Documentation
The A-B-C-Ds

SOLUTION·S

Convulsions/Seizures

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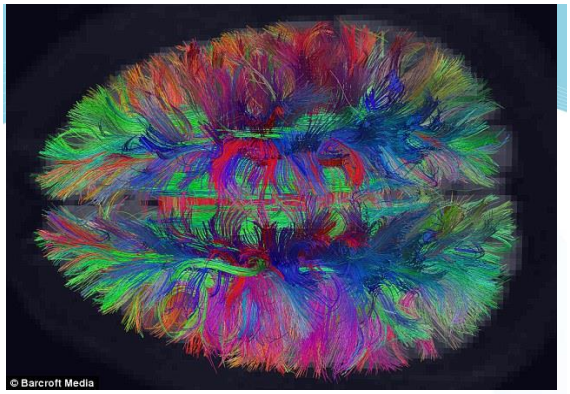
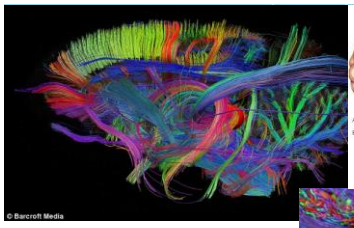
Documentation: Convulsions/Seizures

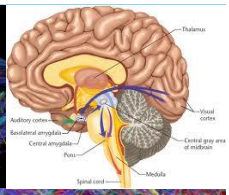
SOLUTION·S

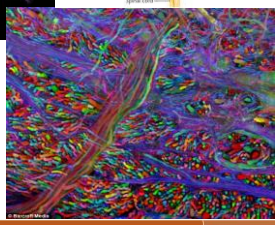
Seizures are waves of abnormal electrical activity in the brain

- Can be observed as convulsions or brief periods of unconsciousness or altered behavior resulting from excessive and hyper-synchronized neuronal activity in the brain









Connections in the brain

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- **Epilepsy:** two or more recurrent seizures unprovoked by systemic or acute neurologic insults
- Epilepsy is **not a specific disease**, but rather a **condition** arising from a variety of pathological insults involving the brain, such as tumors

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- All races, all ages, even animals
- The incidence of epilepsy in the general population is approximately 1 to 2%, but approximately 35% to 50% in persons with a developmental disability or autism
- The EEG in 40 % to 60 % of children with autism show epileptiform activity
- It's not hereditary (in most cases), but recently genetic frontal epilepsies have been identified

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Classification of Seizures

- The International Classification of Epileptic Seizures is used by most neurologists to classify seizure types.
  - Divides seizures into two basic groups based upon clinical and EEG data:
  - **Partial** and **primary generalized**
  - Based on origination of electrical activity

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PARTIAL SEIZURES

- SIMPLE
- COMPLEX
- SECONDARILY GENERALIZED

PRIMARY GENERALIZED

- ABSENCE
- MYOCLONIC
- ATONIC
- TONIC
- CLONIC
- TONIC-CLONIC

Partial Seizures

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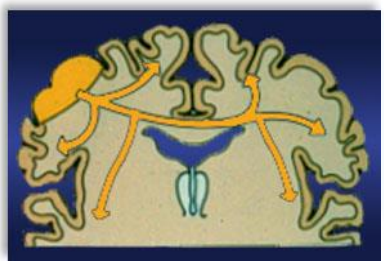

Classification
Partial Seizures

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Partial Seizure

Simple Partial	**Consciousness remains intact** **-usually less than 2 min** **-rft head injury more often** - **Possible symptoms include : motor, sensory, autonomic, unusual sensations affecting either the vision, hearing, smell, taste or touch** - **Memory or emotional disturbances**

Partial Seizure

Secondarily generalized	**- Always follow simple partial seizure** **- Symptoms that are initially associated with a preservation of consciousness that then evolves into a loss of consciousness and convulsions**
Complex partial	- Last b/w 30 seconds to 2 min - Afterward person may be tired or confused for up to 15 min/ may not return to "normal" for hours - Usually start in temporal or frontal lobe and disperse to other areas of brain -(Impairment of awareness) Automatisms such as lip smacking, chewing, fidgeting, walking and other repetitive, involuntary but coordinated movements

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Classification
Primary generalized

