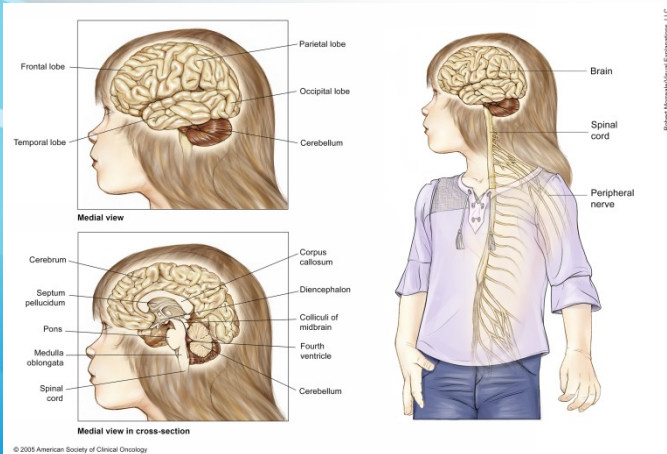


# Nursing Care of The Child with Cerebral and Musculoskeletal Dysfunction: **Seizure Disorder**



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# Topics Outline:

- **Seizure Disorders: Febrile Convulsion & Epilepsy**



# Learning Objective :

- Describe the health assessment of children with seizure disorders.
- Identify the nursing diagnosis of children with seizure disorders.
- Describe the nursing care of children with seizure disorders.
- Explain the nursing evaluation for children with seizure disorders.

# Febrile Convulsion

## Clinical findings

- Associated with illness outside CNS >> acute viral infection; eg, URI, gastroenteritis
- Temperature usually exceeds 102 °F (38.8 °C)
- Simple (70%) & Complex (30%) FC

(Melissa et al., 2017, p. 336)

**TABLE 1. Simple and Complex Febrile Seizures**

	Simple Febrile Seizure	Complex Febrile Seizure
Age	6 months to 5 years	Any
Frequency	Single seizure in 24 hours	Multiple seizures in 24 hours
Nature	Generalized	Focal or generalized
Duration	Lasting < 15 minutes	Can be prolonged
Recovery	Post-ictal with return to baseline and normal neurological exam	Post-ictal, may not fully return to baseline after multiple seizures

**Sources**

**Current APA Guidelines:** Subcommittee on Febrile Seizures & American Academy of Pediatrics. (2011). Neurodiagnostic evaluation of the child with a simple febrile seizure. *Pediatrics*. 127(2):389-394.

**Landmark Article:** Nelson,KB, Ellenberg,JH. Predictors of epilepsy in children who have experienced febrile seizures. *N Engl J Med*. 1976;295(19):1029-1033.

<https://www.emra.org/emresident/article/pediatric-seizure/>

# Febrile Convulsion

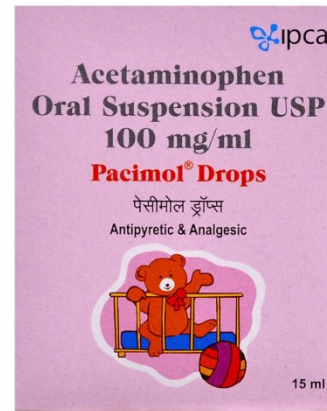
## Therapeutic interventions

- Control of seizure with Diazepam, if seizure > 5 min
- Reduction of fever >> Paracetamol 10-15 mg/kg/dose q 4 - 6 hours.
- Treatment of underlying cause

(Melissa et al., 2017, p. 336)

# Paracetamol for Kids

- Paracetamol syrup (120 mg / 5 ml)
- Kids syrup / Paracetamol drop (100 mg/1 ml, 60 mg/0.6 ml)



<https://thethaiday.com/collections/medicine/products/sara-paracetamol-suspension-for-children-strawberry-flavour-120-mg-5-ml>

<https://www.apollo247.com/medicine/pacimol-drops-15ml>

# Nursing Care of Children with Febrile Convulsion

## Assessment / Analysis

- Description of seizure
- History of present illness / past illness / family history

(Melissa et al., 2017, p. 336)



# Nursing Care of Children with Febrile Convulsion

## Possible Nursing Diagnosis

- **Risk for ineffective airway clearance:** Risk factor: accumulation of secretions during seizure
- **Risk for injury:** Risk factors: uncontrolled movements during seizure, falls, drowsiness caused by anticonvulsants

(Ackley, Ladwig & Makic, 2017, p. 106)

# Nursing Care of Children with Febrile Convulsion

## Possible Nursing Diagnosis *(cont.)*

- Ineffective health maintenance r/t lack of knowledge regarding fever reduction

(Ackley, Ladwig & Makic, 2017, p. 106)

