

BE SURE

LIVING WELL WITH EPILEPSY

MANAGING EPILEPSY TRIGGERS

In some people seizures occur as a consequence of certain conditions.

EPILEPSY IN CHILDREN

Epilepsy is a common condition in children that can cause seizures.

MANAGING EPILEPSY IN CHILDREN- SUGGESTIONS FOR PARENTS

FIRST AID FOR SEIZURES



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Pre face



Dear Readers,

Epilepsy accounts for a significant proportion of the world's disease burden, affecting around 50 million people worldwide. The risk of premature death in people with epilepsy is up to three times higher than for the general population.

Epilepsy, a severe neurological condition, has a significant impact on life of patient as well as its family members, friends, and caretakers. Seizures happen unexpectedly and not knowing how to respond can be a big challenge for caregivers. It could be devastating to handle abnormal behaviour, symptoms and sensations, and loss of consciousness of a patient during seizure.

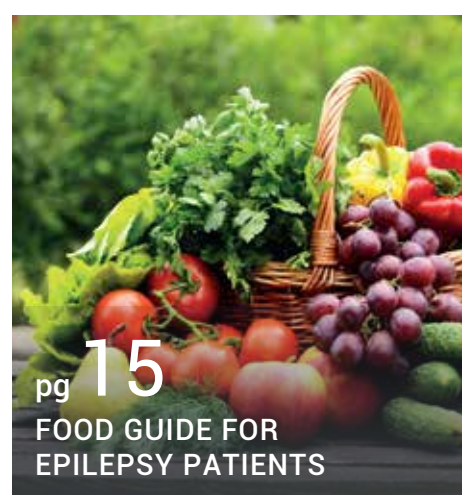
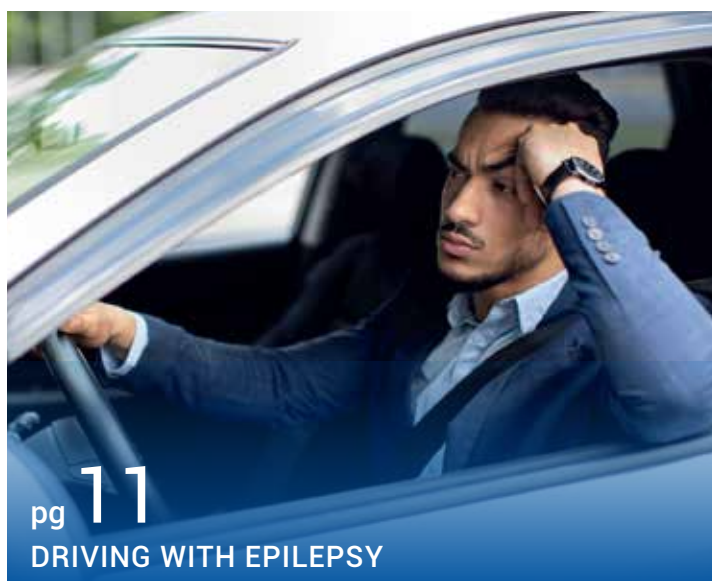
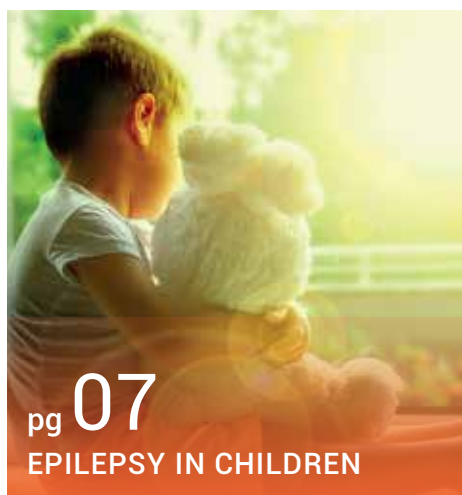
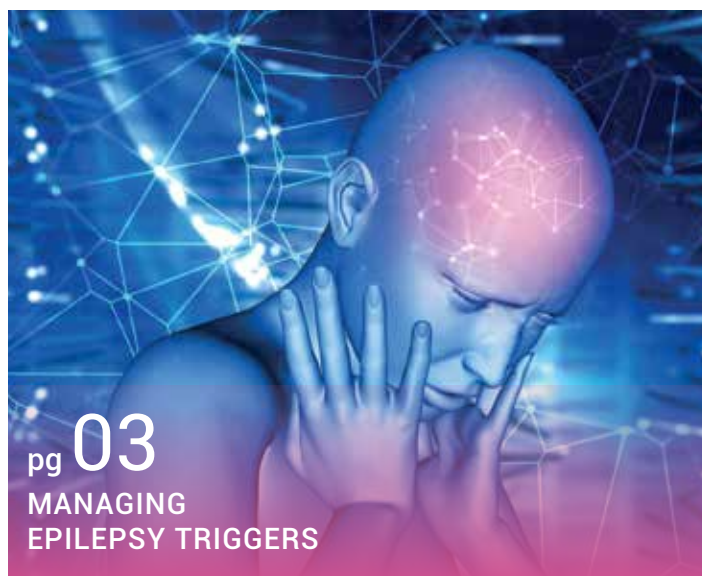
Whether you are a patient or caregiver, basic information about the disease, its triggers, and care that needs to be taken, what to do in emergency conditions, all this information should be known to you. This magazine is a brief book on epilepsy that can guide you to care for epilepsy conditions. It consists of epilepsy related information of several topics. First hand, you should know what is epilepsy, why it happens and what triggers it. Alongside medical treatment, palliative treatment and diet is important part of epilepsy management. Evidences have proved that diets like Keto diet can efficiently reduce the frequency of seizures, specially in children. Epilepsy in pregnant women is a special condition that needs to be taken care of. Another important aspect is travelling with epilepsy. This magazine also incorporates factors to be considered for safe travelling in patients with epilepsy and also shares some tips that could be useful for caregivers.