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Seizure Type	What to expect
Absence	- Brief episode of staring - Lasts 10-20 seconds - Loss of consciousness - Can include muscle twitching - Begin btw ages 4 and 14 - Likely alert immediately after episode
Myoclonic	- Brief shock-like jerks - Lasts a few seconds
Atonic	- "Drop attacks" - Lasts up to 15 seconds - Person usually remains conscious - Often begins in childhood - Risk associated with sudden fall to ground and head injury

Seizure Type	What to expect
Tonic	- Muscle stiffening - Usually less than 20 seconds - Often occurs during sleep
Clonic	- Rhythmic jerking of arms and legs - Length varies - Rare (primarily see tonic-clonic seizures)
Tonic Clonic	- Often called "GRAND-MAL" - Lasts 1-3 min - Tonic first, muscles stiffen - Loss of consciousness - Rapid jerking mvts - Can lose bladder/bowel control - Consciousness returns slowly

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Status Epilepticus

Definition:

More than 30 minutes of continuous seizure activity

OR

Two or more sequential seizures spanning this period without full recovery between seizures

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Status Epilepticus

A medical emergency

Adverse consequences can include hypoxia, hypotension, acidosis and hyperthermia…..

Goal: stop seizures as soon as possible

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Triggers

- Fatigue
- Exercise
- Low blood sugar
- Stress
- Infection
- Alcohol
- Hyperventilation
- Hormonal changes
- Fear (being startled)
- Flashing lights
- Certain foods or medications

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Triggers

- Sleep deprivation
- Antiepileptic medication reduction or inadequate AED treatment
- Fever
- Concussion and/or closed head injury
- Metabolic and Electrolyte Imbalance
- Stimulant/other proconvulsant intoxication
- Sedative or ethanol withdrawal
- ***See lifestyle modifications sheet****

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TRIGGERS:

Metabolic and Electrolyte Imbalance

- Low blood glucose,(less often, high BG)
- Low sodium
- Low calcium
- Low magnesium

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TRIGGERS

Stimulation/Other Pro-convulsant Intoxication

- IV drug use
- Cocaine
- Ephedrine
- Other herbal remedies
- Medication reduction

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CASE BASED MODULE

48 year old female
with frequent seizures
increased from recent 4-5 per month
to 10-12 per month.

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Past Medical History:

1) Migraine headaches (with the last one occurring four years ago)
2) Partial thyroidectomy

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Social History:

- She currently lives with her mother.
- She works as a sales clerk.

Seizure History:

➢ She had her first convulsive episode at age 2 in the setting of a febrile illness.

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History & Progression:

- She was not diagnosed with seizures until the age of 15.
- Initially, the seizures were controlled with medicine.
- After a few years, however, the attacks re-occurred despite treatment with anticonvulsants.

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Description & Pattern of episodes:

- She tends to clench her teeth and breath heavily, such that her breathing sounds “almost as if she were laughing”.
- She is unable to fully respond to people for 5-10 minutes.
- Typically, she experiences 4-5 seizures per month.

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Medication hx:

- Carbamazepine 700 mg/day and
- Lamotrigine 125 mg/day

- She feels excessively tired on higher doses.
- She has been on carbamazepine 32 years and on lamotrigine for 4 years.

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Medication hx cont:

- In the past, she has unsuccessfully tried multiple medications:
  - phenobarbital, primidone, valproate, gabapentin, phenytoin and ethosuximide.

- She had marked **weight gain** while taking valproate.

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USEFUL TOOLS:

- Scatterplot/calendar
- Observation sheets (epilepsy)
- ****see epilepsy.org sheets**
- VIDEO of the "episodes"
- ****important to document all changes in medication, especially if there have been any recent changes**

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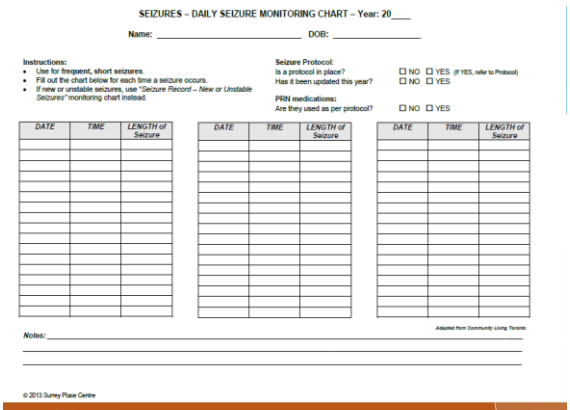
Sz - Key aspects to document:

- Activity before the seizure?
- Activity during the seizure? Note sequence of events exactly: movements of eyes, head, arms & legs. Does the person respond to you during the episode?
- How did they behave after the seizure?
- Is there a pattern?
- When does it happen, during favorite activities or only those which are disliked?



