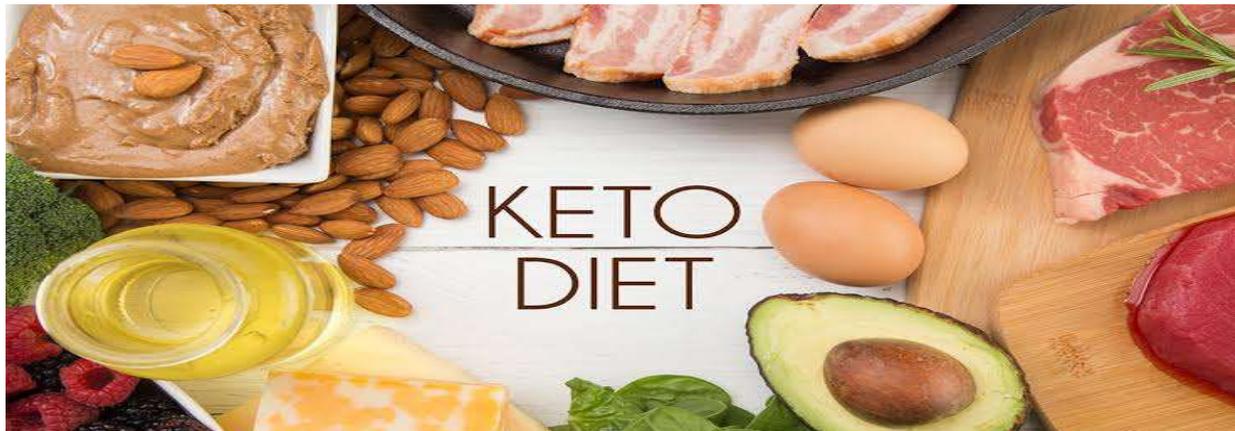


Ketogenic diet: **Misconceptions in Healthy** **Lifestyle**



Dr. Md. Mostofa Alam

FCPS (Medicine)

Consultant, Medicine

Rangpur Medical College Hospital

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INTRODUCTION

- The keto diet is trendy right now.
- We need to know how to reap all the rewards and avoid the risks.

The ketogenic diet is a

- High-fat,
- Adequate protein, and
- Low-carbohydrate

**Primarily used to treat refractory
epilepsy in children**

Indications for use

- Intractable childhood epilepsy*

**incomplete seizure control despite ≥ 2 AED*

- GLUT 1 deficiency syndrome
- PDH deficiency

Age not a barrier but works well in younger children, e.g. under 10years

ঈশ্বরঃ ঐবংধঃপয ঙ্ঢঢ়ঃঃঃযবঁ ব্ৰে ড়ভ ধ শবঃড়মবহরপ ফরবঃ ভড়ঃ:

- Weight loss
- Type 2 DM (Blood sugar balance and enhanced insulin sensitivity)
- Migraine treatment
- Neuroprotective benefit in seizure disorders; ADHD, Autism, Alzheimer's disease, Dementia, Parkinson's diseases and MS
- Athletes (Improved energy level, oxygen capacity and athletic performance)

Contraindications to the KD

Absolute contraindications:

- Metabolic disorders including pyruvate carboxylase deficiency, primary carnitine deficiency
- Defects in fatty acid oxidation including carnitine transporter defects and porphyria

Relative contraindications:

