MANAGING CHILDREN WITH EPILEPSY

SCHOOL NURSE GUIDE
ACKNOWLEDGEMENTS

TO THOSE WHO HAVE CONTRIBUTED TO THE NOTEBOOK

Children’s Hospital of Orange County
Melodie Balsbaugh, RN
Sue Nagel, RN
Giana Nguyen, CHOC Institutes

Fullerton School District
Jane Bockhacker, RN

Orange Unified School District
Andrea Bautista, RN
Martha Boughen, RN
Karen Hanson, RN
TABLE OF CONTENTS

I. EPILEPSY
   ▪ What is epilepsy?
   ▪ Facts about epilepsy
   ▪ Basic neuroanatomy overview
   ▪ Classification of epileptic seizures
   ▪ Diagnostic Tests

II. TREATMENT
   ▪ Medications
   ▪ Vagus Nerve Stimulation
   ▪ Ketogenic Diet
   ▪ Surgery

III. SAFETY
   ▪ First Aid

IV. SPECIAL CONCERNS
   ▪ MedicAlert
   ▪ Helmets
   ▪ Driving
   ▪ Employment and the law

V. EPILEPSY AT SCHOOL
   ▪ School epilepsy assessment tool
   ▪ Seizure record
   ▪ Teaching children about epilepsy lesson plan
   ▪ Creating your own individualized health care plan

VI. RESOURCES/SUPPORT GROUPS

VII. ACCESS TO HEALTHCARE
   ▪ CHOC Epilepsy Center After-Hours Care
   ▪ After Hours Health Care Advice
   ▪ Healthy Families
   ▪ California Kids
   ▪ MediCal
   ▪ CHOC Clinics
   ▪ Healthy Tomorrows

VIII. REFERENCES
EPILEPSY

WHAT IS EPILEPSY?

Epilepsy is a neurological disorder. The brain contains millions of nerve cells called neurons that send electrical charges to each other. A seizure occurs when there is a sudden and brief excess surge of electrical activity in the brain between nerve cells. This results in an alteration in sensation, behavior, and consciousness.

Seizures may be caused by developmental problems before birth, trauma at birth, head injury, tumor, structural problems, vascular problems (i.e. stroke, abnormal blood vessels), metabolic conditions (i.e. low blood sugar, low calcium), infections (i.e. meningitis, encephalitis) and idiopathic causes. Children who have idiopathic seizures are most likely to respond to medications and outgrow seizures.

FACTS ABOUT EPILEPSY

- About 1.5 million people in America have epilepsy
- 25 percent of new cases of epilepsy occur in children 14 years and younger
- Epilepsy refers to more than 20 different types of seizure activity
- The cause is unknown in 70 percent of all cases of epilepsy
- Epilepsy is a physical condition. It is not a mental illness or a sign of low intelligence
- Children with seizure disorders can live a normal, active life, play sports and enjoy life
FIGURE 5-18

FIGURE 5-19
Lateral aspect of the left cerebral and cerebellar hemispheres.
GENERAL FUNCTIONS OF THE CEREBRAL CORTEX
ACCORDING TO LOBES

Frontal lobes: Responsible for high level cognitive function, personality, memory, anxiety, alertness, and awareness; frontal and temporal lobes are the most epileptogenic

Temporal Lobe: Responsible for receptive and expressive speech, epileptogenic

Parietal Lobe: Responsible for bringing all perception together; called the association cortex, rarely the source of seizures

Occipital Lobe: Responsible for vision, uncommon origin of seizures

CLASSIFICATION OF EPILEPTIC SEIZURES

PRIMARY GENERALIZED SEIZURES

- Absence Seizures (Formerly called petit mal)
  - Typical: Brief episodes of staring, blinking, unaware of surroundings; usually lasts less than 10 seconds but may last up to 20 seconds
  - Atypical: Staring spells lasting between 5 to 30 seconds, eye blinking or slight jerking movement of the lips may occur; partial reduction in responsiveness

- Myoclonic: Brief jerks of a muscle or group of muscles; usually involving the neck, shoulders, and upper arms

- Atonic: Sudden loss of muscle strength, eyelids may droop, head may nod, objects may be dropped, or the child may fall to the ground; usually lasts less than 15 seconds, injury is common; child typically needs to wear a helmet

- Clonic: Rhythmic jerking movements of the arms and legs, may be generalized

- Tonic: Sudden stiffening movements of the body, arms, or legs involving both sides of the body; usually last less than 20 seconds
- **Tonic-Clonic** (formerly called grand mal)
  Convulsive seizures, body briefly stiffens followed by a jerking motion of the arms and legs; loss of consciousness and falls frequently occur, excessive saliva production may be present, possible loss of bowel and bladder control; usually lasts a couple of minutes, the child is often tired or confused after the seizure and may want to go to sleep.

