THE KETO COOKBOOK
innovative delicious meals for staying on the ketogenic diet

Dawn Marie Martenz and Laura Cramp, RD
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Innovative Delicious Meals for Staying on the Ketogenic Diet

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New York

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The ketogenic diet has a storied history. While its introduction in modern neurology for use in the treatment of epilepsy is typically attributed to Dr. Samuel Livingston in Baltimore, even Dr. Livingston describes a reference to fasting to cure seizures from the Bible in his book published in 1963, *Living with Epileptic Seizures.*

Dr. Livingston’s successor as the Physician-in-Charge of The Johns Hopkins Hospital Epilepsy Clinic was Dr. John M. Freeman. Dr. Freeman essentially resurrected the diet as a standard treatment for at least medically intractable epilepsy during the second half of his career when he redirected his attention from aspects of birth defects and ethics to a concentration in pediatric epilepsy. His book, *The Ketogenic Diet* written with his Hopkins colleagues Eileen “Patty” Vining, M.D., and the late (and beloved) Diana Pillas, served as an important guide for parents of children with epilepsy. Dr. Freeman trained many leading child neurologists including Eric Kossoff, M.D., who has continued clinical studies of the ketogenic diet and widened its use, including extension to the idiopathic epilepsies, for example, absence epilepsy, and variations on the diet, specifically the “modified Atkins” diet.

The mechanism of the diet’s effects remains elusive, although neuroscientists have been actively researching this question. The diet has been determined to be a targeted therapy for certain disorders, specifically glucose transporter deficiency (where the diet provides an alternative to glucose as fuel for the brain), and pyruvate dehydrogenase complex deficiency (where the diet provides for an alternative pathway for the mitochondria to produce energy). Yet metabolic disorders in general represent a minefield where the ketogenic diet can inadvertently worsen an underlying metabolic defect and convert a patient from relatively stability to rapid deterioration. Hence, the diet is not a “natural alternative” for epilepsy and is at least as complicated as taking a drug in terms of the ramifications that can ensue for the body’s metabolism.

The diet can be unpleasant and unappetizing and this has been a longstanding concern among physicians and parents. But, at long last, one patient’s extremely talented mother brought her love and caring into play, making the ketogenic diet attractive and even delicious. It has been my privilege to work with Mrs. Dawn Martenz and her outstanding family in the epilepsy genetics program at Children’s National Medical Center. We decided at a particular point of frustration during her child’s
treatment that a trial of the diet, although not necessarily considered typical for a child with her daughter Charlotte’s diagnosis, Dravet syndrome, would be worth the effort. None of us predicted that the outcome would be a series of recipes and culinary creations that could indeed be considered so appealing, if not delectable, as to warrant this unique cookbook. Together with our outstanding ketogenic team, including Drs. Tammy Tsuchida, Tesfaye Zelleke, and Amy Kao, Mrs. Martenz teamed up with Laura Cramp, R.D., a dietitian who, as in other centers, evolves as the key ingredient of the ketogenic diet clinic. Together they produced this outstanding cookbook that will be among the greatest assets of any family facing the dilemma of using dietary therapy to treat their child’s epilepsy. My hat is off to these authors, and those families, for the fantastic efforts – and results – that come with this work.

Phillip L. Pearl, MD
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Children’s National Medical Center
Professor of Pediatrics, Neurology, and Music
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and Columbian College of Arts and Sciences
Washington, DC
Appropriate Administration and Potential Complications of the Ketogenic Diet

Amy Kao, MD

The ketogenic diet may have less obvious side effects than medications, but it has its own set of possible problems and should be treated just like an antiseizure medication. The family and patient should talk with their neurologist about whether the ketogenic diet might be a good treatment option. Then, the neurologist should refer the patient to a specialized team involving a dietitian and another neurologist who have expertise and experience in managing patients on the ketogenic diet. This team should review the ketogenic diet in detail with the family, confirm that the patient is a good candidate for the diet, prepare the family for initiation, supervise the start of the diet, and communicate with and see the family frequently throughout the time the ketogenic diet is being used, just as when a medication is prescribed.