SEIZURES – DAILY SEIZURE MONITORING CHART – Year: 20___

Name: _____ DOB: _____

Instructions:
- Use for frequent, short seizures.
- Fill out the chart below for each time a seizure occurs.
- If new or unstable seizures, use "Seizure Record – New or Unstable Seizures" monitoring chart instead.

Seizure Protocol:
Is a protocol in place? ☐ NO ☐ YES (If YES, refer to Protocol)
Has it been updated this year? ☐ NO ☐ YES

PRN medications:
Are they used as per protocol? ☐ NO ☐ YES

DATE	TIME	LENGTH of Seizure	DATE	TIME	LENGTH of Seizure	DATE	TIME	LENGTH of Seizure

Adapted from Community Living Toronto

Notes: _____

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SEIZURE CALENDAR

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Seizure Calendar for: ______________ **Dates:** __________ **to** __________ **Year** ________

Seizure Key: (Describe type of seizures and label by letter, using 1 letter for each different type of seizure. Record number of seizures using seizure key on the dates they occur. Females can note the day of their menstrual cycle next to 'cycle' day. Note if any triggers such as missed or changes in meds, change in sleep, diet or activity; stress; other illness.)

Type A: ______________ **Type C:** ______________

Type B: ______________ **Type D:** ______________

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Date: *Cycle:* *Event:*	*Date:* *Cycle:* *Event:*	*Date:* *Cycle:* *Event:*	*Date:* *Cycle:* *Event:*	*Date:* *Cycle:* *Event:*	*Date:* *Cycle:* *Event:*	*Date:* *Cycle:* *Event:*
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MY SEIZURE PLAN

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Name: ______________ **Birth Date:** ______________
Address: ______________ **Phone:** ______________
1st Emergency Contact: ______________ **Relation:** ______________
Phone(s): ______________ **Email:** ______________
2nd Emergency Contact: ______________ **Relation:** ______________
Phone(s): ______________ **Email:** ______________

SEIZURE INFORMATION

Seizure Type/Nickname	What Happens	How Long It Lasts	How Often

TRIGGERS

DAILY SEIZURE MEDICINE

Medicine Name	Total Daily Amount	Amount of Tab/Liquid	How Taken (time of each dose and how much)

OTHER SEIZURE TREATMENTS

Device Type: ________ Model: ________ Serial#: ________ Date Implanted: ________
Dietary Therapy: ______________ Date Begun: ________
Special Instructions: ______________
Other Therapy: ______________

Seizure Action Plan

Effective Date ________

This person is being treated for a seizure disorder. The information below should assist you if this person has a seizure.

Name Date of Birth
Parent/Guardian/Substitute Decision Maker (SDM) Phone Cell
Other Emergency Contact Phone Cell
Treating Physician Phone Fax
Significant Medical History

Seizure Information

Seizure Type	Length	Frequency	Description/What Happens

Seizure triggers or warning signs: Response after a seizure:

Daily Medications to Prevent Seizures:

Medication	Dosage and Time of Day Given	Comments

Basic First Aid: Care and Comfort

Please describe basic first aid procedures adapted for this person:

Does the person need time to recover after a seizure? ☐ No ☐ Yes
If YES, describe process for recovery and return to activity or program:

Emergency Response

A "seizure emergency" for this person is defined as:

Seizure Emergency Protocol
(Check all that apply and clarify below)
- ☐ Call 9-1-1 for transport to ________
- ☐ Notify parent or emergency contact/SDM
- ☐ Administer emergency medications as indicated below
- ☐ Notify doctor
- ☐ Other ________

Basic Seizure First Aid
- Stay calm and track time
- Keep them safe
- Do not restrain
- Do not put anything in mouth
- Stay with them until fully conscious
- Record seizure in log