**PARTIAL SEIZURES (SEIZURES ORIGINATING IN SPECIFIC PARTS OF THE BRAIN)**

- **Simple Partial (Focal seizures)**
  - Consciousness not impaired
  - With motor symptoms: Jerking and stiffening
  - With somatosensory symptoms: Touch, smell, hearing, taste, and sight symptoms
  - With autonomic symptoms: Heart rate change, internal sensations
  - With psychic symptoms: Dreamy state

- **Complex partial seizures**
  - Consciousness impaired
  - Movements of the mouth and face (e.g., lip smacking, chewing, and swallowing movements), the hands and arms (e.g., fumbling, picking, and tapping movements), vocalizations (e.g., grunts or repetition of words or phrases)

**DIAGNOSTIC TESTS**

The accurate diagnosis of seizure disorders is crucial in tailoring an optimal treatment plan. The following is a list of diagnostic tests that may be utilized:

- **Electroencephalogram (EEG)** – This is a machine used to measure brain waves. It helps the neurologist identify the location, severity and type of seizure disorder. In many instances, however, a person with epilepsy can have an EEG done with no sign of seizure activity detected. This may occur when no activity was happening at the time of the test, or the
seizure activity was so deep within the brain that the EEG machine was unable to detect it.

- **Computed Tomography Scan (CT Scan)** – This test helps identify blood clots, cysts, brain tumors, scar tissue or other problems that can cause seizures. The computer-generated view of the brain provides detail of the brain’s structure, section by section.

- **Magnetic Resonance Imaging (MRI)** – This test is used to identify structure and abnormalities within the brain. This technique utilizes a magnet rather than x-rays to generate a detailed picture of the brain. The procedure takes longer than a CT scan and it is painless.

- **Outpatient/Inpatient Long Term EEG Monitoring** – During this procedure a patient is video taped for a period of time while he/she is connected to electrodes to monitor brain activity. This test is utilized to confirm and diagnosis a seizure disorder. In some groups of patients with seizure-type movements, their condition is not related to epilepsy and that is why they are not responding to the different epilepsy-based treatment options. This test enables the physician to look at the patients movements and correlate this with the results on the EEG, thus allowing the doctor to confirm or reject a seizure diagnosis. Long term EEG monitoring is also a critical component of the surgical treatment of epilepsy to pinpoint the area of the brain responsible for the seizures.
**TREATMENT**

**MEDICATIONS**  See insert

**VAGUS NERVE STIMULATION (VNS)**
The VNS is a medical device that is surgically implanted under the skin on the chest wall. Two small wires from the device wrap around the vagus nerve. The stimulator provides intermittent, mild pulses of electrical energy through the vagus nerve to the brain. When a student senses the impending onset of a seizure, the student or school staff can activate the device through a hand-held magnet to deliver an additional dose of stimulation. The VNS is utilized in those students who fail to obtain seizure control with antiepileptic medications.

**KETOGENIC DIET**
The ketogenic diet consists of mostly fats with little or no carbohydrates and a minimal amount of protein. A student on the ketogenic diet is followed closely by a physician and a dietitian. The diet is labor intensive requiring careful weighing and measuring of food and strict compliance. When the body metabolizes its own fats and proteins, a chemical substance called ketone bodies is produced, thus the name ketogenic diet. This diet is most often utilized in children 18 months to 9 years of age whose seizure disorder is not controlled through the use of antiepileptic medications.

**SURGERY**
When medication is not effective surgery is considered as an option. A thorough evaluation will determine if the patient is a candidate for surgery. The primary objective of most epilepsy surgical procedures is to accurately localize and then completely remove the region of the brain responsible for the seizure without causing cognitive or neurological deficit.

Surgical options include:

- **Lesionectomy** – If the recurrent seizures are found to be caused by small lesions such as cavernous angiomas, lowgrade astrocytomas, cortical dysplasias and areas of focal atrophy, they may be successfully removed. Lesionectomy is associated with excellent results and success rates are generally better than those associated with surgery performed in patients without discrete lesions.
- **Temporal resection** – This procedure removes part of the temporal lobe of the brain where the epilepsy seizures originate. If patient selection is appropriate, surgery in the temporal lobe offers good to excellent results in 75% to 85% of the cases.

