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Dalhousie Medical School Researchers Launch Clinical Trial of 'Good Fat' Weight-Loss Product

Advertisers claim that supplements of a healthy fat known as CLA (conjugated linoleic acid) boost metabolism, build muscle, and burn fat – a seemingly ideal weight-loss product. Dalhousie Medical School researchers and colleagues at Laval and the University of Manitoba have just received approval from Health Canada's Office of Natural Health Products to put these claims to the test in a clinical trial.

"CLA is found naturally in dairy products, but most of the CLA supplements on the market are based on chemically hydrogenated plant fats," says **Dr. Roger McLeod**, Professor in Dalhousie Medical School's Department of Biochemistry & Molecular Biology. "Research has shown that these synthetic forms of CLA produce tremendous weight loss in mice. We now want to see what it does for humans – and compare the weight-loss effects of natural versus synthetic CLA supplements."



There is more to CLA than weight loss. McLeod's research shows that CLA may help the liver metabolize dietary fats more efficiently. It also prevents the liver from making too many lipoproteins. These are bundles of fats held together by protein. If the liver makes too many, they can accumulate in blood vessels. So while his colleagues in Winnipeg monitor the study participants for weight loss, McLeod and his team in Halifax will analyze their heart health indicators: "We'll be looking for changes in blood levels of lipoproteins, like triglycerides, as well as good cholesterol and bad cholesterol." This is just one of many studies underway in McLeod's lab. An expert in fat metabolism, he's investigating how the liver processes different kinds of fats, how metabolic changes lead to plaque formation in the blood vessels, and how the liver and adipose (fat) tissue interact to affect metabolism and heart health. Current projects are looking into how fish oils and CLA can help the liver burn fats more efficiently, and how fish protein may increase insulin sensitivity to prevent type 2 diabetes – a key risk factor for heart disease.

An avid runner and consumer of full-fat milk products and fresh fish, McLeod does not put much faith in extreme diets and magic bullets. "We need to pay attention to the kinds of fat we eat," he says. "Good fats help the liver burn dietary fats more quickly, while bad fats slow down fat metabolism in the liver and prompt higher lipoprotein production. We need to be active enough to burn the energy in those lipoproteins, or they'll lead to weight gain and plaque deposits in our blood vessels."

The clinical trial is funded by the Advanced Foods and Materials Network, which is part of the federally funded Network of Centres of Excellence. A European company is donating the CLA supplements.

Photo: Dr. Roger McLeod works in his Sir Charles Tupper Medical Building laboratory.