NATIONWIDE CHILDREN'S
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Helping Hand™ Health Education for Patients and Families

# Seizures: Premature Infant

The nervous system is made up of the brain, spinal cord, and nerves. Nerves in the brain send messages throughout the body by brain waves or electrical impulses. Minerals in the blood, called electrolytes, help the electrical impulses move through the body. When electrical impulses are sudden, excessive, and out of control, a seizure can occur.

A premature infant's nervous system is still growing. Sometimes the "jerky" movements of a premature infant may be mistaken for a seizure. It is normal for some premature babies to be jittery or jerky. Placing a hand on the baby's arm or leg can stop these normal jittery movements. Seizures, however, do not stop with touch.

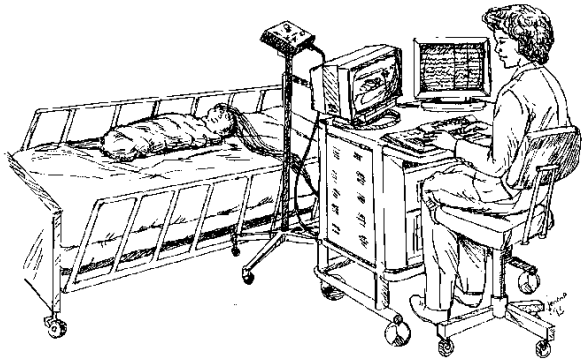
Seizures can be due to electrolyte imbalances, brain injury, genetic causes, infections, bleeding in the brain, or brain malformations.

## Signs and symptoms

Signs of seizures in a premature infant can include:

- jerky movements
- stiffening of a limb or the whole body
- unusual movements of the eyes, face, lips, or tongue

A health care provider needs to make the diagnosis.



**Picture 1** An EEG can help diagnose seizures.

## Diagnosis

Several tests may be used to diagnose seizures.

- EEG (electroencephalogram) is a painless test that studies brain waves (Picture 1). For this test, small disks, called electrodes, are placed on the baby's scalp. The disks are connected with wires to the EEG machine. The EEG records the electrical activity in the baby's brain. Seizures will show up as abnormal electrical patterns on the computer program.

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- Imaging tests create a picture of the brain. They help look for bleeding, swelling, or abnormal structures.
  - Ultrasound scan uses sound waves to create a picture of the brain.
  - CT scan (computed tomography), also called a CAT scan, takes a series of X-ray pictures of the brain and its blood vessels. The computer processes the data as cross-sections or slices. The slices can be rearranged to view the brain and the blood vessels at different angles.
  - MRI (magnetic resonance imaging) uses magnetic fields and radio frequencies to create an image of the brain.
- Tests of the blood and spinal fluid
  - Blood tests check for electrolyte levels or infection in the body.
  - Tests of the spinal fluid look for infection.

Your health care provider will explain which tests your baby needs and give you written information about them.

## Treatment

Babies are often given medicines for a short time to control the seizures. Sometimes babies need to continue these after they go home from the hospital. .

## Outcomes

Babies with seizures may recover completely without any long-term problems. It depends on what caused the seizures and how severe they were. Other babies may need ongoing follow up by a team of doctors, including a neurologist (a doctor who is an expert in seizures and brain disorders).