There are some problems that can occur especially during the start of the ketogenic diet. Because of these possible problems, patients are admitted to the hospital for initiation of the ketogenic diet, so that monitoring for symptoms and frequent blood work can be done.

HYPOGLYCEMIA (LOW BLOOD SUGAR)

In general, blood sugars are relatively low on the ketogenic diet, but if caloric needs are not calculated properly, they can get dangerously low and cause symptoms such as sleepiness, vomiting, nervousness, trembling, and sweatiness. In such cases, a certain amount of sugar given in the form of apple juice or unflavored Pedialyte®, or even intravenous fluids (without sugar), might be necessary.
EXCESSIVE ACIDOSIS (THE BLOOD IS TOO ACIDIC)

Again, in general, the acidity of the blood is relatively high while on the ketogenic diet due to the acidity of ketones. However, if it is too acidic, there may be symptoms such as panting, irritability, increased heart rate, facial flushing, unusual fatigue, and vomiting. A certain amount of juice or unflavored Pedialyte®, or intravenous fluids might be needed. If the level stays low, additional bicarbonate might be prescribed as a daily medication to balance out the acidity. This is a common complication when starting the ketogenic diet, but usually resolves after a short period of time if the patient remains well hydrated.

DEHYDRATION

Thirst can decrease and urination can increase while on the ketogenic diet, leading to a risk of dehydration. If there are signs of dehydration, blood sugar, ketone levels, and acidity need to be checked and additional fluids given. Dehydration can also cause or worsen constipation.

ENCEPHALOPATHY

If excessive fatigue or decreased responsiveness occurs, or the patient just is not acting like him- or herself, low blood sugar, excessive acidosis, or dehydration could be the cause. The ketogenic diet can cause an increase in some antiseizure medication levels, such as phenobarbital, which could also cause sleepiness. In addition, the ketogenic diet could worsen an undiagnosed underlying metabolic disorder, thereby leading to a change in behavior.

After hospital initiation of the ketogenic diet, parents and patients are asked to check blood sugars and blood or urine ketones periodically at home. In addition, they meet with the dietitian and neurologist frequently for outpatient visits to monitor for problems that can happen while on the ketogenic diet long term.

CONSTIPATION

This is not an unexpected side effect from such a high-fat, low-fiber, and relatively low-fluid diet, but can be an uncomfortable problem for some patients. It can be managed by increasing fluids and certain foods like avocado or low glycemic vegetables, as
well as by providing daily stool softening medications. If constipation is not managed well, it can lead to decreased appetite, which in turn can cause poor growth and low blood sugars.

**GROWTH ISSUES**

The restrictiveness of the ketogenic diet necessitates consultation with a registered dietitian to help determine nutritional needs. These needs will change over time and frequent visits to the dietitian and ketogenic diet team are required to ensure appropriate growth. Weight and height are measured at every visit, and caloric intake is calculated, with the goal of maintaining adequate growth but not excessive weight gain or loss. The dietitian also considers several other factors, such as ketone levels, seizure control, level of hunger, and activity level when making changes in the ratio of the diet, the amount of protein, or the number of calories.

**HYPERLIPIDEMIA (ELEVATED CHOLESTEROL)**

Several blood tests are also checked at every visit to look for side effects that do not show obvious signs or symptoms. Cholesterol and triglycerides are often mildly elevated and if levels are of concern can be addressed by increasing polyunsaturated fats, adding fish oils, or decreasing the ratio of the diet. Patients who have a family history of hyperlipidemia occurring at a young age are at higher risk for this issue.