- Renal stones and hyperlipidemia

Potential side effects

Short term

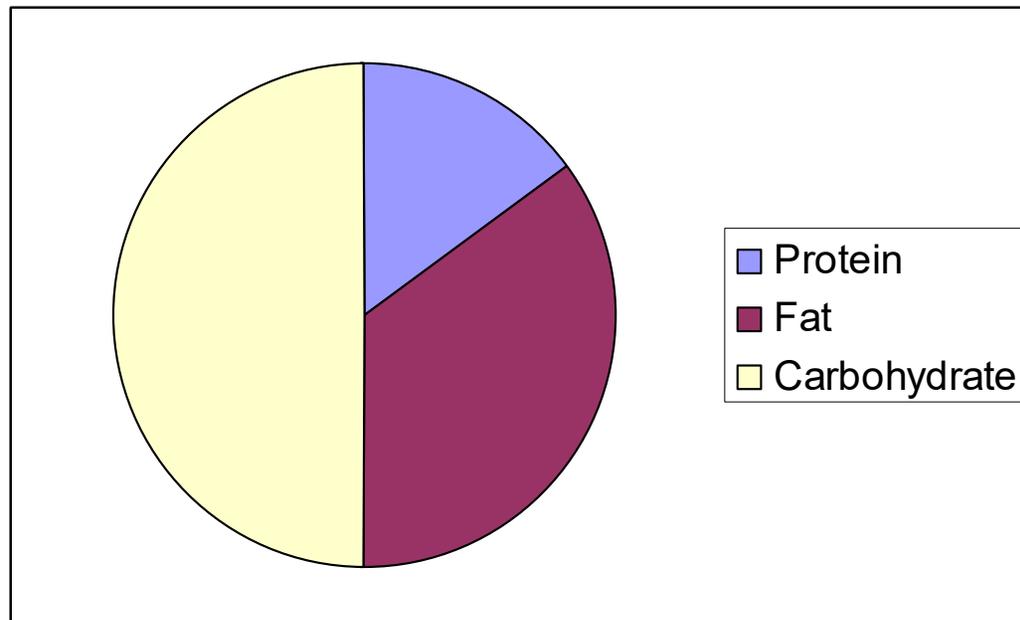
- Nausea
- Vomiting
- Hypoglycaemia
- Acidosis
- Sleepiness
- Dehydration
- Diet refusal

Long term

- Constipation
- Renal stones
- Abnormal lipid profile
- Growth retardation
- Bone demineralization and fractures

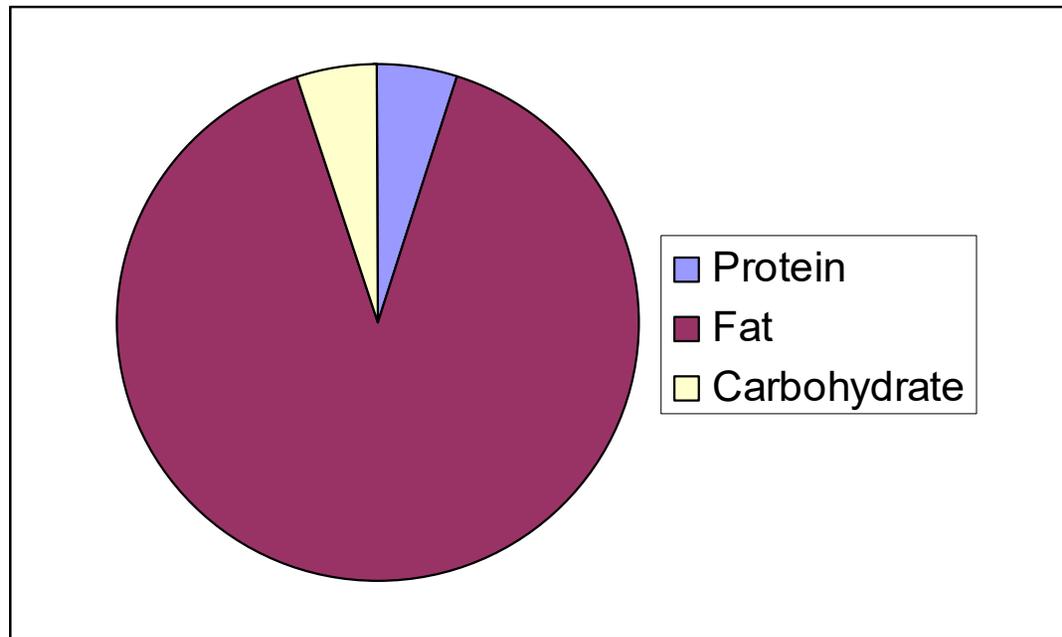
Normal diet

Energy distribution from a normal diet:



Ketogenic diet

Energy distribution from a classical ketogenic diet:



5

**VARIATIONS OF THE
KETOGENIC DIET**



EPILEPSY

NEUROLOGICAL



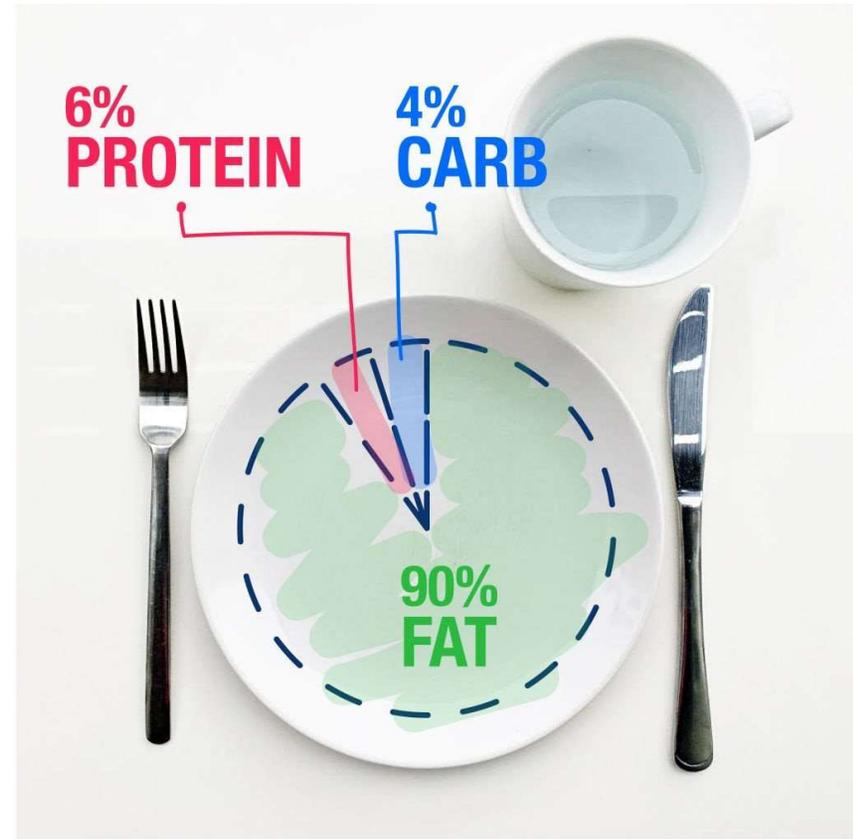
According to macronutrient ratio

1. Classic ketogenic diet

