

Epilepsy and School - How do they fit together?

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This workshop is part of an educational series of events presented by:



**Epilepsy
Peel Region**

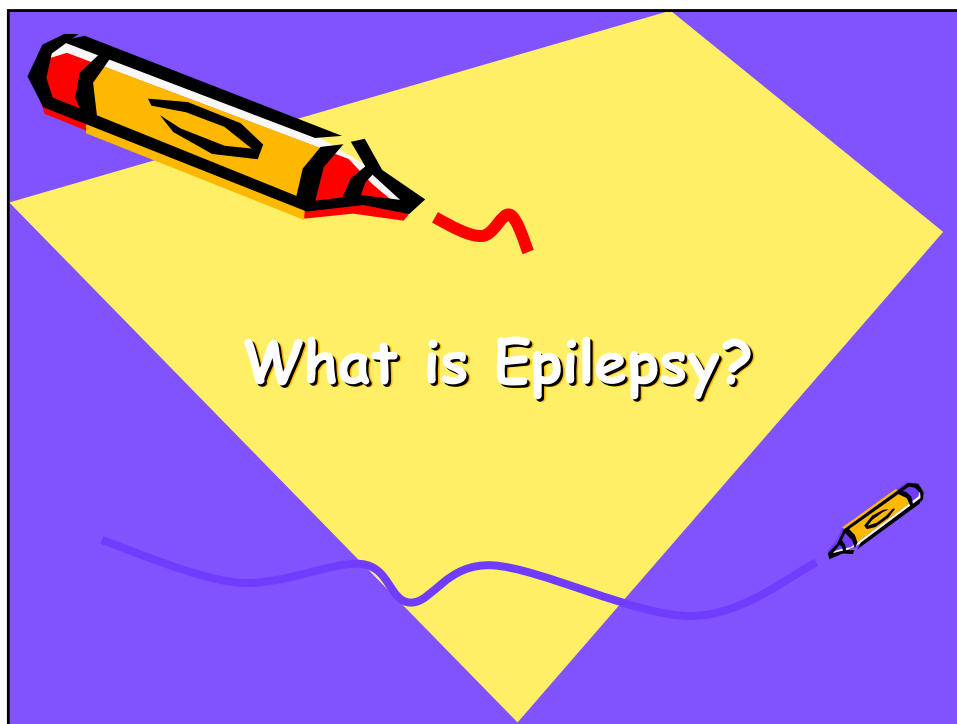
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Building A Community For People Living with Seizures

Overview

- **What is Epilepsy?**
 - Definition review
 - Prevalence rates
- **Epilepsy and School**
 - School staff
 - Hierarchy of Concern
- **Epilepsy and Learning**
 - Incidence of difficulties
 - Influences/Causes of difficulties
 - Nature of difficulties
- **Promoting student school success**
 - Partnership model
 - Managing Seizures
 - Fostering academic success
 - Fostering self-esteem and social engagement
- **Summary**
 - The Child with Epilepsy





What is Epilepsy?

- Epilepsy (or seizure disorder)
 - Chronic condition of recurrent (≥ 2) unprovoked seizures
 - Definition doesn't speak to the etiology
- Seizures (symptoms or behaviours)
 - An electrical event in the brain; the production of sustained, synchronous, abnormal firing of neurons
 - Common signs: unconsciousness, staring, unusual feelings, twitching & jerking in the arms or legs

The slide features a purple background. At the top right, a yellow crayon is shown. At the bottom left, there is a cluster of three crayons: one yellow, one green, and one red. A blue wavy line runs vertically down the right side of the slide.

Prevalence Rates of Epilepsy

- Most common neurological disorder in children
- Affects 1-2% of all children
- 70-80% of epilepsy begins before 18
- Large % achieve seizure control on medication
- 25% continue to seize despite best medical management = *intractable or refractory*



Additional Information



www.sickkids.ca/HealthInFocus/Epilepsy/index.html

- Describes different types of seizures, diagnostic procedures and treatments
 - Brief seizures (absence seizures) can easily go unrecognized but can mean a child is missing out on lessons
- Provides a "Just for Kids" section/explanation




SickKids





Seizures disrupt the normal course of development, so that children may experience life in a fragmented and disconnected way.