**NUTRITIONAL DEFICIENCIES**

The ketogenic diet is, in general, relatively low in certain vitamins and minerals. Prepared products or formulas such as Ketocal®, however, include a multivitamin supplement. A sugar-free multivitamin and a calcium supplement with vitamin D is recommended for all patients on the ketogenic diet who do not use large amounts of these prepared products. Levels of specific vitamins, minerals, and other compounds are routinely checked, including calcium, magnesium, phosphorus, vitamin A, vitamin D, vitamin E, zinc, selenium, and carnitine. Deficiencies in these may contribute to problems such as decreased bone density/osteoporosis and cardiomyopathy (abnormality of the heart muscle). We also check fatty acid lipid panels, which include omega-3 and omega-6 levels. Supplements or dietary changes may be needed if certain levels are abnormal.
KIDNEY STONES

Patients who have a family history of kidney stones, or are on certain medications such as topiramate or zonisamide, are especially at risk for kidney stones. Avoiding dehydration or excessive acidosis while on the ketogenic diet minimizes this risk.

In general, most patients who are on the ketogenic diet do well without complications or may experience side effects that are tolerable or manageable. Just as with antiseizure medications, patients are seen frequently and laboratory tests are performed routinely in order to ensure that the benefits outweigh the side effects.
Acknowledgments

Although this book only has two authors, there are dozens of people who have contributed to it whom we would like to thank. First, we thank the many parents and children on the ketogenic diet at Children’s National Medical Center. You inspire us to work hard every day to provide this diet and to continually improve how we provide it. By sharing your experiences, ideas, and recipes, you have benefited the entire neurology community. We would also like to thank Beth Zupec-Kania, R.D., for allowing us to use her KetoCalculator program to create these recipes and for educating and promoting the ketogenic diet to hundreds of dietitians and families.

We would also like to thank the following people:

Tammy Tsuchida, MD, PhD, ketogenic diet neurologist at Children’s National Medical Center. We gratefully acknowledge Dr. Tsuchida’s review of this manuscript and for her tireless contributions to our ketogenic diet program and the care of our patients. She has spent countless hours caring for the patients and supporting just about everything we have wanted to do to change and improve our program. She is greatly missed as the ketogenic diet neurologist and her contributions to the program will continue to benefit every child that begins the diet at CNMC.

Amy Kao, MD, and Tesfaye Zelleke, MD, ketogenic diet neurologists at Children’s National Medical Center. They are both immensely supportive of and dedicated to the ketogenic diet program and bettering the lives of our patients.

Philip Pearl, MD, Division Chief of Child Neurology at Children’s National Medical Center who has specifically cared for and improved Charlotte’s life through better seizure control.

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This book is unlike any other cookbook. The ketogenic diet is a medical diet and can be harmful to your health if it is not followed correctly. A neurologist and a dietitian are necessary ingredients in each one of these recipes; without them, you cannot safely and successfully follow the ketogenic diet.

You can use most recipes you find in a cookbook just as they are described, using the ingredients listed in the amounts indicated. For the recipes in this book, however, you must consult a dietitian and neurologist to guide you in how to adjust these recipes to fit your needs. Each child has different calorie and fat needs required to promote appropriate growth and to control seizures. You will notice that each recipe has blank spaces next to the gram amounts for each ingredient. Use these spaces to enter your specific gram amounts as prescribed by your dietitian.

Every meal recipe you will find in this book is about 400 calories and contains at least 8 grams of protein, with one exception: The Yogurt Parfait recipe contains only 2.9 grams of protein. Every snack and dessert is approximately 150 calories, but varies in the amount of protein it contains. Also, every recipe is a 4:1 ratio (4 grams of fat for every 1 gram of protein and carbohydrate combined). We chose these numbers because, when combined into three meals and two snacks, they create a meal plan that is common among school-age children on the ketogenic diet. This calorie level does not meet the needs of every child on the ketogenic diet, but with the help of your dietitian, you will be able to adjust the proportions without much difficulty to fit your own dietary needs.

