Pediatric Stroke

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What ages are considered "pediatric?"



Typically birth through 18



Some see 21 as the cut-off age, since people are not considered fully grown until they turn 21

Statistics

"Pediatric stroke is a rare condition affecting one in every 4,000 newborns and an additional 2,000 older children each year."

Johns Hopkins Medicine. (2023). What is Pediatric Stroke?

Hawaii: Data from 2015 – 2019: Approximately 75 individuals ages 0 – 25 experienced a stroke

Galanis, D. (2021). Report on Neurotrauma in Hawaii: TBI, Spinal Cord Injury, and Stroke. PPT presentation.

"Stroke is the sixth leading cause of death in children."

Children's Hospital of Philadelphia. (2022). Pediatric Stroke.

As with adults, children tend to have ischemic and hemorrhagic strokes

Top Risk Factors for Pediatric Stroke

- Heart disease
- Blood vessel abnormalities
- Blood clotting disorders

Boston Children's Hospital. (2019). Pediatric Stroke: Do You Believe These Three Myths?

Boys and African-American children are at higher risk

Cincinnati Children's. (1999 – 2023). Stroke, Childhood.

In many children, no cause can be found

Some children may have a second stroke

Stanford Medicine Children's Health. (2023). Stroke in Children.

Signs and symptoms are similar to those in adults. They include but are not limited to:

Children and teens:

- Weakness or numbness on one side of the body
- Slurred speech, difficulty with language, difficulty understanding language
- Severe headache, especially with vomiting
- Trouble balancing or walking
- Vision problems, such as double vision or loss of vision
- Sudden lethargy or drowsiness
- Emotional, cognitive, and / or behavioral changes

 Johns Hopkins Medicine. (2023). What is Pediatric Stroke?

 Children's Hospital of Philadelphia. (2022). Pediatric Stroke.

Newborns and infants:

- Seizures
- Extreme sleepiness
- Extreme fatigue
- Difficulty waking up
- Poor feeding
- •A tendency to use only one side of their body

"When a stroke affects a newborn infant, symptoms may not appear until 4 to 6 months of age in the form of decreased movement or weakness of one side of the body."

American Stroke Association. (2023). <u>Pediatric Stroke Causes and Recovery</u>.

CHOC Neuroscience Institute. (2023). Stroke.

Diagnosis Issues

- There appear to be no symptoms
- Often delayed or missed in children
- Many are misdiagnosed with more common conditions that mimic stroke, such as:
 - Migraines
 - Epilepsy
 - Viral illnesses

Children's Hospital of Philadelphia. (2022). Pediatric Stroke.

UNC PAR. (2021). Facts about Pediatric Stroke.

Treatment

- Medical therapy in the form of aspirin or other blood thinners, and special vitamins
 - Anti-seizure medication may be needed
 - For children with sickle cell disease, they may need a drug called hydroxyurea, or transfusion therapy, or both
 - Clot-busting medicines are not approved for use in children but could be considered
- For issues with blood vessels, a catheter may be needed to open a vessel or remove a blood clot
- Surgery
 - Remove a piece of bone to relieve swelling (craniectomy)
 - To close abnormal blood vessels
 - Remove abnormal areas of the brain and reroute blood vessels to help provide blood supply to injured areas
- Oxygen
- Blood transfusions
- Various therapies, e.g., physical therapy, occupational therapy, speech therapy

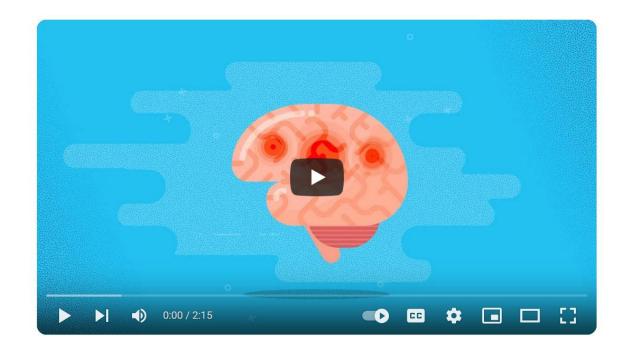
Johns Hopkins Medicine. (2023). What is Pediatric Stroke?

Stanford Medicine Children's Health. (2023). Stroke in Children.

Pediatric Stroke Video

"Understanding Stroke in Kids" – Boston Children's Hospital (2021)

https://www.youtube.com/watch?v=QdaT3z 2ulul



Prevention

In some cases, especially with newborns and infants, strokes can't be prevented.

However, as children grow, there are some preventive measures that can be taken, as with adults:

- Diet
- Control sodium intake
- Exercise
- No smoking or vaping
- Control high blood pressure
- Stress relief

Additional Information

Video – <u>May is Pediatric Stroke Awareness Month</u> (Mother tells the story of her child who had a stroke)

Video – <u>Pediatric Exams: Stroke in Children</u>

Video – <u>Twisted: A Story about Pediatric Stroke</u>

Video – Pediatric Stroke and Brain Injury Education

American Stroke Association Pediatric Stroke Infographic

American Stroke Association Sickle Cell Disease and Pediatric Stroke Risk Infographic

Mahalo for your time and attention

Any questions?

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