Seizures, Nonfebrile (Epilepsy)

What are nonfebrile seizures (epilepsy)?

- Seizures are sudden abnormal events or episodes that happen because of a problem with the way that brain cells communicate through electrical signals.
- During a seizure, some brain cells send abnormal and exaggerated electrical signals that stop other cells from working properly.
- A seizure causes the patient to experience temporary disturbances in awareness or in consciousness, movement, sensation, and behavior.

How common are they?

Seizures represent the most common neurologic disorder in children. About 1% of all children in the United States will have epilepsy (≥2 unprovoked seizures).

What are some common characteristics of children who have nonfebrile seizures or of nonfebrile seizures as children present with them?

- Different types of seizures represent different parts of brain involvement.
  - *Generalized* (formerly also called *grand mal*) seizures occur when both sides of the brain and the whole body are involved. A child may stiffen (*tonic*) and shake (*clonic*) all over in a rhythmic fashion. Children may fall to the ground and hurt themselves during a seizure. Sometimes, they lose control of their bladders or bowels. Most seizures last no more than 2 or 3 minutes. Children do not respond to staff during these seizures and may be confused and sleepy for minutes to hours afterward.
  - *Absence* (formerly called *petit mal*) seizures look like staring spells. Children who are experiencing these seizures may stop and stare for a few seconds in the middle of whatever they are doing. A child who is having an absence seizure will not be able to respond to staff while the seizure is happening and will have no memory of the episode afterward. Lip smacking or rhythmic eye blinking may occur while the child is unresponsive.
  - *Focal* seizures involve only a part of the brain.
    - The signs of a focal seizure that is paired with retained awareness (formerly called a *simple partial* seizure) will depend on which part of the brain is involved. The child may have shaking or stiffening of one part of the body, or the child may see, hear, or smell something that is not there. The child is not confused during these episodes, although he or she may be frightened.
    - During a focal seizure that is paired with altered awareness (formerly called a *complex partial* seizure), a child may be confused or have a distortion of consciousness. During these episodes, children may behave in strange ways or may speak strange words or perform strange actions such as hand rubbing, lip smacking, and swallowing. They may also have abnormal movements (such as shaking or stiffening of a limb). They are confused and are often sleepy after the seizure is over.
- Many children with seizures have normal intelligence; some have subtle learning differences, and others have clear developmental delays.

Who might be on the treatment team?

- A pediatric neurologist often directs the medical treatment of children with seizures.
- The child will also receive care from a primary health care professional who provides routine preventive health services and makes sure that the specialist is coordinating care of the child with providers of the child care program or school in which the child is enrolled.
- Children with developmental delays may receive speech-language, occupational, or physical therapy.
- Children younger than 3 years (ie, 36 months) may receive these therapies through *early intervention* services. Therapists may suggest activities or exercises that could be helpful in the child's Care Plan. See Chapter 2 for more details.

What are some elements of a Care Plan for children with nonfebrile seizures?

- Call emergency medical services (EMS) (911) shortly after the seizure begins or as directed by the Care Plan.
- Emergency plans should address how to keep a child safe during a seizure.
  - Keep calm. A seizure cannot be stopped once it starts. Let the seizure run its course, and say comforting, soothing things to the child.
  - Ease the child to the floor and loosen his or her clothing.
  - Try to remove any hard, sharp, or hot objects that might injure the child. A cushion or soft item may be placed under the child's head.
  - Turn the child to his or her side, so saliva can flow out of the mouth.
  - Do not put anything into the child's mouth. The child may bite his or her tongue, but that will not stop his or her breathing,

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- After the seizure, let the child rest if he or she is sleepy. Contact the child's parents/guardians.
- If the child wakes after the seizure, he or she may be groggy or irritable and just needs comfort measures.

What adaptations may be needed?

Medications

- Many children with nonfebrile seizures take medications for epilepsy, and medication administration may be part of their Care Plans. These medications are often called *anticonvulsants.* There are many different types.
- Talk with parents/guardians about their child's particular anticonvulsant therapy and the side effects that might be associated with it, especially those affecting learning and attention.
- All staff who will be administering medication should have medication administration training (see Chapter 6).
- Most anticonvulsants suppress seizures, but the medication may not be able to completely eliminate all seizures.
- Some children will have rectal suppositories (eg, rectal diazepam gel) or other medications prescribed to be given if the child develops a prolonged seizure. These medications can help stop or shorten a seizure, but, in some cases, they can slow breathing. If a seizure medication is to be used by program staff, a plan for using it should be discussed by the program staff with the parents/guardians and prescribing doctor. This discussion helps ensure that the plan, including how to monitor and manage any medication side effects, is completely understood.
- Some child care centers or schools prefer to hold seizure medication and allow EMS first responders to administer it if necessary.
- Many seizure medications have interactions with other types of medications, so make sure to check before giving a child on anticonvulsants any over-the-counter medications.

Dietary Considerations

Some children with seizures may be on a special diet known as the ketogenic diet. Parents/guardians or a dietitian can give you details on the child's diet, if a special diet is necessary.

Physical Environment and Other Considerations

- Communicate with the child's parents/guardians and doctor about any types of seizures, any types of medications, and the emergency plan. Update this information regularly, preferably after the child has his or her neurology appointments.
- Children may be more prone to seizures when they are ill. Unusual irritability, lethargy, and fevers are cues to alert the child's parents/guardians.
- Children may have triggers to seizures, such as flashing lights, lack of sleep, and eating poorly. Discuss seizure triggers with the child's parents/guardians.
- Seizures often scare people who do not know about them, but usually they will not harm the child who has one.

What should be considered an emergency?

- Call parents/guardians for
  - Change in the child's activity or behavior
  - Increased staring or single muscle jerks
  - Fever
- Call EMS (911) for seizures unless staff is trained and comfortable with handling seizures. In that case, the child's Care Plan should specify when to call EMS (911) for a seizure.

What types of training or policies are advised?

- CPR
- First aid
- Medication administration
- Policy on seizures and emergencies

What are some resources?

Epilepsy Foundation: www.epilepsyfoundation.org, 1-800-332-1000

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