



HEALTH HOLDING

HAFER ALBATIN HEALTH
CLUSTER
MATERNITY AND
CHILDREN HOSPITAL

Department:	Pediatrics		
Document:	Multidisciplinary Policy and Procedure		
Title:	Care of Pediatric Patient with Seizure Disorder		
Applies To:	All Pediatric Staffs and Respiratory Therapists		
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1. PURPOSE:

- 1.1 To control seizure and prevent recurrence.
- 1.2 To prevent injury and complication
- 1.3 To promote effective breathing pattern related to spasm of respiratory muscle.

2. DEFINITIONS:

- 2.1 **Seizures** – are caused by abnormal electrical discharges in the brain. Seizures can involve both the body (convulsions) and the mind (altered mental status), or only parts of the body. Seizures are life threatening when a condition known as Status Epilepticus occurs.
- 2.2 **Prolonged seizure/ Status Epilepticus** – Seizure longer than 5 minutes or two or more seizures without a return of consciousness between seizures. Status Epilepticus requires emergency medical attention to stop seizures and prevent them from recurring.

3. POLICY:

- 3.1 All patient admitted with seizure disorder should be managed as emergency. Patient's vital signs and neurological assessment are to be checked during and after the onset of seizure activity.
- 3.2 Episodes of seizure activity must be documented in the convulsion chart. Physician is to be informed immediately about the seizure activity.
- 3.3 During seizure activity the staff nurse should focus on maintaining the airway patency, ensuring safety administering oxygen support and anticonvulsant medications. Intravenous (IV) line should be available for the essential of emergency drug administration.
- 3.4 Crash cart must be available at patient side in case resuscitation is needed. Health education must be given to the parent to prevent complications.

4. PROCEDURE:

- 4.1 Determine if there is family history of birth injury/ trauma, epilepsy, alcohol/ drug ingestion, infectious disease, metabolic disorders and fever.
 - 4.1.1 Onset of seizures
 - 4.1.2 Description of the type of seizures
 - 4.1.2.1 **Generalized seizures** – Involve both sides of the brain and patient had loss of consciousness and has a post – ictal period after the seizure. The types of generalized seizures include:
 - 4.1.2.1.1 **Tonic – clonic seizures (grandmal)** – the body, arms and legs will flex (contract), extend (straighten out), tremor (shake), a clonic period (contraction and relaxation of the muscles), followed by the postictal period.
 - 4.1.2.1.2 **Atonic seizures (drop attacks)** – sudden loss of muscle tone the patient is limp.

- 4.1.2.1.3 **Myoclonic seizures** – rapid muscle jerks quick movements or sudden jerking of a group of muscles.
- 4.1.2.1.4 **Absence seizures (petit mal)** – brief altered state of consciousness and staring episodes.
- 4.1.2.2 **Focal (partial) seizures** – uncontrolled muscle movements without loss of consciousness and staring episodes.
- 4.1.2.3 **Status Epilepticus** – Is a situation in which seizures develop into one non – stop seizure.
- 4.1.2.4 **Febrile seizures** – Involve contractions in your child's muscles – either mild (such as stiffening of your child's limbs) or severe (convulsions). They are triggered by fever.
- 4.1.3 Duration of seizures
- 4.1.4 Precipitating factors
- 4.1.5 Obtain history of anti – seizure medications given at home prior to seeking hospital care or whether patient was on regular anti – epileptic medication.
 - 4.1.5.1 Prevent medication overdose and medication interactions.
- 4.2 Assess patient's neurological status for prompt treatment and life saving measures.
- 4.3 Provide a patent airway to prevent respiratory arrest.
 - 4.3.1 Support respiration including provision of supplemental or high concentration oxygen as necessary.
 - 4.3.2 Connect patient to cardio respiratory monitor.
 - 4.3.2.1 Check blood pressure every 5 minutes during seizures, then every 10 minutes during post-ictal period until stable.
 - 4.3.2.2 Monitor vital signs especially respiration, the child may stop breathing during the seizure.
- 4.4 Check blood glucose levels. Secure IV access in a large vein and obtain blood specimen for laboratory investigation as ordered by the Physician. Consider IV placement.
 - 4.4.1 Complete Blood Count
 - 4.4.2 Serum Electrolytes, Blood Urea Nitrogen (BUN), Creatinine, Glucose, Calcium and Magnesium.
 - 4.4.3 Consider Drug Level if on anticonvulsant medication (Phenytoin, Phenobarbital during Seizure).
- 4.5 Anticipate the need for drug therapy and obtain next medication per doctor's order.
- 4.6 Monitor the patient for the major drug effects and precaution of the anticonvulsant medication (Phenytoin, Phenobarbital and Diazepam).
 - 4.6.1 Benzodiazepines are first line agents. First dose should be given at 5 minutes after start of seizure (Diazepam).
 - 4.6.1.1 Cardiovascular and respiratory depression may occur especially if conjunct with Phenytoin and Phenobarbital during seizure.
 - 4.6.1.2 Assess intravenous site frequently during administration, Diazepam may cause phlebitis and venous thrombosis. Avoid small veins and take extreme care to avoid intra-arterial administration or extravasations.
 - 4.6.1.3 Drug precipitation can occur if mixed with other drugs and be given IV push slowly.
 - 4.6.1.4 If injection cannot be made directly into vein, inject slowly through infusion tubing as close as possible to vein insertion. The emulsion form is compatible with Premature Ventricular Contraction (PVC) infusion sets.
 - 4.6.1.5 Protect injection from light. Don't use solution that slightly yellow or that contains precipitate.
 - 4.6.2 Second line therapies after Benzodiazepines are Phenytoin or Phenobarbital.
 - 4.6.2.1 Phenytoin and Phenobarbital has direct cardiac effects which can lead to arrhythmias.
 - 4.6.2.2 Regular/ maintenance dose should be given 12 hours after the loading dose.
 - 4.6.2.3 Intravenous should be administered into a large peripheral or central vein through a large gauge catheter.
 - 4.6.2.4 Dilute with normal saline. Dextrose containing solutions should be avoided due to lack of solubility and because it precipitates.
 - 4.6.2.5 Flush the IV line before and after giving the IV medication to avoid local irritation of the vein due to alkalinity of the solution.