- **Extra-Temporal resection** – This is less commonly performed and the success rate is lower than temporal lobes resections.

- **Intracranial Monitoring** – Sometimes the seizure focus cannot be determined. In this instance, diagnostic surgical options may be recommended. This involves implanting electrodes into the brain, providing more precise EEG information due to the closer proximity to the seizure focus area.

- **Hemispherectomy** – This procedure is reserved for patients with severe epilepsy with widespread independent epileptic discharges in one hemisphere, often extending to the normal hemisphere. This procedure involves removing most or all of one of the brain’s hemispheres. This procedure has grown in sophistication over the years and has yielded impressive results. But again, it is only reserved for a very select group of patients.

- **Corpus Callostomy** – This surgery has been offered as an alternative to hemispherectomy in epileptic patients, but is not as effective as hemispherectomy. This surgery involves removing the corpus callosum of the brain.
SAFETY

FIRST AID

- STANDARD FIRST AID
  - Stay calm
  - Protect student from injury but do not restrain movements
  - Help the student lie down and turn on one side if possible
  - Loosen all tight clothing
  - Do not put anything in the mouth
  - Do not give medicines or fluids until the child is completely awake
  - Stay with the student until he or she is fully alert and oriented
  - Provide reassurance and support after the seizure episode
  - CPR should not be given during a seizure
  - Record the duration and describe the seizure on the epilepsy log
  - Report the seizure to the appropriate person: parents, school nurse, and/or administrator

- EMERGENCY FIRST AID
  - Call 911 if:
    - First known seizure
    - Seizure lasts more than 5 minutes
    - Another seizure begins soon after the first
    - The student stops breathing or has difficulty breathing after the seizure
    - Student cannot be awakened after the seizure
    - There are specific orders to call 911 from the physician
    - The recovery is different than usual
    - The need for assistance is uncertain
SPECIAL CONCERNS

MEDICALERT
A person with epilepsy should wear a medical-alert bracelet or necklace that gives critical information in order to medically treat a student correctly. The MedicAlert emblem is engraved with important information such as: diagnosis, medications, telephone numbers of the doctor, and the person to call in case of an emergency. It can help avoid costly medical bills and unnecessary actions. The MedicAlert organization may be contacted at www.medicalert.org or (888) 633-4298. See insert provided

HELMETS
Some students with epilepsy need to wear a helmet to provide protection from falling due to seizures. Bicycle helmets do not provide the best protection for students with seizures. A helmet should be chosen by observation of seizure behaviors. A student who tends to fall forward during seizures will need a helmet with a face guard, face bar, or visor. A student that falls backward will need occipital protection. The helmet is most effective if it is secure on the head with a snug chin strap. Hockey helmets made by Cooper give good protection. Helmets are available through sporting good stores, medical supply companies, and the rehabilitation departments of some hospitals.

DRIVING
Medication compliance is crucial, especially for teenagers desiring to get their driving licenses. Typically, students must be seizure free for one year before they will be granted a driving license. In California a “mandatory reporting law” requires physicians to report people who have epilepsy to the DMV and their frequency of seizures. A student with epilepsy who has a motor vehicle accident may be civilly or criminally liable. In addition, doctors may be held responsible if they failed to notify the DMV of the medical condition.

EMPLOYMENT AND THE LAW
Gainful employment provides a powerful source of self esteem and can increase quality of life. Employers may discriminate against those with epilepsy for a variety of reasons. The Americans with Disabilities Act (ADA) passed in 1990 to help protect people with certain disabilities from discrimination when applying for a job or while on the job. Students with epilepsy who are considering a part time job should be encouraged to contact Epilepsy Foundation (www.efa.org). They can provide valuable information to those with epilepsy.
EPILEPSY AT SCHOOL

SCHOOL EPILEPSY ASSESSMENT TOOL

NAME: _________________________________ DOB: _________ AGE: ________

SCHOOL: ________________________________________________

Does student have seizures? → No referral necessary

Yes →

Has student been medically evaluated for seizures?

No → Refer to PCP and/or child neurologist

Yes →

Is student on antiepileptic medications?

No → Refer to PCP and/or child neurologist

Yes →

Are seizures controlled? (<1 seizure per month, rare seizures at school)

No → Refer to center specializing in epilepsy care for children

Yes →

Are antiepileptic medications affecting quality of life and/or school performance?

No → Refer to center specializing in epilepsy care for children

Yes →

Is student receiving regular follow-up with PCP and/or child neurologist?

