

## IN UTERO, INFANT AND CHILD STROKE FACT SHEET



### What is a Stroke?

A stroke occurs when blood flow is interrupted to any part of the brain, resulting in tissue injury and loss of brain function.

### How often does childhood stroke occur?

Strokes can and do occur prior to birth, although it is

unclear how often this happens.

- Strokes occur at the highest rate in infants who are younger than 1 month old – about 1 in 2800 live births.
- For children 1 to 18 years old, strokes occur in 11 out of 100,000 children.
- Strokes are fatal in 20 to 40 percent of children.
- Boys are at higher risk than girls to have a stroke in childhood, and African American children are at higher risk than Caucasian and Asian children.

### What are the symptoms?

Symptoms vary according to the age of the child.

- In infants, there may be seizures on one side of the body, apnea, poor feeding, and/or early hand preference before 10 months of age. Many infants aren't diagnosed until they show too early a hand preference or developmental delays.
- In young children, there may be delays in gross motor development, tightness or restricted movement in legs and arms, and/or language delays.
- In older children, symptoms may include seizures or sudden one-sided paralysis.

### Why is diagnosis of stroke delayed in an infant or child or even misdiagnosed?

- Infants may not exhibit symptoms right away as their brains have not matured enough to bring attention to any problems.

- Not using an arm or hand is incorrectly attributed to normal hand preference.
- Delays in crawling and walking are wrongly attributed to "lateness."
- Normal cognitive functioning often masks other developmental delays.

### What are the outcomes?

- More than 85 percent of babies who have strokes live to adulthood.
- Between 50 and 80 percent of infants and children will have serious, long-term challenges including: hemiplegia or hemiparesis (one-sided paralysis); seizures; and speech, visual, behavioral and learning difficulties.
- Many childhood stroke survivors require both acute and long-term rehabilitation.
- Infant and childhood stroke survivors in the U.S. use all levels of health, education, and social services.



### What causes stroke in an infant or child?

More than 100 risk factors for stroke in newborns and children have been identified; however, in a third of newborns and a tenth of children, no cause is ever found. The most common underlying risk factors in children are:

- Congenital or acquired heart disease
- Sickle cell disease
- Hematological disorders
- Metabolic disorders
- Vascular disorders
- Infection, including chicken pox

### Why is more research needed?

- No randomized, clinical trials for acute treatment or secondary prevention of stroke in newborns or children have taken place to date.
- Infant and childhood stroke research is a neglected area, with both professionals

and the public lacking awareness that children have strokes, let alone what the potential consequences are.

- Over the last decade, there has been a revolution in stroke care for adults, with the advent of special stroke units and evolving treatments. Similar advances have not been seen in the treatment of childhood stroke.
- The life-long physical, emotional, and social effects of stroke in an infant impact the individual and society for decades. This continues throughout later childhood and the adult years, in contrast to relatively shorter durations of impact for adult stroke survivors.
- One study found that medical costs in the year following a childhood stroke average \$43,000. Young stroke survivors often experience decades of weekly therapy sessions, seizure and spasticity medications, orthotics, orthopedic surgery, behavioral interventions, and special education in the school system, resulting in loss of work time for parents. This creates a financial burden for families, the healthcare system, the education system and society as a whole; not to mention the emotional toll for the child and his or her entire family.
- Further research is needed in perinatal and childhood stroke to identify risk factors and to determine the best treatment and prevention.



### How can you help?

**Volunteer, Donate, Advocate**  
The [Children's Hemiplegia and Stroke Association](http://www.chasa.org), is a 501(c)(3) non-profit organization, dedicated to improving the quality of life for children and families affected by infant and childhood stroke.

Children's Hemiplegia and Stroke Association (CHASA)

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[www.CHASA.org](http://www.CHASA.org)

[www.KidsHaveStrokes.org](http://www.KidsHaveStrokes.org)

[www.PediatricStrokeHope.org](http://www.PediatricStrokeHope.org)

[www.HemiKids.org](http://www.HemiKids.org)

[www.PediatricStroke.org](http://www.PediatricStroke.org)

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