For tonic-clonic seizure:
- Protect head
- Loosen tight clothing around neck
- Keep airway open/watch breathing
- Turn them on their side once he/she is relaxed

When is a seizure an emergency?
- Convulsion lasts longer than 5 minutes
- Repeated seizures without regaining consciousness, or second seizure within a few minutes
- Co-morbid diabetes
- First-time seizure
- Breathing difficulties
- Resultant injury, or seizure in water
- Persistent confusion or unconsciousness
- Significant change in seizure pattern

EMERGENCY MEDICATIONS

Medication	Dosage and Special Instructions	Expected Outcomes/Side Effects

SPECIAL CONSIDERATIONS AND PRECAUTIONS (regarding activities, sports, outings, etc.)

Describe any special considerations or precautions:

Physician Signature Date
Patient/Parent/Guardian/SDM Signature Date

SEIZURE RECORD TO ESTABLISH BASELINE – NEW OR UNSTABLE SEIZURES

Name: ______________ **DOB:** ______________

Call 911 if seizure lasts more than 5 minutes, if there is a impairment of breathing, or if patient continues to go in and out of seizures.
NOTE: **Notify physician** if there is a change in the duration, frequency, or pattern of the seizures.

When	**Date** *(dd/mm/yyyy)*						
	Time of day						
	HOW LONG IT LASTED minutes/seconds: *Use Watch*						
Before Seizure	**Possible triggers*?** *Specify…*						
	Warning or aura?						
What happened during seizure		Y/ N or as asked					
	Conscious						
	Unconscious – not responding to name or pain						
	Fell during seizure						
	Confused						
	Skin colour change (e.g., blue, grey, pale, red)						
	Muscles stiffen Which side/ which muscles?						
	Muscles jerk Which side/ which muscles?						
	Became limp						
	Bit tongue						
	Eyes rolled back						
	Eyes stared						
	Cried out						
	Incontinent (Urine or BM)						
	Breathing (fast rate, noisy, heavy, stopped)						
After Seizure	**Sleeping/tired** – how long?						
	Confused						
	Headache						
	Speech slurred						
	Increased activity						
COMMENTS – describe what seizure looked like, anything you noticed not							

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MY SEIZURE EVENT DIARY

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Name:

Instructions: Use 1-column for each event.
Check off all behaviors that apply.

During Seizure	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time	Date/Time
Awareness							
Fully Aware							
Confused							
Responds to Voice							
Responds to Light Touch							
Not Responsive							
Facial Expressions							
Staring							
Twitching							
Eyes Rolling							
Eyes Blinking							
Head Movements							
Sudden Head Drop							
Turns to 1-Side							
Turns Side to Side							
Body Stiffens							
Whole Body							
Legs							
Arms							
Jerking Movements							
Whole Body							
Legs							
Arms							
Automatic Movements							
Hands clapping, rubbing							
Lip Smacking, Chewing							

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GENETIC SYNDROMES, MENTAL RETARDATION AND EPILEPSY

GENETIC SYNDROME	MENTAL RETARDATION	EPILEPSY
Amino Acid Disorders: Tay-Sachs, Sandhoff's	YES	YES
Angelman	YES	86-96%
Cornelia de Lange (CdLs)	YES	23%
Down	YES	6-13%
Fragile-X	YES	occasional
Homocystinuria	YES (58%)	YES, onset from 6 months to 5 years of age, with abnormal EEG pattern
maternal PKU	YES(~80%)	~80%
Mucopolysaccharide Disorder : Santfilippo	YES	YES
Neurofibromatosis	YES (5-50%)	20%
Prader-Willi (PWS)	YES	occasional
Rett's	YES	YES
Rubinstein-Taybi	YES	23%
Smith Magenis	YES	occasional
Sturge-Weber	YES (61%)	58%
Tuberous sclerosis	YES (62%)	93%
Velo-cardio-facial (VCFS) (22q-)	YES (40%)	frequent

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ABC (Antecedent-Behaviour-Consequence) Chart

To record baseline information for incongruent, challenging or problematic behaviours*

Name:
DOB:

Occasion Date Time Observer	**Pre-existing conditions** Factors that increase vulnerability or sensitivity to triggers	**Antecedent** What happened just before the behaviour occurred and might have triggered it? Include SETTING & ACTIVITY	**Behaviour** Describe the behaviour as accurately and specifically as possible. Include frequency, duration, and intensity on a scale of 1 to 5 (5 is most severe).	**Consequence** Things that happened immediately after the behaviour occurs, and make it more or less likely to happen again
Example				
Date Feb 6/10 **Time** 6:30-7:10 pm **Observer** Rene – primary staff member	John's mother was in hospital with broken hip, and could not visit. John had a toothache. John's usual primary staff member was on holidays.	John was eating supper in kitchen when another resident bumped into him when passing food.	John started to yell and threw his plate across the table. He ran out of room, screamed for 10 minutes and threw cushions around living room. The intensity was 4/5.	Staff tried to direct John to his room for a time-out but he became more agitated. They also tried to distract him with ice cream but were unsuccessful. They directed other residents to leave the room. John began to hit staff when they approached him. Staff observed him from a distance, gave him time and reduced stimuli, and he calmed down in about 30 min.
Date **Time** **Observer**				

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Seizures: Tips for Caregivers

CHECK	**with the person's doctor about how to respond when a seizure happens.** if you are living with or caring for someone with a seizure disorder: • Find out whether the doctor wants to be notified every time the individual has a seizure, or just in certain specific situations. • Ask if there are any special warning signals that you should look for. • Ask whether or when you should call an ambulance. • Ask if a health care provider can help you complete a Seizure Action Plan for the person you're caring for.
KNOW	• **what the triggers** are for the person's seizures; help the person avoid these. • **the usual or possible signs and symptoms of the person's seizures.** • **if and when to provide seizure medication.** PRN medication prescribed by a medical doctor should be given as directed or ordered by the doctor. • **seizure medication side effects** which can include: ○ short-term memory loss ○ fatigue or drowsiness ○ hyperactivity ○ changes in hand coordination, balance, speech coordination ○ dizziness ○ vomiting ○ mood changes.
FOLLOW	• **the First Aid protocol when the person has a seizure. The correct First Aid is simple:** gently roll the person onto their side and put something soft under their head to protect from injury. In fact: ○ *A person cannot swallow her/his tongue during a seizure.* This is physically impossible. ○ *Do not force something into the mouth of someone having a seizure.* That may cause more injury, e.g., chip teeth, puncture gums, or even break someone's jaw. ○ *Do not restrain someone who is having a seizure.*
DOCUMENT	• **the seizure incident** (e.g., through the Seizure Baseline Chart, if new or unstable seizure, or the Daily Seizure Monitoring Chart, if regular, short seizure) as soon as possible once the client is safe, describing what happened before, during and after the seizure. Be sure to put the length of time and any observations about how the seizure looked. • **Videotape the seizure,** if possible. The doctor and/or the person's health care provider will be able to actually see what their patient is doing during a seizure. This will help in diagnosis, management, and treatment plans for the patient. • **Inform the appropriate people** when the individual has had a seizure (e. g., the person's family physician or neurologist's office, the person's emergency contacts or the substitute decision-maker).
ENSURE	• **the individual has a medical alert device** (e.g., MedicAlert bracelet or ID). • **a copy of the Seizure Management Plan** is with the person on any outings or trips, along with phone numbers of the substitute decision-maker(s), group home manager, and/or primary caregivers' information.
PRACTICE	• **an Emergency Drill** yearly and when orienting new caregivers. Re-create a pretend seizure disorder emergency (as a fire emergency is re-created for a fire drill): ○ ensure all elements of the emergency treatment plan are in place

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Managing Seizure Triggers: Tips for Lifestyle Modification

Developing plans to modify your lifestyle is an important part of seizure preparedness. It's a way that you, as a person with seizures or a parent of a child with seizures, can take charge and play an active role in your epilepsy care.

The following tips are examples of what people can do to manage triggers. Some of these tips may require a change in behavior, others may be ways to adjust your environment or schedule so not everything happens at once. Before choosing tips to try, make sure you've assessed your situation and talked to your doctor and other health care professionals for their suggestions too. Please note that research on the effectiveness of many of these techniques is limited. Many of these tips are common sense suggestions or are from health care professionals and people with epilepsy as to what they have seen and tried.

