Seizures—Child

Every year, approximately 120,000 children have a first seizure. To determine what type of imaging test should be performed after a seizure, physicians look at additional symptoms and use the results of an electroencephalogram, a test that measures brain electrical activity.

A simple seizure due to a fever (febrile seizure) typically lasts fewer than 15 minutes and does not recur within 24 hours. Patients suffering a febrile seizure do not require imaging. A complex febrile seizure lasts longer than 15 minutes and reoccurs within 24 hours. MRI or CT is recommended for patients with complex febrile seizures or if infection or trauma is suspected.

Brain CT (https://www.radiologyinfo.org/en/info/headct) is recommended for a first-time seizure in a child without fever who is younger than 2 years to look for signs of injury resulting from child abuse.

Seizures in newborns (neonatal seizures) are usually due to brain damage due to lack of oxygen or bleeding in the brain. The recommended imaging test is an ultrasound of the head (https://www.radiologyinfo.org/en/info/ultrasound-cranial). MRI of the brain (https://www.radiologyinfo.org/en/info/headmr) without contrast may also be appropriate.

Brain CT without contrast is recommended when a seizure occurs after acute trauma. Follow-up brain MRI without contrast may be beneficial after traumatic brain injury.

In partial seizures (affecting one side of the brain), generalized seizures (affecting the whole brain), and seizures that, even with treatment, recur for more than 12 months (intractable seizure), an MRI without contrast is recommended to look for malformations of the brain.

— By Stacey Tinianov and Dianna M.E. Bardo, MD. This information originally appeared in the Journal of the American College of Radiology.

Disclaimer

This information is copied from the RadiologyInfo Web site (http://www.radiologyinfo.org) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided “as is” without express or implied warranty.

Please visit the RadiologyInfo Web site at http://www.radiologyinfo.org to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright © 2024 Radiological Society of North America, Inc.