



## Pediatric Stroke Resources

**Pediatric Strokes:  
The Who, What, When and Beyond...**

**A Patient and Family Guide**  
Available for download at:  
[www.uncstroke.org](http://www.uncstroke.org)

**The International Alliance for  
Pediatric Stroke (IAPS)**  
[www.iapediatricstroke.org](http://www.iapediatricstroke.org)

**The American Stroke Association**  
[www.strokeassociation.org](http://www.strokeassociation.org)

**The National Stroke Association**  
[www.stroke.org](http://www.stroke.org)

**These resources were created by  
parents and families affected by  
pediatric stroke:**

[www.bellaflies.org](http://www.bellaflies.org)  
[www.brendonssmile.org](http://www.brendonssmile.org)  
[www.fightthestroke.org](http://www.fightthestroke.org)  
[www.pediatricstrokewarriors.org](http://www.pediatricstrokewarriors.org)



### The Project for Expansion of Education in Pediatric Stroke (PEEPS) committee would like to thank:

- Gina Thompson, BSN, RN, CPN and Tonya Stafford, BSN, RN, Co-Authors.
- The stroke survivors, parents and caregivers that participated in the development of the content and pictures.
- The North Carolina Stroke Care Collaborative.
- The Stroke Patient, Family, Caregiver and Community Advisory Board at the University of North Carolina Medical Center.
- The Departments of Neurology and Neurosurgery at the University of North Carolina Medical Center.
- The International Alliance for Pediatric Stroke.
- North Carolina Children's Hospital.
- Rehabilitation Services at the University of North Carolina Medical Center.

#### References

<sup>1</sup> National Institutes of Health. (2014). What is a stroke? Retrieved from <http://www.nhlbi.nih.gov/health/health-topics/topics/stroke>

<sup>2</sup> American Heart Association. (2014). Strokes can happen at any age. Retrieved from [http://www.strokeassociation.org/STROKEORG/AboutStroke/StrokeInChildren/What-is-Pediatric-Stroke-Infographic\\_UCM\\_466477\\_SubHomePage.jsp](http://www.strokeassociation.org/STROKEORG/AboutStroke/StrokeInChildren/What-is-Pediatric-Stroke-Infographic_UCM_466477_SubHomePage.jsp)

<sup>3</sup> Kirton, A., deVeber, G. (2013). Life after perinatal stroke. *Stroke*. 44: 3265-3271.

<sup>4</sup> Roach, E.S., Golomb, M.R., Adams, R., Biller, J., Daniels, S., deVeber, G., Ferriero, D., Jones, B.V., Kirkham, F.J., Scott, M., Smith, E.R. (2008). Management of stroke in children. *Stroke*. 39: 2644-2691.

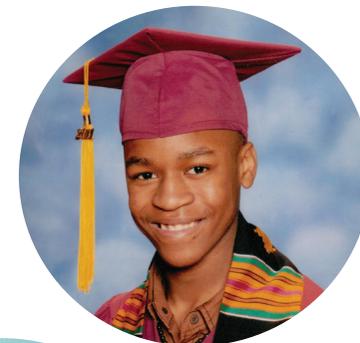
<sup>5</sup> Tsze, D.S., Valente, J.H. (2011). Pediatric stroke: A review. *Emergency Medicine International*. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3255104/>

<sup>6</sup> American Heart Association (2013). Facts knowing no bounds: Stroke in infants, children and youth. Retrieved from [http://www.strokeassociation.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm\\_302255.pdf](http://www.strokeassociation.org/idc/groups/heart-public/@wcm/@adv/documents/downloadable/ucm_302255.pdf)



The Project for Expansion of  
Education in Pediatric Stroke  
(PEEPS)

# PEDIATRIC STROKE



Information for  
Patients & Families

## What Is A Stroke?

A 'stroke' happens when blood flow is blocked in an area of the brain. These changes in blood flow can cause brain cells to die<sup>1</sup>. When it comes to stroke, kids are not just little adults<sup>6</sup>. They do share one thing in common though: quick diagnosis, treatment and therapy can help to reduce death and improve outcomes<sup>6</sup>.

### There are two types of stroke:

**Ischemic Stroke** Occurs when a blood vessel is blocked.

**Hemorrhagic Stroke** Occurs when a blood vessel bursts within the brain.



Addison, Perinatal Stroke

“Our children are an inspiration, they are much more than a diagnosis, and they will continue to teach us all that differences can be beautiful and to never underestimate what they can overcome”

-Kaycee (Addison's Mom)

There are two age groups of strokes in kids:  
Perinatal and Childhood.

## Perinatal Stroke (22 weeks pregnant - 1 month old)

- About 80% are Ischemic Stroke and 20% Hemorrhagic and other causes.<sup>3,4</sup>
  - In most cases, the cause is not known.
  - **Risk factors:**
    - Congenital heart disease
    - Disorders of the placenta
    - Blood clotting disorders
    - Infections, like meningitis<sup>3</sup>
  - **What to look for:**
    - Seizures:** Rhythmic face, arm or leg twitching. Pauses in breathing along with staring episodes.
    - Hand preference:** Before age one, the baby may only be using one hand or prefers using one hand over the other.
    - Developmental Delays:** As the baby grows, delays may be noticed.
    - Decreased Movement or Weakness:** usually on one side of the body.
  - **What to do:**
    - Call 911 for sudden signs of stroke**
- Notify your child's doctor if you have concerns about any of these signs.

## Childhood Stroke (1 month old - 18 years old)

- About 50% are Ischemic Stroke and 50% are Hemorrhagic Stroke.<sup>5</sup>
- In many cases, a cause cannot be found.
- **Risk factors:**
  - Congenital heart disease
  - Disorders of brain vessels
  - Infections
  - Head injury
  - Sickle cell disease
  - Autoimmune disorders<sup>2</sup>
- **What to look for:**
  - Sudden** numbness or weakness of the face, arm or leg. Usually on one side of the body.
  - Sudden** confusion, difficulty talking or understanding.
  - Sudden** trouble seeing (loss of vision or double vision).
  - Sudden** difficulty with walking, dizziness, loss of balance or coordination.
  - Sudden** severe headache. Sudden headache with vomiting and sleepiness.
  - New **seizures** (usually on one side of the body).<sup>2</sup>
- **What to do:**
  - Call 911 for sudden signs of stroke**