No → Refer to PCP and/or child neurologist

Yes → No referral necessary
SEIZURE RECORD

The seizure record form is a valuable tool that can be utilized to keep the school nurse, parents and the student’s physician informed about the seizure activity of a student. The form may be kept in the school office or in the teacher’s room which ever is most appropriate. Periodically the form should be sent or mailed home so that the parents are advised of their child’s status.
## SEIZURE RECORD

<table>
<thead>
<tr>
<th>Date</th>
<th>Time Started</th>
<th>Behavior Before Seizure/Aura</th>
<th>First Body Part Involved</th>
<th>Total Body Parts Involved</th>
<th>Time Ended</th>
<th>Recovery Time</th>
<th>Recovery Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This lesson plan can be adapted for use at any grade level.

When a student has a seizure at school it can be traumatic for everyone involved. Those who witness the seizure can become frightened by the sudden onset of a seizure and the dramatic behavior it causes. Often people do not know how to respond and this creates anxiety, especially in children. Thus a child with epilepsy can feel ostracized, embarrassed, and ashamed. A teacher or a school nurse who can provide age appropriate information can play a significant role by decreasing the fears of the classmates and increasing acceptance of a child who has epilepsy.

Objectives

- Students will gain a basic understanding of the nature of epilepsy
- Students will respond appropriately to a seizure episode
- Students will demonstrate an acceptance towards the child with epilepsy

Materials needed

Doll for demonstration purposes, paper (or response journals) and pencils

Anticipatory Set

Who has never had a hiccup or a sneeze? We all have sneezed and hiccupped. We really don’t have much control over when we hiccup or sneeze. They just happen. That’s the way it is with seizures.

Modeling

- Before a seizure occurs:

If the student in the class has frequent seizures, it would probably be best to introduce this lesson early to prepare the classmates for an episode. Obtain permission from the parents first and invite them to attend and even participate with you. Decide beforehand with the parent and the epileptic child whether or not to include him/her in the class discussion.

Do you know anyone with epilepsy? Wait for responses.
Sometimes __________’s brain does not work right and he has something called a seizure. His brain is sending mixed-up messages to his body and his body parts are not working right.

It’s important to remember that you cannot catch epilepsy from someone. Medication is given to help control the seizure activity.

Discuss types of behavior the child typically would display during a seizure. You may want to demonstrate them.

Determine and discuss age appropriate ways that classmates would be able to assist in this type of a situation.

**STANDARD FIRST AID**
- Stay calm
- **Have one student notify a teacher/adult immediately and another student stay with victim**
- Protect the student from injury but do not restrain movements
- Help the student lie down and turn on one side
- Loosen all tight clothing
- Do not put anything in the mouth
- Do not give anything to drink
- Stay with the student until he is fully alert and oriented

Ask students: Have you ever felt embarrassed about anything? What do you think it would feel like to have a seizure? What could you do to make that person feel comfortable?

➢ **After a seizure occurs:**

Discuss with students:
- What happened?
- What did you see?
- How did you feel?
- May want to include an age appropriate science lesson on the activity of the brain
**Guided Practice**
- Students will state or journal a basic understanding of why seizures occur
- Students will demonstrate first aid techniques that are appropriate
- Students will demonstrate ways to comfort a student after a seizure

**Independent Practice**
Have students break up into groups of three to demonstrate first aid and comfort to a seizure victim. Each student will perform one of the three roles: Victim, helper, and evaluator.

**Evaluation**
Watch interactions between classmates and student with seizure disorder.

After a seizure episode, teacher will evaluate the effectiveness of students’ response and re-teach accordingly.

At the end of the lesson ask: What is a seizure? How did you feel when you were the person who had the seizure? How did you feel when you were the helper? How can we make ________ feel comfortable and accepted?

**CREATING YOUR OWN INDIVIDUALIZED HEALTH CARE PLAN**

The Orange County Department of Education Seizure History form can be used to develop a care plan. The following health care plans are utilized by school nurses in the Orange County area. These can be modified to fit the specific needs of your student.
ORANGE COUNTY DEPARTMENT OF EDUCATION
SEIZURE HISTORY

Student __________________________________ Date of Birth ________________________________
School  __________________________________ Date Completed _____________________________

School records indicate your child has a seizure disorder. The school is requesting the following
information so we can better assist your child should a seizure occur at school. Immediate care may be of
an emergency nature.

