Toronto abi Network conference 2024

Connecting • Learning • Inspiring

Cognitive-Communication Rehabilitation: Best Practices

Therese M. O'Neil-Pirozzi, ScD, CCC-SLP; ASHA Fellow

Northeastern University & Spaulding-Harvard TBIMS, Boston MA, USA

t.oneil-pirozzi@neu.edu

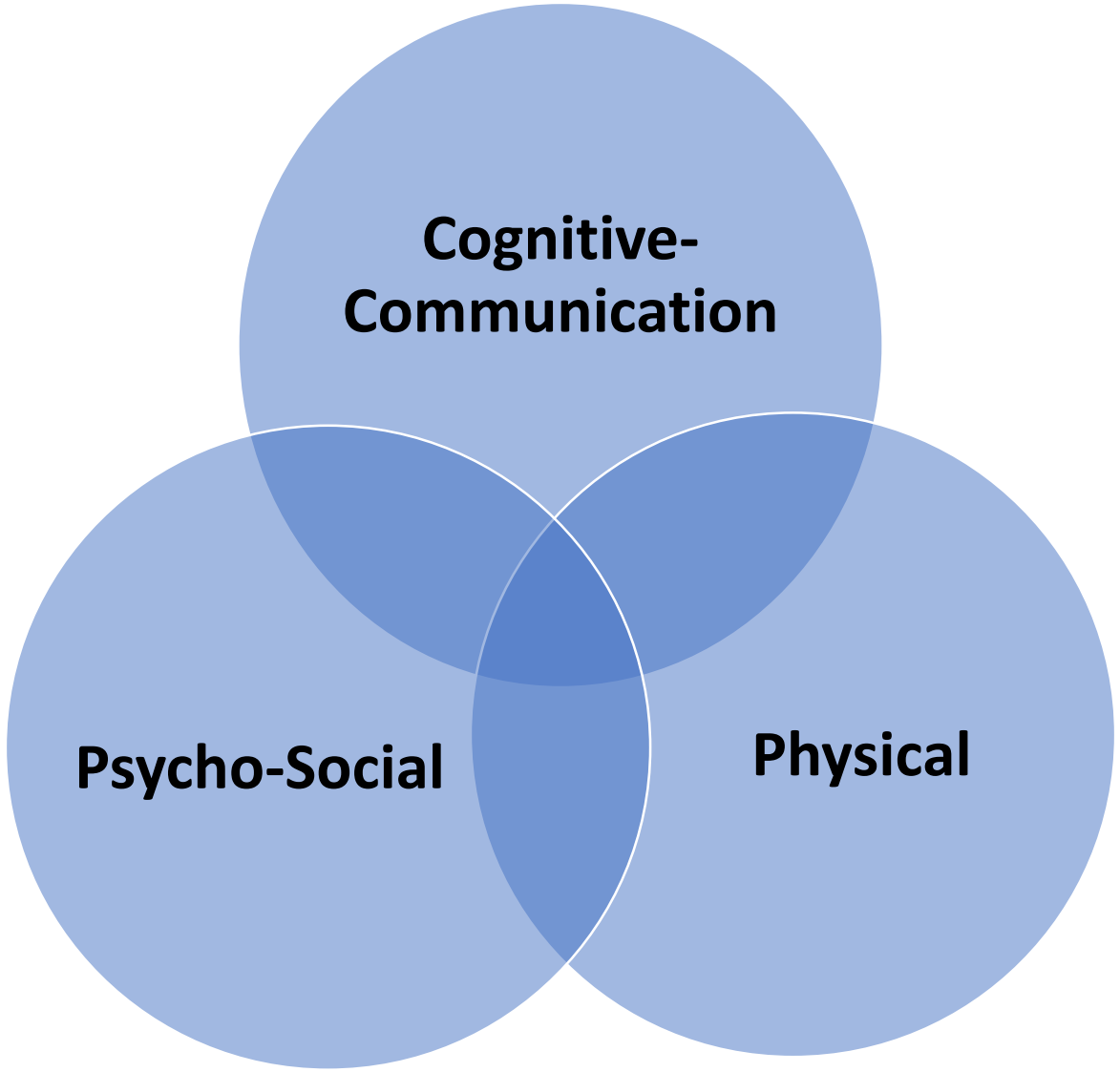
Northeastern

Spaulding-Harvard Traumatic Brain Injury Model System

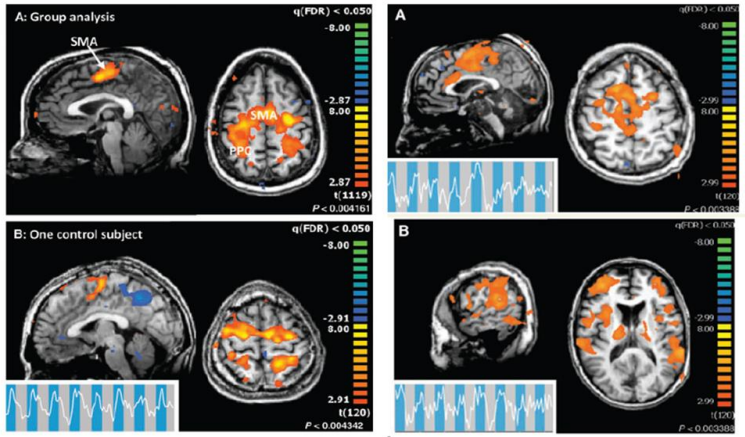
Session Learning Objectives

- **To identify recommended therapeutic approaches & strategies to treat attention, memory, executive function, & social communication deficits post-ABI**
- **To distinguish among recommended approaches & strategies to treat attention, memory, executive function, & social communication deficits based on severity of cognitive-communication deficits**
- **To describe how use of attention, memory, executive function, & social communication therapeutic approaches & strategies may improve life participation, productivity, & quality of life post-ABI**

Consequences of ABI



Medical versus Functional TBI Severity



Injury/Medical Severity

≠

Functional Severity

Cognitive-Communication Rehabilitation Foci

- **Restoration – restore/return to baseline function**
- **Compensation – development/use of strategies to 'work around' injury-caused challenges that were not needed pre-injury**
    - **Internal & external strategies - for mild-moderately impaired individuals**
    - **External strategies - for more moderate severely impaired individuals**

Both capitalize on neuroplasticity

→ healing damaged neurons & neural connections

→ creating new neural connections – adapting & re-wiring

Stages of Compensatory Strategy Instruction

- **ACQUISITION – goal is for the patient to learn/understand & remember the strategy (explicitly/implicitly)**
- **APPLICATION – goal is for the patient to begin using the strategy in role play & real-life situations (explicitly/implicitly)**
