Supporting Children Affected by Posterior Fossa Syndrome

Overview

- Posterior Fossa Syndrome (PFS) occurs after surgery in a subset of patients who have undergone surgical resection of a tumor in the posterior fossa, a region of the brain. Onset of PFS is typically 1-2 days post-resection.
- The posterior fossa region includes the cerebellum, which controls functions such as balance, coordination, speech, and concentration.
- PFS occurs in 25% of patients with medulloblastoma (the most common type of childhood brain tumor) and occasionally after removal of other posterior fossa tumors.
- PFS symptoms include diminished speech output, hypotonia, ataxia, and emotional lability.
- Over time, PFS is associated with long-term adverse neurological, cognitive, and psychological sequelae.

Common Difficulties and Associated School-Based Interventions

*Please note that this is not an exhaustive list of symptoms associated with PFS or services necessary to support these students. Please refer to the student’s individual medical and educational records when developing a support plan.

Speech and Language

**Common Difficulties:**
- Apraxia: Reduced ability to plan and coordinate speech
- Dysarthria: Difficulty using or controlling the muscles of the mouth, tongue, palate, and vocal cords
- Expressive language
- Receptive language
Interventions Include:

- Speech therapy to:
  - Increase fluency of speech
  - Practice phrases used frequently
  - Develop non-verbal ways of communicating
  - Develop age-appropriate vocabulary
  - Develop breath control
  - Break complex directions into smaller parts
  - Provide written directions in addition to verbal

Motor

Common Difficulties:

- Ataxia: Reduced ability to plan and coordinate movement
- Change in muscle tone
- Hypotonia: low muscle tone
- Dysphagia: Difficulty swallowing
- Muscle weakness
- Visual-Motor integration

Interventions Include:

- Physical therapy to improve gross motor ability and tone
- Occupational therapy to improve fine motor skills, including daily adaptive skills (e.g., eating, dressing)
- Speech therapy to address texture and motor issues that are affecting swallowing
- Break complex motor tasks into smaller steps
- Use of assistive motor devices
- 1:1 para-professional to ensure mobility safety at school
- Use of an elevator
- Opportunity to navigate the hallway when it is less crowded (i.e. leaving class a few minutes early)
- Use of Assistive Technology
Executive Functioning

**Common Difficulties:**
- Sustaining, shifting, and dividing attention
- Organization
- Problem-solving
- Task initiation and completion

**Interventions Include:**
- Frequent breaks and extra time for task completion
- Relate new information to previously learned concepts
- Provide new information in small chunks
- Provide ‘recipe cards’ that break common academic tasks into steps
- Direct instruction in organizational strategies for learning and daily life
- Small group testing

Psychological

**Common Difficulties:**
- Mood swings
- Sensory-Integration issues

**Interventions Include:**
- Cognitive-Behavioral therapy to increase behavioral regulation skills
- Occupational therapy to develop ways to increase enjoyable sensations and develop parent- and self-led soothing techniques
Selected References


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