You will also notice that each of the recipes contains a carbohydrate amount (rounded to the nearest 0.1 gram). Although this information is not necessary for the ketogenic diet, it can be helpful in the Modified Atkins Diet. These recipes can be used to supplement the Modified Atkins Diet, but as with the ketogenic diet, you must work with a dietitian to ensure that your child’s diet is nutritionally adequate and sustainable.

Another benefit to these recipes is that each one of them is gluten-free. The specific brands have been checked for potential gluten-containing ingredients, but please keep in mind that ingredients may change over time. Please check the label of the specific foods you are using if you want to maintain a gluten-free diet.
MEAL PREPARATION TECHNIQUES

A common concern among caregivers is how they are going to cook a separate keto meal along with a family meal when time is already tight. Planning ahead is the best way to incorporate the same ingredients into both the family meal and the keto meal. However, this may not always be possible on a regular basis. It can be helpful to have a supply of pre-made meals and ingredients frozen and clearly labeled for future use. A few preparation methods will help streamline the process of cooking multiple batches at once.

Cooking with the Same Protein as the Family Meal

Ketogenic meals can be quickly prepared alongside a typical dinner preparation. Not only does incorporating the same protein into the keto meal help the child feel included, it also reduces time and waste in the kitchen. Cook the main protein for your family dinner without any added seasonings or sauces. Remove the needed keto portion, then continue to cook the family meal, seasoning as desired.

Before leaving the hospital, make sure you have recipes that include the same types of protein that your family is used to eating. If keto meal plans call for 85% ground beef, and your family is used to 90% lean beef or diced sirloin, ask to change the recipes right away.

Assembly Line Method

This is the technique you would use to create multiple batches of a meal that includes ingredients that cannot be blended together, such as the Bake and Freeze Pizza. You can easily create and then bake multiple pizzas at one time. Simply line the ingredients up on the counter top and prepare one meal from start to finish, using the same mixing bowls and utensils, then repeat.

When a recipe calls for an ingredient such as beaten egg whites, it is helpful to make a large batch of egg whites and then prepare several of the meals that call for that ingredient. When melted butter or coconut oil is called for, you can melt a large amount and weigh each portion using in a medicine syringe, add it to the recipe, and move on to the next ingredient.

All-in-One Batch Method

This method can only be used when all of the ingredients are completely blended together, such as the Chocolate Popsicles, Waffles and Brazil Nut Cookies. In this method, you would multiply each ingredient weight by the number of servings that you plan on making. Next,
weigh all of the ingredients and mix together very well, making certain that all the ingredients are evenly distributed. Lastly, figure out the total weight of each serving. For example, the recipe for Chocolate Popsicles for six servings would look like this:

50 g Avocado................................................................. 50 g × 6 = 300 g
6 g Bakers chocolate, unsweetened............................... 6 g × 6 = 36 g
4 g Coconut oil ............................................................ 4 g × 6 = 24 g
3.5 g Truvia™ ............................................................. 3.5 g × 6 = 21 g

The total weight of the recipe is found by adding the weight of each ingredient together; in this case:

300 g + 36 g + 24 g + 21 g = 381 g total weight

Next, divide the total weight by the number of servings and you have found the weight for each serving:

381 g ÷ 6 = 63.5 g for each serving

To double check that your math is correct, the weight for each serving should equal the total number of grams (all ingredients added together) for the original recipe:

50 g + 6 g + 4 g + 3.5 g = 63.5 g

Weigh each portion in the container in which it will be stored and cook or freeze accordingly.
**SYMBOLS**

Most of the recipes contain symbols that describe certain features of that recipe. Use these as a guide for choosing meals and snacks that meet your child’s needs.

