Ketogenic Diet

Understanding very-low-carbohydrate eating, ketosis, potential uses, limitations and safety

A ketogenic diet is a very-low-carbohydrate, high-fat dietary approach designed to shift the body toward producing ketones for fuel. It is much more restrictive than simply reducing sugar or eating fewer carbohydrates. Therapeutic ketogenic diets have an established role in some forms of drug-resistant epilepsy under specialist clinical supervision. Popular weight-loss versions are different and should not be assumed to have the same evidence, formulation or monitoring.

What is ketosis?

When carbohydrate availability is very low, the liver produces ketone bodies from fat. Nutritional ketosis is different from diabetic ketoacidosis, a dangerous medical emergency that can occur particularly in type 1 diabetes.

What usually changes?

Reduced substantially	Foods commonly emphasised
Bread, rice, pasta, cereals and many grains	Oils, avocado, nuts and seeds where safe
Sugar, sweets and many desserts	Eggs, fish, meat or other suitable proteins
Many higher-carbohydrate fruits	Lower-carbohydrate vegetables
Potatoes and other starchy foods	Full-fat dairy where included and tolerated
Beans/pulses often limited by carbohydrate allowance	Carefully planned alternatives depending on diet type

There is no single ketogenic diet

Clinical ketogenic therapy may use prescribed ratios of fat to protein plus carbohydrate. Modified Atkins and other lower-carbohydrate approaches differ. Online 'keto' plans can vary enormously, so the label alone tells you little about nutritional quality.

Not simply 'eat as much fat as possible'

Fat type, protein adequacy, fibre, micronutrients and overall food quality still matter. Diets dominated by processed meats, butter and very little plant food are nutritionally different from patterns that include unsaturated oils, fish, seeds and tolerated vegetables.

Evidence, Weight & Medical Uses

Epilepsy

Ketogenic dietary therapy is used by specialist teams for some children and adults with epilepsy that is difficult to control with medication. It requires careful calculation, monitoring and adjustment. It should not be recreated from a general internet diet plan.

Weight loss

Very-low-carbohydrate diets can lead to weight loss for some people, particularly in the shorter term. Early changes can include loss of body water as glycogen stores fall. Longer-term outcomes depend on energy intake, adherence, individual physiology and whether the eating pattern is sustainable.

Blood glucose

Reducing carbohydrate can lower blood glucose and may change medication requirements in people with diabetes. This makes unsupervised keto potentially unsafe for anyone using insulin or glucose-lowering medicines. Medication should never be altered without the prescribing clinical team.

Heart and metabolic health

Responses in blood lipids vary. Triglycerides may fall in some people, while LDL cholesterol can rise substantially in others. Food quality and the balance of saturated versus unsaturated fats matter, and monitoring may be appropriate.

Claims that go beyond the evidence

Ketogenic diets are promoted online for many conditions. Evidence is not equally strong across these claims. A dietary intervention being studied for a condition does not mean it is a proven treatment or that it should replace established care.

Questions before starting

Question	Why it matters
What is my goal?	Epilepsy therapy, diabetes management and weight loss require very different levels of clinical oversight.
Do I take medication?	Carbohydrate reduction can alter glucose, blood pressure, fluid balance and medication needs.
Can I meet nutritional needs?	Restricting grains, pulses, fruit and starchy foods can reduce fibre and micronutrient variety.
Is restriction safe for me?	Pregnancy, eating disorders, certain metabolic conditions and other health issues may make keto inappropriate.

Nutrition: Fat, Protein, Fibre & Micronutrients

Fat quality

A ketogenic diet is high in fat, but fats are not nutritionally identical. Where appropriate, unsaturated fats from olive or rapeseed oil, avocado, nuts, seeds and oily fish can be prioritised rather than relying mainly on butter, cream, fatty processed meats and coconut products.

Protein

Protein still needs to be adequate for maintenance, recovery and muscle health. Ketogenic does not automatically mean very high protein; therapeutic formulations may control protein as well as carbohydrate.

Fibre and bowel health

Removing wholegrains, pulses and many fruits can reduce fibre. Lower-carbohydrate vegetables, seeds, nuts where safe and other appropriate sources can help, but constipation is a recognised difficulty for some people. Fluids and individual medical factors also matter.

Vitamins and minerals

Depending on the version followed, intake of folate, thiamine, calcium, magnesium, potassium, selenium and other nutrients may become less reliable. Therapeutic ketogenic diets often use prescribed supplementation because the diet is so restricted.

Hydration and electrolytes

Carbohydrate restriction can alter water and sodium handling, particularly early on. Headache, fatigue, dizziness or weakness should not simply be dismissed as a necessary 'keto flu'; significant or persistent symptoms deserve assessment.

A quality-focused meal framework

Component	Examples
Protein	Fish, eggs, poultry, meat, tofu or another suitable source.
Unsaturated fat	Olive/rapeseed oil, avocado, seeds, nuts where safe.
Vegetables	A variety of lower-carbohydrate vegetables within the individual's plan.
Flavour	Herbs, spices, tolerated dressings and sauces without unnecessary restriction.
Monitoring	Consider fibre, hydration, symptoms, weight trajectory and relevant blood tests with professional support.

Supplements are not a substitute for a poorly planned diet

A supplement may be clinically appropriate, especially in therapeutic keto, but it does not automatically correct low fibre, limited variety, excessive saturated fat or inadequate energy/protein.

