Recognition and Care of Seizures and Emergencies
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Objectives

- Recognize generalized and partial seizures.
- Demonstrate basic first aid for seizure types.
- Identify when a seizure may become an emergency situation.
Types of Seizures

- **Generalized**
  - Involves the whole brain from the onset

- **Partial** (also called localization related, focal)
  - Begins in one side of brain
  - Can spread to other side

- **Types:**
  - Absence
  - Myoclonic
  - Clonic
  - Tonic
  - Tonic-clonic
  - Atonic (drop attack)

- **Types:**
  - Simple partial
  - Complex partial
  - Secondary generalized
Revised Terminology and Concepts for Classification of Seizures/Epilepsies

- Generalized and focal seizures redefined
  - **Generalized**: “occurring in and rapidly engaging bilaterally distributed networks”
  - **Focal (partial)**: occurring “within networks limited to one hemisphere and either discretely localized or more widely distributed”

- Types of generalized seizures simplified, while focal seizures described in relation to manifestations
Parts of a Seizure

- **Prodrome** – changes in behavior, mood or feelings that may occur hours or days before a seizure

- **Aura** - Symptoms correspond to the area of brain affected by the abnormal electrical activity. Most commonly seen with complex partial seizures.

- **Ictus** - What is seen/felt during abnormal electrical activity

- **Postictal** - What is seen/felt until the brain recovers to baseline
Simple Partial Seizures

- Sometimes called ‘auras’, is the first symptom of a seizure
- No change in consciousness/awareness
- What is seen/felt correlates with abnormal electrical activity in a part of the brain
Insight
Judgment
Attention
"Brake Pedal"

Moving

Feeling
Perceptions
Comprehension

Speech

Memory

Learning

Mood
Examples of Simple Partial Seizures

- **Sensory**
  - Smells
  - Sensations
  - Visual changes
  - Auditory symptoms

- **Autonomic**
  - Dilated pupils
  - Queasy Stomach
  - Skin flushing
  - Pallor

- **Motor**
  - Unilateral jerking of face, arm, and/or leg
    - may spread from one part of body to others
  - May be unable to speak
  - Can involve any part of the body

- **Psychic**
  - Déjà-vu, jamais vu, out of body experience
  - Feelings of fear, anxiety, happiness, depression
Nursing Care During Seizure Simple Partial

- Promote safety
  - Guide patient to a safe place
  - Stay within arm’s reach
- Stay calm

- Observe the patient
  - Speak calmly
  - Assess awareness

- Reassure
- Time the seizure
- Document event
Complex Partial Seizures

- May start as simple partial seizure or start suddenly

- **Awareness is impaired, though may be difficult to assess**

- May or may not hear, understand, see, respond or recall events during seizure

- Duration: seconds to minutes

- Automatisms: unusual and repetitive behaviors

- Motor signs include:
  - One or both sides of body
  - May be stiffening, jerking, twitching, or absence of movement
  - May involve any part of the body including jaw, swallowing muscles, shoulders
  - Can spread from one body area to others

- Post-ictal fatigue, confusion, sleepiness, headache
Nursing Care During Complex Partial Seizure

- Promote safety
  - Guide patient away from potential dangers.
  - Do not restrain patient
    - Patient may become combative if restrained
    - If safe, let patient wander in an enclosed area
    - Assist patient to lie down if there is a loss of tone

- Stay calm

- Observe behavior and time the seizure

- Observe post ictal state (patient may be confused or tired)
  - Reorient and reassure
  - Stay with the patient until he/she returns to baseline

- Document
Secondarily Generalized Seizures

- Starts in focal brain area then spreads from one side to include the other side
  - That is, the seizure may start as a simple partial seizure or as a complex partial seizure

- May spread slowly or rapidly to a generalized seizure, usually causing patient to fall
  - Electrographically, seizure involves both sides of brain
Secondarily Generalized Seizures

- Eyes may roll back, may fall to ground or lean over
- Body becomes rigid (tonic) and then jerks (clonic)
- May involve incontinence of bladder and/or bowel
- May have forced head turn or eye deviation to side
- May involve one side of body more than the other
- Lasts 5 minutes or less
Primary Generalized Seizures

- Involve both hemispheres at the onset
- Types of primary generalized seizures:
  - Absence
  - Myoclonic
  - Tonic
  - Atonic
  - Clonic
  - Tonic-clonic
Absence Seizures
(previously called petit mal)

- Sudden onset of behavioral arrest
  - May involve eyelid fluttering
  - Duration: 5-30 seconds
  - Usually occurs many times/day, difficult to identify clinically because of brief duration

- Returns to baseline almost immediately
  - Possible amnesia
  - Hyperventilation and/or flashing lights may precipitate seizures
  - Classic EEG pattern
Nursing Care: Absence Seizure

- Promote safety
  - Stay within reach
  - Falling unlikely

- Stay calm

- Observe behavior and time the seizure

- Observe postictal behavior
  - Usually returns to baseline immediately
  - Reorient

- If photo-sensitive, avoid exposure to flashing lights or patterns
  - Document seizure
Tonic-Clonic Seizures
(previously called grand mal or major motor)

- Often begins with an ictal cry (loud groan)
- Body may be tonic – posturing or stiffening of all muscles
  - Person may appear as if not breathing as chest muscles are rigid
- Clonic movements – rhythmic jerking of head and extremities
- May have forced eye deviation upward
Tonic-Clonic Seizures