Was designed in 1923
by Dr. Russell

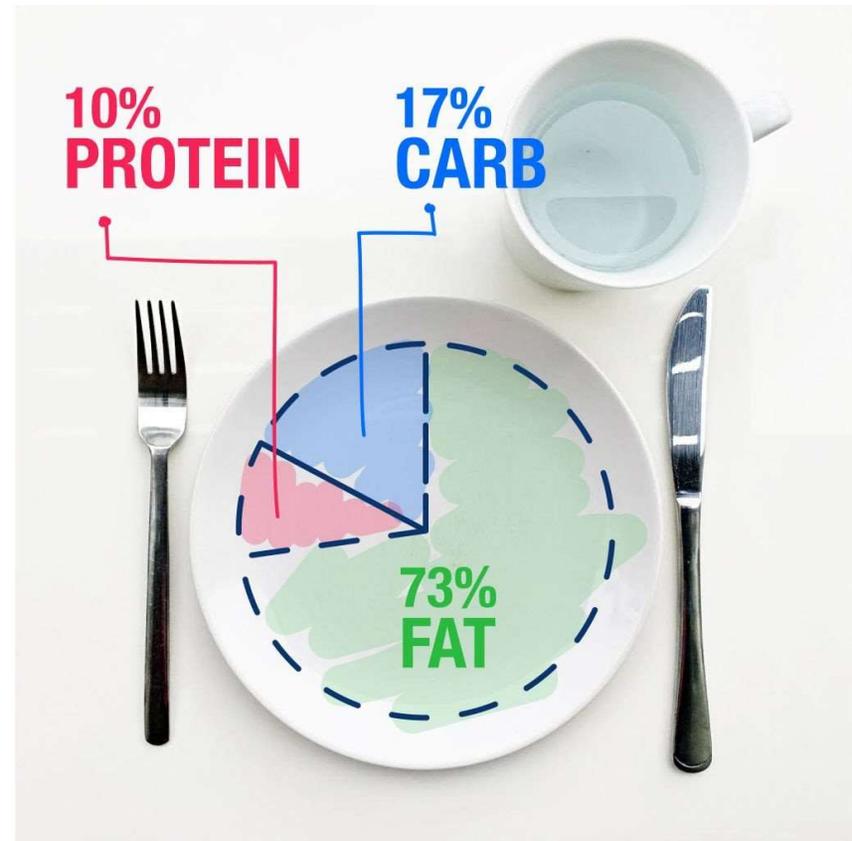
Classical 4:1

i.e. Calorie controlled
with 4 parts fat to 1
part protein and
carbohydrate combined



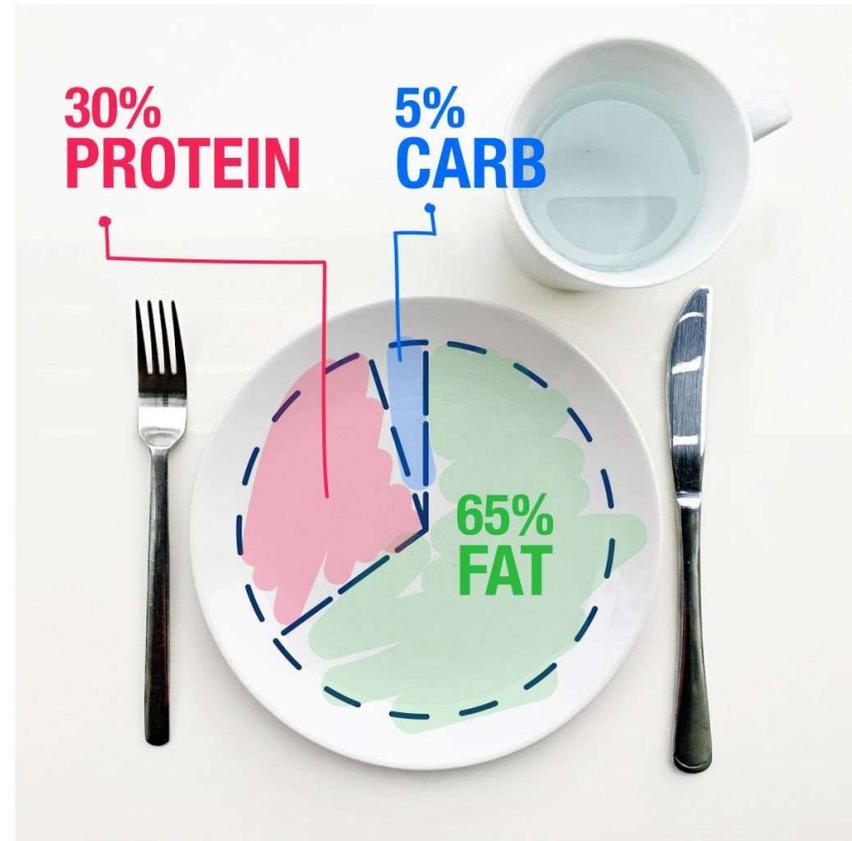
2. Medium Chain Triglycerides (MCT)