Please answer the following questions and return to school as soon as possible:

1. Seizure type _________________________________________________________________________

2. Describe the seizures __________________________________________________________________
____________________________________________________________________________________

3. Average length of time seizure lasts _______________________________________________________

4. How often seizures occur _______________________________________________________________

5. Describe student’s behavior following a seizure _____________________________________________

6. What will trigger a seizure? _____________________________________________________________

7. List any warning signs before the seizure __________________________________________________

8. Please list any medications your child receives ____________________________________________

<table>
<thead>
<tr>
<th>Name of medication</th>
<th>Dose/Time given</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. Physician’s Name __________________________________ Telephone # ______________

10. Additional Comments: _________________________________________________________________
___________________________________________________________________________________
___________________________________________________________________________________

__________________________________________     _________________________________________
Parent Signature   Date     Principal Signature   Date

__________________________________________     _________________________________________
School Nurse Signature   Date     Teacher Signature   Date

NOTE: Parents are responsible to notify school nurse if medication/seizure information changes.
## Sample 1: Care Plan

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
<th>First Aid</th>
</tr>
</thead>
</table>
| **ABSENCE SEIZURES**    | **Description:** Brief lapses of consciousness (1-4 seconds, like daydreaming) that begin and end abruptly. | 1. Reassure, if needed.  
2. Repeat any missed information.  
3. If a first episode, notify parents/family. |
| **PARTIAL SEIZURES**    | **Description:** Consciousness unimpaired; uncontrollable changes in mood, sensation, and/or movement (such as twitching of a body part). | 1. Give reassurance/emotional support as needed.  
2. If a first episode, notify parents/family. |
| **COMPLEX PARTIAL SEIZURES** | **Description:** Impaired consciousness accompanied by confusion and uncontrollable automatic movements (such as wandering about, touching things, etc.). May strike out if abruptly restrained. Lack of responsiveness may be misinterpreted as a behavior problem. | 1. Stay calm and reassure other students.  
2. Protect from harm/hazards.  
   • Direct away from hazards.  
   • Do not grab roughly or restrain.  
   • Do not expect verbal instructions to be obeyed.  
3. Stay with person until fully recovered.  
4. Help reorient to surroundings.  
5. If a first episode, notify parents/family. |
<table>
<thead>
<tr>
<th>GENERAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TONIC –</td>
</tr>
<tr>
<td>CLONIC</td>
</tr>
<tr>
<td>SEIZURES</td>
</tr>
<tr>
<td>(Grand Mal)</td>
</tr>
</tbody>
</table>

**Description:** Loss of consciousness accompanied by falling, stiffening and jerking movements (average time is 1-2 minutes). Breathing is shallow or absent; skin possibly pale or bluish.

**First Aid**
1. Remove nearby objects/hazards  
   - and -  
   If in a chair, ease to floor (as possible).  
2. Position (as possible) to minimize harm.  
3. Do **not** restrain. Do **not** put anything in mouth.  
4. After seizure, position on side and open airway (prevents airway obstruction from drooling and possible vomiting).  
5. Reassure victim (may have wet pants/BM)  
   - and -  
   Reorient to surroundings (may be alert but groggy).  
6. If needed, provide period of rest (allows for recovery of clarity and consciousness).  
7. Educate others.  
   - Help everyone present to understand, to be a positive support system, and to be able to provide first aid.  
   - In classroom and with parent permission, involve affected students as an expert resource.  
8. Notify parent or other adult.  
   - Parent should be sure child is taking medication regularly.  
   - An adult should be seen by an MD to assist in seizure control.  
9. Get medical help if:  
   - Injury occurs  
   - No history of seizures  
   - No return of breathing  
   - Seizure lasts more than five minutes  
   - Repeated seizures, especially without regaining consciousness  
   - Patient or parent requests care  
   - Patient is pregnant or has diabetes
Seizure Care

I. PERSONNEL

A. School Nurse
   The school nurse is the direct and indirect procedural supervisor responsible for training and monitoring involved staff.

B. Designated school personnel under direct or indirect supervision by the school nurse.

II. GENERAL INFORMATION

A. A seizure is a brief disruptive discharge of electrical impulses in the brain. It can affect the whole brain and disrupt consciousness, or just part of the brain, in which case consciousness may or may not be affected.

B. Signs and symptoms vary according to the type of seizure a person experiences. Certain parts of the brain control different body functions. The function of the body which is affected is related to the part of the brain involved in the seizure.

C. The International Classification of Seizures identifies two major groupings of seizures and over thirty different types of seizures. For further information, refer to The Epilepsy Society’s chart on seizures.