- Duration: Generally lasts from seconds to 1-2 minutes
- Excessive salivation (collection of drooling)
- May involve tongue biting
- May involve bladder and/or bowel incontinence
- May turn dusky or cyanotic
- Postictally, may have
  - Confusion
  - Muscle aches, pain, headache
  - Sedation or fatigue for minutes to hours
Nursing Care: Generalized Tonic-Clonic Seizure

- Stay calm
- Promote safety
  - Cushion fall if possible
  - Support head
- Loosen restrictive clothing
- Place **NOTHING** between teeth
- **NO** food or drink until able to swallow
- Do not forcefully reposition or restrain the movements
Nursing Care: Generalized Tonic-Clonic Seizure

**Promote Safety**
- Place patient in side-lying position as soon as possible
  - Due to size or location of teenagers and adults, may need to wait until seizure is subsiding before turning to side
- Side-lying position promotes drainage of saliva from mouth
  - May need to reposition head to keep airway clear
  - In hospital, suctioning may help maintain airway, especially if seizure is long

- Observe behavior and time the seizure
  - Assess for injury after the seizure is over
Post Ictal Nursing Care: Tonic Clonic Seizure

- Observe behavior
- May be sleepy, confused, combative, difficulty talking, and unable to remember
- If sleepy, continue in side-lying position to protect the airway
- Gently restrain, if needed, to avoid injury
- Reassure/reorient
- Assess for injury
- Monitor duration of postictal state
  - Confusion may last minutes
  - Sleepiness may last minutes to hours
- NPO until able to swallow
- Document
Tonic Seizures

- Sustained bilateral stiffening or posturing
  - Usually brief but can last minutes
  - May cause fall if standing or sitting

- Sudden, very unpredictable
  - Significant risk of injury due to loss of protective reflexes, i.e. cough, righting reflex

- May have change in breathing patterns or look like not breathing or may appear pale or cyanotic

- Can occur in clusters, sometimes along with other seizure types
Atonic Seizures

- Atonic- also called “drop attacks”
  - Sudden loss of tone
  - Drop of head with or without slight bending of knees
  - Drop of head, trunk or entire body
  - May fall backwards or forward if sitting or standing

- Impaired awareness may be present but not discernible

- Usually very brief, variable intensity (mild to forceful)

- Significant risk of injury
  - High risk for head lacerations, fractures, and other injuries
  - Often require helmets and safety gear
Myoclonic Seizures

- Very brief, fast muscle contractions of the head, arms, legs, face, trunk and/or body
  - Single jerk or clusters
  - Unilateral or bilateral, can be specific muscle groups
  - May cause loss of balance or fall
  - May drop objects

- Often occur when drifting to sleep or shortly after awakening

- Impaired awareness may not be discernible

- Clusters may precede a generalized tonic-clonic seizure

- Some myoclonus may not be epilepsy-related
Nursing Care: Tonic, Atonic and Myoclonic Seizures

- Stay calm
- Promote safety
  - Be sure safety gear is worn, if ordered
  - Cushion fall if possible – support head
  - Clear area of harmful objects or surfaces
  - Loosen restrictive clothing
  - Place NOTHING between teeth
    - There is no danger of the person swallowing their tongue
  - NO food or drink until able to swallow
- Turn to side-lying position if not able to protect airway
  - Do not forcefully reposition
Nursing Care: Tonic, Atonic and Myoclonic Seizures

- Observe behavior and time the seizure/seizure cluster

Post ictal care:
- Observe behavior
- Reassure and re-orient
- Assess for injury
- NO food or drink until able to swallow
- Assess return to baseline state

Document
Febrile Seizures

**Frequency**
- 2% - 5% of children in United States
- Most often in children aged: 3 mos-5 years
- Associated with fever ≥ 101

**Prolonged**
- 13% > 10 minutes
- 5% > 30 minutes

A prolonged 1st febrile seizure, implies the next seizure will likely be prolonged
Febrile Seizures

- Simple febrile seizure
  - Generally lasts a few minutes and does not require treatment
  - Occurs within 24 hours of fever onset
  - Usually generalized tonic clonic seizure
  - No localizing deficits afterwards
  - No prior history of non-febrile seizures
  - No current intracranial infection
  - No other neurological/developmental abnormalities
  - No family history of non-febrile seizure

- Complex febrile seizure
  - Last > 15 minutes
  - Have focal features or
  - Recur within 24 hours
Summary of General First Aid

- Stay calm/speak quietly
- Time the seizure
- Promote safety
  - Help person to floor or safe place,
  - Prevent or cushion fall if possible
  - Support head
  - Remove harmful objects
  - Make comfortable
    - Maintain open airway
    - Place nothing in mouth between teeth
- Keep onlookers away
- Stay with person until seizure ends
- Reorient and reassure patient
- Assess frequently until back to baseline
- May need to sleep/rest
- Nothing to eat or drink until able to swallow
- Assess for injury
Videos

- Video introducing partial seizures and what they look like from epilepsy.com
  - Understanding Partial Seizures

- Video introducing generalized seizures and what they look like from www.epilepsy.com
  - Understanding Generalized Seizures
Epilepsy 101 For Nurses

For Nurses Caring for People with Epilepsy

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