We hope, Be Sure will help you with important information about epilepsy and its management in various circumstances.

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MANAGING EPILEPSY TRIGGERS

In some people seizures occur as a consequence of certain conditions. Several situations or things make it more likely to develop seizures. These are called as seizure triggers. Avoiding or managing seizure triggers can help prevent the occurrence of seizures.

Some of the common seizure triggers include

- Missed medicine
- Sleep deprivation
- Stress
- Alcohol/Drug abuse
- Menstrual cycle
- Nutritional factors
- Over-the-counter medicines
- Flashing lights
- Missing/skipping meals
- Illness which causes high fever

Keeping track of these triggers help to identify and prevent potential occurrence of seizures. Maintaining a seizure diary is a good way to try and find out what might trigger your seizures. Every time of having a seizure should be recorded and a note of what you were doing and how you were feeling should be made. Over the time, an emerging pattern occurrence of seizures can be learned.

MEASURES TO AVOID TRIGGERS

1. Taking epilepsy medicine regularly

Not taking your medications properly or closing off medications after improving the condition can put you at risk of having seizures. The epilepsy medicines should not be stopped without doctors' approval.



2. Having a good sleep routine

Maintaining a daily sleep schedule can help trigger seizures.



3. Stress management

Trying to reduce your stress can help prevent the seizures. Stress can be managed by getting enough sleep, exercise and taking out time to relax.

4. Avoiding habitual addictions

Taking alcohol or drugs should be stopped as it increases the risk of having seizures.



5. Avoiding flashing or flickering lights

In patients with photosensitive epilepsy, seizures may be triggered by flashing lights or contrasting

patterns of light. Playing video games with rapidly flashing graphics may also trigger seizures in some people. Hence, it is important to avoid flashing lights and images, as well as those in geometric patterns to prevent seizures.

6. Talking to your doctor if your seizures follow a pattern connected to your menstrual cycle

7. Eating regular meals

Skipping a meal can cause hypoglycemia, specially in diabetes patients that may trigger seizures. Hence, following a meal schedule and keeping a fast acting glucose source help prevent seizures.



8. Protection from head injuries

Head injuries can lead to a single seizure or recurrent seizures in someone who doesn't have epilepsy. Hence, it's important to protect head from injuries and the possibility of more related seizures. A helmet should be worn when bicycling, skating, or playing contact sports.