Epilepsy and School



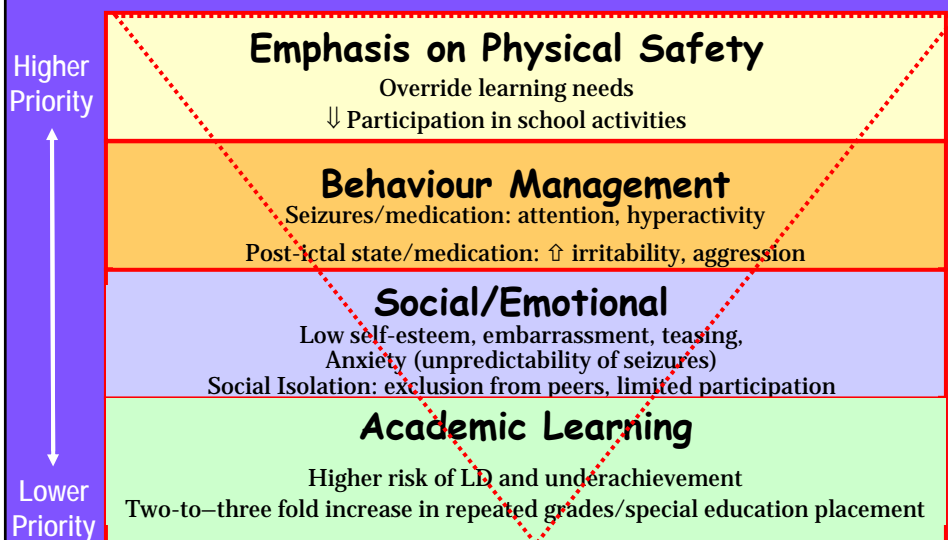
School Staff

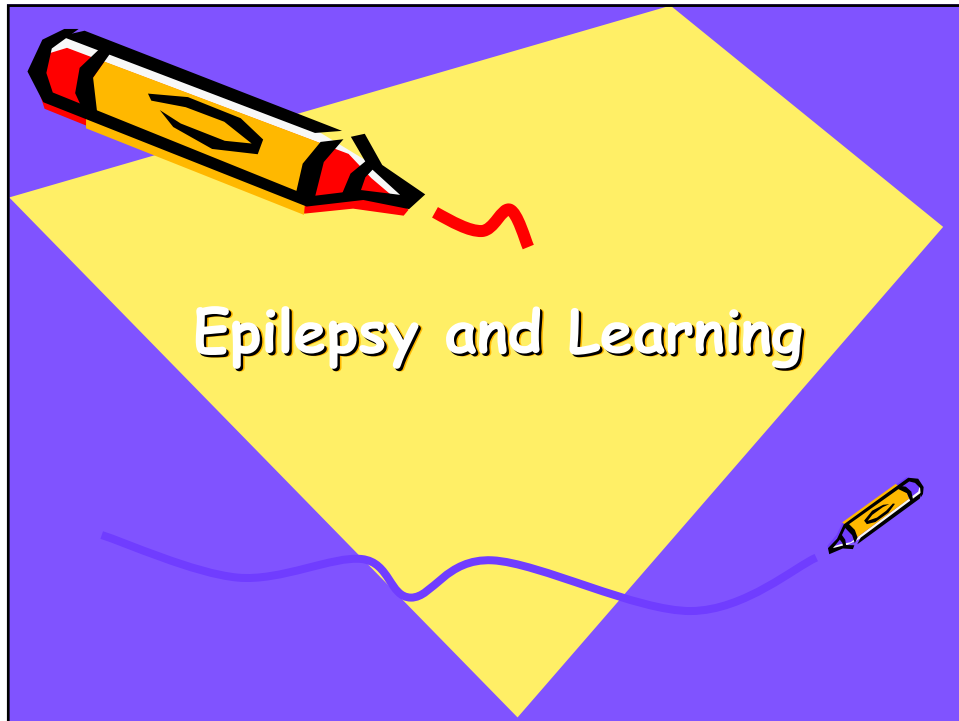
- Poor understanding of epilepsy
 - Stigma needs correcting - it is not a mental disorder!
 - Two common questions:
 - » Can a child die from a seizure?
 - » **Extremely rare!**
 - » Do seizures cause brain damage?
 - » **Brief seizures do not cause brain damage; however, prolonged seizures are capable of injuring the brain and there may be some underlying pathology**
- Poor understanding of co-existing cognitive and psychosocial issues



