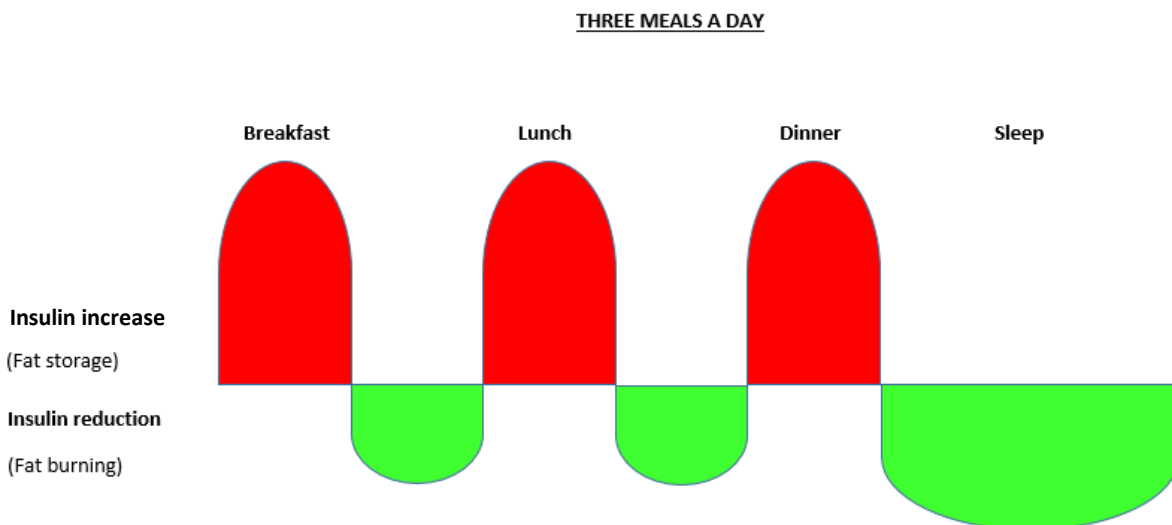
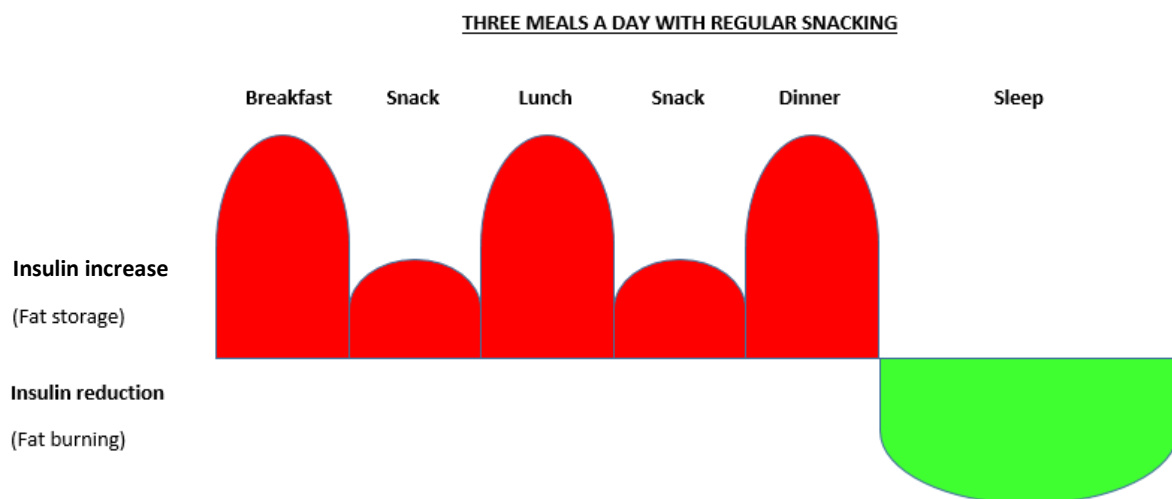


