



Eva, KetoCal user

# Supporting your child's success on the ketogenic diet

KetoCal is a medical food for use under supervision

A caregiver's guide to the ketogenic diet and the support & resources available to you on [MyKetoCal.com/KetoCalConnect](https://www.MyKetoCal.com/KetoCalConnect)



Toby, KetoCal user

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# Introduction

If you are reading this booklet, chances are that you recently met with your health care team about starting your child on the ketogenic diet. If you have not met with someone yet, make sure you consult with a health care professional before starting the ketogenic diet. At this time, you are likely seeking information to better understand the ketogenic diet and to empower yourself to manage it at home. The KetoCal Connect program was created to help you to successfully get started on the ketogenic diet.







In this booklet, you will find information about the ketogenic diet for the management of refractory epilepsy, its history and the different diet variants available. You will also find information about KetoCal and the resources available to support you.

Although managing the ketogenic diet can be difficult at times, other parents will tell you that when it works, it's worth it. **The goal of this booklet is to make managing the ketogenic diet as easy as possible and to help give your child the best possible chance for success on the ketogenic diet.**



# Ketogenic Diet 101

## A high fat, low carbohydrate diet used to manage refractory epilepsy

-  Designed to mimic the metabolic state of fasting where the body burns fat for fuel
-  Calculated according to the ratio of fat to carbohydrate plus protein
-  Experts recommend that it be considered after the failure of 2-3 anti-epileptic drugs (AEDs)
-  Carefully calculated and monitored by a ketogenic dietitian
-  Should be used only under close medical supervision
-  When successful in managing seizures, patients typically remain on the diet for at least 2 years

## Seizure control on the ketogenic diet



# History of the Ketogenic Diet

Fasting has been used to help manage seizures since at least 500 BC. In the early 1920s, Dr. R.M. Wilder from the Mayo Clinic developed a “ketogenic diet” that mimicked fasting by limiting dietary carbohydrate and providing high amounts of dietary fat. Instead of burning body fat for fuel (which occurs during fasting), the body burns fat from the diet and remains in a state of “**ketosis**”. Early research showed that it worked- a 1925 study published in the Journal of the American Medical Association showed significant seizure improvement in over 50% of patients following the ketogenic diet.

After new antiepileptic drugs were introduced in the 1930’s, interest in the ketogenic diet faded until 1994, when an episode of Dateline NBC\* documented the story of Charlie Abrahams. Charlie, the son of Hollywood film director Jim Abrahams, became seizure-free on the ketogenic diet after several antiepileptic drugs failed to control his seizures. Jim Abrahams started The Charlie Foundation\* to raise awareness of the ketogenic diet as an option to manage refractory epilepsy.

Today the ketogenic diet is offered at nearly all leading children’s epilepsy centers in the United States and in medical centers worldwide.



\*Nutricia is not affiliated with Dateline, NBC News or The Charlie Foundation.









# Ketogenic Diet and Variants

The original version of the ketogenic diet is often referred to as the “classic” or “traditional” ketogenic diet. Variations of the classic ketogenic diet have been developed to provide different options for patients who may benefit from the dietary management of refractory epilepsy. These include the modified Atkins diet (MAD), the medium-chain triglyceride (MCT) ketogenic diet, and the low glycemic index treatment (LGIT). The ketogenic healthcare team, usually the neurologist and dietitian, works with each family to select the most appropriate diet.

All versions of the ketogenic diet:

- Restrict carbohydrate intake
- Increase fat intake
- Should be used only under close medical supervision

The table below compares the main characteristics of each diet.

Diet	Diet Design	Food Measurement
<b>Classic Ketogenic Diet (KD)</b> Est. 1921	According to a ratio of the grams of fat compared to the grams of protein plus carb: Usually 3:1 or 4:1	Gram scale 
<b>Medium-Chain Triglyceride (MCT) Ketogenic Diet</b> Est. 1971	According to the percentage of calories coming from MCTs: usually 30–60%	Gram scale and Household measures 
<b>Modified Atkins Diet (MAD)</b> Est. 2002	According to carbohydrate restriction: Usually limited to 10–20 grams/day	Household measures 
<b>Low Glycemic Index Treatment (LGIT)</b> Est. 2002	According to the glycemic index of foods	Household measures 