Calorie controlled 40-60% energy from MCT allows a little more flexibility but high MCT intake can lead to nausea



3. Modified Atkins diet (Dr. Robert Atkins)

- Limits the amount of carbohydrate, encourages fat, and **does not limit protein.**
- Carbohydrates are to be accompanied by fat when consumed.
- Macronutrient Ratio: 0.8:1

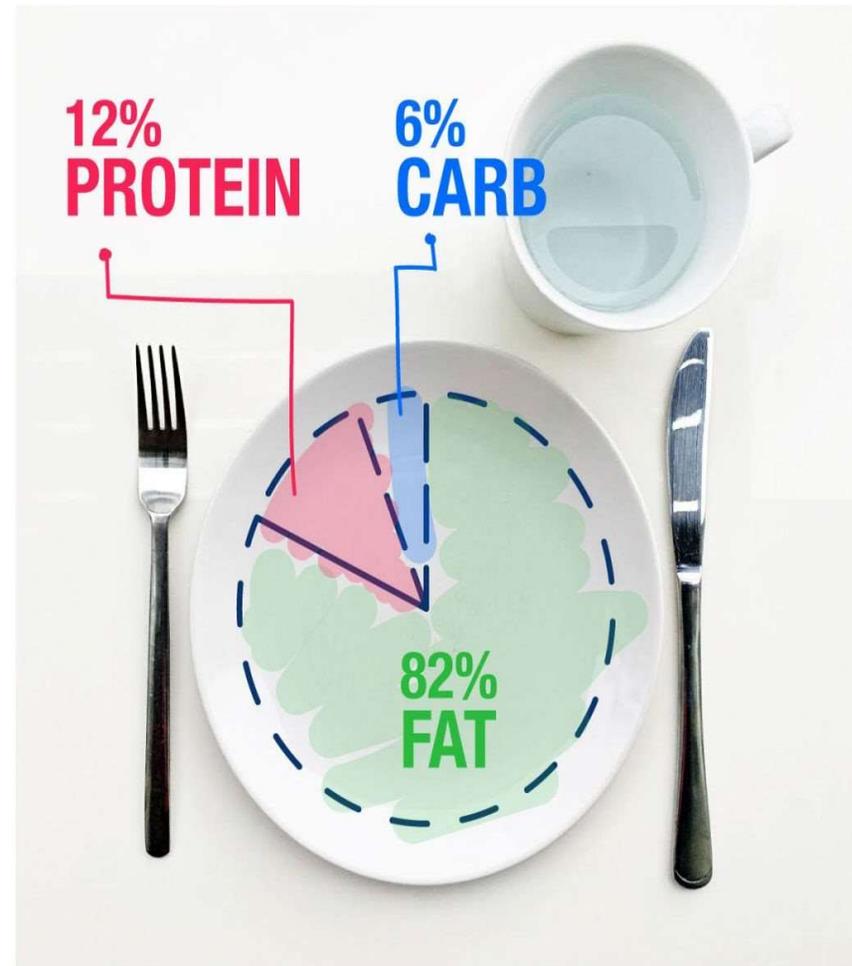


4. Modified Ketogenic diet

The carbohydrate intake is limited to approx 20g per day

Less strict still needs good knowledge of foods to choose

