PRIMARY CARE PRACTICE GUIDELINES	**Practice Guideline:** *Emergency Management of Seizure in the Primary Care Setting*	**Guideline Number** *PCPG7*
	Approved By: *Program Mgmt Team – March 31, 2008* *Community Mgmt Team – May 5, 2008*	**Pages:** 1 of 5
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1. PRACTICE OUTCOME

To identify a tonic-clonic seizure in the primary care setting and to provide an emergency response based on best available evidence.

2. DEFINITIONS

A seizure is defined as a paroxysmal alteration of brain function due to abnormal, disorganized discharge of neurons. Seizures can be classified as focal or generalized. Focal seizures may not result in an alteration of consciousness, whereas generalized seizures result in loss of consciousness.[1] The seizure may be a convulsion, a brief stare, muscle spasms, odd sensations, automatic behaviour, or altered consciousness.

Status epilepticus is defined as

- an episode of more than thirty (30) minutes of continuous seizure activity, or
- two or more sequential seizures spanning this period without full recovery between seizures.

This guideline outlines the response to tonic-clonic seizures. Focal seizures are not considered an emergency situation; this guideline does not apply to them. Focal seizures should be reported to and followed up by the Primary Care Provider.

3. GUIDELINES

3.1 Assessment

3.1.1 Onset: Sudden, with rapid progression of symptoms.

3.1.2 Usual Causes: Cause remains unknown in about half of cases.
May be caused by underlying health problems, such as:

- very low blood levels of glucose, sodium, calcium or magnesium
- traumatic head injuries
- using or withdrawing from drugs, including alcohol
- infections such as meningitis or encephalitis
- brain tumors
- blood vessel malformations in the brain or strokes.

Triggers include ingesting substances, hormone fluctuations, stress, altered sleep patterns and photosensitivity.

3.1.3 Signs and Symptoms of generalized seizure:
Tonic phase. Loss of consciousness occurs, and the muscles suddenly contract and cause the person to fall down. A period of rigidity follows.
Clonic phase. The muscles go into rhythmic contractions, alternately flexing and relaxing. Convulsions usually last for less than two minutes.

Other signs and symptoms include:

- aura
- loss of bowel and bladder control
- unresponsiveness after convulsions
- confusion
- fatigue/sleepiness

- severe headache.

3.2 Intervention

3.2.1 For generalized tonic-clonic seizures:

1. KEEP CALM. Let seizure take its course. Do not try to stop the seizure or revive the person.
2. CHECK AIRWAY, BREATHING AND CIRCULATION. Ensure that the cause isn't asystole or a blocked airway.
3. ENSURE THAT OXYGEN AND SUCTION MACHINE ARE NEARBY for use if necessary.
4. PROTECT PERSON FROM FURTHER INJURY. Place a towel under the head, loosen tight clothing, and move sharp or hard objects out of the way.
5. DO NOT RESTRAIN PERSON OR FORCE ANYTHING IN THE PERSON'S MOUTH. This could cause teeth or jaw damage.
6. ROLL THE PERSON ON HIS/HER SIDE as soon as possible to allow secretions to drain and to prevent aspiration. Suction oral cavity if necessary.
7. CHECK VITAL SIGNS (including pulse oximetry if available) AND TIME THE DURATION OF SEIZURE. Record these data and your observations of the seizure activities.
8. CHECK BLOOD GLUCOSE using glucometer. If client is hypoglycemic, follow WRHA Primary Care Hypoglycemia Practice Guideline (PCPG2).
9. PROTECT PERSON AFTER SEIZURE by providing a safe area to rest. As the person awakens, offer reassurance and reorientation.

WHEN TO CALL AN AMBULANCE:

- If the person has been injured
- If the person is pregnant or known to have diabetes.
- If the person is not known to have epilepsy and there is no medical ID bracelet.
- If the seizure lasts longer than five (5) minutes, or repeats without full recovery (i.e., suspected status epilepticus).

3.2.2 Intervention for suspected status epilepticus:

1. CALL 911 IMMEDIATELY.
2. Initiate WRHA "General Emergency Protocol for Primary Care Setting".
3. ENSURE AIRWAY IS CLEAR AND PATENT.
   - Suction secretions as necessary.
   - Insert oropharyngeal airway.
   - Assist ventilation as needed by means of AmbuBag with oxygen.
4. GIVE OXYGEN 6-10 liters/minute by mask. Monitor oxygen saturation using pulse oximeter if available. Maintain oxygen saturation >97%.
5. ADMINISTER MEDICATION (also refer to Section 5 Quick Reference Guide for Lorazepam Dosing):
   - For adults and adolescents:
     Lorazepam 2 mg SUBLINGUAL tablets, inserted intrabucally. If teeth are clenched, insert between gums and cheek.

5. ADMINISTER MEDICATION (continued):
   - For pediatric clients: Lorazepam liquid preparation 1 milligram/millileter, inserted intrabucally using oral syringe.[2] If teeth are clenched, insert between gums and cheek.
     - Less than 6 months: 0.25 milligram liquid intrabuccal
     - 6 months to 2 years: 0.50 milligram liquid intrabuccal
     - More than 2 years: 1.0 milligram liquid intrabuccal

   NOTE: Lorazepam is to be to be administered in children only after 15 minutes of continuous seizure activity.[3]

   NOTE: These medications may cause respiratory depression, regardless of route of administration.
6. Consult with physician or RNEP for medication adjustment as required post event.
7. Document the event, including physical assessment, interventions and client's response to treatment.

4. EQUIPMENT/SUPPLIES REQUIRED

Oxygen
Adult and Pediatric Non-rebreather masks
Extra Oxygen tubing
Oropharangeal airway
AmbuBag
Suction machine
Sphygmomanometer
Stethoscope
Glucometer
Lorazepam 2 milligram SUBLINGUAL tablets
Lorazepam 1 milligram\milliliter liquid preparation
Oral Syringes
Optional: pulse oximeter

5. RESOURCES/QUICK REFERENCE SHEET

5.1. Lorazepam Dosing Guidelines

AGE	MEDICATION	DOSING GUIDELINE
Adult	Tablet	2 mg
>2 years	Liquid (1 mg/mL)	1 mg
6 mo – 2 years	Liquid (1 mg/mL)	0.5 mg
<6 mo	Liquid (1 mg/mL)	0.25 mg
Only administer Lorazepam to children after 15 consecutive minutes of seizure activity.		

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