Overview of Treatment
Georgette Smith, PhD, APRN, CPNP

American Epilepsy Society
Overview of Treatment

- Rescue Therapies
- Non-Medication Therapies
  - Epilepsy surgery
  - Vagus nerve stimulation
  - Dietary therapy
Rescue Treatments

Used to stop prolonged or clusters of seizures

- Rectal diazepam gel (Diastat™) approved by FDA for out of hospital use by non-medical people
- PRN benzodiazepines are first line treatment and can be given in the home, community, ambulance or hospital.
- Autoinjectors and intranasal forms are being tested.
- Vagus nerve stimulator magnets - non-drug intervention for seizure first aid
- Rescue Treatments do not replace routine seizure first aid
Rescue Treatments

General Instructions

- Rescue AEDs can be given by mouth, bucally, rectally or intravenously, depending on the setting and who is giving the AED.
- Patients should have specific instructions on when to use rescue AEDs or VNS magnet
- Include when to seek medical care and emergency services in seizure plans and protocols.

Resources from Epilepsy Foundation:
- Seizure Action Plans for School Settings
- My Seizure Response Plans
- My Epilepsy Diary
Patients whose seizures are not controlled after 2 or more trials of appropriate medications should be referred to the next level of care for appropriate evaluation and treatment. For example,

- Refer to a neurologist if seizures persist after 3 months of care by a primary care provider
- Refer to an epilepsy specialist if seizures persist despite treatment with a general neurologist for 12 months
Epilepsy Surgery

Indications

- Failure of AEDs to control seizures – refractory epilepsy
- Ability to identify focus of seizure generation in the brain
- Able to remove focus or operate safely
- Seizures are ‘disabling’ – impact of seizures on quality of life
- Benefits versus risks of surgery and of refractory epilepsy
Epilepsy Surgery

Presurgical Evaluation

- Determine that seizures are refractory to AEDs
- Video EEG telemetry - localize seizures
- Imaging - identify possible causes and location of seizure focus (CT, MRI, PET, SPECT, MEG)
- Multidisciplinary evaluations – medicine, nursing, psychiatry, social work, psychology
- Neuropsychological testing - evaluate cognitive function, assist in localizing seizure focus
- Wada test – identify location of language and memory
Epilepsy Surgery

- Most common type of epilepsy surgery is resection in temporal or frontal lobe

- Outcomes of surgery depend on the type and location of surgery, whether all or most of the epileptogenic area was removed and other patient-specific factors
Vagus Nerve Stimulation (VNS) Therapy

- Used as adjunctive therapy
- A programmable pulse generator implanted subcutaneously in upper left chest
- Electrode wrapped around the left vagus nerve
- Exact mechanism of action not known
- Stimulation-related side effects may include hoarseness, coughing and shortness of breath
VNS Therapy- Use of Magnet

Stop side effects:

- Magnet temporarily stops stimulation
- Hold magnet over generator in chest for at least 6 seconds.
- Stimulation will not be delivered as long as the magnet is over the generator.
- To restart stimulation, remove the magnet.

Seizure first aid:

- Magnet may activate additional burst of stimulation
- Swipe magnet over generator in chest for one second (“one one-thousand one”)
- Wait 60 seconds, then repeat, or as recommended in seizure action plan
Dietary Therapies for Epilepsy

- Ketogenic Diet (KD)
- Modified Atkins Diet (MAD)
- Low Glycemic Index Treatment (LGIT)
Dietary Therapies

Indications and General Tips

- For people with refractory epilepsy when medications don’t work or are not tolerable

- May allow reduction in AEDs if seizures can be controlled.

- Ketogenic diet is the most restrictive, may require a hospitalization and few days of fasting to start it. Difficult for older children and adults to tolerate

- Modified Atkins and Low Glycemic diets are less restrictive and easier to tolerate by many people
Epilepsy 101

For Nurses Caring for People with Epilepsy

American Epilepsy Society