

SUPPORTING PATIENTS ON A KETOGENIC DIET



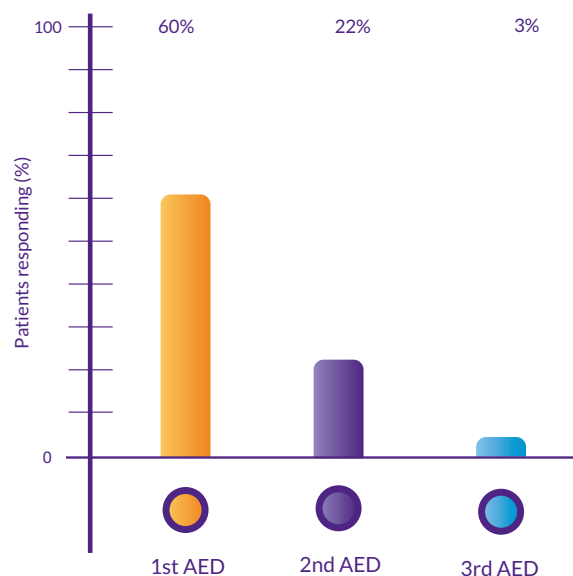
THE FACTS

REFRACTORY EPILEPSY

- Approximately 600,000 people in the UK have epilepsy¹
- Refractory epilepsy is the failure of two or more appropriately chosen antiepileptic drugs (AEDs) to achieve sustained seizure freedom²
- AEDs fail to control seizures in approximately one third of epilepsy patients^{3,4}
- Evidence and clinical consensus show that seizure control diminishes with each successive AED tried^{5,6}
- AEDs are commonly associated with a range of side effects such as drowsiness, blurred vision, dizziness and nausea, and vomiting^{8,9}

There is a need for an alternative to AEDs in the management of refractory epilepsy

Patients controlled on successive AED therapy⁶



Responder rates for 86 children with Childhood Absence Epilepsy or Juvenile Absence Epilepsy, successively treated with either ethosuximide, valproate or clonazepam. Data adapted from reference 6.





KETOGENIC DIETARY THERAPY (KDT) CAN BE A VIABLE ALTERNATIVE FOR REFRACTORY EPILEPSY^{10,11,24}

- The ketogenic diet is a high fat, low carbohydrate and adequate protein diet that mimics starvation by inducing and maintaining ketosis¹²
- First developed in the early 1920s¹³, KDT has been shown to be successful in managing refractory epilepsy with the following benefits:
 - Seizure control^{10,11}
 - Reduction in the use of medications¹⁴
 - Improved alertness, responsiveness, cognition and social adaptation^{14,15}
 - Fewer side effects than AEDs⁸

THERE ARE DIFFERENT TYPES OF KDT TO MEET THE NEEDS OF DIFFERENT PATIENTS:

CLASSICAL

Currently the most commonly used of the ketogenic diets with the largest amount of information and research. The diet is determined by a ratio of grams of fat to carbohydrate and protein. Typically ratios of 4:1 or 3:1 are used where the fat content consists of long chain triglycerides (LCT)¹⁶.

MCT

In the medium chain tryglyceride (MCT) diet, 30-60% of the energy is derived from MCT fat in the form of oil such as Liquigen or MCT oil. The remainder of dietary energy is derived from LCT fat, protein and carbohydrate.

MKD

The modified ketogenic diet was developed by the John Hopkins Center in the USA. The diet is managed without protein or calorie restriction alongside high fat and low carbohydrate food choices.

Nutricia produces a range of recipe books to support each variation of KDT.



THE EVIDENCE

AEDS

Up to 30% of children with epilepsy are believed to continue to have seizures despite the appropriate use of multiple anticonvulsants⁵. Polypharmacy and dose escalation threaten childhood development: sedation, confusion and cognitive development¹⁰



PAEDIATRIC EPILEPSY

KDT offers proven effective seizure control without the burden of AED related cognitive side effects^{11,26}

A meta-analysis has shown that the majority of children compliant to KDT achieved seizure control¹⁰

