

# The Ketogenic Diet

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4:1 Ratio Powder



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# 1. The ketogenic diet

## a. What is the ketogenic diet and has it been proven to be successful?

The first effective anti-epileptic drug treatment introduced in the 1930s, was diphenylhydantoin (A commonly prescribed medication, also known as Phenatoin), and today there is a great variety of anticonvulsant drugs available [1].

Research has shown, however, that approximately one-third of patients still fail to attain significant relief from seizures with drug treatments [1]. A ketogenic diet (KD) has been proven to reduce seizures in epileptic patients and also to be successful in certain inborn errors of metabolism.

The KD is high in fat and low in carbohydrates with adequate amounts of protein. The classic KD is based on a 4:1 ratio, meaning for every 4 grams of fat there is 1 gram of carbohydrate and protein in the diet combined [2]. Modified ketogenic diets are also available and are based on a 3:1, 2:1 or 1:1 ratios.

Since the 1920's every decade multiple studies indicate that 50-75% of children with difficulty controlling seizures benefit from the KD [3]. While the mechanisms underlying the KD's anticonvulsant effect remain elusive, the KD provides the brain with ketones formed from the fat metabolism instead of glucose such as in a normal diet. The ketones have an anticonvulsant effect and can reduce seizures completely.

## b. More about the ketogenic diet:

The KD for each patient is specified according to the patient's age, lifestyle and nutritional status, a registered and adequately trained dietitian is required to assist in determining the specific dietary needs for each patient.

A typical meal includes a small amount of fruit or vegetable, a protein rich food, and a source of fat such as heavy cream and butter or vegetable oil [3]. High fat medical nutritional products are also available to ensure that the patient's health is maintained and that compliance is increased.

The diet is initiated progressively and increased over a 3-4 day period [3]. During this time blood sugar and ketone levels are monitored regularly [3].

The improvement in quality of life in epileptic patients following the KD is patient specific, in some patients results are observed very soon after the diet was initiated while in other patients it can take up to 12 weeks [3].

## c. Side-effect and general concerns regarding the KD:

Common side-effects observed with the KD are constipation and kidney stones (less common) [3]. These side-effects are easily preventable by ensuring adequate intake of water and high fibre fruits and vegetables.

Being physically active can also assist in the prevention of constipation. The idea of a high fat diet raises concerns regarding the weight gain and cholesterol levels of the patients following the KD. Due to the diet being calculated specifically according to the dietary needs of each patient it will ensure adequate (but not excessive) weight gain, associated with growth, for the patient.

High cholesterol levels are usually not observed in patients following the KD as the body adjusts to the high fat intake and the Medium Chain Triglycerides (MCTs) undergo a different metabolic process than Long Chain Triglycerides and as such do not affect the blood cholesterol levels.

## d. Other possible applications

The KD has been shown to be effective in epilepsy as well as other neurological disorders [1]. The KD has also shown to be effective in inborn errors of metabolism (IEM) such as mutations in the GLUT-1 transporter gene, which is the code for the glucose transporter that moves glucose across the blood brain barrier.

Mutations in this gene often lead to seizures [4]. Children with pyruvate dehydrogenase (PDH) deficiency as well as phosphofructokinase (PFK) deficiency (deficiencies that inhibit the digestion of fructose) can also benefit from a KD due to pyruvate hydrogenase and phosphofructokinase being enzymes responsible for converting carbohydrates into energy. Lactic acid is the end product of partially metabolised carbohydrates and a build-up in the blood stream causes seizures [4].

Patients suffering from other conditions such as respiratory chain defects, Glycogen storage disease type V, Landau Kleffner and associated Polycystic Ovary Syndrome (POCS), Lafora Body Disease and Subacute Sclerosing Panencephalitis have also been shown to benefit from the KD. Studies have also indicated that the KD can slow the progression of Glioblastoma Multiforme (GBM) (most malignant of brain cancers) by lowering the circulating glucose levels [5]. Studies also indicated that ketone bodies are toxic to some human tumour cells [5].