**Symbols Chart**

<table>
<thead>
<tr>
<th>Symbols</th>
<th>Name</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Grab and Go</td>
<td>Travels well</td>
</tr>
<tr>
<td></td>
<td>Complete Bite</td>
<td>Every bite has the same diet ratio; good for picky eaters or “grazers”</td>
</tr>
<tr>
<td></td>
<td>Selenium</td>
<td>Recipe contains at least 30 mcg selenium</td>
</tr>
<tr>
<td></td>
<td>Quick</td>
<td>Recipe can be made in less than 15 minutes</td>
</tr>
<tr>
<td></td>
<td>Smooth Consistency</td>
<td>Soft/smooth consistency, good for infants or oral aversions</td>
</tr>
<tr>
<td></td>
<td>Vegetarian</td>
<td>No meat or fish, may contain dairy and/or egg</td>
</tr>
<tr>
<td></td>
<td>Fiber</td>
<td>Recipe contains at least 5 grams of fiber</td>
</tr>
<tr>
<td></td>
<td>Finger Food</td>
<td>No utensils needed</td>
</tr>
<tr>
<td></td>
<td>Freeze</td>
<td>Freezes well</td>
</tr>
</tbody>
</table>
EQUIPMENT AND UTENSILS

You will notice that specific types of kitchen items are used on a regular basis in this book. Preparing ketogenic meals requires accuracy, smaller-scaled utensils and cookware, and non-stick surfaces such as silicone muffin liners, parchment paper, and non-stick frying pans. This helps to ensure that all of the ingredients go from scale to cookware to serving plate without losing portions of the weighed ingredients, which would alter the ratio of the diet.

The goal while preparing keto foods is to have as few utensil exchanges as possible between the food preparation and the actual serving of the food. Minimizing the contact of food on mixing bowls, plates, and utensils helps ensure that all of the weighed ingredients are eaten in the proper ratio. One to two grams of fat can quickly be lost if a frying pan is not scraped out very well after cooking.

Following is a discussion of essential keto supplies and a few non-essential items that help make the diet more fun and kid friendly.
Digital Gram Scale

This is only required item to buy before starting the diet. You will want to be sure you understand how to use your specific scale before leaving the hospital. We recommend that all families have at least two scales because digital scales can be fragile and can break easily! They are often hard to find in retail stores and most often are purchased on-line. Find out if the keto center that you will be using provides a scale. If they do not, The Charlie Foundation sells a 1,000-g capacity scale that is recommended for use on the ketogenic diet. Having a large capacity scale such as this allow sample room to weigh ingredients and a vessel to hold them in. For example, a 2-cup glass measuring cup weighs nearly 621 grams! If you have purchased a 200-g scale because it was less expensive, you will have a difficult time weighing food in its container. A less expensive, lower capacity scale can be purchased as a back-up scale, but a high capacity scale is very helpful for everyday food preparation.

Practice good habits when using the scale. It is important to use a calibration weight on a weekly basis. This will alert you if the scale has become uncalibrated because of moving it around or possibly because of low battery life. Also, most scales come with protective covers that should be used whenever the scale is not in use. This hard, plastic cover will protect the scale’s sensors from damage. It’s very easy to permanently damage the sensors — just pressing too hard on the scale or weighing something too heavy will cause damage. Again, always replace the cover when the scale is not in use. It is often helpful to reserve a small area on the kitchen counter for the scale and as the keto food prep area. This eliminates the need to move the scale around and therefore lessens the chance of damaging or dropping the scale. Lastly, always have a supply of batteries for your scale, even if you are in the habit of using the AC adapter; you will be inconvenienced should the power go out.

Keep the receipt and the box that the scale was packaged in when purchased. Many scales have an extended warranty and you will need the receipt for any warranty repairs. Familiarize yourself with the manual and proper operating and handling methods. Make it very clear to children in the household that it is not a toy and should only be used by an adult. Also, the scale is best protected in its original packaging for traveling and family trips.

Without your scale, you cannot prepare ketogenic food properly or safely for your child. Your scale is the most important tool in your kitchen for administering the diet and should be handled correctly at all times.

