

Trans-fatty acids and insulin sensitivity

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Trans-fatty acids have been the topic of a lot of negative health news, but in the July *Journal of Lipid* research, a dietary study in rats suggests that trans-fats do not increase the risk of insulin resistance and diabetes, which may ease at least one area of concern.

Epidemiological studies indicate that chronic consumption of trans-fats may alter muscle insulin sensitivity, as their unusual molecular shapes can reduce muscle's ability to burn energy; in turn, reduced fat oxidation may promote insulin resistance.

The data in this area has been conflicting, so Beatrice Morio and colleagues undertook a detailed study in rats. They gave rats an eight-week diet enriched in either industrial trans-fats (processed oils), natural trans-fats (dairy fat), or regular unsaturated fats.

In none of the cases did the diet alter the rat's insulin or glucose responses, nor did it significantly affect their muscle capacity. The researchers confirmed their rat studies in cell culture studies by incubating muscle cells with either trans-fatty acids or oleic acid (olive oil); as in the rats, there were no noticeable difference in the insulin sensitivity of the cells.

Source: American Society for Biochemistry and Molecular Biology

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