## e. In conclusion

The ketogenic diet has been shown to be successful in epileptic patients as well as other neurological conditions and inborn errors of metabolism. The KD can be followed successfully and in a safe manner with the co-operation of medical doctors and registered dietitians to ensure optimal growth and development for the patients.

## 2. About Nutr-e-volution

Innovative in every way, and established in 2007 with the purposes of improving and designing therapeutic products for the management of intractable epilepsy, Nutr-e-volution is a medical nutrition company focussing on the management of drug-resistant epilepsy and other conditions that can be treated with the Ketogenic diet.

Headquartered in Johannesburg South Africa, and headed by Peter Dielwart (who has nine years' experience in Ketogenic therapies and a B.Sc Biochemistry with a Post Grad in Molecular biology), Nutr-e-volution is a member of the Humanagene group: a Maryland, US-based organization dedicated to innovation in the field of drug-resistant epilepsies and neurology.

The goal of Nutr-e-volution is to improve the level of care for those who need it most. By introducing the human element to medicine and therapy, the organisation aims to provide a complete solution to therapy, comprising monitoring, nutrition and medicines.

Nutr-e-volution also provides the services of a registered dietitian to ensure the adequate dietary intake and growth for those patients following a ketogenic diet. The dietitian also communicates with the patient's doctor and patient directly to ensure the patient can follow the diet with ease.

The main focus of Nutr-e-volution is to ensure proper and safe care for the patients suffering from epilepsy and inborn errors of metabolism, in order to improve the quality of life for these patients.

## 3. What does Nutr-e-volution provide?



### a. KetoVOLVE

KetoVOLVE is a nutritionally complete 4:1 ratio ketogenic formula designed to maintain the high level of ketosis required for the control of drug resistant epilepsy.

The protein in KetoVOLVE is Whey protein which is tremendously beneficial for patients suffering from epilepsy or inborn errors of metabolism.

Whey protein compared to Casein (another milk protein often found in milk powders) has greater muscle anabolic properties and is also digested and absorbed more rapidly which ensures that

patients have adequate growth and muscle development. Whey protein also increases the production of serotonin (preventing depression) and melatonin (hormone assisting with sleep) [6].

The largest portion of the fat in KetVOLVE is saturated fatty acids (SFAs), however the SFAs are medium chain triglycerides (MCTs) which cause increased ketone formation and thus works as a very effective anticonvulsant therapy. MCTs undergo a different metabolic pathway than long chain triglycerides (LCTs) and do not lead to increased cholesterol levels. MCTs also have an anti-coagulant effect and acts as an antioxidant.

KetoVOLVE is very low in carbohydrates and has no added gluten, sucrose or fructose. KetoVOLVE is suitable as the sole source of nutrition in children from 1 to 8 years of age and is suitable for oral or tube feeding. KetoVOLVE is available in 300g tins as well as 20g sachets. It is particularly effective in infantile spasms, Lennox-Gastaut syndrome, GLUT-1 deficiency syndrome, Myoclonic astatic epilepsy, Dravet syndrome, Pyruvate dehydrogenase deficiency and Mitochondrial deficiencies.



### b. OmniCT Oil

OmniCT oil is a medium-chain triglyceride (MCT) made from fractionated coconut oil. It allows for a greater variety of food choices in individuals with Chyllothorax, long chain fatty acid malabsorption and those following a ketogenic diet. OmniCT oil increases ketone production, due to shortened metabolism. OmniCT oil can be used for ketone boost in the ketogenic diet. Combining OmniCT oil with meals can allow for an increased intake of protein and carbohydrates. OmniCT oil can be used for individuals of all ages and can be consumed in combination with all meals and food items. OmniCT oil can be used in different recipes in order to provide a tasty product (see page 7).



### c. KetoVOLVE MKD

Nutr-e-volution provides a modified ketogenic diet product consisting of a 2:1 ratio, which consists of 2 grams of fat for every 1 gram of carbohydrates and protein combined. The product is available in chocolate flavour in 20g sachets. The product can be consumed orally, via a feeding tube, as a shake or used in baked products.

