

## What makes us feel full? The satiating power of foods

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What we eat and how much we eat have an influence on our health and well being. But what kinds of foods make us feel full and why do so many of us tend to over-eat?

The main role of food is to satisfy hunger and to provide essential energy, nutrients and other substances for growth and the maintenance of health. Much of what we choose to eat is influenced by the palatability of foods, including the taste, smell and texture, as well as the social setting. Our appetite reflects a conscious sensation of hunger, a learned or habitual pattern of eating at times throughout the day, our preferences for different kinds of foods and the sheer pleasure of eating or indulging in particular foods we like.

During a meal, the stomach expands, and internal nerve receptors sense the volume of food and the pressure on the stomach wall. These receptors send signals to the brain via the vagus nerve, causing the sensation of fullness. When the stomach contracts and empties, the desire to eat is felt again. Larger meals fill the stomach for longer periods of time and are more satisfying than smaller meals. The actual components of the meal and the temperature of the food can also influence how quickly the stomach empties and, therefore, feelings of fullness.

### "Satiating power"

Some foods can more easily contribute to the feeling of fullness (satiety) than others, and this is referred to as their "satiating power". The calorie-counting tables, used widely by slimmers and the weight conscious, do not necessarily reflect this satiating power and studies examining the effects of foods on "feelings of fullness" can be helpful. In one study of 38 common foods, both men and women subjects consumed foods with equal calorie contents and their feelings of fullness were recorded every 15 minutes for 2 hours. Highest satiating power was found with high levels of protein, dietary fibre and water and low satiating power was related to higher fat foods. Fruit and vegetables-especially boiled potatoes-proved to have high satiating values, whereas bakery products like cakes, croissants and biscuits were the least satiating foods. Protein-rich foods (fish, meat, baked beans, lentils and eggs) and carbohydrate-rich foods (pasta, rice, wholegrain breads and cereals) were among the most satiating foods.

While protein seems to stave off hunger for longer than carbohydrate, fat exerts the weakest effects on both satiation and satiety. This probably accounts for the capacity of a high fat diet to lead to passive over-eating, often resulting in weight gain.

So is a breakfast of wholegrain bread and lean ham a good choice to stave off hunger pangs until lunch? It would appear so, however, scientists still know little about the satiating power of complete meals that combine various nutrients.

## Other influences

The large number of different factors that affect appetite and food intake complicates studies in the area of hunger and satiety. In addition to food types, satiety ratings and palatability, social settings, customs, education levels, income, serving sizes and even mood are just some of the factors that can affect food intake and body weight. Scientists are still working on unravelling all of the factors influencing what we eat and why.

## References

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