D. Status Epilepticus can occur when there is a series of seizures without complete recovery in between or a single seizure lasting more than thirty minutes. During a prolonged convulsive seizure, depletion of oxygen, blood flow, and nutrients to the brain occurs. Each child’s physician needs to define what would represent a status seizure for a particular child.

E. Regular use of medication controls seizures in the majority of cases. A separate medication form must be completed for medication administration at school. Rectal medication may be ordered in case of a status seizure.

F. Parent/care-provider must complete the seizure history form as part of this Specialized Physical Health Care Service (SPHCS).

G. Procedure will be fully discussed with parent/care-provider/guardian. IEP face sheet should indicate that SPHCS are required for seizure care. A copy of this procedure is to be attached to the IEP.

H. If medication is required, “Parent/Guardian and Physician Request for Medication” must be completed.

I. If “Parent Consent for Administration of SPHCS” and/or “Physician’s Order for Treatment” do not accompany this SPHCS then standard treatment for seizure will be given according to the American Epilepsy Society’s guidelines.

III. GUIDELINES

Purpose
1. Provide first aid for seizure activity.
2. Parent/care-provider should always be notified of any seizure activity.
3. School Nurse should always be notified of any seizure activity.
## IV. PROCEDURES

<table>
<thead>
<tr>
<th>ESSENTIAL STEPS</th>
<th>KEY POINTS &amp; PRECAUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recognize signs of seizure activity and immediately implement appropriate first aid:</td>
<td>Brief lapses of consciousness (1-4 seconds, like daydreaming) that begin and end abruptly.</td>
</tr>
<tr>
<td>a. Absence seizure</td>
<td>Consciousness unimpaired; uncontrollable changes in mood, sensation, and/or movement (such as twitching of a body party).</td>
</tr>
<tr>
<td>(1) Reassure, if needed.</td>
<td>Impaired consciousness accompanied by confusion and uncontrollable automatic movements (such as wandering about, touching things, etc.).</td>
</tr>
<tr>
<td>(2) Repeat any missed information.</td>
<td>May strike out if abruptly restrained. Lack of responsiveness may be misinterpreted as a behavior problem.</td>
</tr>
<tr>
<td>b. Partial seizure</td>
<td>Loss of consciousness accompanied by falling, stiffening and jerking movements (average time is 1-3 minutes). Breathing is shallow or absent; skin possibly pale or bluish.</td>
</tr>
<tr>
<td>(1) Reassure and give emotional support as needed.</td>
<td>Restraining may cause further injury. Objects in the mouth may cause obstruction or damage to the oral structure.</td>
</tr>
<tr>
<td>c. Complex Partial seizure</td>
<td></td>
</tr>
<tr>
<td>(1) Stay calm.</td>
<td>Student may be awake but groggy.</td>
</tr>
<tr>
<td>(2) Protect from harm and hazards:</td>
<td>Student may require clothing change due to incontinence or emesis.</td>
</tr>
<tr>
<td>(a) Direct away from hazards</td>
<td></td>
</tr>
<tr>
<td>(b) Do not grab roughly or restrain.</td>
<td></td>
</tr>
<tr>
<td>(c) Do not expect verbal instructions to be obeyed.</td>
<td></td>
</tr>
<tr>
<td>d. Generalized Tonic-Clonic seizure</td>
<td></td>
</tr>
<tr>
<td>(Grand Mal)</td>
<td></td>
</tr>
<tr>
<td>(1) Remove nearby objects/hazards.</td>
<td></td>
</tr>
<tr>
<td>(2) Assist to a lying down position and turn to side, ensuring open airway.</td>
<td></td>
</tr>
<tr>
<td>(3) Prevent head and neck injury:</td>
<td></td>
</tr>
<tr>
<td>(a) Place padding under head for protection.</td>
<td></td>
</tr>
<tr>
<td>(b) Remove eyeglasses.</td>
<td></td>
</tr>
<tr>
<td>(c) Loosen tight clothing around neck.</td>
<td></td>
</tr>
<tr>
<td>(4) Do not restrain and do not put anything in mouth.</td>
<td></td>
</tr>
<tr>
<td>(5) Remain next to student until consciousness is regained.</td>
<td></td>
</tr>
<tr>
<td>(6) Call 911 if the following occurs:</td>
<td></td>
</tr>
<tr>
<td>(a) Seizure continues for more than 5 minutes.</td>
<td></td>
</tr>
<tr>
<td>(b) Breathing is absent after muscle jerks subside.</td>
<td></td>
</tr>
<tr>
<td>(c) There is no known history of seizures or if there is an increase in the severity of usual seizure activity.</td>
<td></td>
</tr>
<tr>
<td>(d) Aspiration or injury occurs.</td>
<td></td>
</tr>
<tr>
<td>(7) Upon arousal, reassure student, reorient to surroundings, and provide comfort measures as needed.</td>
<td></td>
</tr>
<tr>
<td>(8) Allow a rest period, then encourage the student to resume regular activities if he/she is able.</td>
<td></td>
</tr>
<tr>
<td>(9) Document seizure activity on the Seizure Record.</td>
<td></td>
</tr>
<tr>
<td>2. Stay with person until fully recovered.</td>
<td></td>
</tr>
<tr>
<td>3. Help re-orient to surroundings.</td>
<td></td>
</tr>
</tbody>
</table>
RESOURCES