#### d. L-Carnitine

L-carnitine powder is used for L-carnitine deficiencies that result from inborn errors of metabolism or other factors that affect L-carnitine homeostasis such as medications (Valproate and Doxyrubicin).

L-carnitine is also indicated for high fat diets such as the ketogenic diet as fat metabolism is dependent on L-carnitine. L-carnitine is a mild antioxidant and has been recommended as conjunctive therapy in liver disease and renal failure.

L-carnitine supplementation is patient specific and should be used under dietetic support and follow up service for the ketogenic diet.

## 4. Recommended products to use following a Ketogenic diet:

- Food scale with 0.1g increments
- Ketogenic dietary supplements
- Optium Freestyle blood and ketone meter
- Freestyle Optium blood  $\beta$ -ketone test strips
- Freestyle Optium blood glucose test strips
- Urine stick (measuring ketone levels)



## 5. Emergency procedures in Epileptic patients:

### a. General first aid for all seizure types

1. Ensure person is comfortable.
2. Turn person on his/her side, with the mouth turned to the ground.
3. Time seizure-from beginning to end of active seizure.
4. Talk calmly and supportively to the person during and after the seizure – it will help as he/she recover from the seizure.
5. Remove any sharp or dangerous surrounding objects.
6. Don't put anything in person's mouth.
7. Don't force the person down or try to stop the seizure.

### b. When to call for emergency medical help

- When a seizure lasts 5 minutes or longer.
- One seizure occurs right after another without the person regaining consciousness.
- Breathing becomes difficult or the person appears to be choking.
- Injury may have occurred.

### c. Emergency regimen for raised or low ketone levels:

The aim of the ketogenic diet is to maintain blood ketone bodies. Blood ketone levels are measured with a ketone meter, normal ketone levels when following a KD should remain between 4 and 5mmol/L.

If a person has raised ketone levels, provide him/her with 2 tablespoons of orange juice in order to ensure the person's ketone levels are decreased to a level where it is safe.

In the instance where a person may have lowered ketone levels (as it is important to remain in a state of ketosis to prevent seizures) provide him/her with an increased intake of OmniCT oil to ensure that ketone levels are raised.

Patients often suffer from lowered ketone levels when he/she is sick, ensure to provide sugar-free liquids (in the case of vomiting and diarrhoea) and do not get concerned as the ketones levels will stabilize once the patient's condition improves.

## 6. Epilepsy and Inborn errors of metabolism charities



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# The Ketogenic Diet Recipes

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# Breakfast



## Cheesy Scrambled Eggs



Recipe serves: 1  
Preparation time: 10 minutes  
Cooking time: 5 minutes

### Ingredients:

- KetoVOLVE 7g
- Tomato, raw, chopped 45g
- Egg 19g
- Orley whip 6g
- Cheddar cheese 9g
- Salt, pinch
- 19ml Olive Oil

### Method:

Mix KetoVOLVE, egg, Orley whip and canola oil (14g) together until smooth.  
Add tomato.

Heat 5g of oil in pan and pour egg mix in pan.  
Fry until brown and add cheese and salt to taste.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	338.4/1421.28
Fat (g)	34.1
Protein (g)	6.3
Carbohydrates (g)	2.2
Ketogenic ratio	4:1

## Strawberry Smoothie



Recipe serves: 1  
Preparation time: 10 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 20g
- Water 80ml
- Strawberries 30g
- Olive oil 8g
- Sweetener to taste
- Ice cubes 4 cubes

### Method:

1. Place all ingredients into a blender.
2. Blend until smooth.

Tips: For a smoother product sieve the smoothie after being blended.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	370/1554
Fat (g)	37
Protein (g)	6.3
Carbohydrates (g)	3
Ketogenic ratio	4:1

# Chocolate Smoothie



Recipe serves: 1  
Preparation time: 10 minutes

## Ingredients:

- KetoVOLVE 4:1 ratio powder 20g
- Water 80ml
- Cocoa powder 3g
- Olive oil 4g
- Sweetener to taste
- Ice cubes 4 cubes

## Method:

1. Place all ingredients into a blender.
2. Blend until smooth.

Tips: Please make sure not to use drinking chocolate.

## Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	339/1424
Fat (g)	33.9
Protein (g)	6.8
Carbohydrates (g)	1.7
Ketogenic ratio	4:1

# Snacks

# Blueberry Muffins



Recipe serves: 1  
Preparation time: 20 minutes  
Cooking time: 35 minutes

## Ingredients:

- KetoVOLVE 4:1 ratio powder 10g
- Baking powder, carbohydrate free 1g
- Butter 23g
- Egg, beaten 19g
- Almonds, grounded 10g

- Soya milk 11g
- Coconut flour 16g
- Blueberries 10g

## Method:

1. Preheat oven to 170°C.
2. Mix all ingredients together, except for blueberries.
3. Spoon dough into muffin tray (approx. 2/3) and add blueberries on top of dough.
4. Bake for 30-35 minutes.
5. Remove muffins from oven and allow cooling before removing from tray.

Tips: Use a silicone tray to ensure muffins are removed easily from tray. Dough can be frozen before baking. To bake a greater quantity of muffins, multiply the ingredients with the number of muffins desired.

## Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	441/1852
Fat (g)	44.1
Protein (g)	7.5
Carbohydrates (g)	3.5
Ketogenic ratio	4:1

# Cheese and Bacon Muffins



Recipe serves: 1  
Preparation time: 20 minutes  
Cooking time: 35 minutes

## Ingredients:

- KetoVOLVE 4:1 ratio powder 10g
- Baking powder, carbohydrate free 1g
- Butter 23g
- Egg, beaten 8g
- Almonds, grounded 10g

- Soya milk 5g
- Coconut flour 13g
- Chopped rashers of bacon 5g
- Cheddar cheese, grated 2g
- Spring onions, chopped 2g

## Method:

1. Preheat oven to 170°C.
2. Fry bacon until crisp.
3. Mix all ingredients together.
4. Spoon dough into muffin tray (approx. 2/3).
5. Bake for 30-35 minutes.
6. Remove muffins from oven and allow cooling before removing from tray.

Tips: Use a silicone tray to ensure muffins are removed easily from tray. Dough can be frozen before baking. To bake a greater quantity of muffins, multiply the ingredients with the number of muffins desired.

## Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	425/1785
Fat (g)	42.5
Protein (g)	8.1
Carbohydrates (g)	2.5
Ketogenic ratio	4:1

# Chocolate Muffins



- Soya milk 11g
- Coconut flour 17g
- Cocoa powder 2g

## Method:

1. Preheat oven to 170 oC.
2. Mix all ingredients together.
3. Spoon dough into muffin tray (approx. 2/3).
4. Bake for 30-35 minutes.
5. Remove muffins from oven and allow cooling before removing from tray.

Tips: Use a silicone tray to ensure muffins are removed easily from tray. Dough can be frozen before baking. To bake a greater quantity of muffins, multiply the ingredients with the number of muffins desired.

## Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	444/1864.8
Fat (g)	44.4
Protein (g)	8
Carbohydrates (g)	3.1
Ketogenic ratio	4:1

# Cinnamon and Blueberry Toast

Recipe serves: 1  
Preparation time: 10 minutes  
Cooking time: 10 minutes

## Ingredients:

- KetoVOLVE 4:1 ratio powder 30g
- Water 6ml
- Baking powder, carbohydrate free 2g
- Butter 10g
- Egg, beaten 15g
- Cinnamon pinch
- Blueberries 20g
- Double cream 9g
- Liquid sweetener to taste

## Method:

1. Preheat oven to 170 oC.
2. Mix all ingredients together, except butter, blueberries and cinnamon. Melt butter and add to mixture.
3. Chop blueberries into small pieces, add to mixture and add a pinch of cinnamon.
4. Place mixture on backing sheet and spread out thinly.
5. Bake for 10 minutes (until golden brown).

## Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	372/1562.4
Fat (g)	37.2
Protein (g)	6.8
Carbohydrates (g)	2.6
Ketogenic ratio	4:1

# Main Meals

## Cheese and Tomato Pizza



Recipe serves: 1  
Preparation time: 15 minutes  
Cooking time: 15 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 20g
- Olive oil 11g
- Canned chopped tomatoes 20g
- Sundried tomato puree 2g
- Garlic puree 2g
- Cheddar cheese, grated 5g
- Egg, beaten 13g
- Water 5ml
- Dried Italian herbs

### Method:

1. Preheat oven to 165°C.
2. Mix KetoVOLVE, olive oil, egg and water in a bowl.
3. Spread mixture onto a thinly greased baking sheet.
4. Mix remaining ingredients into a bowl and spread mixture on top of base, leaving 1cm of base without topping.
5. Sprinkle with dried herbs.
6. Bake for 10-20 minutes (until golden brown).

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	301/1264.2
Fat (g)	30.1
Protein (g)	6.2
Carbohydrates (g)	1.3
Ketogenic ratio	4:1



## Mushroom and Spinach Curry



Recipe serves: 1  
Preparation time: 10 minutes  
Cooking time: 5 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 16g
- Water 5ml
- Olive oil 14g
- Chopped mushrooms 12g
- Green pepper 12g
- Spring onion 5g

- Tomato puree 1g
- Garlic puree 1g
- Canned chopped tomatoes 31g
- Curry powder 1g
- Spinach, raw 20g

### Method:

1. Heat oil in pan.
2. Add mushrooms, pepper, spring onion, tomato puree and garlic puree to pan and fry for 5 minutes.
3. Add tomatoes, curry powder and spinach and continue to cook for 5 minutes.
4. Mix KetoVOLVE with water, then mix with curry sauce and serve.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	265/1113
Fat (g)	26.5
Protein (g)	4
Carbohydrates (g)	2.7
Ketogenic ratio	4:1

## Cheese and Ham Tart



Recipe serves: 1  
Preparation time: 20 minutes  
Cooking time: 12 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 15g
- Water 5ml
- Butter 6g
- Coconut flour 13g
- Egg, beaten 20g
- Ham, chopped 2g

- Mushroom, chopped 3g
- Cream cheese, full fat 4g
- Olive oil 3g
- Cheddar cheese, grated 2g

### Method:

1. Preheat oven to 160°C.
2. Place KetoVOLVE and coconut flour in a bowl and rub butter in with fingertips.
3. Sprinkle water over top and mix until it becomes a stiff and crumbly pastry.
4. Roll pastry into a ball and line tartlet tin by pressing the pastry into the edges.
5. Mix egg, ham, mushroom, cream cheese, oil and 1g of cheddar cheese together and fill tartlet. Sprinkle remaining cheese on top.
6. Cook for 10-12 minutes (until golden brown).

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	319/1339.8
Fat (g)	31.9
Protein (g)	6.6
Carbohydrates (g)	1.4
Ketogenic ratio	4:1

## Cheese Wrap



- Egg, beaten 14g
- Fresh parmesan 3g

### Method:

1. Preheat oven to 190°C.
2. Mix KetoVOLVE with cream, tomato and garlic puree, egg and cheese together in a bowl.
3. Melt butter and add to mixture.
4. Add water and mix to a smooth paste.
5. Spread mixture on baking tray and bake for 10 minutes (until golden brown).

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	280/1176
Fat (g)	28
Protein (g)	6.1
Carbohydrates (g)	0.9
Ketogenic ratio	4:1

Recipe serves: 1  
Preparation time: 10 minutes  
Cooking time: 10 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 20g
- Water 4ml
- Butter 6g
- Double cream 9g
- Sundried tomato puree 1g
- Garlic puree 1g

## Soups & Sauces



## Green Pepper and Tomato Soup



Recipe serves: 1  
Preparation time: 10 minutes  
Cooking time: 15 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 15g
- Water 60ml
- Green pepper 29g
- Garlic puree 2g
- Tomato puree 2g
- Olive oil 10g