Small Silicone Spatulas

These are used for scraping the sides of bowls and plates to ensure getting every drop of fat. The silicone flexes easily and does not melt, making it ideal for frying or sautéing. Progressive International sells a set of 6-inch silicone spatulas for about $6.00. These are a great size for kids; they can easily fit in small mouths to help get every last gram of food in.
Silicone Muffin Liners/Baking Mats
Many meals and snacks are cooked in muffin liners because there is no chance of losing fat during the cooking process. These are washable and re-usable, and can be baked, microwaved, and frozen. Wilton Industries sells many different varieties of these, some of which are pictured in this book, which will help make meals more appealing to kids.

Silicone baking mats are flat sheets of silicone designed to cover a metal baking sheet. These are ideal for baking or freezing items that you would like to be bite size, such as the Jell-O® Puffs or the No-Bake Chocolate Snack Bars.

Electric Hand Mixer
Small, inexpensive hand mixers with removable beaters make quick work of beating egg whites, emulsifying fats, or whipping the heavy cream. They are very inexpensive and can often be found in grocery stores.

Immersion Blender/Blender
This will help blend or puree small amounts of food. Some families also use Magic Bullet™ blenders because they use small cups to both blend the food and use as a serving cup, so little food is lost during the blending process.

iSi® Easy Whip
This is a tool that is used in professional kitchens to make whipped cream instantly. If you find that your child likes whipped cream and you whip cream often, this tool is worth the investment. You can now find models designed for home use in kitchen supply stores. To use, fill the canister with heavy cream and screw the lid on tightly. The canister must be charged with a nitrogen cartridge. Next, squeeze the handle and dispense perfectly whipped cream. This cream is light and fluffy, making the volume appear much greater than cream whipped with an electric mixer. You can dispense just a few grams at a time right into a serving bowl. The canister can be stored in the refrigerator until all of the cream is used.

Food Processor
A full-size food processor will work great for making nut butters, grinding nuts, or pureeing large batches of food, however a mini food processor may even be more useful. The mini versions are just about the perfect size for keto meal batches; they are less expensive; and they have fewer parts to clean. A mini food processor will work just as well as a larger model; just be sure you do not overheat the motor!
Silicone Candy Molds
Silicone candy molds can be used for many purposes: freeze pre-weighed coconut oil or butter, bake cookies, make freezer bars, or even use them to freeze pre-cooked or pre-measured ingredients for meals. Because they are extremely flexible, you can completely remove all of the contents while they are frozen solid. For baking purposes, fat will not be absorbed into the silicone, making them ideal for baking cookies or making coconut oil/butter candies.

They also come in many different shapes and sizes, making it easy to provide your child with holiday theme, or fun seasonal shaped cookies and snacks. You can find many varieties of the molds in craft stores in the baking departments.

1-Ounce Glass Measuring Cups/10-ml Syringes
A 1-ounce glass measuring cup is very handy for weighing or serving oil. It is small enough to accommodate the needed oil, but not so big that you are left with a large area from which to scrape the fat. It is re-usable, dishwasher safe, and economical — about $1.00 each in large chain stores.

Another way to measure and serve fat is 10-ml or sometimes even 20-ml syringes. This eliminates the need to drink oil from a cup or to scrape a bowl clean. Some kids actually respond quite well to taking the oil in a similar fashion to taking medicine. If this works for your child, it will help make the meals overall less greasy and oily. These have the advantage of also traveling well; some syringes come with a small cap to prevent leakage, which is ideal for packing a lunch bag or for eating meals outside of the home.

For families preferring a disposable container to store fat, or small meals, 1-ounce condiment cups also work well. These can be purchased in bulk at membership clubs such as Costco or Sam’s Club. The lids and cups are often sold separately.