Concerns about injury

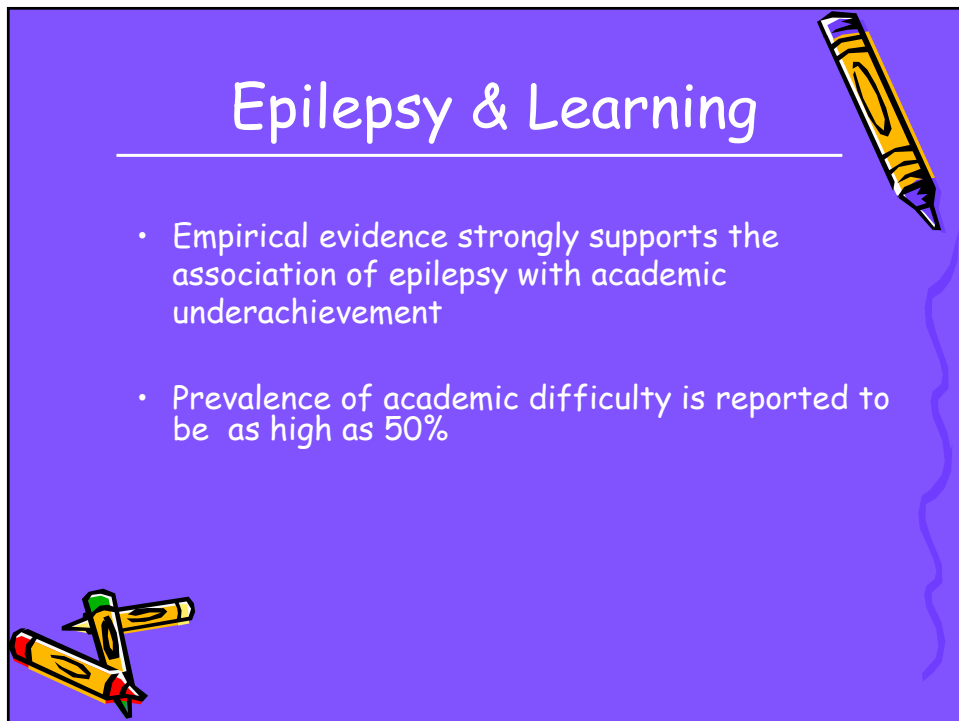
Hierarchy of Teacher Concerns for Students with Seizure Disorders





Epilepsy & Learning

- Empirical evidence strongly supports the association of epilepsy with academic underachievement
- Prevalence of academic difficulty is reported to be as high as 50%



Causes of Learning Difficulties

- Causes unknown but the following contribute:
 - seizures variables (type, frequency, age of onset, & location)
 - brain insult
 - treatment side effects (medications, surgery, diet)
- Complexity of factors makes it difficult to predict academic difficulties or delay



Cognitive Abilities & Epilepsy

- No epilepsy-specific learning profile
- Highly individualistic patterns of cognitive strength & weakness
- No association between epilepsy and any specific form of learning disability
- All version of LD are possible
- Many children do not fit criteria for LD but have serious academic problems



Other children's academic skill may be consistent with intellectual reasoning, but they struggle for other reasons

Potential Learning Issues in Epilepsy



- **Intellectual Reasoning**

- Wide range
- Normal distribution in general epilepsy population
- Distribution shifted downward with intractable populations
- Typically lower in specific syndromes in relation to neurological dysfunction



Potential Learning Issues in Epilepsy



- **Attention & Rate of processing**

- Frequently observed (? Seizures, meds, underlying substrate)
- Sustained attention – most common
- 30-40% have symptoms of ADHD

- **Memory**

- Learning – reduced encoding capacity
- Rapid forgetting
- Poor recall – inconsistent retrieval



Potential Learning Issues in Epilepsy

- **Language Difficulties**
 - Processing speed (reception & expression)
 - Word finding
 - Organizing ideas for oral & written output
 - Comprehending multi-step commands
- **Executive Functions**
 - Organizational skills
 - Planning
 - Monitoring
 - Decision making
 - Time management




Potential Seizure-Related Factors in Learning

- **Medication** – adverse effects (see next slide)
- **Absences from school**
- **Seizures & post-ictal fatigue/confusion**
- **Frequent interictal epileptiform activity**
 - Transient cognitive impairment
- **Nocturnal seizures**
 - disrupted sleep
 - » Restlessness, inattention, distractibility, poor memory consolidation



Potential Seizure-Related Factors in Learning: Possible Side Effects of Medication



- **Learning Capacity:** concentration, short term memory loss
- **Alertness:** hyperactivity, drowsiness, fatigue, restlessness
- **Motor Capacity:** hand, eye, balance, speech co-ordination
- **General well-being:** unsteadiness, vomiting, dizziness
- **Mood changes:** depression, aggressiveness, anti-social behaviours, irritability

It may be difficult to distinguish between the effects of the drugs and of the condition itself

Improvement in seizure control outweighs negative effects on Learning or behaviour



Collaborative Partnership

- Explore strategies that can enhance the child's academic success and facilitate a positive school experience
- Involve key individuals
 - School boards, teachers, family, health care team
- Methods
 - School meetings, letters, telehealth, teleconference



