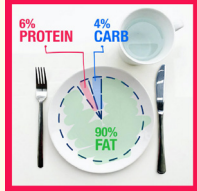
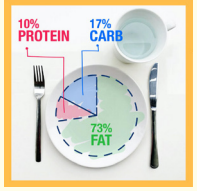
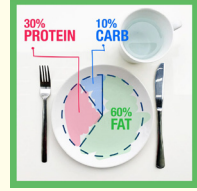
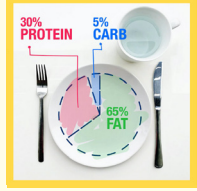


# COMPARISON OF DIET THERAPIES FOR EPILEPSY

QUESTIONS	Classic and Modified Keto 	MCT Oil 	Low Glycemic Index Treatment 	Modified Atkins 
<b>Is medical supervision required?</b>	Yes	Yes	Yes	Yes
<b>Is diet high in fat?</b>	Yes	Yes	Yes	Yes
<b>Is diet low in carbohydrate?</b>	Yes	Yes	Yes	Yes
<b>What is the ratio of fat to carbohydrate &amp; protein?</b>	4:1, 3:1, 2:1, 1:1	Approximately 1:1	Approximately 1:1	Approximately 2:1
<b>How much carbohydrate is allowed on a 1000 calorie diet?</b>	8gm carb on a 4:1 16gm carb on a 3:1 30gm carb on a 2:1 40–60gm carb on a 1:1	40–50gm	40–60gm	10gm adolescents or 15gm adults for 1 month 20gm afterwards
<b>How are foods measured?</b>	Weighed	Weighed or measured	Measured or estimated	Estimated
<b>Are meal plans used?</b>	Yes	Yes	Yes	Optional
<b>Where is the diet started?</b>	Hospital or Home	Hospital or Home	Home	Home
<b>Are calories controlled?</b>	Yes	Yes	Yes	No
<b>Are vitamin and mineral supplements required?</b>	Yes	Yes	Yes	Yes
<b>Are liquids (fluids) restricted?</b>	No	No	No	No
<b>Is a pre-diet laboratory evaluation required?</b>	Yes	Yes	Yes	Yes
<b>Can there be side effects?</b>	Yes	Yes	Yes	Yes
<b>What is the overall difference in design of these diets?</b>	Foods are weighed in grams; the ratio can be adjusted for stronger ketosis or for better tolerance.	Medium Chain Triglycerides (MCT) are highly ketogenic which allows more carbohydrate.	Low glycemic carbs in combination with fat results in steady glucose levels.	Loosely structured; fat is encouraged, protein is not limited but too much is discouraged.

Epilepsy is a diagnosis that is made after someone has had a seizure along with specific symptoms. An anti-seizure drug is typically tried as a first line of treatment. Some people are candidates for epilepsy surgery if their epilepsy is found to stem from a localized area of the brain.

## Statistics on the success of anti-seizure drug treatment haven't changed in 60 years.<sup>1</sup>

- After trying the **1st** drug, 47% become seizure-free; 53% continue having seizures.
- After trying the **2nd** drug, 13% become seizure-free; 40% continue having seizures.
- After trying the **3rd** drug, 1% become seizure-free; 39% continue having seizures.

This treatment failure is known as “**medication resistant epilepsy**”

## WHEN SHOULD KETOGENIC DIET THERAPY BE CONSIDERED?<sup>2</sup>

After trying a **2nd** drug according to the International Ketogenic Diet Study Group's published guidelines in 2018 and, sooner for some conditions (see chart below).

## ACCORDING TO THE 2016 COCHRANE REVIEW OF EVIDENCE FROM 11 RANDOMIZED CONTROLLED TRIALS:<sup>3</sup>

Seizure freedom reached as high as 55% with the ketogenic diet and 10 to 25% with the Modified Atkins Diet (MAD).

The proportion of individuals who had 50% or greater seizure reduction was as high as 85% in the ketogenic diet and 60% in MAD.

## KETOGENIC DIET THERAPY SHOULD BE TRIED EARLIER IN THE COURSE OF TREATMENT FOR THESE CONDITIONS:<sup>2</sup>

### Conditions where diet therapy should be considered.

- Angelman syndrome
- Complex 1 mitochondrial disorders
- Dravet syndrome<sup>3</sup>
- Epilepsy with myoclonic–atonic seizures (Doose syndrome)
- Glucose transporter protein 1 deficiency syndrome
- Febrile infection–related epilepsy syndrome
- Formula-fed (solely) children or infants
- Infantile spasms
- Ohtahara syndrome
- Pyruvate dehydrogenase deficiency
- Super-refractory status epilepticus
- Tuberous sclerosis complex

### Conditions where diet therapy could be considered

- Adenylosuccinate lyase deficiency
- CDKL5 encephalopathy
- Childhood absence epilepsy
- Cortical malformations
- Epilepsy of infancy with migrating focal seizures
- Epileptic encephalopathy with continuous spike-and-wave during sleep
- Glycogenesis type V
- Juvenile myoclonic epilepsy
- Lafora body disease
- Landau-Kleffner syndrome
- Lennox-Gastaut syndrome
- Phosphofructokinase deficiency
- Rett syndrome
- Subacute sclerosing panencephalitis

1. Kwan P, Brodie MJ. N Engl J Med. 2000;342:314-31. Early identification of refractory epilepsy.

2. Kossoff EK, Zupec-Kania BA, Auvin S. Optimal clinical management of children receiving dietary therapies for epilepsy: Updated recommendations of the International Ketogenic Diet Study Group. Epilepsia Open. 1–18, 2018 doi: 10.1002/epi4.12225

3. Martin K, Jackson CF, Levy RG, Cooper PN. Ketogenic diet and other dietary treatments for epilepsy. Cochrane Database of Systematic Reviews 2016, Issue 2. Art. No.: CD001903. DOI: 10.1002/14651858.CD001903.pub3.