Pathologists in Pediatric Brain Injury

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Outline

• What I Do

• SLP role in Brain Injury
  • Acute Care Hospital Setting
  • Intensive Rehabilitation Setting
  • Community Setting

SLP at Sunny Hill Acute Rehab Unit

• Two SLPs, 1.5 FTE

• Communication, cognition, swallowing

• All acquired brain injury and dysphagia patients

• Team based approach to dysphagia with SLP, OT, dietitian, physician, and nursing.
SLP Consultation for BCCH

- Provide consultations on request for inpatient wards
  - provide therapy for long-term oncology patients
- Meet with families and team members to help implement communication strategies for patients

Acquired Brain Injury Communication Deficits

80-100% of individuals with Traumatic Brain Injury (TBI) have communication deficits.¹,²

- Cognitive-Communication
- Aphasia
- Dysarthria
- Apraxia Of Speech

Importance of an SLP in ABI

International and Canadian Evidence Based Practice Guidelines

- INCOG Guidelines for TBI (Part IV: Cognitive Communication)³
- ONF/INESSS Guidelines for Mod-Severe ABI (2016)⁴
  - “ABI rehabilitation team should have an SLP.”
  - “timely, specialized interdisciplinary rehabilitation services.”
Speech Language Pathologist’s Role in Acute Care Setting

Consequences of Communication Disorders in Acute Care

- Fear
- Resistance to medical care or therapy
- Unable to follow directions to participate in therapy
- Frustration
- Aggression
- Sadness
- Social isolation
- Can affect quality of care

SLP Role in Acute Care Settings

Screening and Assessment:

A complete assessment by an SLP is always recommended

- Hearing
- Vision
- Oral motor
- Motor speech
- Reading
- Writing
- Pragmatics
- Expressive and Receptive Language
SLP Role in Acute Care Hospital

Screen and Assessment:

• Cognitive-Communication:
  • Attention
  • Orientation
  • Memory
  • Organization
  • Information Processing
  • Reasoning
  • Problem Solving
  • Executive Functioning
  • Self-Regulation

• “Pass the test but fail at life”

FORMAL or INFORMAL language assessments?

• Patient changing?
• Will scores be meaningful?
• Specific for brain injury?
• Can the patient participate?
• Will you be able to complete it in full?
• Will it close the door for future assessments (practice effects)?

Informal Assessment:

• Develop screening that works for your setting:
  • one task can incorporate more than one skill
  • Functional tasks
  • Language samples

Formal Assessments:

• Rancho Scale: Level of Cognitive Functioning
• Pediatric Test of Brain Injury
• Coma Recovery Scale – Revised - CRS-R
• Rappaport Coma/Near-Coma Scale
SLP Role in Acute Care

Bridging the Gap for Other Team Members

Update on changes, help develop rapport, AAC teaching

Physicians and Nursing:
- How is patient answering questions related to pain, or symptoms?

Other therapists:
- how they can communicate/give directions for sessions
- Joint sessions

SLP Role in Acute Care

Helping the Family

- During early recovery, when cognitive skills are at their most disrupted, SLPs have a key role in educating the team and family on the patient’s changing skills

- Train parents to be co-therapists
  - Educate about and use strategies for agitation
Importance of Early Intervention

Treatment

- ONF: "evidence that early rehabilitation is associated with better outcomes such as
  - shorter comas
  - shorter lengths of stay
  - higher cognitive levels at discharge
  - better Functional Independence Measure scores
  - and a greater likelihood of discharge to home." "

SLP Role in Acute Care

Treatment

- Decrease confusion and increase alertness
  - Environment
  - Orientation
  - Routines
  - Sensory Stimulation

- Increase tolerance for therapy and interactions
  - Social stories

SLP Role in Acute Care

Treatment

- Ongoing assessment <-> treatment
- Find ways to facilitate communication
- Limited time: Make a difference NOW
- Parents as co-therapists
Progressive Diseases - Treatment

• Introduce realistic goals
• Help maintain skills for as long as possible
• Introduce AAC communication early, use when needed

Quality of Life

SLP Role in Acute Care

Recommendations

• Leave the door open for future
• Next steps: intensive rehab or home?
• Hand over for next SLP

Speech Language Pathologist’s Role in Intensive Rehabilitation Setting
SLP Role in Intensive Rehab Setting

Continued Assessment and Reassessment

- Previous Assessments as Jumping Off Point:
  - What has been assessed?
  - What are the improvements - need for reassessment?
  - Rate of recovery?

- Reassess and go deeper:
  - Hearing
  - Vision
  - Oral motor
  - Motor speech
  - Reading
  - Writing
  - Pragmatics
  - Expressive and Receptive Language
  - Cognitive-Communication

J.A.: 15 year old pedestrian hit by car

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Assessment of Cognitive-Communication Disorders

- Cognition
  - Attention
  - Orientation
  - Memory
  - Organization
  - Information
  - Processing
  - Reasoning
  - Problem Solving
  - Executive Functioning
  - Self-Regulation

- Communication
  - Understanding
  - Speaking
  - Reading
  - Writing
  - Social Language
SLP Role in Intensive Rehab

Continued Assessment and Reassessment

Informal vs Formal; What are you looking for?