Mom to Nathan, KetoCal user

# Frequently Asked Questions about the Ketogenic Diet

## What is the ketogenic diet?

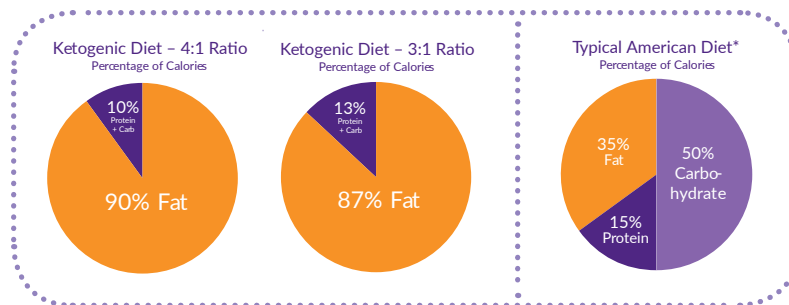
The ketogenic diet is a special high-fat, low-carbohydrate diet that is used for the dietary management of seizures in children with refractory epilepsy, as well as for certain metabolic disorders, including GLUT1 Deficiency Syndrome and Pyruvate Dehydrogenase Deficiency. The ketogenic diet is strictly controlled and precisely calculated. It should only be used under close medical and nutritional supervision.

## How effective is the ketogenic diet?

Research shows that about half of children on the ketogenic diet will have 50% or more improvement in seizures<sup>1</sup>. About 1/3 of children will have over 90% improvement in seizures and about 10-15% will become seizure-free. In addition to seizure control, the ketogenic diet has been reported to help improve sleep quality, behavior, and quality of life.

## What is the ketogenic ratio?

The ketogenic ratio describes the amount of fat in the diet compared to the amount of protein plus carbohydrate in the diet. The healthcare provider determines which ratio is most appropriate for the needs of each patient. The traditional ketogenic diet is usually a 4:1 ratio, however, adolescents and children under the age of 2 are sometimes started on a 3:1 ratio to allow for more protein in the diet. A 4:1 ketogenic diet provides 4 grams of fat for every 1 gram of carbohydrate plus protein while 3:1 ketogenic diet provides 3 grams of fat for every 1 gram of carbohydrate plus protein.



\*Adapted from: Freedman MR, King J, Kennedy E. Popular diets: a scientific review. *Obes Res* 2001; 9(suppl1):3S,11S,12S.

## How does the ketogenic diet work?

With a typical diet, the body uses mostly glucose (carbohydrate) for energy or fuel. The ketogenic diet limits the number of carbohydrates in the diet while increasing the intake of fat so that the body burns fat to produce ketones for energy instead.

For some patients with epilepsy, this change in the body's fuel helps manage seizures, although it is still not fully understood how.

For patients with GLUT1 Deficiency Syndrome or Pyruvate Dehydrogenase Deficiency, it is better understood how the diet works. With these conditions, the body is unable to properly use carbohydrates for energy, so the ketones produced by the ketogenic diet provide an alternative source of energy.



Elliott, KetoCal user

<sup>1</sup>Freeman JM, et al. The efficacy of the ketogenic diet-1998: a prospective evaluation of intervention in 150 children. *Pediatrics*. 1998 Dec; 102 (6): 1358-63.



# KetoCal®

Nutricia is proud to offer the most comprehensive line of ketogenic formulas for patients on the ketogenic diet. KetoCal is a nutritionally complete medical food that offers you peace of mind with consistent ketogenic ratios.

- Use as a snack, tube-feeding, meal replacement or in recipes
- Great vanilla or unflavored taste with a wide variety of recipe options
- Ready-to-drink packaging for busy lifestyles

The KetoCal product family also offers Liguigen®. Liguigen is an emulsified MCT oil which blends easily into many foods and drinks.



Millie, KetoCal user

# How is KetoCal Used in the Ketogenic Diet?

KetoCal is designed to be easy and convenient. Below are just a few of the ways that KetoCal can be helpful.

## Nutritional Reassurance

KetoCal provides complete nutrition and can fill in the nutritional gaps of the ketogenic diet. Parents can rest assured knowing that their child is getting the right ketogenic ratio and the right nutrition from KetoCal.

## Help for Picky Eaters at Mealtime

We don't have to tell you that mealtime can be challenging. KetoCal's smooth, great taste and kid-friendly drink box were designed to be accepted by even the pickiest of eaters. Because it is ketogenically balanced and nutritionally complete, KetoCal makes mealtime a little less stressful for mom and dad, too.