## Intermittent fasting

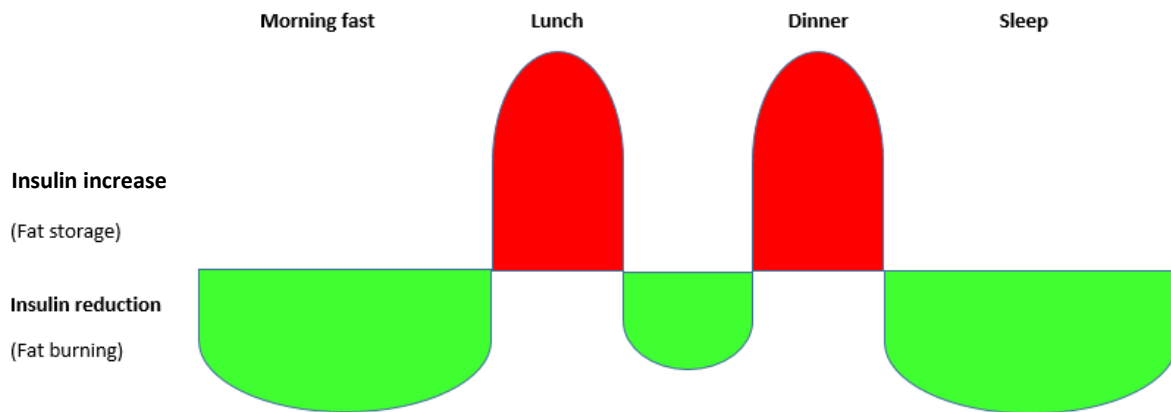
### *What is intermittent fasting?*

The main reason for following a fasting diet (of which there are lots of versions) is to improve regulation of insulin levels by balancing times of feeding and fasting. Insulin is an anabolic hormone which promotes the storage of nutrients (including fat). When levels of insulin are high, like they are following a meal or snack\*, we are not able to burn fat. Fasting for extended periods allows our insulin levels to drop, resulting in periods where we are able to use our body's fat stores as energy. Fasting can therefore be beneficial for weight loss and for preventing insulin resistance; which is a key component of many health conditions.

The figures below demonstrate how our eating patterns influence our insulin levels, and as a result our ability to burn fat.



#### EXAMPLE OF FOLLOWING AN IF (TIME RESTRICTED EATING) PROTOCOL



#### ***What is encouraged?***

Intermittent fasting is a dietary approach which cycles between times of feeding and fasting. Certain foods/macronutrients are not necessarily restricted, only their times of consumption. It would still not be recommended to binge on low quality, low nutrition junk food in the non-fasting periods though! Some people have success intermittent fasting alongside having a low carbohydrate, high fat diet (LCHF). This is because the LCHF approach helps them adapt to burning fat, so they are better able to use their fat stores for energy during the fasting times.

There are many ways to undertake intermittent fasting and ultimately the approach taken should be tailored to suit the individual's lifestyle (one again, one size doesn't fit all!). The main approaches are:

- **Alternative day fasting:** In this approach individuals alternate between days of fasting (having less than 500-600kcal) and days of habitual eating. Some choose to completely abstain from eating on the fasting days; e.g. they may have a final meal on a Monday evening, then not eating again until the Wednesday morning.
- **The "5:2 Diet":** On this approach you would eat habitually for 5 days and then fast (have less than 500-600kcal) on the other 2 days of the week. These 2 days are not normally consecutive, and can be changed from week to week to fit in with your schedule. There are other approaches similar to this, but with more (e.g. 4:3) or less (e.g. 6:1) fasting days.
- **Time restricted eating:** In this approach you select an eating window, usually between 4 and 8 hours, and only eat during these time. This is commonly performed simply by

skipping breakfast (1), which results in an extended fast between the previous evening's meal and lunch (or dinner if a longer fast is desired).