- **ADAPTATION – goal is for the patient to apply use of the strategy outside therapy (explicitly/implicitly)**

FIND OUT:

- **Morning or night person**
- **Auditory &/or visual person**
- **Hearing & visual abilities**
- **Pre-Injury use of internal & external cognitive strategies (e.g., smartphone, mnemonics)**
- **Likes/dislikes –> motivators?**
- **Warning signs of escalating frustration & coping strategies**

DO:

- **INDIVIDUALIZED evaluation & treatment***
- **Engage as partner/collaborator → collaborative goal setting, therapeutic alliance***

Doing these will ↑ life participation, productivity, & QOL

- **Positive reinforcement (effort / success)**
- **Emphasize accuracy 1st; speed of processing response 2nd**

Mild-Moderate versus Moderate-Severe Cognitive-Communication Functional Limitations

- **Individuals with mild-moderate cognitive-communication functional limitations have at least some awareness & insight into their relative strengths & weaknesses, and these ↑ with rehab.**

- **Individuals with moderate-severe cognitive-communication functional limitations do not have awareness & insight into their relative strengths & weaknesses, and these may/may not ↑ with rehab.**

Mild-Moderate versus Moderate-Severe Cognitive-Communication Functional Limitations

- **Mild-Moderate Functional Limitations: the rehab goal is to ↑ <u>independent</u> cognitive-communication function (i.e. self-use of internal & external strategies; no ongoing cues/help from others only as needed)**

- **Moderate-Severe Functional Limitations: the rehab goal is to maximize cognitive-communication function with ongoing assistance (ongoing cues/help from others + self-use of procedurally learned strategies); with functional improvement, switch to ↑ self-use of strategies and ↓ reliance on others**