# Nursing Care of Children with Febrile Convulsion

## Planning / Implementation

- Administer prescribed antipyretic medication (excluding aspirin); monitor tympanic or axillary temperature
- Institute seizure precautions:
  - Protect from injury (eg, do not restrain, pad crib rails)
  - Place on flat surface in side-lying position to prevent aspiration

(Melissa et al., 2017, p. 337)

# Nursing Care of Children with Febrile Convulsion

## Planning / Implementation *(cont.)*

- Provide care after seizure
  - Document time of seizure, duration, body part involved
  - Suction nasopharynx if necessary; Administer O<sub>2</sub> if required
  - Observe LOC and behavior after seizure; Provide rest
  - Maintain continuous supervision

(Melissa et al., 2017, p. 337)

# Nursing Care of Children with Febrile Convulsion

## Planning / Implementation *(cont.)*

- Teach parent to administer antipyretics at first sign of elevated temperature
- Prevent shivering because it  $\uparrow$ MBR >> further  $\uparrow$ BT

(Melissa et al., 2017, p. 337)

# Nursing Care of Children with Febrile Convulsion

## Evaluation / Outcomes

- Maintains patent airway
- Remains free from injury during & after seizure
- Episodes of febrile seizure cease

(Melissa et al., 2017, p. 337)

# NCLEX # 1

The nurse preparing to admit a 7-month-old infant with febrile seizure should anticipate the need for which equipment when planning care for this infant

1. Restraints at the bedside
2. A code cart at the bedside
3. Suction equipment and an airway at the bedside
4. A padded tongue blade taped to the head of the bed



# Epilepsy

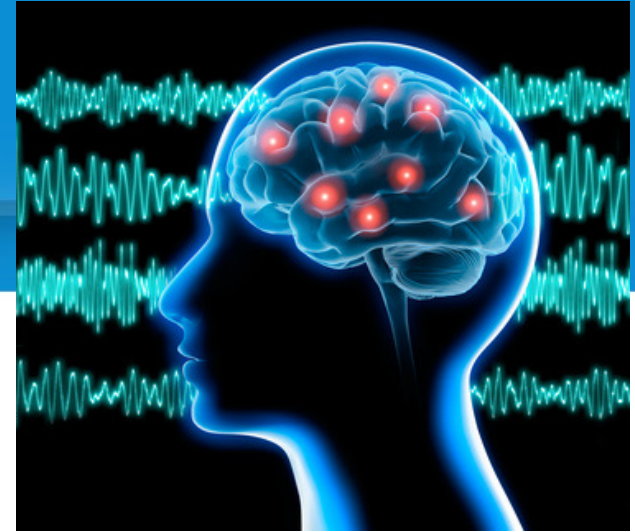
- **Definition** >> Two or more **unprovoked seizure** (-ปัจจัยกระตุ้น) more than 24 hours apart & can be caused by a variety of pathologic processes in the brain
- **Etiology** >> Brain tumor, brain attack, head trauma, hypoglycemia, fluid shifts in the brain

(Hockenberry, Wilson & Rodgers, 2017, p. 896; Melissa et al., 2017, p. 333)



# Epilepsy

## Pathophysiology



- Recurrent or unprovoked seizures are the clinical manifestation of epilepsy and result from **a disruption of electrical communication** among the neurons of the brain. (Kyle & Carman, 2017, p. 198)

# Epilepsy

## Types of Seizures

- **Partial seizures** (beginning locally) >> simple & complex
- **Generalized seizures** (bilaterally symmetric & without local onset) >> absence, myoclonic, tonic-clonic, atonic
- **Status epilepticus** >> prolonged repetitive seizures

(Melissa et al., 2017, p. 334)

# Epilepsy

## Clinical findings

- Pre-ictal symptoms >> prodromes & aura
- Seizure symptom
- Post-ictal symptoms

<https://www.youtube.com/watch?v=1YtBGe5OrZQ>

<https://www.youtube.com/watch?v=6F448Yfko3g>

(Hockenberry, Wilson & Rodgers, 2017, p. 896; Melissa et al., 2017, p. 333)

# Epilepsy

## Clinical findings (*cont.*)

- S.D. >> aura or warning sensation such as seeing spots or feeling dizzy
- O.D. >> shrill cry as seizure begins and air is forcefully exhaled; loss of consciousness during seizure; tonic-clonic movement of muscles; incontinence, abnormal EEG or MRI

(Melissa et al., 2017, p. 334)