Overall: CELF 5, CELF- P2, language sample

Cognitive-Communication: Levels of consciousness, Student FAVRES, PTBI, Cognitive Communication Checklist for Acquired Brain Injury, Rivermead Behavioural Memory Test, CELF-5 Metalinguistics

Social Language: Social Emotional Evaluation, Pragmatic Judgement subtest from CASL

Aphasia: TWF/TAWF, One Word Receptive/Expressive Picture Vocabulary Test

Apraxia: Kaufman Speech Praxis Test (KSPT), Speech sound inventories

Dysarthria: Speech sound inventories, or intelligibility testing

Reading: Picture-word/phrase matching, wh- questions about written passage

Writing: Copying, written sample, keyboard vs handwriting
SLP Role in Intensive Rehab Setting

Bridging the Gap for Other Team Members

- Education:
  - Communicating with the patients
  - AAC teaching

- Support in joint sessions:
  - Occupational Therapy
  - Physiotherapy
  - Psychologist
  - Nursing/Medical

SLP Role in Intensive Rehab Setting

Helping the Family

- Understand their child’s communication needs

- Help through the agitation phase
  - Educate
  - Show how child can communicates needs/wants/feelings

- Teach to be therapists:
  - Explicit how-to
  - How to use and program AAC

We are experts of communication; they are experts of their child.

SLP Role in Intensive Rehab Setting

Treatment

- Specific treatment goals
  - Functional
  - Interesting
  - Relevant

- Fatigue and Symptoms
  - Stair step approach
  - Adapt goals with changes
Minimally Conscious Treatment

1. Provide MEANINGFUL opportunities to respond
2. Multi-sensory stimulation
3. Increase quality, variety, and rate of responses
4. Choice making
5. Increase oral motor control
6. About Me book

SLP Role in Intensive Rehab Setting

Minimally Conscious Treatment

1. Provide MEANINGFUL opportunities to respond
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SLP Role in Intensive Rehab

Subtle Cognitive-Communication Intervention

- May speak in full, grammatical sentences BUT difficulties in
  - Attention
  - Memory
  - Organization
  - Reasoning
  - Problem Solving
  - Executive Functioning
  - Self-Regulation
  - Social Language
Possible treatment for JA

Aphasia Treatment in Intensive Rehab Settings

- Work on their deficits
- Spoken language expression
- Spoken language comprehension
- Written expression
- Reading comprehension
- Cognition still intact

Aphasia- Treatment

- Individualized communication therapy
- Increase receptive vocabulary and word-finding abilities
- Teach strategies for when words fail
- Augmentative or alternative communication (AAC) - support their understanding and expression, participation in therapy, reduce frustration
Motor Speech Disorders Treatment
In Rehab Settings

- **Dysarthria** affects muscles used in speaking.
- **Apraxia of Speech** affects the planning of movements involved in producing speech.
  
  BOTH affect speech clarity
  BOTH can be mild or severe

Motor Speech Disorders- Treatment

- Help the patient increase speech clarity
- Individualized treatment
- Strategies
- AAC- Can be permanent or temporary

SLP Role in Intensive Rehab Setting

**Recommendations**

- Continue with treatment
- Leave the door open:
  - long term monitoring or consultation
Speech Language Pathologist’s Role in Community Setting

SLP Role in Community Setting

Screening and Assessment

- Evaluating in REAL LIFE situations
  - School
  - Job
  - Social situations

- Psychoeducational Testing:
  - Usually completed after at least 1 year

- Full affects of an injury to the developing brain affects new learning; these effects may not be seen for a year or more after

SLP Role in Community Setting

Bridging the Gap for Other Team Members

- School Team:
  - Education
  - How their student will best learn
  - Visuals/Environment adaptions
  - AAC teaching

- Friends:
  - Peer Inservice
SLP Role in Community Setting

**Helping the Family**

- New problems and questions will arise as they return to the “new normal”
- New priorities
- Delayed onset- that part of the brain may still be developing

**Treatment**

- Does healing really stop after two years?
  - Continued communication difficulties at 24 months post TBI, however all groups showed improvement in most areas
- Functional: individualize and use interests and real life situations
- **Realistic** goals that are meaningful
  - “participate in play date with friend” - break it down
- Increase independence

**Recommendations**

- School
- Ongoing support
- Referrals to other supports
References


Assessments Mentioned

- Comprehensive Assessment of Spoken Language®-Second Edition (CASL®-2)
- Clinical Evaluation of Language Fundamentals-Fifth Edition (CELF®-5)
- Clinical Evaluation of Language Fundamentals- Fifth Edition Metalinguistics (CELF®-5 Metalinguistics)
- Clinical Evaluation of Language Fundamentals- Preschool, Second Edition (CELF-P2)
- Cognitive Communication Checklist for Acquired Brain Injury (CCCABI)
- Functional Assessment of Verbal Reasoning and Executive Strategies (Student FAVRES)
- JFK Coma Recovery Scale-Revised (CRS-R)
- Kaufman Speech Praxis Test (KSPPT)
- One Word Receptive/Expressive Picture Vocabulary Test (ROWPVT/EOWPVT)
- Pediatric Test of Brain Injury (PTBI)
- Rancho Los Amigos: Levels of Cognitive Functioning Scale Revised
- Rappaport Coma/Near-Coma Scale (C-NC)
- Rivermead Behavioural Memory Test- Third Edition (RBMT-3)
- Social Emotional Evaluation (SEE)
- Test of Word Finding- Second Edition (TWF-2)
- Test of Adolescent/Adult Word Finding- Second Edition (TAWF-2)

Questions or Discussion