## Help for Sick Days

KetoCal can be helpful for sick days when your child is not hungry for a solid meal. Because KetoCal has a consistent ketogenic ratio, you don't have to worry that the ratio is off if they don't finish it.

## Travel Convenience

KetoCal is easily transported as a ready-to-drink liquid or an easy-to-prepare powder. It's great for vacations and outings when you don't have access to a kitchen.

## Peace-Of-Mind For Meals Without Mom Or Dad

KetoCal is an easy meal substitute when the usual "ketogenic chef" is unavailable. KetoCal works great for daycare, school days, babysitters and play dates!

## Convenience for Unexpected Situations

Working late, stuck in traffic, or forgot to pack the lunch box? Keep some KetoCal on hand for unexpected situations.







# KetoCal Connect: Supporting your child's success on the ketogenic diet

Being on the ketogenic diet doesn't have to be hard. The KetoCal Connect program provides you with the tools and resources you'll need to successfully start and stay on the ketogenic diet.



Trusted products



Coverage and cost assistance



Caregiver support



Tasty ketogenic recipes

## Connecting you to trusted products



KetoCal offers the widest range of tasty ketogenic formulas, ranging from powders to liquids.

- Convenient and easy-to-drink while on-the-go
- Available in delicious vanilla or versatile unflavored
- Use to create a variety of tasty recipes
- Great, smooth taste
- Perfect for tube-feeding

Put your trust in KetoCal, the only brand that has been used worldwide by families just like you for over 16 years.



## Connecting you to coverage and cost assistance



Our Nutricia Navigator coverage specialists will provide you with one-on-one personalized guidance, from start to finish, to determine your coverage options – all at no cost to you.

### Reimbursement Assistance

- Verifies insurance to determine eligibility and benefits for KetoCal or Liquigen
- Assists with prior authorizations for KetoCal or Liquigen
- Helps find in-network suppliers to fulfill orders
- And much more!

**The KetoCal Assistance Program** can help provide KetoCal or Liquigen at a discounted rate for those who are facing financial hardship.

**The KetoCal School Lunch Program** assists families of children with epilepsy who are on the ketogenic diet to get KetoCal covered by the National School Lunch Program so that KetoCal can be purchased at the same cost of a regular school meal.

Visit [MyKetoCal.com/KetoCalConnect](https://www.nutricia.com/MyKetoCal.com/KetoCalConnect) to learn more about the coverage and cost assistance options available to you, or call **1-800-365-7354, Option 5**, from 10:00 AM- 6:00 PM, Monday-Friday ET.

## Connecting you to caregiver support



Remember that you are not alone. We're here to support you whether it's answering your questions about KetoCal or providing tips for managing the ketogenic diet in general.



### Nutrition Support

Our nutrition specialists are here to provide one-on-one personalized support for Nutricia products, Monday-Friday, 8:30-5:00 pm ET. Call 1-800-365-7354, Option 2



### Blog

Our award-winning support blog for caregivers provides you with practical tips, recipes and resources for everyday life on the ketogenic diet.



### Social Media

- Follow us on Facebook to connect with other keto families and share your stories and questions.
- You can also follow us on Twitter, Pinterest, and YouTube to stay up to date with KetoCal



### Email List

Join our email list for a monthly delivery of our latest tips & recipes, right to your inbox

Visit [MyKetoCal.com/KetoCalConnect](https://www.MyKetoCal.com/KetoCalConnect)

to learn more about the support and resources available for caregivers.

## Connecting you to tasty ketogenic recipes



Our exclusive recipe database gives you access to a variety of sweet and savory ketogenic recipes that can easily be adapted according to your child's specific nutritional needs.

### Mock Baked Potato Soup



### Blueberry Smoothie



### Pizza



### Chocolate Muffins

Check out  
[MyKetoCal.com/KetoCalConnect](https://www.MyKetoCal.com/KetoCalConnect)  
for more recipes!





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on the ketogenic diet

For more information, visit

**MyKetoCal.com/KetoCalConnect**

1-800-365-7354

Monday - Friday from 8:30 am - 5:00pm ET

MyKetoCal@Nutricia.com

Connect with us



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Nutricia leads the development of advanced medical nutrition. Nutricia products and services transform the daily lives of millions of infants, children, adults and seniors.