GENERAL

**American Academy of Neurology**
651-695-1940
www.aan.com  (provides valuable resources for medical specialists)

**Charlie Foundation**
1223 Wilshire Blvd.
Box 815
Santa Monica, CA 90403
800-367-5386 (Provides information and support for those on the ketogenic diet)

**Epilepsy.com**
www.epilepsy.com  (Information, videos, and on-line nursing and medical support to answer questions)

**Epilepsy Foundation**
Los Angeles, Orange, San Bernardino, and Ventura Counties
800-564-0445
SOS@epilepsy-socalif.org
www.epilepsy-socalif.org  (Excellent resource on all kinds of information regarding seizures, includes teen programs and support group information)

**Epilepsy Foundation of America**
800- EFA-1000
Information
800-EFA-4050
Library Database
301-459-3700
www.efa.org
National Institute of Neurological Disorders and Stroke
800-352-9424
301-496-5751
www.ninds.nih.gov (Provides information on epilepsy research)

OCTA Access
714-560-5956 (If eligibility requirements are met the OCTA will provide door to door transportation to medical appointments)

Vagus Nerve Stimulator Therapy Hotline
888-867-7846 (General information available)
888-508-8082 (Teleconference hosting a Case Manager and VNS Therapy patient on Monday’s in Spanish at 1:00PM, Monday-Thursday available at 8:00AM, 11:00AM, and 5:00PM in English. Call 888-508-8082 prior to calling in to the teleconference to request the “Guide for Patient Teleconferences”.

RELATED NEUROLOGICAL DISORDERS

The ARC (Formerly Association for Citizen with Retardation)
310-565-3842
www.thearc.org

Autism Society of America
301-657-0881
www.autism-society.org

United Cerebral Palsy
800-872-5827
www.ucpa.org

Tuberous Sclerosis Alliance
800-225-6872
www.tsalliance.org
**SUPPORT GROUPS**

- Orange – COPE Group (with Epilepsy 101)  
  Alex Center, 165 N. Myrtle Avenue, Tustin, CA  
  Meetings are held the fourth Friday of every month, from 6:00PM  
  Facilitator: Staff of Epilepsy Foundation

- Orange – Esperanza Spanish Group  
  CHOC West Building B, 455 South Main Street, Conference Room A, Orange, CA  
  Meetings are held the first Friday of every month, from 7:00 to 8:30PM  
  Facilitators: Guadalupe Cabrera and Albert Sato (Volunteers)

- **Teen Programs** are offered year-round through the Epilepsy Foundation.  
  Call 800-564-0445 or email [teens@epilepsy-socalif.org](mailto:teens@epilepsy-socalif.org) to get more information.

- **Family Weekend Camp** is held annually for families with children with epilepsy. This is a great opportunity for families to learn more about epilepsy, socialize, and enjoy recreational activities. For more information call camp coordinator, Guadalupe Corral-Leyva, at 800-565-0445.
ACCESS TO HEALTHCARE

CHOC Epilepsy Center – After Hours Care: 714-765-6618

After Hours Health Care Advice
KidWise: 714-633-2098

Information on Low Cost Health Insurance
MediCal/Healthy Families/California Kids: 714-289-4569

Clinica CHOC Para Ninos: Located in Santa Ana
Staffed with bilingual pediatricians, and nursing staff
Hours:
- Monday-Friday 9am-6pm
- Saturday 9am-3pm
- Appointments: 714-558-8811

CHOC Clinic at Boys and Girls Club of Santa Ana
Full service clinic
Hours:
- Monday and Friday 9am-5pm
- Tuesday and Thursday 1pm-3pm
- Appointments: 714-560-0494

CHOC Clinic at Costa Mesa
Staffed with bilingual pediatricians, and nursing staff
Hours:
- Wednesday 9am-2pm
- Thursday and Friday 1pm-6pm
- Saturday 9am-2pm
- Appointments: 949-722-9100

Healthy Tomorrows Mobile Health Clinic
Fully equipped medical van provides care within the community for students and siblings
- Call 714-532-7575 for appointments, locations, and schedules
Healthy Families

Why do children need Healthy Families insurance?