9. Managing fever in children

In some children (6 months - 5 years) fevers of 101°F (38°C) or higher and accompanying infections can be a cause to develop a febrile seizures. High fever and infections should be treated as early as possible to prevent the risk of developing seizures.



Reference:

1. Shafer PO, Schachter SC. Managing Triggers 2014 [Internet] cited on 2022 June 26 available from <https://www.epilepsy.com/manage/managing-triggers>
2. Wendy Burton. Seizure triggers 2020 [Internet] cited on 2022 June 26 available from <https://www.epilepsy.org.uk/info/triggers>
3. Kristeen Cherney. 10 Ways to Prevent Seizures 2021 [Internet] cited on 2022 June 26 available from <https://www.healthline.com/health/how-to-preventseizures#in-an-emergency>



FIRST AID FOR SEIZURES

About 1 out of 10 people may have a seizure during his or her lifetime and people might need to help someone during or after a seizure. Most seizures end in a few minutes. Given below are general steps to help someone who is having any type seizure:

- Stay with the person until the seizure ends and he or she is fully awake. After it ends, help the person sit in a safe place. Once they are alert and able to communicate, tell them what happened in very simple terms.
- Comfort the person and speak calmly.
- Check to see if the person is wearing a medical bracelet or other emergency information.
- Keep yourself and other people calm.
- Offer to call a taxi or another person to make sure the person gets home safely.



First aid for generalized tonic-clonic seizures

Generalized tonic-clonic seizure, also called a grand mal seizure is most common type of seizure observed in epilepsy patients. In this type of seizure, the person may cry out, fall, shake or jerk, and become unaware of what's going on around them. When providing seizure first aid for generalized tonic clonic (grand mal) seizures, these are the key things to remember:

- Keep calm and reassure other people who may be nearby.
- Don't hold the person down or try to stop his movements.
- Time the seizure with your watch.
- Clear the area around the person of anything hard or sharp.
- Loosen ties or anything around the neck that may make breathing difficult.
- Put something flat and soft, like a folded jacket, under the head.
- Turn him or her gently onto one side. This will help keep the airway clear.
- Do not try to force the mouth to open with any hard implement or with fingers. A person having a seizure CANNOT swallow his tongue. Efforts to hold the tongue

down can injure teeth or jaw.

- Don't attempt artificial respiration except in the unlikely event that a person does not start breathing again after the seizure has stopped.
- Stay with the person until the seizure ends naturally.
- Be friendly and reassuring as consciousness returns.
- Offer to call a taxi, friend or relative to help the person get home if he seems confused or unable to get home by himself.

Stop! Do NOT

Knowing what NOT to do is important for keeping a person safe during or after a seizure. Never do any of the following things:

- Do not hold the person down or try to stop his or her movements.
- Do not put anything in the person's mouth. This can injure teeth or the jaw. A person having a seizure cannot swallow his or her tongue.



- Do not try to give mouth-to-mouth breaths (like CPR). People usually start breathing again on their own after a seizure.
- Do not offer the person water or food until he or she is fully alert.

Seizures generally run their course and an ambulance isn't always necessary. Call an ambulance if:

- You are in any doubt
- The person is injured
- There is food, fluid or vomit in mouth (they may have inhaled it)
- The seizure happens in water
- The person has breathing difficulties after the seizure stops
- Another seizure quickly follows
- The seizure lasts longer than 5 mins
- The person is non-responsive for more than 5 mins after the seizure ends

Reference:

1. Seizure First Aid. 2022 [Internet] cited on 2022 June 29 available from: <https://www.cdc.gov/epilepsy/about/first-aid>.
2. First Aid Seizures. [Internet] cited on 2022 June 29 available from: <https://www.med.unc.edu/neurology/wp-content/uploads/sites/716/2018/05/firstaid.pdf>
3. First Aid. [Internet] cited on 2022 June 29 available from: <https://www.epilepsy.org.au/about/epilepsy/first-aid/>



Epilepsy in Children

Epilepsy is a common condition in children that can cause seizures.