Non-Stick Frying Pan
A small non-stick frying pan dedicated to keto meal preparation is essential. A heavy pan will help ensure that the food does not burn or stick. Remember, if any portion of the meal has burned or becomes stuck to the pan during the cooking process, the meal cannot be served because you have lost weighed portions of the ingredients and have changed the overall ratio of the meal.

Depending upon your child’s calorie level, a small 6-inch pan may be best suited for meal preparation. This ensures that there is not too much surface area of the pan in relation to the amount of food being cooked, lessening the potential of losing or burning ingredients.

10 HOW TO USE THIS BOOK
A separate pan for keto meals allows the keto meal to be cooked alongside the family meal, minimizing the chance of non-keto–friendly ingredients, such as sauces and flavorings, coming into contact with the keto meal.

**SPECIFIC FOODS**

**Heavy Whipping Cream**

The recipes in this book use 40% heavy whipping cream. There are several types of heavy whipping cream available in most grocery stores and knowing the difference is important. The percentage refers to the amount of milk fat in the cream. If you can only find 36% heavy whipping cream, let your dietitian know so he/she can modify the recipes to include your specific cream. Please use the chart below to help differentiate between creams.

**Cream Chart**

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<thead>
<tr>
<th></th>
<th>40% Cream</th>
<th>36% Cream</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serving size</td>
<td>15 ml</td>
<td>15 ml</td>
</tr>
<tr>
<td>Calories</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>Grams of fat</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

**Butter**

You will also notice that the recipes contain European butter. This butter is slightly different than regular American butter in that European butter contains up to 84% butterfat (regular butter contains up to 80% butterfat). It can be found in most grocery stores. Regular butter can also be used, but you will need a few more grams, so remember to recalculate accordingly.

**Ghee (Clarified Butter)**

Ghee is a butter that has been pre-heated to remove any moisture and milk proteins from the butter. This results in butter that is 100% butterfat, making it equivalent to oil. All butters made from cow’s milk, especially ghee, are very high in cholesterol.

**Oils**

All oils are equal in their content of fat (100% fat), but each has different nutritional properties. Vegetable oils do not contain cholesterol, but do contain varying amounts of saturated fats.
Coconut oil and palm kernel oil have some of the highest amounts of saturated fat. Walnut oil, flaxseed oil, soybean oil, and safflower oil all have high amounts of polyunsaturated fat, which can lower cholesterol levels.

There is one type of oil, medium chain triglyceride (MCT) oil, which is directly absorbed into the blood and does not require digestion. Because of this, it increases the body’s level of ketosis and can help make the diet more effective. It can also result in stomach cramping and diarrhea so should be consumed in small amounts and increased slowly as tolerated. With the help of your dietitian, you can decide if MCT oil should be included in your child’s diet and how much should be added at a time.

Oil sprays can be helpful when a recipe calls for something to be cooked prior to measuring. A light spray of oil in a pan can be used to cook meat, sauté vegetables, or even scramble an egg.

Remember, not all oils can be used for frying. The best options for frying are soybean oil, canola oil, and corn oil. Unrefined walnut oil, coconut oil, and flaxseed oil should not be used for frying due to their relatively low smoke points. In general, unrefined oils are not safe for cooking and the refined versions should be used whenever there is heat involved.

**Mayonnaise**

Recently, many brands have started producing healthy alternatives to mayonnaise. These products usually reduce the overall fat content and may result in larger amounts of mayonnaise needed in the recipe. In this book, we opted to use regular mayonnaise to reduce the amount needed to meet the diet ratio and to preserve the overall palatability of the meal.

**Nuts**

All nuts can be ground in a food processor to create “butter” or “flour.” If you use these ingredients often, it may be helpful to grind them in large batches and store in an air-tight container, away from sunlight. All nuts should be fairly shelf stable, but will last longer if kept in the refrigerator or out of sunlight. You can also find commercial nut butters and nut flours in most grocery stores, but remember to always check for added ingredients. Brazil nuts are highest in selenium; almonds are high in protein, but not as high as peanuts. Macadamia nuts and pecans are highest in fat, and cashews are the highest in carbohydrates.