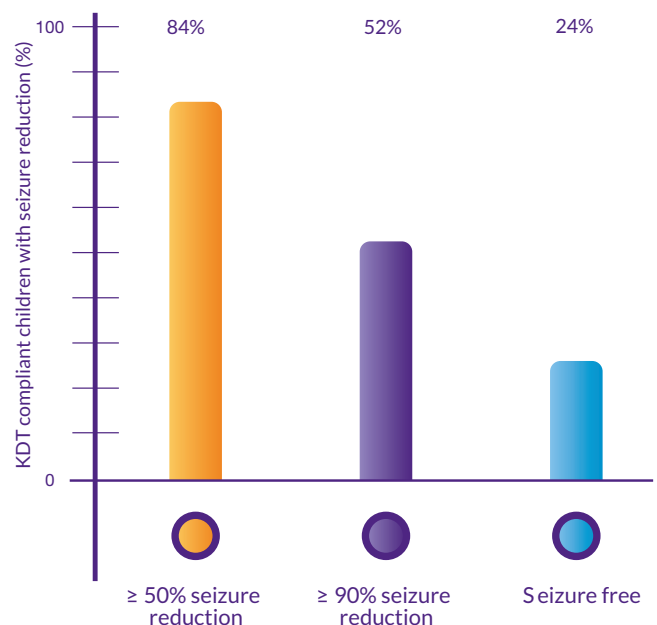
- 84% of children compliant to KDT responded with at least 50% seizure reduction
- 1 in 4 children compliant to KDT achieved complete seizure freedom

NICE Guidance 2012: Refer children with epilepsy whose seizures have not improved on appropriate AEDs to a tertiary paediatric specialist for consultation on the use of KDT¹⁸

Cochrane review 2012: KDT results in short to medium term benefits in seizure control, the effects of which are comparable to modern AEDs¹⁹

The benefit of KDT is equivalent to any new anticonvulsant medication²⁰

Meta-analysis of seizure reduction rates with ketogenic diet¹⁰

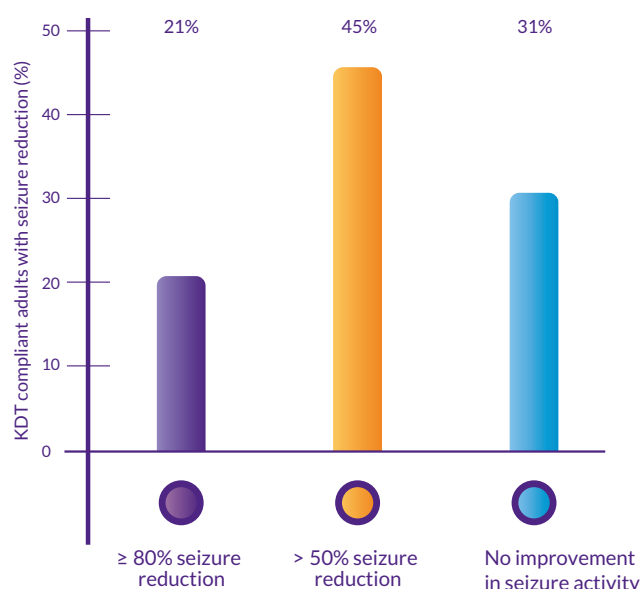




EPILEPSY IN ADULTS

- Approximately half of all adults that commence KDT can expect at least a 50% reduction in seizures^{21,22,23}
- Reports in adults with epilepsy indicate KDT can:
 - Improve energy levels^{21,23}
 - Increase clarity of thought^{21,23}
 - Accelerate recovery from seizures^{21,23}

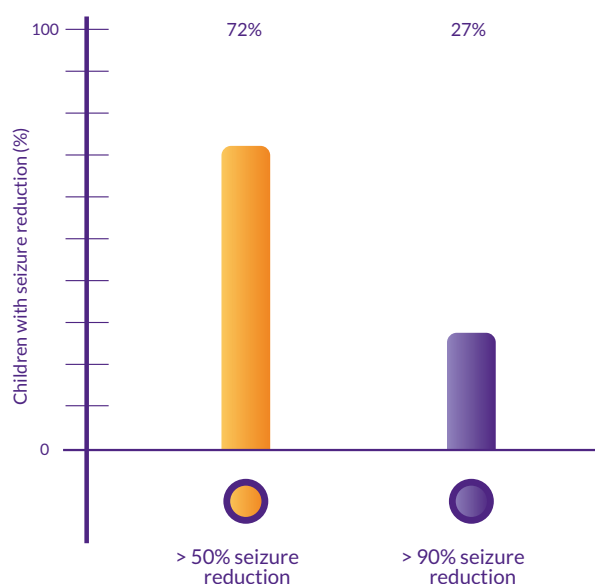
Seizure reduction in adult epilepsy patients following a ketogenic diet²⁴



KETOCAL CAN MAKE KDT EASIER

- 72% of children using KetoCal as a sole source of nutrition for KDT achieved seizure control²⁵
- 94% of children who completed the study continued using KetoCal²⁵
- Parents/carers find KetoCal an acceptable method for administering KDT, being easy to prepare and use, without fear of the potential calculation errors of a modular feed²⁵
- KetoCal provides a convenient way of administering KDT, can be efficacious and is well tolerated¹⁷
- The use of a formula-only ketogenic diet such as KetoCal has been suggested to improve efficacy over solid food ketogenic diets^{27,28}