### ***What does the research say?***

There is not currently much rigorous and robust research looking at intermittent fasting (compared to other approaches), particularly studies with a long duration. Systematic reviews and meta-analyses (the top level of evidence, if done properly) however have concluded it can be as effective as other dietary approaches for weight loss and improving body composition and health outcomes (2, 3). Another review, examining intermittent fasting's impact on the prevention of Type 2 diabetes, showed it to be superior to continuous calorie restriction for reducing fasting glucose and equally effective for reducing plasma insulin (4). Insulin sensitivity was also improved in this review when following intermittent fasting protocols, with longer periods of fasting being strongly related to greater improvement.

### ***What's the downside?***

- Although there are studies emerging in this area it is currently difficult to draw strong conclusions due to the gaps in the research. What research there is tends to focus on alternative day fasting, rather than on time restricted approaches which may be more sustainable and practical for many people.
- Although there is evidence for short-term weight loss there is a question over adherence, as some of the longer duration studies have a high number of drop outs. If people cannot stick to a dietary approach, it will not be successful.
- Some people may feel like they have low energy levels when they first start following this approach, particularly in the morning. This is often down to eating habits (i.e. people may feel tired as they are aware they haven't eaten when they normally do) rather than any physical reason as our fat stores are more than enough to sustain us during a fast period.
- There is a suggestion that intermittent fasting could promote obsessive eating in some individuals, who might become too fixated with exact timings. It is not recommended that underweight individuals undertake this approach.
- It has also been suggested that stress hormones can be elevated in times of fasting, with potentially negative effects. However, adrenaline levels are increased during times of fasting which seems to preserve metabolic rate (5), though the long term implications of such elevations remain unknown.

\* Not all snacks and meals are equal when it comes to their affect on insulin levels. Foods with starchy carbohydrates (which are just chains of glucose) will cause blood glucose, and as a result insulin, to raise very quickly for example whilst a high-fat meal with low or no carbs may cause a small increase or none at all.

### ***Some further reading/resources***

Alhamdan BA, Garcia-Alvarez A, Alzahrnai AH, Karanxha J, Stretchberry DR, Contrera KJ, et al. Alternate-day versus daily energy restriction diets: which is more effective for weight loss? A systematic review and meta-analysis. *Obes Sci Pract.* 2016;2(3):293-302

Intermittent Fasting – Questions & Answers <https://www.dietdoctor.com/intermittent-fasting/questions-and-answers>

Intermittent Fasting 101 – The Ultimate Beginners Guide  
<https://www.healthline.com/nutrition/intermittent-fasting-guide>

Is Skipping Breakfast Bad For You? The Suprising Truth  
[https://www.healthline.com/nutrition/is-skipping-breakfast-bad#TOC\\_TITLE\\_HDR\\_2](https://www.healthline.com/nutrition/is-skipping-breakfast-bad#TOC_TITLE_HDR_2)

The Complete Guide to Fasting - [Link](#)

The Obesity code: Unlocking the secrets of weight loss – [Link](#)  
Varady KA. Intermittent versus daily calorie restriction: which diet regimen is more effective for weight loss? *Obesity reviews : an official journal of the International Association for the Study of Obesity.* 2011;12(7):e593-601

### ***References***

1. Kris Gunnars. 6 Popular Ways to do Intermittent Fasting. 2015.
2. Davis CS, Clarke RE, Coulter SN, Rounsefell KN, Walker RE, Rauch CE, et al. Intermittent energy restriction and weight loss: a systematic review. *Eur J Clin Nutr.* 2016;70(3):292-9.
3. Headland M, Clifton PM, Carter S, Keogh JB. Weight-Loss Outcomes: A Systematic Review and Meta-Analysis of Intermittent Energy Restriction Trials Lasting a Minimum of 6 Months. *Nutrients.* 2016;8(6).
4. Barnosky AR, Hoddy KK, Unterman TG, Varady KA. Intermittent fasting vs daily calorie restriction for type 2 diabetes prevention: a review of human findings. *Translational research : the journal of laboratory and clinical medicine.* 2014;164(4):302-11.
5. Ernst J, Drenick MMES, PhD; William H. Blahd, MD; et al.,. Prolonged Starvation as Treatment for Severe Obesity. *JAMA.* 1964;187(2):100-5.