Noises: People who think they are affected by noises should be sure to talk to their doctor about whether they have a form of 'reflex epilepsy' or if general noise or distraction may be a trigger in another way. People with true reflex epilepsy may respond to specific seizure medicines and should talk to their doctor.

Try using earplugs or earphones, especially in noisy or crowded places. Try listening to relaxing music or sounds, or try distracting yourself by singing or focusing on another activity.

Bright, flashing or fluorescent lights: Use polarized or tinted glasses. Use natural lighting when

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Treatment

- KETOGENIC DIET
- MEDICATION (AEDs)
- VAGUS NERVE STIMULATOR (implant)
- SURGERY (Craniotomy)

Treatment	Age	Indication	Efficacy	Side Effects
AEDs	Children Adults	Specific AEDs for specific seizure types	64% sz freedom (1)	Vary by AED, typically CNS- and endocrine-related
KetogenicDiet	Primarily children	All seizure types	54% pts >50% sz reduction at 3 months (2)	Lipid disorders, ketoacidosis
Epilepsy Surgery	Children Adults	Pharmaco-resistant or localization-related epilepsy	70% in select patients sz freedom (3)	Cognitive effects, surgery-related risks
VNS Therapy	12 and older	Pharmaco-resistant epilepsy, partial seizures	43% of pts >50% sz reduction at 3 years (4)	Voice alteration, cough, pharyngitis, dyspnea

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AED CHOSEN BASED ON:

- Seizure type
- Epilepsy syndrome
- Pharmacokinetic profile
- Interactions/other medical conditions
- Efficacy
- Expected adverse effects
- Cost

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AEDs that have shown efficacy for Partial onset seizures

carbamazepine
felbamate
gabapentin
lamotrigine
levetiracetam
oxcarbazepine
phenobarbital
phenytoin
primidone
tiagabine
topiramate
valproate
zonisamide

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AEDs that have shown efficacy for Absence seizures:

- Ethosuximide
- Lamotrigine
- Levetiracetam
- Topiramate
- Valproate
- Zonisamide

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AEDs that have shown efficacy for Tonic Clonic seizures:

- Carbamazepine
- Felbamate
- Lamotrigine
- Levetiracetam
- Oxcarbazepine
- Phenytoin
- Topiramate
- Valproate
- Zonisamide

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Common Side Effects (SE)

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Drug	Systemic SE	Neurotoxic SE
Carbamazepine	Nausea, vomiting, diarrhea, hyponatremia, low WBCs, rash, pruritus	Drowsiness, dizziness, blurred or double vision, lethargy, headache *multiple drug-drug interactions
Valproate	Weight gain, nausea, vomiting, hair loss, easy bruising, low platelets, low WBCs, menstrual irregularities	Tremor, dizziness
Topiramate	Weight loss, paresthesias, kidney stones	Fatigue, nervousness, difficulty concentrating, confusion, depression, anorexia, language problems, anxiety, mood problems, tremor

Comparison of AEDs

	Carbamazepine (CBZ)	Oxcarbazepine (OXC)	Valproic Acid/Divalproex (VPA/DVA)	Gabapentin (GBP)	Topiramate (TPM)
Doses	300-1600mg/day BID-TID dosing *available in CR form	600-1200mg/day in divided doses	750-3000mg/day BID-TID dosing	900-3600mg/day TID dosing	50-400mg/day BID dosing
Meta-bolism	Liver & P-gp * induces own metabolism	Liver * DOES NOT induce own metabolism	Liver	Not metabolized, Eliminated by renal excretion	P-gp, (~70% is eliminated unchanged in urine)
Drug levels	17-54 µmol/L (Cdn) 4-12 mcg/ml (USA) * Frith: 3wks after Rx started, Verani: initially 2 levels taken 4 wks apart & both agree with tasting 5d after Δ dose or +/- other Rx , may need to check other Rx levels if CBZ added	Not required	350-800 µmol/L (Cdn) 50-115 mcg/ml (USA) *Initially 2 levels to establish dosage, 3-5d after Rx started & 5d after Δ dose or +/- other Rx (Verani); Frith recommends only if toxicity or non-compliance suspected, & DeLeon q 6 months thereafter	Not required	Not required
W/U	1. CBC, plats & diff 2. E-, BUN, sCr 3. LFTs 4. TSH 5. ECG (>45yrs) 6. BMD 7. r/o pregnancy	1. E- 2. Cr	1. **CBC, plats & diff** 2. **LFTs** 3. **Lipid profile (total, HDL & TG)** 4. **-: wt & BMI & r/o pregnancy** 5. **Consider serum testosterone in young -** 6. **BMD** 7. **Serum amylase & lipase**	BUN & sCr	Baseline serum bicarbonate BUN & sCr
F/U	Repeat #1, 2, & 3 monthly X 3 months, then annually BMD if risk factors for osteopenia ****Increased risk of SJS in certain Asian populations.**	Na+ levels when suspected hyponatremia.	Repeat #1 &2 monthly X2, then 2-3X/yr (Verani)... Repeat #1 &2 monthly X6, then annually (Frith). Repeat #3 &4 q 3 months X4, then annually. Test #5 if s/s of menstrual irregularities or hyperandrogenism; also test prolactin, LH & TSH, & for insulin resistance & HTN. Ammonia levels if lethargy & Δ LOC.	LH & TSH sCr if renal toxicity suspected	Periodic serum bicarbonate; sCr if renal toxicity suspected (risk of kidney stones)