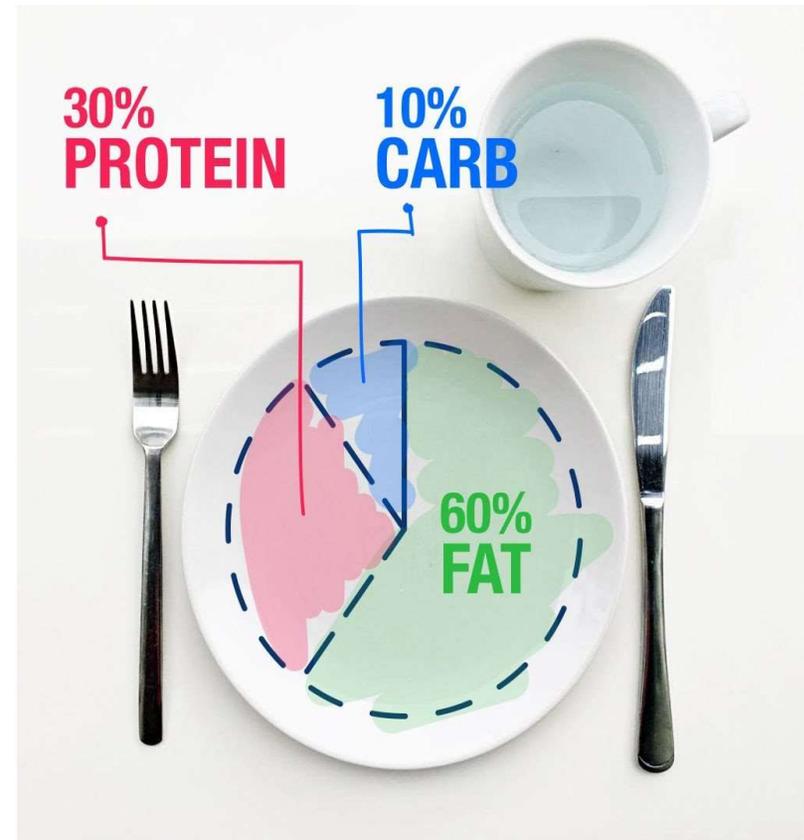
Energy intake monitored for weight control



5. Low Glycaemic Index (GI) diet

Choice of foods with GI less than 50 typically **high fibre foods**

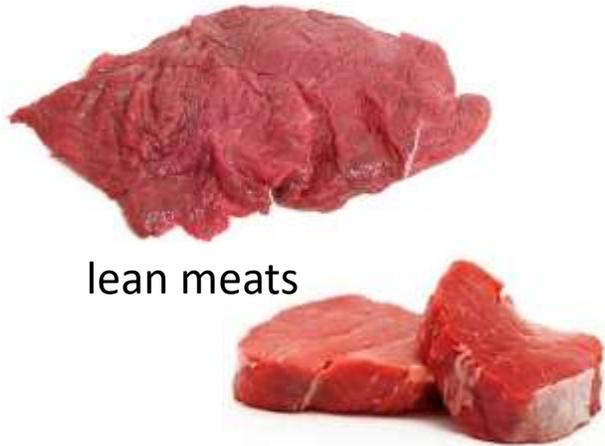
Total carbohydrate load
40-60g/ day



KD Types, at a glance

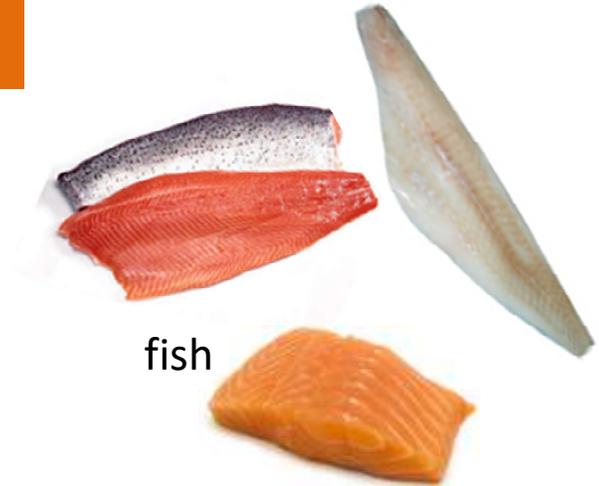
No	Categories	CHO (%)	Fat (%)	Protein (%)
1	Classic ketogenic diet	4	90	6
2	Medium Chain Triglycerides	17	73	10
3	Modified Atkins	5	65	30
4	Modified Ketogenic	6	82	12
5	Low GI	10	60	30