A seizure occurs when one or more parts of the brain has a burst of abnormal electrical signals that interrupt normal brain signals. Anything that interrupts the normal connections between nerve cells in the brain can cause a seizure. The conditions that can potentiate seizures include-

- High fever
- High or low blood sugar levels
- Alcohol/drug withdrawal
- Brain concussion

When a child experiences 2 or more seizures with no known or detectable cause, the condition is referred to as epilepsy.



When a child experiences 2 or more seizures with no known or detectable cause, the condition is referred to as epilepsy.

SYMPTOMS OF SEIZURES IN CHILDREN¹

Children show variety of signs and symptoms of seizure, however it varies based on the type of seizures. General symptoms or warning signs that can help detect that your child is having seizure include-

- Staring
- Jerking movements of the arms and legs
- Stiffening of the body
- Loss of consciousness
- Breathing problems or stopping breathing
- Loss of bowel or bladder control
- Falling suddenly for no apparent reason, especially when associated with loss of consciousness
- Not responding to noise or words for brief periods
- Appearing confused or in a haze
- Nodding head rhythmically, when associated with loss of awareness or consciousness
- Periods of rapid eye blinking and staring

In some children lips become tinted blue and or breathing becomes abnormal during occurrence of seizure while after seizure children feel sleepy or confused.

DIAGNOSIS OF SEIZURES IN CHILDREN

Upon presentation, physician will record the medical history and presenting signs of children. Consultation also include recent changes or sufferings child has gone through. This can help physicians to detect the possible causes of seizures. Factors that can cause seizures in children include-

- Recent fever/ infection
- Head injury
- Congenital health conditions
- Preterm birth
- Recent medications

After knowing the history, the physicians may ask for several diagnostic tests that include-

- A neurological exam
- Blood tests to check for problems in blood sugar and other factors
- Imaging tests of the brain, such as an MRI or CT scan
- Electroencephalogram, to test the electrical activity in your child's brain

- Lumbar puncture (spinal tap), to measure the pressure in the brain and spinal canal and test the cerebral spinal fluid for infection or other problems

TREATMENT OF SEIZURES

The goal of treatment is to control, stop, or reduce how often seizures occur. Pharmacologic medication is the most preferred treatment. Many types of medicines are used to treat seizures and epilepsy. Choice of medicines depends on the type of seizure, age of the child, side effects, cost, and ease of use. For children who are taking treatment at home are usually given medicines in the form capsules, tablets, sprinkles, or syrup. If children are admitted in the hospital, medicine may be given by injection or intravenously by vein (IV). Other treatments include vagal nerve stimulation, diet modification and surgery. Surgery is done to remove the part of the brain where the seizures are occurring or to stop the spread of the bad electrical currents through the brain. Surgery is considered if child's seizures are hard to control and always start in one part of the brain that doesn't affect speech, memory, or vision.



Reference:

1. *Seizures and Epilepsy in Children* [Internet] cited on 2022 June, available from: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/epilepsy/seizures-and-epilepsy-inchildren>



Managing Epilepsy in Children- Suggestions for Parents

Seizures occur most frequently during the first few years of life, during a time when the brain is going through its most dramatic growth and changes. Recognizing and treating seizures as early as possible can help avoid learning and developmental delays. However, diagnosing seizures in infants can be difficult, as they cannot communicate what they are feeling after a seizure or during medical tests. Parents and caregivers' observations are especially valuable and necessary for doctor's to effectively treat infants and toddlers with epilepsy¹.

Given below are the tips that can help parents manage epilepsy in their children

- Learn as much as possible about epilepsy.
- Discuss epilepsy openly and honestly with your child and help your child talk openly and honestly with others about epilepsy.
- Be positive. Avoid saying things that could make your child feel like a problem or burden.
- Praise your child's success. Encourage sports, hobbies, and other interests.
- Help your child make friends. Work with your child to explain epilepsy to friends, relatives, teachers, and others.
- Make time for yourself without feeling guilty. Respite allows you to take care of yourself so that you are physically and mentally better able to care for your child.
- Build a support network for you and your child.
- Establish routines. Schedule a regular time for homework.
- Know the dose, time, and side effects of all medicines. Give your child medicine exactly as directed. Give medication to your child at the same time every day.
- Involve children in taking their own medications.
- Make sure your child gets enough sleep to lower the risk of seizures.
- If age-appropriate, help children to understand the type of seizure he or she has, and the type of medicine that is needed.



