutic activities over routine business functions
- Core business operations are sustained by a cohort of employed prior patients.
West End Co-op

As a therapy lab

• Therapy sessions conducted in Co-op
• Direct intervention with a licensed therapist (OT, PT, ST, Psychology)
• General supervision and set up of task by Co-op staff if requested by treating therapist
• Extended time under Co-op staff supervision
• Therapy staff can request projects that are tailored to the specific interdisciplinary treatment goals of individual patients.
West End Co-op

As a therapy lab

• Physical tasks
  • Standing tolerance
  • Eye-hand coordination
  • Indoors and outdoors

• Complex projects
  • Social skills training
  • Awareness training
  • Executive skills training
  • Memory management
West End Co-op

As a vocational lab

• Collaboration with on-site State VR counselor
• Supported work exploration while in rehab
• Simulation of work tasks and responsibilities
  – Accounting
  – Shipping and receiving
  – Quality Control
  – Internet use for ordering and pricing
  – Assembly
  – Customer service
  – Filing
  – Inventory control
West End Co-op

As a vocational lab

• Work readiness
  – Physical stamina
  – Application of compensatory strategies
  – Social skills and work behaviors
  – Interview and job search skills

• Job specific
  – Situational Assessment
  – Work Trials
West End Co-op

As an employer

– FT, PT, PRN
– Persons with history of ABI (4)
– Hospital Human Resource Policies and Procedures were modified to accommodate unique training and supervision needs of persons with brain injury
– Staff (2)
  • One Music/Art therapist who completed OT grad school
  • One project specialist
West End Co-op

CO-OP as Community

– CO-OP as Destination
– CO-OP as Gateway
  • BIASC support group and activities
  • "Real" community activities
– Volunteer
  • Ongoing
  • Project specific
The West End Co-op

Relevant Creations

by Relevant People
Silver Lining Jewelry
Work
Worth
Doing
Work Worth Doing
The WECO aids with transference. Generalizing from the clinic setting to home, work, and community. The tools used for tasks are familiar to the client.
• Cognition is a situated and social activity
• Learning happens by doing what experts in the field are doing
• Knowledge is inert if we separate learning from doing

Lave, Wenger, Griffin
ART of HOPE
The West End Co-op is an exemplary example of an occupational performance enhancer that caters to the very fabric of an occupation-based practice.

From Something Bad...
to Something Good...
Becoming something GREAT!
ART in the PARK