

Meal timing for fat loss

By Matt O'Neill



'I want to shape up. Do I need to have breakfast? Should I eat three meals or six? And can I still eat carbohydrates after 6pm?' Talk to any new client and you're bound to field one or more of these questions. Here's a look at the research, which reveals the answers are not as clear-cut as you may think.

Before attempting to answer each question we should recognise that the study of meal timing and body weight regulation is incredibly complex. The mechanisms by which timing of meals can affect body weight include:

1. The impact of physical digestion and absorption of food on metabolic rate. This is called dietary induced thermogenesis (DIT).
2. The regulation of appetite signals from the gut and blood stream before, during and after you eat; and
3. The affects of meal frequency and timing on levels of hormones (e.g. insulin and cortisol) and brain chemicals (e.g. serotonin and neuropeptide-Y), which may influence long-term meal patterns.

Individual differences in all these factors have challenged researchers to come up with conclusive answers to those burning questions?

Do I need to have breakfast?

A healthy breakfast is definitely a good idea. Breaking an overnight fast provides energy for the day's tasks and many studies show it increases concentration versus eating nothing.

Survey data shows that breaky is a good slimming strategy. A recent analysis of America's third nation-wide nutrition survey found between 1988 and 1994, breakfast eaters (except meat and egg eaters) had significantly lower body mass index (BMI) scores than breakfast skippers. In a smaller 2003 study from Massachusetts in the US involving 499 subjects, those who skipped breakfast ate more total energy and were 4.5 times more likely to be obese. So, are these obese individuals missing out on breakfast's metabolic boost?

Although it's often stated that breakfast kick-starts your metabolism, its only due to the energy cost of DIT, which will always be a minor component of the total energy in the breakfast. There's little evidence to show that going without breakfast will depress your metabolism, unless it follows on from a previous day of little food intake.

Breakfast, it would seem, gives you an opportunity for a head start on good nutrition and appetite management, rather than any metabolic magic.

Should I eat three meals or six?

Most surveys relating meal frequency and body weight show that leaner people eat more meals. For example, in the Massachusetts study, eating four or more times a day (meals or snacks) was associated with 45% less obesity than eating three or less times a day.

However, there is little evidence to back the common claim that eating smaller, regular meals will increase metabolic rate more than eating fewer larger meals, provided total daily energy intake is the same. In 1997, the authors of a review paper in the British Journal of Nutrition concluded, 'A detailed review of the possible mechanistic explanations for a metabolic advantage of nibbling meal patterns failed to reveal significant benefits in respect of energy expenditure.'

More recently, researchers at Kings College in London failed to find any significant difference in total daily energy expenditure (10,000kJ versus 9,600 kJ) between a 4200 kJ test diet, fed as either six meals or two meals a day.

These findings may cause you to rethink recommending eating more frequently, simply to boost metabolism. The real rationale for eating smaller, more frequent meals is more likely to do with enhancing appetite regulation, which helps you consume less total food.

For example, researchers in Johannesburg, South Africa found that smaller frequent meals reduced food

intake at a later meal. In the study, one group of obese men ate a big breakfast. The other group ate the same amount as the breakfast, but divided the food over five hourly meals. When both groups were given an 'all you can eat' meal five hours after the first meal, the single-meal gorgers ate 27 per cent more energy than the hourly nibblers.

But more meals are not always better. A Swedish study comparing 83 obese women with their normal weight counterparts, revealed the obese women ate, on average, one extra meal a day (6.1 versus 5.2 meals). The implications here are that some clients could be adding snacks to their total diet, rather than reducing the size of meals and spreading food over more meals. French scientists have shown that snacks eaten in a non-hungry state didn't delay the time to the next meal or the size of the next meal. Therefore, it's important to be careful not to snack too much.

Can I still eat carbohydrates after 6pm?

The simple answer is, 'Yes you can - just make sure you don't eat too much.' It's over consumption of food late in the day, or 'back-loading' calories as Ellen Coleman, leading US dietitian calls it, which is the likely cause of weight gain related to night-time eating.

It's hard to find any conclusive metabolic evidence that carbohydrates or any food eaten at night is more likely to be stored as body fat. Metabolism drops when you are sleeping, but that simply lowers your daily energy expenditure and its 24-hour energy balance (energy in versus energy out) that really matters for weight gain or loss.

In the Massachusetts study, eating at night didn't seem to impart any greater risk of obesity. The time interval between the final meal of the day and bedtime had no relationship with body fat level. However, other studies show that obese people eat a larger proportion of their meals in the afternoon and evening.

In some individuals, the balance of hormones and brain chemicals late in the day may predispose them to storing excess energy as body fat. Future research will help shed light on this, and other factors including the impact of past eating patterns, circadian rhythm, and shift work.

Meal timing tips

In the meantime, here's a list of guidelines for timing meals for weight loss:

- Make a healthy breakfast a daily habit.
- Take in more kilojoules earlier in the day, to reduce hunger and overeating later in the day.
- Eating the same amount of food in smaller more frequent meals may not offer metabolic benefits over consuming larger, less frequent meals.
- Consuming smaller, frequent meals and snacks can assist appetite regulation.
- If snacking more often, reduce the amount of food eaten at meal times.
- For dinner, catch up on healthy foods not eaten early in the day and eat just enough to curb hunger until you get to sleep.
- Protein in meals and snacks may promote fullness and delay the return of hunger.

Some of the above points will apply to particular clients, more than others, so an individual approach to meal timing is the best advice. Working with clients to integrate lifestyle commitments, and provide flexibility for detours from the regular healthy pattern will provide the best recipe for success.

A word on protein

In case you're asking, protein may play a role in meal timing in the following ways:

- Increasing satiety and the feeling of fullness, making you feel fuller for longer
 - Increasing DIT
 - Enhancing muscle recovery and growth after strenuous resistance exercise
- Adding protein to meals and snacks, while maintaining a healthy balance within food group recommendations, may assist with weight management.

Quote:

'Life is uncertain. Eat dessert first.'
- *Ernestine Ulmer*

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