

KETOGENIC DIET

Ketogenic Diet Basics:

The Ketogenic Diet is a treatment option for people with epilepsy – typically for those whose seizures are not controlled with anticonvulsant medications. It is used more commonly in children than adults owing to greater ability to manage diet restrictions in children.

What is ketogenic diet?

The typical ketogenic diet provides 3 to 4 gram of fat for every 1 gram of carbohydrate and proteins. A ketogenic diet ratio is the ratio of fat to carbohydrate and protein grams combined. The kind of food that provide fat are butter, heavy whipping cream, mayonnaise and oils. A dietitian has to prepare the diet and should carefully monitor the child's nutrition.

How does the diet work?

Usually body uses carbohydrates (sugar, rice, wheat, bread) for its fuel, but fats become the main source of energy in ketogenic diet.

How to start the diet?

Typically the diet is started in the hospital. This is to monitor for any increase in seizure while on the diet, treat hypoglycemia and acidosis (which can happen during the dietary intake), monitor and enhance tolerability, ensure all medications are carbohydrate-free and educate parents how to maintain the diet at home.

Who is the suitable candidate?

It is recommended for those patients whose seizure are not responded to multiple anti-seizure medicines. In children, it is particularly recommended for Lennox-Gastaut syndrome, Myoclonic –astatic epilepsy, Dravet syndrome, West syndrome, GLUT-1 deficiency syndrome, pyruvate dehydrogenase deficiency and those with tuberous sclerosis complex.

Does the diet work?

In half of patients who go on for the diet, at least 50% reduction in the number of seizures, 10-15% become seizure-free. But not all children had better seizure control, but have some benefits like increased alertness , awareness and responsiveness.

How is diet monitored?

Urine analysis stick is used to monitor production of ketones in the diet. In addition, every 3 months other tests are done to monitor electrolytes, kidney function, liver function, carnitine, selenium and more.

Are there any side-effects?

Initially patient may feel sluggish for a few days, other side-effects that might occur include kidney stones, high cholesterol level in the blood, vomiting, constipation etc.

How is the patient monitored?

Regular follow-up are usually every 1-3 months to monitor the growth (height and weight), adjustment of anti-seizure medicines, monitor seizure history. Blood and urine tests are done to make sure there are no complications.

The need for other supplements?

Since the diet does not provide vitamins and minerals found in a balanced diet, dietitian will recommend vitamins and mineral supplements like calcium, vitamin D, selenium, iron, folic acid and other B vitamins. Many centres treat children with citrates to prevent kidney stones and L carnitine.