School Strategies

- Educate school staff (seizure type, appearance, duration, frequency, post-ictal state, care of child during seizure)
- Emphasis on balancing safety issues (e.g., fear of seizures/injury) with learning needs & participation in normal school activities
- Develop strategies to address potential/actual problem areas
- Treatment plan for prolonged or repeated seizures
- Keep lines of communication open (communication book)
- Educate the child
 - Poor knowledge of Epilepsy is correlated with lower self-esteem and depression
 - We need to work harder to teach kids
- Educate peers



Strategies for Managing Seizures

- Adequate support to monitor seizures and ensure safety during normal school activities (e.g., educational assistant)



Promoting Academic Success

- Classroom placement:
 - Ensure appropriate identification (testing) and placement (i.e., IEP, IPRC)
 - Do not delay identification
 - Ensure classroom support commensurate with child's strengths and weaknesses (e.g., educational assistant: one-on-one vs being available for specific needs)
- Suggest reassessment when necessary



Promoting Academic Success



- Program for specific type of learning difficulty
 - attention, processing speed, language, memory, reading...
- Take into consideration special features of epilepsy
 - E.g. fatigue, variability



Promoting Academic Success



- For example, if a child has slow processing speed
 - Slow down rate for presentation
 - Allow for extra time to respond
 - Set a realistic expectations for amount of work to be produced
 - Have child repeat back instructions
- Reduce copying from a black board



Promoting Academic Success

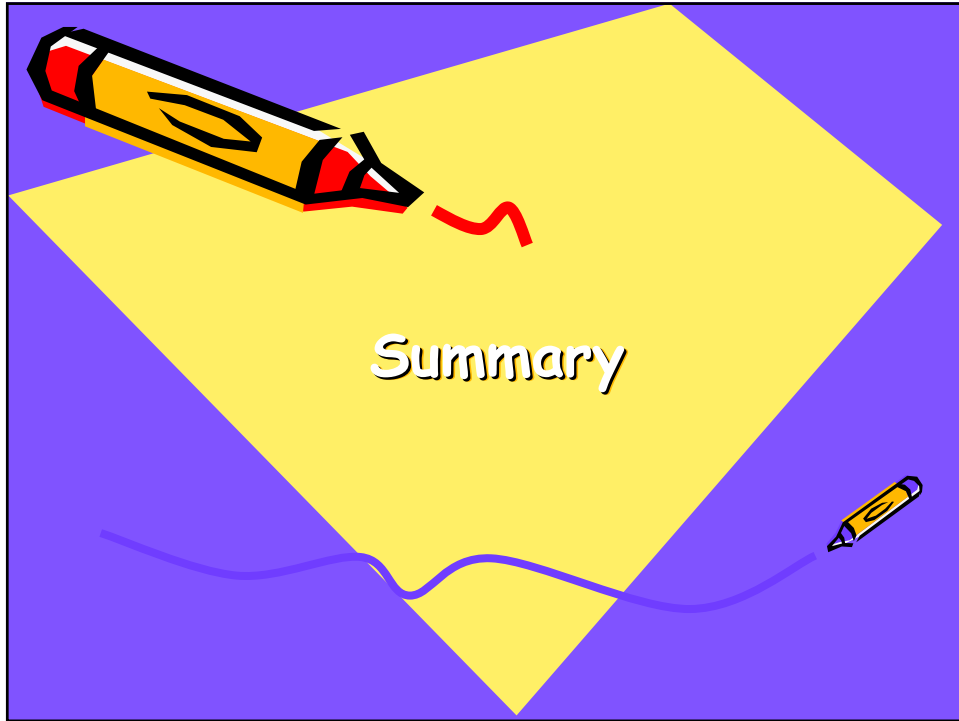
- For example, if the child has memory problems:
 - Reduce emphasis on memory-based testing
 - Use alternative forms of evaluation
 - Provide list of key terms
 - Use memory aids
 - Always check on child's current knowledge base before teaching new concepts



Fostering self-esteem and social engagement

- Start early
 - Set up positive classroom environments
 - Develop a peer monitoring system
 - Emphasize child's strengths & areas of competence
 - Involve child with epilepsy in decisions
 - Ensure involvement of social/physical activities
 - Hold others responsible for teasing/bullying





The Child with Epilepsy

Variable Learning Profile

- Seizures interrupt learning
- Treatment (medication, surgery, diet) impacts learning & behaviour
- Specific learning weaknesses (memory, academic, learning, language)

Social stigma

- Invisible disorder
- Misunderstanding & fear
- Peer difficulties

Unpredictability of Seizures

- Lack of Control
- Anxiety
- Embarrassment

Disconnection

- Seizures
- Medication
- Medical Appointments

Self Concept

- Seizures can limit opportunities for success & result in time away from school/peers