Cerebral Palsy

Background

Cerebral palsy (CP) is a group of neurological disorders caused by abnormal brain development or injury to a developing brain. CP can affect muscle tone, coordination and posture. CP does not progressively worsen but symptoms can change as the child's body grows and develops. Although a disorder of muscle control, many with CP also experience related conditions such as intellectual impairment, behavior and sleep disorders, epilepsy, and problems with vision, speech, and hearing.

CP is described based on how it affects movement, which parts of the body are involved, and how severe those effects are. Two common terms used to describe CP effects on muscle tone include hypotonia (low muscle tone) and hypertonia (high muscle tone).

Depending on areas of the brain affected, one or more movement disorders can occur including spasticity (stiff muscles), dyskinesia (uncontrollable movement), and ataxia (poor balance and coordination). Spastic CP is the most common type and describes tightness or stiffness of muscles, exaggerated or jerky movements, contractures, and abnormal gait. Other types include dyskinetic CP, ataxic CP and mixed CP.

Physical and neurological signs and symptoms of CP include problems with movement and coordination, speech, eating, cognition and perception. Children with CP may be prone to respiratory infection related to aspiration of food, liquid and saliva. Hearing and vision problems are also commonly associated with chronic ear infection and eye muscle imbalance. A child with CP is also at risk for inadequate nutrition as they require increased caloric needs related to muscle tone.

Management can include a combination of therapies to support the child's physical needs. A feeding tube may be placed to help meet the child's nutritional needs. Surgery may be recommended to help treat spasticity, lengthen muscles and tendons, and prevent spinal deformity. A medical device like an intrathecal baclofen pump may also be surgically placed to help muscle tone.

Top Takeaways for School

Cerebral palsy (CP) is a motor disorder affecting muscle control. Individuals with CP experience difficulties with muscle tone, coordination, and posture. The severity of these challenges can range from mild to significant and depends on which areas of the brain are affected.

The underlying brain injury associated with CP may also result in co-occurring chronic conditions, including hearing and vision impairments, cognitive impairment, and seizure disorders.

Students with CP can burn more calories to perform the same task as a student without a physical disability. Some students may require a feeding tube, supplements, or snacks to meet their daily caloric needs.

Considerations for the Individualized Healthcare Plan (IHP)

- Nursing diagnoses: Impaired physical mobility, potential for injury related to neuromuscular and cognitive deficits, impaired thought process and risk for falls
- Nutrition interventions and equipment (consider brand/size of feeding tube, tube replacement, water flushes, fluid intake goal and supplements); note school district policy on tube replacement and consider keeping backup feeding tube kit at school if applicable.
- Assessment of implanted medical device (consider location, date of surgical placement, and device-specific information)
- Use of specialized equipment, adaptive equipment, and orthotics
- Activity, positioning, transferring (consider precautions and/or restrictions)
- Skin check, pressure relief techniques
- Equipment troubleshooting (consider equipment/device user manual, battery, charger)
- Consider emergency action plans (EAPs) and emergency evacuation plans (EEPs) related to special health care needs, including staff education/training

Discussion Starters for the Educational Team

1. Would the student benefit from evaluations or assessments in any of the following areas: physical therapy, occupational therapy, speech and language therapy, assistive technology, adapted physical education, functional behavior, psychology, hearing and vision?
2. Would the student benefit from additional academic support and/or modified education (e.g., copies of notes, extra time, reduced workload, simplified instructions, alternative formats for presentation of material, 504/IEP)?
3. Can strategies be implemented to assist the student with executive function (e.g., plan, prompts, organizers, agendas)?
4. Does the classroom environment support the student's needs and/or equipment (e.g., desk/seating options, maneuverability space, electrical outlets, flash pass for bathroom or nurse)?
5. Will staff receive education/training to implement the student-specific emergency plan?

Resources

Kennedy Krieger Institute: Phelps Center for Cerebral Palsy
kennedykrieger.org/patient-care/centers-and-programs/cerebral-palsy-and-neurodevelopmental-medicine

Your Child's Brain Podcast: CP
kennedykrieger.org/stories/your-childs-brain-podcast/october-2023-cerebral-palsy

Cerebral Palsy Foundation
yourcpf.org

Cerebral Palsy Alliance: Therapy and Support for School Aged Children
cerebralpalsy.org.au/wp-content/uploads/2023/06/CPA40_EarlyInterventionGuide_7-12_LR.pdf

For more information, please scan the QR code or visit: KennedyKrieger.org/SHNIC

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