Protein



lean meats

small amount of
nuts

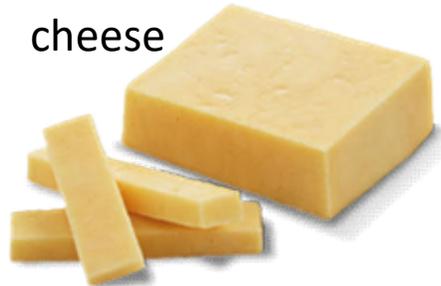


fish

eggs



Cheddar
cheese



small amount
of lentils



Fat

cream cheese



double cream



oils



(e.g. olive oil, sunflower oil)

Calogen



butter
or margarine



avocado



Liquigen



mayonnaise



Carbohydrate

Preferred sources of carbohydrate



celeriace



carrots



raspberries



strawberries



mushrooms



broccoli



peaches



pear



tomatoes



swede

Carbohydrate

Sources of carbohydrate to avoid



bread



sugar



sweets



rice



biscuits



pasta



cake



chocolate

Things to be known about the Keto Diet

A true keto diet requires careful planning



Check with your doctor before you start



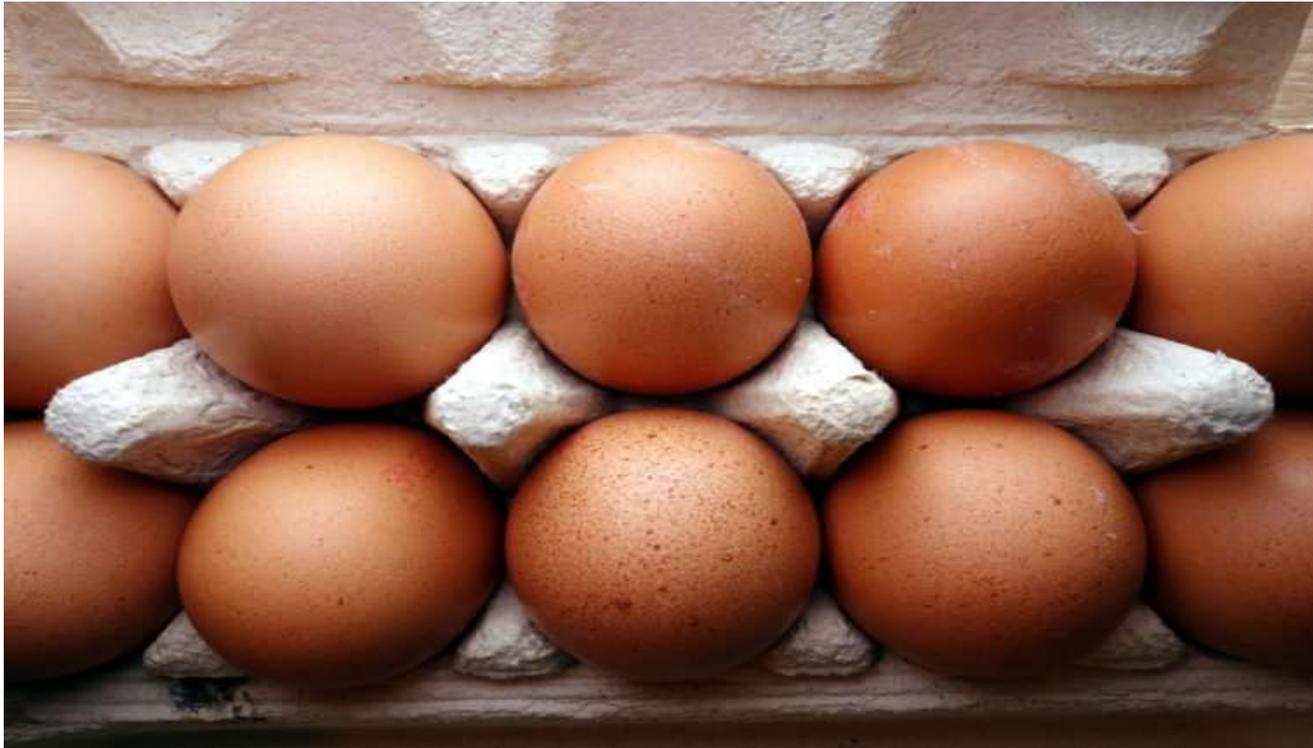
The keto diet isn't magic



Initial weight loss is often water weight



Overeating protein is a no-go



A low-sodium diet and the keto diet, don't mix



If you have a history of an eating disorder, steer clear of this diet



keto is not necessarily better than other diets for long-term weight loss or health



Ketogenic Diet Myths vs. Facts



Myth # 1:

Low carb diets are so restrictive

Fact:

This is one of the two myths that often joked about around the dinner table, because the food we eat is anything but restrictive.

There is almost no recipe for low carb diet that can't be easily adapted because food should not only be healthy, but enjoyable.

Myth # 2:

**You will lose muscle on a ketogenic diet
(and can't gain muscle on it)**

Fortunately, No.

Entering ketosis doesn't cause your body to just run out of glucose; ketones will displace glucose where possible, and send it elsewhere.

Myth # 3:

Keto slows down your metabolism

Fact:

- Any diet that involves restricting calories can result in a slower metabolism.
- So, it's a good practice to include a **higher calorie re-feed day once a week** while on a ketogenic diet.

Myth # 4:

Keto causes fatigue and flu-like symptoms

Fact:

A short-lived flu-like symptoms indicates the diet is working, and the body is switching over from burning glucose as fuel to burning fat.