# Epilepsy

## Therapeutic interventions

- Anticonvulsant therapy usually continued throughout life
- Diazepam given IV to treat status epilepticus
- Sedative used to reduce emotional stress
- Neurosurgery

(Melissa et al., 2017, p. 334)

# Nursing Care of Children with Epilepsy

## Assessment / Analysis

- History of type, frequency, & duration of seizures
- Precipitating factors and aura

(Melissa et al., 2017, p. 334)

# Nursing Care of Children with Epilepsy

## Possible Nursing Diagnosis

- **Risk for ineffective airway clearance:** Risk factor: accumulation of secretions during seizure
- **Risk for aspiration:** Risk factors: impaired swallowing, excessive secretions

(Ackley, Ladwig & Makic, 2017, p. 106)

# Nursing Care of Children with Epilepsy

## Possible Nursing Diagnosis *(cont.)*

- **Risk for injury:** Risk factors: uncontrolled movements during seizure, falls, drowsiness caused by anticonvulsants
- **Acute confusion** r/t post seizure state

(Ackley, Ladwig & Makic, 2017, p. 106)



# Nursing Care of Children with Epilepsy

## Possible Nursing Diagnosis *(cont.)*

- Risk for delayed development: Risk factor: seizure disorder
- Ineffective health management r/t deficient knowledge regarding seizure control
- Readiness for enhanced knowledge: anticonvulsive therapy

(Ackley, Ladwig & Makic, 2017, p. 106)

# Nursing Care of Children with Epilepsy

## Possible Nursing Diagnosis *(cont.)*

- Risk for powerlessness: Risk factor: possible seizure
- Risk for impaired resilience: Risk factor: chronic illness
- Social isolation r/t unpredictability of seizures, community-imposed stigma

(Ackley, Ladwig & Makic, 2017, p. 106)

# Nursing Care of Children with Epilepsy

## Planning / Implementation

- Protect from injury during & after a seizure
  - Nothing should be forced into the mouth
  - Attempts to restrain should be avoided
  - Position on side if possible to facilitate drainage of oral secretions

(Melissa et al., 2017, p. 334-335)

# Nursing Care of Children with Epilepsy

## Planning / Implementation *(cont.)*

- Teach how to protect self if an aura occurs
- Encourage wearing a medical alert tag
- Help plan a schedule that provides adequate rest and reduction of stress



(Melissa et al., 2017, p. 334-335)

<https://www.rehabmart.com/product/soft-shell-helmets-17277.html>

# Nursing Care of Children with Epilepsy

## Planning / Implementation *(cont.)*

- Encourage child & family to attend local epilepsy association meetings
- Teach about anticonvulsants and need for cont. F/U
- For adolescents, refer to state laws regarding driving

(Melissa et al., 2017, p. 334-335)

# Nursing Care of Children with Epilepsy

## Evaluation / Outcomes

- Remains free from injury
- Family demonstrates ability to care for child
- Adheres to medical regimen >> AED & F/U

(Melissa et al., 2017, p. 334-335)

# NCLEX # 2

The registered nurse (RN) is reviewing a plan of care developed by a new nurse for a child who is being admitted to the pediatric unit with a diagnosis of seizure. The RN determines that the new nurse **needs further teaching** and should revise the plan of care if which incorrect intervention is documented?

1. Maintain the bed in a low position.
2. Immobilize the child if a seizure occurs.
3. Place padding on the side rails of the bed.
4. Place the child in a side-lying lateral position post-seizure.



# NCLEX # 3

The nurse prepares for the admission of the child with diagnosis of tonic-clonic seizures and plans to place which items at the bedside?

1. A tracheotomy set and oxygen
2. Suction apparatus and oxygen
3. An endotracheal tube and an airway
4. An emergency cart and laryngoscope





# References:

- Acliey, B. J., Ladwig, G. B., & Makic, M. B. F. (2017). **Nursing Diagnosis Handbook: an evidence – base guide to planning care.** 11<sup>th</sup> ed. United States of America: ELSEVIER.
- Hockenberry, M. J., Wilson, D., & Rodgers, C. C. (2017). **Hockenberry: WONG'S Essentials of PEDIATRIC NURSING.** 10<sup>th</sup> ed. Canada: ELSEVIER.
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- Kyle, T. & Carman, S. (2017). **Pediatric Nursing Clinical Guide.** 2<sup>nd</sup> ed. China: Wolters Kluwer.
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Silvestri, L. A., & Silvestri, A. E. (2018). **Saunders Q&A review for the NCLEX-RN Examination**. 7<sup>th</sup> ed. Canada: ELSEVIER.