

Guidance notes for using the modified ketogenic diet (MKD) calculator

1. Brief overview of the modified versions of the ketogenic diet

Although there are differences in the dietary implementation of each of the modified ketogenic diets, i.e. modified Atkins diet (MAD), low glycaemic index treatment (LGIT) or modified ketogenic diet (MKD), at least two thirds of daily energy requirements must come from fat. A moderate protein intake is recommended and carbohydrate strictly controlled, e.g. between 10 – 50g per day. On the LGIT, only low GI carbohydrate is permitted.

Depending on the approach used, foods providing carbohydrate and fat are weighed or measured on scales or by using household measures, or a choices system is used to help regulate consumption. Guidance is given on the right amounts of fat, protein and carbohydrate containing foods to be eaten daily to achieve the target macronutrient proportions.

Modified ketogenic diets require implementation, monitoring and supervision by a dietitian so macronutrient and energy intakes can be tailored to meet the unique dietary needs of the individual.

2. Using the MKD calculator

N.B. Currently, this version of the MKD calculator focuses on generating values for minimum daily fat intakes for patients. A liberal fat intake is essential but can be difficult to achieve. The calculated amount can be used to guide appropriate quantities for daily consumption. The MKD calculator can be used for all the modified versions of the ketogenic diet (MAD, LGIT and MKD). Future updates will expand the scope of its use and application.

- **Screen One – Enter this information, specific to the individual**
 1. Daily energy requirement (kcal)
 2. Using the slider, choose the grams per day of carbohydrate (from between 10 – 60g)
 3. Repeat for fat to choose the minimum % of daily energy requirements to come from fat (60 – 80%)
(As a guide, the minimum on the LGIT is approximately 60%; MAD and MKD, 65 -70%)

N.B. NO value is entered for protein - a moderate daily intake is recommended.

4. The calculator generates the minimum amount of fat in grams per day that will provide the chosen percentage of energy from fat, based on energy requirements

Your next steps.....

- **Use the amount of fat calculated in grams**
 - **To provide guidance** on daily intakes and how to achieve this from high fat foods and drinks.
 - **OR convert into fat choices**
In the UK, these are normally portions of high fat foods each providing 10g of fat, such as butter, oil, ghee or mayonnaise. For example, 160g of fat = 16 x 10g fat choices.
- **Devise the daily meal plan**
Distribute high fat foods and/or fat choices evenly in all meals and snacks throughout the day, in combination with protein and carbohydrate foods.
- **Visit www.myketogenicdiet.com** for ideas and recipes for meals, snacks and drinks for the MKD.

3. Practical dietetic references for the MKD

Fitzsimmons G & Sewell M (2015). Ketogenic diets. Chapter 16 in 'Clinical Paediatric Dietetics. 4th Edition. Editor: Vanessa Shaw. John Wiley & Sons Ltd, Chichester UK. ISBN: 978-0-470-65998-4

Kossoff E et al (2009). Optimal clinical management of children receiving the ketogenic diet; recommendations of the International Ketogenic Diet Study Group. *Epilepsia*. 50 (2): 304-317.

Kossoff EH et al (2016). The Ketogenic and Modified Atkins diets. Treatments for epilepsy and other disorders. 6th Edition. Demos Medical Publishing, New York, USA. ISBN: 978-1-936303-94-6

Neal E (2012). Dietary treatment of epilepsy – practical implementation of ketogenic therapy. Editor: Elizabeth Neal. Wiley-Blackwell, Oxford UK. ISBN 978-0-470-67041-5