- Talk with physicians before giving other medicines. Medicines for seizures can interact with many other medicines. This can cause the medicines to not work well, or cause side effects.

- Take regular follow-up and tests as often as needed.

When child is having seizure, efforts should be taken at protecting the child from additionally injuring themselves. Parents should follow below given tips while providing immediate care to child suffering seizure.

- Help the child to lie down on their side, preferably in a flat, non-crowded area. This will help prevent the child from inhaling any possible vomit.
- Remove glasses or other harmful objects in the area.
- Do not try to put anything in the child's mouth to try to stop the seizure; you may injure the child or yourself.
- Immediately check to see if the child is breathing, and continue observing the child for breathing both during and after the seizure.

Call emergency service immediately to obtain medical assistance if the child is not breathing or looks blue at any time.

If your child is not breathing within 1 minute after the seizure stops

- start mouth-to-mouth rescue breathing (CPR). Do not try to do rescue breathing for the child during a convulsive seizure, because you may injure the child or yourself.

After the seizure ends, place the child on one side and stay with the

- child until they are fully awake.



- Do not try to give food, liquid, or medications by mouth to a child who has just had a seizure. Unless the child is fully awake and alert, there is a danger of the child inhaling any food, medication or liquid.
- Children with known epilepsy (a history of seizures) should also be prevented from further injury by moving away solid objects in the area of the child.
- If the child is in a boat or near the water, they should always have a life jacket on. You should also restrain the child to prevent drowning.

- If you have discussed use of rectal medication with your child's doctor, give the child the correct dose as directed, if the seizure lasts more than 5 minutes.

Reference:

1. *How to Support a Child with Epilepsy: Information for Parents.* 2020 [Internet] cited on 2022 June 28 available from: <https://www.healthychildren.org/English/healthissues/conditions/seizures/Pages/How-to-Support-a-Child-with-Epilepsy-Information-for-Parents.aspx>
2. *Seizures and Epilepsy in Children.* [Internet] cited on 2022 Jun 28, available from: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/epilepsy/seizures-and-epilepsy-in-children>
3. *Seizures in Children Treatment.* 2022 [Internet] cited on 2022 Jun 28, available from: <https://www.webmd.com/first-aid/seizures-inchildren-treatment>



Driving with Epilepsy

Seizures are unpredictable, and even a small one at the wrong time can lead to an injury or death. Seizures causing loss of awareness (even if brief and subtle) or loss of muscle control, can impair a person's ability to control a vehicle.¹

Not all people who experience a seizure have epilepsy. Safe Seizures are defined as seizures that do not impair driving ability (which requires consciousness and ability to control the vehicle at all times). Normal responsiveness must be tested by reliable witnesses of authorities.¹



It can be a challenge traveling with epilepsy. However, it should not hold back individuals with epilepsy from traveling. Tips to follow:

- Those at risk of seizures should carefully observe their state's restrictions on driving with epilepsy, and know exactly how long they must be seizure-free in order to safely and legally get on the road.
- See your doctor. Ask about any precautions you should take during your trip and have your doctor provide a letter explaining your condition, the medications you take and any implanted device.
- Get a copy of your medical records to carry with you, in case you need to seek treatment while out of town.
- Pack extra medication to last more than the length of your trip. Keep medication in the original bottles.
- If possible, travel with a friend or loved one who knows how to provide seizure first aid. They can also explain the situation to those around you.
- Lack of sleep, being overtired and jetlag may increase your seizure risk. It's easy to get overtired while traveling, so make sure to get enough sleep and plan some extra time for rest and recovery.
- For some people with epilepsy, stress can be another potential seizure trigger – and traveling certainly can be stressful. With traffic, crowds, long lines and rushing to get there, it's easy to get anxious. However, it's important to

remain calm, even when things don't go quite as planned.