**Sweeteners**

Many artificial and natural sweeteners are labeled as calorie free. Generally, when a sweetener is in a powder form, there is a small amount of carbohydrate that is not accounted for on the label. The liquid forms of these sweeteners may be a better option to reduce the amount of
uncalculated carbohydrate consumed. Truvia™ is used in many of the recipes in this book, but you will notice that it is calculated into the recipe to account for the small amount of carbohydrate it contains. Any calorie-free sweetener can be used in place of Truvia™, just be sure to adjust the calculations.

Some families have noticed that certain artificial sweeteners can be a trigger for seizures or behavioral changes. Keep this in mind when starting the diet or if you are not able to achieve optimal seizure control. Sweeteners should be used sparingly; your child will gradually adjust to accepting the natural sweetness in foods after not eating large amounts of sugar for a time. Try to use as little added sweetener as possible.

**Spices and Flavorings**

Pure extracts are considered a “free food” on the ketogenic diet. Also, flavorings such as those from Bickford Flavors are also a free food because they do not contribute to the nutritional content of the meals. This does not mean that you can use as much of them as you want whenever you want. Limit the use of flavors, including sweeteners, to 15 drops per day. Some people can tolerate higher amounts, but for the uncontrolled child, it is best to minimize the use of these products. If more than a pinch of any seasoning is desired, it must be calculated into the meal plan.

Spices such as cinnamon, oregano, salt, and pepper are also “free foods.” These can be helpful in adding flavor to meals, making them more palatable. Try to limit these to a “pinch” per meal.

**Protein**

Almost all of the recipes call for pre-cooked meats, poultry, and fish. This is designed make meal preparation faster and easier. Batches of meats and poultry can be sautéed using spray oil or baked on a silicone baking sheet and then placed in freezer bags and frozen until just before use. Chop the meat into bite size pieces before freezing so that you can easily remove a small amount for each meal.

We have also used minimal amounts of processed meats such as bacon, hot dogs, and deli meats. This is to reduce the amount of fillers, preservatives, and nitrates. Some families have found that these too can be triggers for seizures or behavioral changes.

**Whipping**

When a recipe calls for whipped cream or whipped egg whites, always whip first and then measure. If the egg or cream is measured before whipping, some of the quantity will be lost on the mixer.
Whole Foods

It is always best to choose whole foods when preparing keto meals. Foods such as chips, chicken patties, hot dogs, French fries, and other processed foods are generally seen as high in fat, but are not keto-friendly due to the fillers and types of fat they contain. Choosing fresh or frozen fruit and vegetables and whole meats, poultry, and fish will allow you to use more of these ingredients and may help decrease the amount of “bad” fats in your diet, such as trans fat. Also, similar to the processed meats and artificial sweeteners discussed earlier, some families have found that processed foods can be a trigger for seizures or behavioral changes and should be avoided early in the ketogenic diet process.

Beverages

The ketogenic diet does not contain very much liquid, so most people on the diet need to drink extra fluid to meet their hydration needs. This is especially important to help avoid kidney stones. Water is always the best option for hydration, but if your child does not like plain water there are other options for meeting fluid needs. You can usually buy seltzer water or soda already flavored from most grocery stores. Be sure to check the label to make sure it is calorie and carbohydrate free and does not contain a sweetener to which your child is sensitive. You can also purchase them without flavoring and use extracts and artificial sweeteners to flavor at home. Brew your own herbal, caffeine-free tea at home and serve either hot or cold. If your child prefers sweet tea, you can use an artificial sweetener to sweeten. You can also add water to the cream or almond/coconut milk that is already calculated into your recipes. If a recipe calls for 20 grams of cream, add water or soda water to it to create “milk” or “cream soda.”