

Eating meals early could reduce cardiovascular risk

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Cardiovascular diseases are the leading cause of death in the world according to the Global Burden of Disease study, with [18.6 million annual deaths in 2019](#), of which around 7.9 are attributable to diet. This

means that diet plays a major role in the development and progression of these diseases.

The modern lifestyle of Western societies has led to specific eating habits such as eating dinner late or skipping breakfast. In addition to light, the daily cycle of food intake ([meals](#), snacks, etc.) alternating with periods of fasting synchronizes the peripheral clocks, or circadian rhythms, of the body's various organs, thus influencing cardiometabolic functions such as blood pressure regulation. Chrononutrition is emerging as an important new field for understanding the relationship between the timing of food intake, [circadian rhythms](#) and health.

For their study published in *Nature Communications*, scientists used data from 103,389 participants in the NutriNet-Santé cohort (79% of whom were women, with an average age of 42) to study the associations between food intake patterns and [cardiovascular disease](#). To reduce the risk of possible bias, the researchers accounted for a large number of confounding factors, especially sociodemographic factors (age, sex, family situation, etc.), diet nutritional quality, lifestyle and sleep cycle.

The results show that having a first meal later in the day (such as when skipping breakfast), is associated with a higher risk of cardiovascular [disease](#), with a 6% increase in risk per hour delay. For example, a person who eats for the first time at 9 a.m. is 6% more likely to develop cardiovascular disease than someone who eats at 8 a.m.

When it comes to the last meal of the day, eating late (after 9 p.m.) is associated with a 28% increase in the risk of cerebrovascular disease such as stroke compared with eating before 8 p.m., particularly in women. Finally, a longer duration of night-time fasting—the time between the last meal of the day and the first meal of the following day—is associated with a reduced risk of cerebrovascular disease, supporting the idea of eating one's first and last meals earlier in the day.

These findings, which need to be replicated in other cohorts and through additional scientific studies with different designs, highlight a potential role for meal timing in preventing cardiovascular disease. They suggest that adopting the habit of eating earlier first and last meals with a longer period of night-time fasting could help to prevent the risk of cardiovascular disease.

More information: Dietary circadian rhythms and cardiovascular disease risk in the prospective NutriNet-Santé cohort, *Nature Communications* (2023). doi.org/10.1038/s41467-023-43444-3

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