

Weight loss: Why listening to your circadian rhythm may be important

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When it comes to losing weight, many people want to know what the best diet is. But increasing research shows that when you eat may just as important for your health and weight as what you eat.

The importance of when we eat is tied to our internal 24-hour biological timing system, called the circadian system. This is controlled by a [master clock](#) in the brain which helps regulate many [metabolic processes](#) in the body—including digestion, the release of hormones, and blood sugar levels, as well as when we sleep, wake up and eat. Regular circadian rhythms (our eating and sleeping times) help to [maintain normal body functions](#).

From a [physiological perspective](#)—for humans and many other mammals, at least—the body is used to us eating when it's light and sleeping when it's dark. This is in sync with our circadian rhythm.

Emerging evidence from the field of [chrono-nutrition](#) shows that eating more in line with this natural biological rhythm may help boost your health and well-being, and potentially help with [weight](#) loss.

Timing your meals

If you prefer to skip breakfast in favor of eating later in the day, you're not alone. The majority of [people in the UK](#) consume most of their day's calories in the evening. But given our body's preference for daylight, there may be some advantage to eating breakfast—or at least, getting more of our day's calories into our diets earlier on.

Most evidence from the field of chrono-nutrition suggests eating breakfast regularly may protect against [gaining body fat](#). Research also shows that eating most of your calories a couple of hours before bedtime may [increase hunger](#) and reduce your metabolism to favor fat storage in the body's fat tissue. Habitually skipping breakfast and eating mostly in the evening is associated with a [greater risk of weight gain](#) as well.

Having irregular mealtimes can also affect your body weight. [Shift workers](#), for example, are predisposed to weight gain and [metabolic](#)

[disorders](#) such as type 2 diabetes, cardiovascular disease and some cancers. It's been suggested that the reason for this, in part, is circadian misalignment, which is when your sleep and wake cycle is misaligned with your mealtimes. [Jet lag](#) can affect digestion and sleep patterns too.

[Sleep loss](#) has also been shown to alter food desire—with studies showing that people crave [high-calorie foods](#) after a night of poor sleep. This may further result in weight gain.

However, if you're someone who finds it hard to eat breakfast in the morning, don't despair. Research by myself and colleagues shows that when it comes to weight loss, the timing of your meals doesn't affect [your ability to lose weight](#)—though early eating may have some advantages.

Our study compared the effect of eating calories predominantly in the morning versus in the evening. In one group, participants ate 45% of their day's calories at breakfast, 35% at lunch and 20% at dinner. The other group had the opposite eating pattern, with 45% of their day's calories consumed at dinner.

We found that adults in both groups had similar [weight loss](#) regardless of when they ate the bulk of their day's calories. This result might be particularly reassuring for people who work shifts.

One thing we did find, though, was that eating a big breakfast was most beneficial for [appetite control](#). This may be useful when sticking to a strict calorie limit in order to lose weight.

The type of [breakfast](#) you eat is also important. [Another study](#) we conducted shows that appetite and satiety (feeling full) are influenced by the macronutrients (fat, protein and carbohydrates) in your meal. For example, high-protein meals were shown to make participants feel fuller

for longer. And because these meals were satisfying, it also made participants less likely to give into cravings later on.

Some good examples of high-protein breakfasts include yogurts, eggs, baked beans and toast, kedgeree (smoked fish, boiled egg and rice) or a fruit and vegetable smoothie with added quark or tofu.

So, based on the available evidence, it appears that eating most of your meals during the earlier daylight hours may be beneficial for your health and body weight.

Timing your workouts

Exercise is also important when it comes to our health. However, it's not yet clear whether exercising at a certain time of day is more beneficial.

[One study](#), which compared the effect of high-intensity interval training (HIIT) on blood sugar levels in men with type 2 diabetes, found that exercising in the afternoon was better than exercising in the morning when it came to improving [blood sugar levels](#). This may be important in managing the condition in the long term.

However, a [separate study](#) conducted in people who did not have any health conditions found the timing of your workout was less important than when you ate.

The researchers found that participants who consumed around 700 calories before 11am were more physically active and had more stable blood sugar throughout the day, compared with participants who fasted until noon. Both of these factors may help to prevent weight gain in the long run.

So, while the timing of your workout may be [personal preference](#), when

you have your pre-workout meal does matter when it comes to health.

In general, by taking lessons from chrono-nutrition and tuning back into our body clocks, it may be possible to better look after our health in a way that's more aligned with our biology.

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