Evidence-based Treatment

- **Include direct attention training (restoration) & compensatory strategy training (external/internal: environmental manipulation, verbal mediation, pacing)**

- **Consider computer-based intervention as an adjunct to traditional behavioral therapy but not instead of it**

Instructional Methods

- **Errorless Learning**
- **Spaced Retrieval Learning**
- **Metacognitive Strategy Training**
- **Cognitive Symptom Management & Rehabilitation Therapy (CogSMART) – emphasizes compensatory strategy training/habit learning vs. drills**

Memory

Evidence-based Treatment

- **Use internal & external memory strategies for “mild-moderate” memory impairments**
- **Use external memory strategies for “more severe” memory impairments and errorless learning techniques**
- **Group interventions may be used**

External Compensatory Aids*

- **Appointment calendars**
- **Checklists**
- **Key finder**
- **Oven timer**
- **Pill box**
- **Post-it-notes**
- **Watch**
- **Camera**
- **Cell phone**
- **Data watch**
- **Pager**
- **Smart phone**
- **Software**
- **Voice recorder**

Internal Compensatory Aids

- **Mnemonics**
- **PQRST – Preview, Question, Read, State, & Test**
- **Rehearsal**
- **Semantic Association**
- **Visual Imagery**
- **Music**

Instructional Methods

- **Errorless Learning**
- **Spaced Retrieval Learning**
- **Metacognitive Strategy Training**

Executive Function

Evidence-based Treatment

- **Include metacognitive strategy training**
- **Train problem solving strategies and apply them functionally**
- **Group interventions may be used**

Instructional Methods

- **Metacognitive Strategy Training**
- **Motivational Interviewing (↑ awareness) & Collaborative Goal Setting (e.g., Goal Attainment Scaling – GAS; SMART Goals)**
- **Scripts**
- **Errorless Learning**
- **Spaced Retrieval Learning**

Social Communication

Evidence-based Treatment

- **Know the social communication mores/practices associated with the racial/ethnic/cultural identity of each patient (e.g., social greetings; physical space; eye contact; loudness)**
- **Provide education about ABI to the patient & communication partners**
- **Engage in communication partner training (e.g., signal if talking too much)**
- **Engage in community re-integration activities (e.g., home, work, school, social activities relevant to the individual)**
- **Work on self-confidence/self-efficacy/self-esteem/self-advocacy**
- **Provide group therapy, in person or via telehealth**

Instructional Methods

- **Scripts**
- **Role playing interactions important to the individual**
- **Real-World Interactions with ‘coaching’ as needed**
- **Pre-Activity Prediction – Post-Activity Eval of Success**
- **Metacognitive Strategy Training**
- **Communication Breakdown Repair (e.g., ‘This isn’t going well… let me try again…’)**

Case Study

- **22 y/o female, 2 mos s/p severe TBI 2nd to MVA**
- **IP acute rehab d/c → OPD SLP Rx**
- **Pre-injury part-time college History major; part-time waitress in family's restaurant (never wrote down people's orders); lived at home; big social media user**
- **Currently presents with moderately ↓d attention, memory, & executive function; has some awareness of these deficits; language is a relative strength**
- **Working 1 hr/wk in restaurant kitchen; motivated to return to waitressing and to school**

Case Study (cont'd)

LTG: The pt will utilize compensatory memory strategies to successfully complete work-related activities.

STG 1a: The pt will accurately document 2 customer food orders on her work iPad with 90% accuracy.

STG 1b: The pt will deliver food orders to the right customers with 90% accuracy using semantic association & visual imagery strategies.

STG 1c: The pt will state the 2 daily dinner specials with 90% accuracy using semantic association & visual imagery strategies.

In closing, we have:

- **Identified recommended therapeutic approaches & strategies to treat attention, memory, executive function, & social communication deficits post-ABI**

- **Distinguished among recommended approaches & strategies to treat attention, memory, executive function, & social communication deficits based on severity of cognitive-communication deficits**

- **Described how use of attention, memory, executive function, & social communication therapeutic approaches & strategies may improve life participation, productivity, & quality of life post-ABI**

QUESTIONS?

COMMENTS?

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THANK YOU!

t.oneil-Pirozzi@neu.edu