- 4.7 Hold feeds while seizure activity.
- 4.8 Ensure safety measures during seizure:
 - 4.8.1 Do not attempt to open jaws that are clenched in spasm to insert anything. Broken teeth and injury to the lips and tongue may result from such action.
 - 4.8.2 Stay with the patient during seizure, protect the head with a pad and raise side rails of bed to prevent injury due to fall during seizure.
 - 4.8.3 Do not attempt to restrain patient during seizure. Muscular contractions are strong and restrain will cause injury.
 - 4.8.4 Place the patient on one side with head flexed forward which allows the tongue to fall to facilitate drainage of saliva thus preventing risk of aspiration.
- 4.9 Document the episodes of seizure activity which includes:
 - 4.9.1 Difficulties with airway and breathing.
 - 4.9.2 Types of movement and area of body involved.
 - 4.9.3 Time of seizure began and ended.
 - 4.9.4 Site where twitching began, movements of the eyes and the changes in the pupillary size.
 - 4.9.5 Pharmacologic management given to stop seizures.
- 4.10 Assist in diagnostic evaluation:
 - 4.10.1 Electroencephalogram (EEG).
 - 4.10.2 CT scan and MRI.
 - 4.10.3 Serum electrolyte, glucose and toxicology screening.
 - 4.10.4 Blood culture and sensitivity.
 - 4.10.5 Serum levels of anticonvulsant drugs to determine metabolic abnormalities and serve as a guide for maintenance of biochemical haemostasis. Some drugs to monitor the level of the drug in the body. Testing may be done on a regular basis and when the dose changes.
 - 4.10.6 A lumbar puncture should be performed in any child who presents with a seizure and a fever and has meningeal signs and symptoms (e.g. neck stiffness, Kerning or Brudziński's signs).
- 4.11 Therapeutic intervention:
 - 4.11.1 Maintain good nutrition, sleep, and hygiene and avoid stress. To help reduce frequency of seizure.
 - 4.11.2 Provide a ketogenic diet (high – fat, low-carbohydrate, low – protein diet) for children younger than 8 years old. Ketosis is believed to slow the electrical impulses that cause seizures.
- 4.12 Provide health education to the family:
 - 4.12.1 Provide psychological support to the patient and parents. Educate them about disorder process.
 - 4.12.2 Encourage the patient to determine existence of trigger factors for seizures such as skipped meals, lack of sleep and emotional stress.
 - 4.12.3 Remind family the importance of medication regimen and maintaining regular immunizations, medical check – up, dental and visual examination.
 - 4.12.4 Encourage a moderate life style that includes exercise, mental activities and nutritional diet.
 - 4.12.5 Educate family on safety measures during seizure.
- 4.13 Document in the nurses notes all nursing care rendered, all treatment given, patient's condition and tolerance to procedure.

5. MATERIAL AND EQUIPMENT:

- 5.1 Cardio – Respiratory Monitor
- 5.2 Oxygen Supply
- 5.3 Suction Machine
- 5.4 Intravenous Access Set
- 5.5 Penlight
- 5.6 Oropharyngeal Airway
- 5.7 Medication as Ordered

6. RESPONSIBILITIES:

- 6.1 Physician
- 6.2 Nurses
- 6.3 Respiratory Therapist

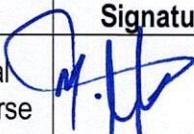
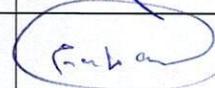
7. APPENDICES:

N/A

8. REFERENCES:

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- 8.3 Audrey Berman, Shirlee Snyder, Kozier and Erb's Fundamentals of Nursing Concept, Process and Practice, Pearson Education, 10th edition, 2015.
- 8.4 Patient Information: Treatment of Seizures In Children, 2015. Accessed from <http://www.uptodate.com/contents/treatment-of-seizures-in-children-beyond-the-basics>.

9. APPROVALS:

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