

# Infant, child stroke survivors prone to seizures, epilepsy

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About one-third of American infants and children who suffer bleeding into brain tissue, may later have seizures and as many as 13 percent will develop epilepsy within two years, according to new research reported at the American Stroke Association's International Stroke Conference 2013.

Bleeding into [brain tissue](#) is a type of [stroke](#) called intracerebral [hemorrhage](#) (ICH). Each year, an estimated 6.4 [newborns](#) and children per every 100,000 in the United States suffer strokes. About half of the strokes are hemorrhagic, typically caused by rupturing of weakened or malformed blood vessels.

In the largest study of its kind, researchers tracked 73 subjects including 53 children, ranging in age from one month to 18 years, and 20 newborns, who experienced ICH between 2007 and 2012 at three hospitals.

Visible seizures occurring more than a week after the ICH were classified as remote symptomatic seizures. Such longer-term seizures suggest epilepsy might be developing, said Lauren A. Beslow, M.D., M.S.C.E., lead study author and now an instructor of pediatrics and [neurology](#) at Yale University in New Haven, Conn.

Among the study's findings:

- About 60 percent of the newborns and 43 percent of the older children had visible seizures at the time of the stroke or within a week after.
- Of 32 patients who had continuous electroencephalographic monitoring, 28 percent had seizures that otherwise would have gone undetected. The researchers plan to explore whether these subtle seizures are a risk factor for more seizures, epilepsy or other problems over the long-term.
- About 13 percent of all study subjects developed epilepsy within two years.
- Patients who had elevated pressure in the brain that required medical or surgical treatment were more likely to have later seizures and epilepsy.

"Information on the risk for later seizures and epilepsy provides practitioners with concrete numbers that can be presented to families," Beslow said. "While an estimate of 13 percent may seem low at two years, the rate of epilepsy might be greater at later time points."

A key strength of the study is that data was collected in real time, rather than after the fact. But with just 73 patients and few that had remote seizures or developed epilepsy, the team could not explore all potential [risk factors](#) for the development of [epilepsy](#).

Factors that make newborns vulnerable to ICH are not well understood, but include fetal distress, sepsis, blood conditions, exposure to blood thinners, and congenital heart disease. For older children, malformed blood vessels, blood disorders, or exposure to blood thinners can also play a role in developing ICH.

Provided by American Heart Association

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