

Epilepsy Diet Therapy

Normally, the body uses carbohydrates to make energy. When there are not a lot of carbohydrates, the body cannot make energy, so it uses fat instead. By breaking down the extra fat provided by diet, the body makes ketones. When you have enough ketones, the body uses them for energy and is in ketosis. For some children with epilepsy, being in ketosis helps control seizures. Diet therapy uses medical diets to help control seizures.

There are two types of diet therapy:

- Ketogenic diet
- Modified Atkins diet

Both diets are:

- high in fats (like butter and oil) (Picture 1)
- moderate in amounts of protein (like meat and cheese)
- low in carbohydrate (like bread, sugar and fruits)



Picture 1 High fat foods, like butter and cream

The difference between the diets

Ketogenic diet

The ketogenic diet involves a very specific set of meals planned through the day. These meals are all balanced to a specific *ratio*. This ratio measures the amount of fat in the diet compared to the amount of protein and carbohydrates. Most children will start the diet at a 4:1 ratio. This means eating four times as much fat as protein and carbohydrates.

With the ketogenic diet, all foods must be weighed to be sure your child gets the right amount of all foods. They also must eat all of their food at every meal. They will have a goal for how much water they need each day. The ketogenic diet is very strict and can be hard for children to follow.

Children who start the ketogenic diet must be admitted to the hospital for 3 to 4 days. This is to make sure they are safe as their body adjusts to its new energy source.

Modified Atkins diet

The modified Atkins diet is a less strict ketogenic diet. Your child is limited to about 15 grams of carbohydrates per day. A small apple has about 15 grams of carbohydrates. With each meal, they will have a source of protein, a part of their daily carbohydrates and the rest will be sources of fat. They will also be given a goal for how much water to drink each day.

With this diet, you do not need to weigh all foods, and your child does not need to eat all their food at every meal. This allows you to be more flexible during the day. Children doing the modified Atkins diet do not need to be admitted to the hospital to start this diet. Because this is a less strict diet, it is easier for the body to adjust to the new energy source.

Benefits of diet therapy

More than half the children who try one of these diets have fewer seizures. Sometimes this can decrease their anti-seizure medicines. Some children also have better behavior while on the diet.

Side effects

Possible side effects of the diet include:

- Trouble gaining weight
- Reflux
- Increased risk for broken bones
- Constipation
- Kidney stones
- Low blood sugar

Our team will help you prevent these side effects while your child is on the diet. We will check labs to make sure we are meeting all your child's dietary needs while they are on the diet. Sometimes your child will need extra vitamins or supplements.

Length of time on the diet

Once a child starts the diet, they should try to stay on it for 3 months. This gives the team time to fine-tune the diet for your child and see if they have less seizures. If the diet works well, we usually continue the diet for about 2 years. However, some children can stay on the diet longer if it is working well.

Resources

Talk to your child's neurologist for more information about the dietary therapy program at Nationwide Children's Hospital. Helpful information about dietary therapy can also be found online at CharlieFoundation.org.