* To prevent serious illness
* For regular health check-ups
* To prevent emergency room

Who is eligible for Healthy Families

* Newborns up to age of 19
* California residents or U.S. citizens
* Children not currently covered by health care insurance

Documents required to complete application:

* Proof of income (two check stubs)
* Proof of income deductions (child support)
* Proof of immigration status or copy of birth certificate
* Social Security Card

The Healthy Families medical program provides comprehensive health, dental and vision coverage.

Average cost: $4 - $27 per month (depending on family income and size)

- Unlimited doctor visits
- Well baby check-ups and immunizations
- Prescription medications

Enroll now in Healthy Families!
For more information or to request application assistance, please call: (714) 289-4569

455 S. Main St., Orange, CA 92868  www.CHOC.org
Por qué los niños deben tener seguro médico?
* Para prevenir enfermedades
* Para tener exámenes físicos regularmente
* Para evitar visitas a la Sala de Emergencias

Quién es elegible para Healthy Families?
* Niños recién nacidos hasta los 19 años de edad
* Residentes legales del estado de California
* Ciudadanos americanos
* Niños sin plan de seguro médico

Documentos necesarios para llenar la solicitud:
* Comprobante de ingresos de los padres (dos talones de cheques más recientes)
* Prueba de deducciones (comprobante de manutención de niños)
* Acta de Nacimiento (niño o niños) o tarjeta de residencia legal de los niños
* Tarjeta de Seguro Social

El programa Healthy Families medical le ofrece asistencia médica, dental y de visión a bajo costo.

Costo Promedio: $4 - $27 (dependiendo del ingreso y tamaño de la familia)

- Visitas al consultorio de su doctor
- Exámenes médicos y vacunas para du bebé
- Medicinas

Inscríbase hoy en Healthy Families!
Para más información, llame a: (714) 289-4569

455 S. Main St., Orange, CA 92868 • www.CHOC.org
Health Services:
The fully equipped medical clinics are staffed with bilingual pediatric nurse practitioners, nurses and assistants. Services available for children are:

- Physical exams, including school entrance exams
- Immunizations
- Vision and hearing screenings
- Well-child care
- Sick visits
- Follow-up medical care with a CHOC physician if necessary

The CHOC Healthy Tomorrows Mobile Clinics:

- Offer health care service and wellness education to children
- Are committed to locating a medical home for Orange County’s uninsured and underserved children. CHOC is a provider for government-sponsored programs including CalOPTIMA, Healthy Families, California Children’s Services, California Kids and CHDP.

Healthy Tomorrows Schedule:
The CHOC Mobile Clinic is at an elementary school in your neighborhood or community. We are at the following schools:

- **Rea School**  Every Wednesday  •  8:30 a.m.—4 p.m.
- **Whittier School**  Every other Monday beginning July 7th  •  8:30 a.m.—4 p.m.
- **Wilson School**  Every other Monday beginning July 14th  •  8:30 a.m.—4 p.m.

Please call (714) 532-7575 for an appointment and a location schedule.
Las Clínicas Móviles “CHOC Healthy Tomorrows”:

- Ofrecen los servicios de cuidados de salud y educación para el bienestar de los niños.
- Se han comprometido en ofrecer servicios médicos a los niños de bajos recursos del Condado de Orange que no cuentan con seguro médico. CHOC es un proveedor de programas patrocinados por el gobierno incluyendo CalOPTIMA, Healthy Families, California Children’s Services, California Kids y CHDP.

Horario de Healthy Tomorrows:

Las Clínicas Móviles CHOC proveen servicios en las Escuelas Primarias de su comunidad. Nos puede localizar en las siguientes escuelas:

- **Rea School**: Every Wednesday • 8:30 a.m.—4 p.m.
- **Whittier School**: Every other Monday beginning July 7th • 8:30 a.m.—4 p.m.
- **Wilson School**: Every other Monday beginning July 14th • 8:30 a.m.—4 p.m.

Por favor llame al (714) 532-7575 para hacer una cita y/o informarse sobre el horario de servicios.
REFERENCES