- Chicken stock cube 2g
- Water 100ml
- Canned tomatoes 49g
- Double cream 10g

### Method:

1. Place pepper, garlic puree, tomato puree and oil into a pan with oil and sweat for 4 minutes.
2. Dissolve stock cube in hot water.
3. Add stock and canned tomatoes to vegetables and simmer for 10 minutes.
4. Add KetoVOLVE to the soup and heat for a further minute.
5. Add cream to top of soup before serving.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	262/1100.4
Fat (g)	26.2
Protein (g)	3.2
Carbohydrates (g)	3.4
Ketogenic ratio	4:1

## Mushroom Soup



Recipe serves: 1  
Preparation time: 20 minutes  
Cooking time: 12 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 15g
- Water 60ml
- Spring onions 20g
- Mushrooms 79g
- Olive oil 9g
- Garlic puree 2g

- Chicken stock cube 3g
- Water 70ml
- Double cream 10g

### Method:

1. Place spring onions, mushrooms, oil and garlic puree into a pan with oil and sweat for 4 minutes.
2. Dissolve stock cube in hot water.
3. Add stock to vegetables and simmer for 10 minutes.
4. Add KetoVOLVE to the soup and heat for a further minute.
5. Add cream to top of soup before serving.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	258/1083.6
Fat (g)	25.8
Protein (g)	4.6
Carbohydrates (g)	1.9
Ketogenic ratio	4:1

## Tomato Sauce



Recipe serves: 1  
Preparation time: 5 minutes  
Cooking time: 5 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 10g
- Olive oil 9g
- Garlic puree 1g
- Spring onion, chopped 10g
- Mushroom, chopped 10g
- Tomato puree 2g

- Canned chopped tomatoes 28g
- Oregano (optional)

### Method:

1. Place olive oil, garlic puree, spring onion, mushroom and tomato puree into pan and cook for 5 minutes.
2. Add tomatoes to mixture and cook for further 2-3 minutes.
3. Add oregano.
4. Stir in KetoVOLVE until dissolved.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	169/709.8
Fat (g)	16.9
Protein (g)	2.4
Carbohydrates (g)	1.8
Ketogenic ratio	4:1

## Cheese Sauce



Recipe serves: 1  
Preparation time: 5 minutes  
Cooking time: 5 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 10g
- Water 40ml
- Cheddar cheese, grated 6g

### Method:

1. Heat all ingredients with oil in a pan.
2. Heat and stir until cheese has melted.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	135/567
Fat (g)	13.5
Protein (g)	3.1
Carbohydrates (g)	0.3
Ketogenic ratio	4:1

# Desserts

## Blackberry/Raspberry Crumble



Recipe serves: 1  
Preparation time: 10 minutes  
Cooking time: 10 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 18g
- Butter 8g
- Coconut flour 16g
- Liquid sweetener
- Blackberries/Raspberries 35g

### Method:

1. Preheat oven to 150°C.
2. Place KetoVOLVE, butter, coconut flour and sweetener into a bowl.
3. Rub in butter with fingertips to make fine crumbs.
4. Place blackberries in small ovenproof dish and cover with crumble topping.
5. Bake in oven for 10 minutes (until golden brown).

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	297/1247.4
Fat (g)	29.7
Protein (g)	4
Carbohydrates (g)	3.4
Ketogenic ratio	4:1

## Pancakes



Recipe serves: 3 pancakes  
Preparation time: 10 minutes  
Cooking time: 15 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 26g
- Butter 6g
- Egg, beaten 28g
- Fresh double cream 7g
- Olive oil 4g
- Water 4ml

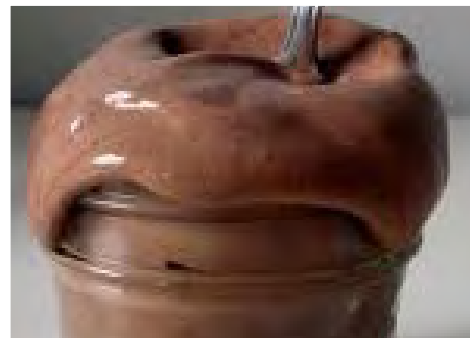
### Method:

1. Melt butter, stir in egg, cream and oil. Mix well.
2. Mix KetoVOLVE and water, then add to mixture.
3. Heat oil in frying pan. Spoon in a 1/3 pancake mix and cook until golden brown.  
Repeat until all the dough has been used.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	344/1444.8
Fat (g)	34.4
Protein (g)	7.6
Carbohydrates (g)	1
Ketogenic ratio	4:1

## Chocolate Ice cream



Recipe serves: 10  
Preparation time: 20 minutes  
Cooking time: 2-3 hours

### Ingredients:

- KetoVOLVE 4:1 ratio powder 60g
- Olive oil 20g
- Water 120ml
- Cocoa powder 14g
- Fresh single cream 209g
- Liquid sweetener

### Method:

1. Mix all ingredients together properly.
2. Place in freezer for 20 minutes.
3. Remove and stir mixture until smooth.
4. Repeat process twice again and leave until frozen.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	107/449.4
Fat (g)	10.7
Protein (g)	1.9
Carbohydrates (g)	0.8
Ketogenic ratio	4:1

## Vanilla Ice cream



Recipe serves: 6  
Preparation time: 10 minutes  
Cooking time: 2-3 hours

### Ingredients:

- KetoVOLVE 4:1 ratio powder 60g
- Olive oil 3g
- Water 240ml
- Vanilla extract 4 drops
- Fresh single cream 100g
- Liquid sweetener

### Method:

1. Mix all ingredients together properly.
2. Place in freezer for 20 minutes.
3. Remove and stir mixture until smooth.
4. Repeat process twice again and leave until frozen.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	110/462
Fat (g)	11
Protein (g)	2
Carbohydrates (g)	0.7
Ketogenic ratio	4:1

## Creamy Jelly



Recipe serves: 4  
Preparation time: 10 minutes  
Cooking time: 10 minutes

### Ingredients:

- KetoVOLVE 4:1 ratio powder 40g
- Water 160ml
- Olive oil 8g
- Water 25ml
- Fresh double cream 22g
- Sugar free jelly crystals 5g

### Method:

1. Sprinkle jelly in hot water, stir until dissolved.
2. Add cream, KetoVOLVE and water into jelly and stir.
3. Refrigerate until set.

### Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	476/1999.2
Fat (g)	47.6
Protein (g)	9.8
Carbohydrates (g)	2
Ketogenic ratio	4:1

# Custard



Recipe serves: 1  
Preparation time: 5 minutes  
Cooking time: 5 minutes

## Ingredients:

- KetoVOLVE 4:1 ratio powder 40g
- Water 160ml
- Sunflower oil 7g
- Water 30ml
- Custard powder 3g
- Fresh double cream 9g

- Liquid sweetener

## Method:

1. Place KetoVOLVE, oil and cream in a pan, heat only, do not boil.
2. Mix custard powder with hot water.
3. Add custard to mixture and stir until mixture thickens.
4. Add sweetener.

## Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	414/1738.8
Fat (g)	41.4
Protein (g)	6.2
Carbohydrates (g)	4.2
Ketogenic ratio	4:1

# Chocolate pudding



Recipe serves: 5  
Preparation time: 10 minutes  
Cooking time: 1 hour

## Ingredients:

- OmniCT oil 40g
- Coconut oil 69g
- Sunflower seeds, ground 5g
- Cocoa powder 7g
- Chocolate syrup 10g
- Peppermint syrup 5g

## Method:

1. Mix OmniCT oil and coconut oil together until coconut oil melts.
2. Stir syrups and cocoa into oil mix.
3. Divide into 5 containers and refrigerate until firm.

## Nutritional information:

Nutrient	Per serving
Energy (kcal/kJ)	200/840
Fat (g)	22
Protein (g)	0.3
Carbohydrates (g)	0.4
Ketogenic ratio	31:1





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