Practical Eating, Shopping & Common Difficulties

Meal ideas - examples, not a prescription

Breakfast: eggs with vegetables and avocado; plain yoghurt with suitable seeds/nuts where included; tofu scramble. **Lunch:** substantial salad with fish, chicken, eggs or tofu plus olive-oil dressing. **Dinner:** salmon with vegetables; chicken with roasted lower-carbohydrate vegetables; tofu and vegetable stir-fry. Therapeutic keto requires its own prescribed quantities.

Shopping

Useful staples	Consider limiting/replacing
Olive or rapeseed oil	Frequent processed meats
Eggs, fish, suitable proteins	Large amounts of butter/cream as default fats
Lower-carbohydrate vegetables	Sugar-sweetened foods and drinks
Avocado, nuts/seeds where safe	Refined carbohydrate foods
Suitable dairy/alternatives	Products marketed 'keto' that add cost without nutritional benefit

Eating out and social life

Very-low-carbohydrate eating can make restaurants, celebrations and family meals harder. Consider whether the level of restriction is necessary for the goal. Therapeutic diets may require strict planning; a self-selected weight-loss diet may have more room for flexibility.

Cost

Keto does not require branded powders, bars, ketone drinks or specialist snacks. These can be expensive and are not necessary simply because they carry a 'keto' label.

Common side effects

Constipation, headache, fatigue, nausea, bad breath and reduced exercise tolerance can occur, particularly during adaptation. More serious problems can occur in clinical ketogenic therapy, which is one reason specialist monitoring is used.

Stopping keto

If someone decides to stop a non-therapeutic ketogenic diet, carbohydrate foods can usually be reintroduced gradually in a balanced way. People using ketogenic therapy for epilepsy should change it only with their specialist team.

Diabetes, ARFID, Eating Disorders & Who Needs Extra Care

Diabetes and medication

People with diabetes should discuss very-low-carbohydrate eating with their healthcare team before starting. Insulin and some other medicines may need adjustment. SGLT2 inhibitor medicines are particularly important to discuss because ketoacidosis can occur even when blood glucose is not extremely high.

Type 1 diabetes

A ketogenic diet should not be started casually in type 1 diabetes. Nutritional ketosis and diabetic ketoacidosis are different, but the consequences of insulin deficiency are potentially life-threatening. Specialist diabetes advice is essential.

ARFID, autism and sensory needs

Keto can remove many predictable safe foods such as bread, cereal, pasta, potatoes, fruit or familiar snacks. For someone with ARFID or a very small food range, this can make adequate intake much harder. A restrictive diet should not be layered onto existing restriction without careful specialist consideration.

Eating disorders

Ketogenic eating involves rules, tracking and elimination of major food categories. For someone with a current or previous eating disorder, this may reinforce rigid thinking, fear of carbohydrates, binge-restrict cycles or nutritional compromise. A history of disordered eating is an important reason to seek professional advice before considering keto.

Pregnancy, breastfeeding and children

Self-directed ketogenic weight-loss diets are not appropriate substitutes for balanced pregnancy or child nutrition. Therapeutic keto in children is a specialist medical treatment with monitoring. Anyone pregnant, breastfeeding or supporting a growing child should seek individual advice before major carbohydrate restriction.

Other situations needing medical advice

Kidney, liver, pancreatic or gallbladder disease, disorders of fat metabolism, significant gastrointestinal problems, underweight, frailty and complex medication regimens all warrant professional assessment.

More restrictive does not automatically mean more effective. A diet should be judged by its purpose, evidence, safety, nutritional adequacy and whether it is realistic for the person living with it.

Myths, Personal Check-In & Sources

Common myths

“Carbohydrates are inherently unhealthy.” No. Wholegrains, pulses, fruit and starchy vegetables can be valuable foods. **“Being in ketosis means I am losing body fat.”** Ketosis describes fuel metabolism, not guaranteed fat loss. **“Keto cures diabetes.”** It does not cure diabetes and can alter medication requirements. **“All keto fats are equally healthy.”** Fat quality matters. **“Keto is safe for everyone.”** It is not; medical conditions, medications, life stage and eating history can substantially change risk.

Personal check-in

- What am I hoping a ketogenic diet will achieve?
- Is there good evidence for keto for my particular goal?
- Have I discussed it with my healthcare team if I have diabetes or take medication?
- Could my medical history make a very-low-carbohydrate diet unsafe?
- Am I getting enough protein, fibre, vegetables and micronutrients?
- Are most of my fats coming from a balanced range rather than mainly saturated fat?
- Is the diet affecting my energy, bowels, sleep, mood or exercise?
- Do I have ARFID, sensory needs or an eating-disorder history that makes restriction risky?
- Could a less restrictive dietary approach meet my goal more safely?

A message from Space to Breathe Therapy

Food information can become confusing when one diet is presented as the answer to everything. Ketogenic eating has legitimate specialist medical uses, but that does not make it the right choice for every person or every goal. You are allowed to ask whether the benefits, restrictions and risks make sense for your body and your life. Nutrition should support wellbeing rather than become another source of fear or pressure.

Evidence and further reading

NHS: general healthy-eating and diabetes information, including the importance of individual advice when changing carbohydrate intake while using medication.

NICE: clinical guidance on epilepsy and diabetes; therapeutic ketogenic diets for epilepsy are used within specialist care.

British Dietetic Association: evidence-based dietetic information on weight management, carbohydrates and balanced eating.

Epilepsy specialist services: ketogenic dietary therapy is a recognised option for selected drug-resistant epilepsy under specialist supervision.

Educational information only. This guide is not a ketogenic prescription and does not replace medical or dietetic advice. Do not alter diabetes or epilepsy medication without the relevant clinical team.