

ABOUT

TOXIC FAT

For a long time, fat tissue (adipose tissue) was simply seen as the body's way of storing extra energy. It was assumed that fat was stored just below the skin and was harmless. We now know that fat is stored throughout the body and that it produces chemicals which can be toxic to the body.¹

The link between the way body fat is distributed and the risk of disease was first suggested in the 1950s, when it was seen that people with upper-body (abdomen) fat were more likely to develop type 2 diabetes and heart disease when compared to people with fat stored in the lower body (hips). It was not until much later that this idea became more widely accepted. In the 1980s, it was reported that waist-hip circumference was more strongly associated with heart disease and death in men than BMI (body mass index). Waist-hip circumference and waist circumference are now recognised as a reasonable way of measuring abdominal (or visceral) fat.

Waist measurement is a better predictor of health risks than BMI. A larger waist contributes to the metabolic syndrome and is a risk factor for type 2 diabetes, heart disease and some cancers (including cancers of the oesophagus, pancreas, bowel and breast).²

The science behind how obesity-related diseases develop is complicated and still being debated, but it is agreed that the chemicals released by fat are to blame. We no longer think of fat as just storage. Energy is stored in fat cells (adipocytes), but fat tissue also contains many other types of cells, all of which release chemicals.

Fat tissue is now thought of as an *endocrine organ*, which means it releases chemicals into the body.¹ There is a pretty clear link between the amount of fat a person has and the levels of these chemicals in the body.³ This doesn't completely explain why visceral fat (the fat surrounding your internal organs) can be so toxic. So what is it about visceral fat that makes it cause so many diseases?

A number of theories have been put forward to explain the effects visceral fat has on the body, but to date there is not much agreement. It's still not clear whether visceral fat is the cause of health complications or whether it's simply a symptom of a disorder affecting a wider range of systems in the body. Either way, there's no doubt that visceral fat is a good indicator of whether someone is at a higher risk of disease and that weight loss results in a loss of visceral fat.

- 1 Kershaw, E.E. and J.S. Flier, *Adipose Tissue as an Endocrine Organ*. *Journal of Clinical Endocrinology & Metabolism*, 2004. **89**(6): p. 2548-2556.
- 2 Guh, D., et al., *The incidence of co-morbidities related to obesity and overweight: A systematic review and meta-analysis*. *BMC Public Health*, 2009. **9**(1): p. 88.
- 3 Despres, J.-P. and I. Lemieux, *Abdominal obesity and metabolic syndrome*. *Nature*, 2006. **444**(7121): p. 881-887.



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