It can be very frustrating that independence is limited by epilepsy driving regulations. However, there are some tips that can help to help patients to drive³:

- Take anti epilepsy drugs consistently: Taking your anti seizure medicine as often as your doctor tells you to is one of the best ways of achieving seizure control. This means that you will be more likely to remain seizure free for the required time.
- Know your triggers: If you are more likely to have seizures when you are tired, stressed or facing other triggers, avoid driving during these times.
- Keep a seizure diary: A seizure diary allows you to record all your seizures, auras and your anti epilepsy medications. This can help you show your doctor that you have been seizure free. With epilepsy you can do this quickly and conveniently.



Reference:

1. <https://epilepsycentre.org.au/driving-and-epilepsy/>
2. <https://www.henryford.com/blog/2016/01/10-tips-fortraveling-with-epilepsy>
3. <https://www.epsyhealth.com/seizure-epilepsy-blog/driving-withepilepsy-everything-you-need-know>



TIPS FOR EPILEPSY CAREGIVERS

Professionals and caregivers play a vital role in the physical and emotional wellbeing of a person with epilepsy. Often the caregiver is a family member or a person who has a close personal relationship with the individual. Professionals and caregivers can be instrumental in helping a person with epilepsy to learn about the condition, to share that information with others, to find effective medical treatment, to develop a support network of family and friends, and to pursue what brings joy into his or her life.¹

CHECK

with the person's doctor about how to respond when a seizure happens².

- 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 with a complete Seizure Action Plan for the person you're caring for.

KNOW

- what are the common triggers for the person and help him/her to avoid them.
- the usual or possible signs and symptoms of the person's seizures.
- if and when to provide seizure medication. Prescription medication prescribed by a doctor should be given as directed
- seizure medications 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.
- 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, the person's emergency contacts or the substitute decision-maker).

ENSURE

- a copy of the Seizure Management Plan is with the person on any outings or trips, along with phone numbers of the substitute decisionmaker(s), group home manager, and/or primary caregivers' information.



PRACTICE

- ensure all elements of the emergency treatment plan are in place.
- ensure everyone knows their role and what to do.

Given below are the general tips for caregivers that will prove helpful while managing epilepsy patients.

- Be patient. Keep realistic expectations.
- Accept your limitations and ask for help if you need it.
- Monitor your emotional and physical well-being. Caring for another can be draining. If you need support, talk to a friend, family member, or professional. By taking care of yourself you will be better able to take care of another.

- Watch for symptoms of stress such as sleep problems, headache, irritability, and withdrawal. Adequate sleep, exercise, and proper nutrition can all help to reduce stress.
- Take time out for yourself to do the activities you enjoy such as exercising, reading, or going out with friends.

Reference:

1. <https://www.edmontonepilepsy.org/wp-content/uploads/2020/07/documents/Epilepsy>
2. <https://www.autismalert.org/uploads/PDF/CAREGIVERseizure%20Tool%20>



FOOD GUIDE FOR EPILEPSY PATIENTS

Anticonvulsant medications are typically the first line of defense against epilepsy. But maintaining a healthy diet can enhance overall wellness and potentially reduce symptoms. While there are no specific foods to eat or avoid in epilepsy, it's important to support health while you manage the condition by eating a balanced diet. Research also suggests that the ketogenic diet and modified Atkins diet may help reduce seizures.



DIETARY RECOMMENDATIONS FOR PEOPLE WITH EPILEPSY

Studies dating back to the 2020s have shown that diet can improve seizure control in people who have epilepsy. The “classic” ketogenic diet is a special high-fat, low-carbohydrate diet that helps to control seizures in some people with epilepsy.

Eliminate high glycemic index food:

- **Sweeteners**
Table sugar, honey syrups
- **Sweets:**
Cake, candy, cookies pastries
- **Processed foods:**
Sweetened cereals, crackers, French fries, rice cakes
- **Fruits:**
Dried fruits flavoured yogurt



Eat a natural, whole food diet

- **Beverages**
Water tea, coffee
- **Protein:**
Meat, eggs, fish, shellfish, dairy
- **Carbohydrates:**
Vegetables, fruit wholegrains, legumes
- **Lipids (Fats):**
Olive oil butter, seeds oil, coconut oil.



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