Comparison of AEDs

	Lamotrigine (LTG)	Levitiracetam (LEV)	Zonisamide (ZNS) (*sulfa Rx)	Tiagabine (TGB)	Phenobarbital (PB)	Phenytoin (PHT)
Doses	100-500mg/day BID dosing	1000-3000 mg/day BID dosing	100-600mg/day in single or BID dosing	32-56mg/day BID-QID dosing	15-180mg/day in single or divided doses	300-400mg/day in single or divided doses
Meta-bolism	Liver (NO effect on P450 Enzymes)	Not metabolized, Eliminated by renal excretion (66% eliminated unchanged in urine)	Liver	Liver	Liver	Liver
Drug levels	Not required	Not required	Not required	Not required	65-150 µmol/L (Cdn) 20-40 mcg/ml (USA)	40-80 µmol/L (Cdn) 10-20 mcg/ml (USA)
W/U	Skin exam CBC & diff, LFTs, E-, sCr, r/o pregnancy	CBC, plats & diff, sCr	CBC & diff, LFTs, sCr		CBC & diff, LFTs	CBC & diff, LFTs, folate?
F/U	CBC, LFTs annually ****monitor closely for SJS in first 2 months**	CBC & diff, sCr annually	CBC & diff, LFTs, sCr annually (risk of kidney stones)	none	CBC & diff, LFTs annually. BMD/Vit D	CBC & diff, LFTs, folate annually. BMD/Vit D

Virani, A., Bezchlibnyk-Butler, K., & Jeffries, J., *Clinical Handbook of Psychotropic Drugs*, (2012); Saskatoon City Hospital, *Rx Files Drug Comparison Charts*, (2008), Rhaumik, S. & Branford, D.,*The Frith Prescribing Guidelines for Adults with Intellectual Disabilities*, (2008), DeLeon, J., *A Practitioner's Guide to Prescribing Antiepileptics and Mood Stabilizers for Adults with Intellectual Disabilities (2012).*

Seizures: Resources

VIDEOS FOR LEARNING ABOUT SEIZURES

- Video presentation of the types of seizures can be found at: http://www.epilepsy.com/node/989627
- Video clips of the type of seizures, first aid, epilepsy and its treatment can be found at: http://www.epilepsyontario.org/client/EO/EOWeb.nsf/web/All+About+Epilepsy+-+Video+Clips

USEFUL WEBSITES

- Epilepsy Canada: http://www.epilepsy.ca
- Canadian Epilepsy Alliance: http://www.epilepsymatters.com
- Epilepsy Ontario http://www.epilepsyontario.org
- Epilepsy Support Centre (Canada): http://www.epilepsysupportcentre.com
- Epilepsy and My Child: http://www.epilepsyandmychild.org/7_7_brochures.html
- Kids Health: http://kidshealth.org/parent/firstaid_safe/emergencies/seizure.html
- Sick Kids: http://www.aboutkidshealth.ca/En/ResourceCentres/Epilepsy/

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Questions?

Thank you!

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