Percentage of patients using KetoCal with >50% and >90% seizure reduction²⁵



OUR PORTFOLIO



INTRODUCING THE KETOCAL PORTFOLIO

A range of products to support all forms of the ketogenic diet helping improve seizure control and dietary compliance^{17,25,29}

KETOCAL 4:1 POWDER

A nutritionally complete powder, available in the classic 4:1 ketogenic ratio

- 300g tins
- Vanilla and unflavoured presentations



KETOCAL 4:1 LQ

A nutritionally complete ready-to-drink liquid, available in the classic 4:1 ketogenic ratio

- 200ml cartons
- Vanilla and unflavoured presentations



KETOCAL 3:1 POWDER

A nutritionally complete unflavoured powder, available in the classic 3:1 ketogenic ratio

- 300g tins
- Can be used from birth

ALSO IN OUR KETOGENIC PORTFOLIO

LIQUIGEN

A 50% MCT fat emulsion

- 250ml resealable bottles
- Suitable for all ages
- Can be easily flavoured

MCT OIL

A 100% MCT fat emulsion

- 500ml resealable plastic bottle
- Suitable for cooking (see the Nutricia range of recipe books for meal ideas)

CALOGEN

A high energy LCT fat emulsion

- Available in 200ml and 500ml presentations
- Neutral, banana and strawberry flavours
- Use as a milk substitute or cooking ingredient

PROTIFAR

A high protein powder

- 225g tins
- Neutral flavour

PHLEXY VITS

An unflavoured powder

- 7g sachets
- Provides vitamins, minerals and trace elements
- Suitable from 11 years +

MAXIJUL SUPER SOLUBLE

A carbohydrate energy source

- 2.5kg tub, 200g tins or 132g sachets
- Neutral flavour



FEATURES AND BENEFITS

| | Suitable as the sole source of nutrition | Can be used in all forms of ketogenic diet (Classical, MCT and MKD) | Can be easily adapted to different ketogenic ratios | Quicker and easier preparation of ketogenic meals: as a drink, in meals or as a tube feed | Advanced fat profile - reduced saturated fat and inclusion of EFAs and DHA | Contain Multifibre 6 - 6 different fibres to help maintain bowel function ³⁰⁻³⁵ | Great as a bed time drink | Easily incorporated into a range of recipes to help aid compliance | Ideal for using as a supplement to boost ketosis | Can use from birth | >50% fat emulsion so low volumes needed to achieve requirements |
|-------------|--|---|---|---|--|--|---------------------------|--|--|--------------------|---|
| KETOCAL 4:1 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | | |
| KETOCAL LQ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | | |
| KETOCAL 3:1 | ✓ | ✓ | ✓ | ✓ | ✓ | | | ✓ | | ✓ | |
| MCT OIL | | ✓ | | | | | | ✓ | ✓ | ✓ | ✓ |
| LIQUIGEN | | ✓ | | | | | ✓ | | ✓ | ✓ | ✓ |



SUPPORTING PATIENTS FOR OVER 10 YEARS

KETOCAL CAN HELP IMPROVE COMPLIANCE

- Quicker and easier preparation of KDT: as a drink, in meals or as a tube feed²⁵
- Great tasting products in a variety of presentations and easily incorporated into a range of recipes to help aid compliance²⁵
- See the Nutricia range of recipe books for some fantastic meal ideas!



Toad in the Hole
(taken from the MCT recipe book)



Cheese and Herb Muffins
(taken from the Classical 3:1 recipe book)



Raspberry Crumble
(taken from the Classical 3:1 recipe book)



RECIPE BOOKS

A range of five ketogenic recipe books:

- MCT diet
- Modified ketogenic diet
- Classical 4:1 diet
- Classical 3:1 diet
- Weaning on the ketogenic diet



EDUCATION

Nutricia Metabolics invest in both patient and HCP education programs. This includes the prestigious annual KetoConference.

NUTRICIA
KETOCONFERENCE

SPECIALIST CHEFS

Nutricia Metabolics have specialist chefs to help create a range of great ketogenic recipes. Additionally, ongoing cookery education sessions are provided for patients.



MAKING THE KETOGENIC DIET EASIER THAN EVER BEFORE

SAMPLE PACKS

Nutricia provides cookery support items for every new patient started on a ketogenic diet.



Select one of our 5 recipe books

1



Choose the samples you require

2



We'll then add support items

3

*Only one sample pack will be issued for each new patient. Please contact your Nutricia representative for further details



CONTRIBUTION TO RESEARCH

Nutricia provides ongoing support and input to initiate and drive research to enable more patients to benefit from KDT.

CONTINUED SUPPORT

Nutricia can support you with business cases to expand your service or set up new ketogenic services.

FREE HOME DELIVERY SERVICE

Nutricia Homeward is a free home delivery service available across the UK. There are no tie-ins and no minimum contract. KetoCal is only available via Nutricia Homeward.



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