Myth # 5:

Low carb diets are dangerous because the brain needs a certain amount of carbohydrate

Fact:

The human body doesn't require any dietary carbohydrate provided the amount of protein and fat in the diet is sufficient.

"The lower limit of dietary carbohydrate compatible with life apparently is zero, provided that adequate amounts of protein and fat are consumed.

Myth # 6:

Keto is dangerous if you have diabetes

Fact:

The ketogenic diet is actually the most promising diet for people with Type 2 diabetes. Some studies have shown that **extreme caloric restriction can reverse diabetes**, but continued starvation is largely unsustainable.

Myth # 7:

A Low carb diet is imbalanced and causes nutrient deficiencies

Fact:

A well-designed low carb diet provides a wide range of foods that contained all sorts of nutrient necessary for healthy life.

Myth # 8:

Keto is not good for your gut

Fact :

- Patients with gastroesophageal reflux disease (GERD) have been shown to improve after eating very low carbohydrate diets.
- Another study found increased carb-intake worsened GERD, while a high-fat, low-carbohydrate diet reduced symptoms. And two studies have linked esophageal diseases, including Barrett's esophagus (BE)³⁴ and GERD, ³⁵ to sugar and carbohydrate intake.

Myth # 9:

Keto is bad for heart health and will raise your cholesterol

Fact:

One meta-analysis 18 incorporating data from 447 participants found that **low-carbohydrate diets not only helped individual's lose weight but also improved their cholesterol level.**

Myth # 10:

Ketones are dangerous and you can die from them

Fact:

Ketosis and ketoacidosis are not the same thing.

Ketosis is a normal, physiological state that may occur after sleeping all night, if haven't gotten up and eating something in the middle of the night.

TAKEAWAY

- **Ketogenic therapy includes more than just diet.**
- **Keto diet plan is individualized.**
- **Consult with your physician before adopting a ketogenic diet.**
- **Metabolic screening must be done before diet initiation.**

THANK YOU

