



PROJECT 2013-2018

INTEGRATED RESEARCH PROGRAM ON DAIRY, DAIRY FAT AND CARDIOVASCULAR HEALTH

Principal Investigator:

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University of Manitoba**Number of students trained
(MSc, PhD, Post-Doc):****8****TOTAL BUDGET****\$1,442,823****INVESTMENT PARTNERS**Canadian Dairy
Commission**OBJECTIVE:**

Based on earlier research, it has been commonly believed that dietary saturated fat increases the risk of heart disease because it increases LDL-C or “bad cholesterol” levels in the blood. However, recent studies have cast doubt on this belief. Furthermore, the food source (e.g. meat vs. dairy) and food matrix (e.g. cheese vs. butter) of saturated fat may be important to consider.

Also, guidelines for reducing heart disease risk have focused primarily on LDL-C or “bad cholesterol” and have largely ignored HDL-C or “good cholesterol” and other important risk factors for heart disease.

The primary objective of this project was to examine how consumption of saturated fatty acids (SFAs) from dairy fat, in the form of butter or cheese, affects risk factors for heart disease.

KEY OUTCOMES:

Results from this large multicentre randomized controlled trial (RCT) where consumption of diets containing cheese or butter were compared with a low-fat diet or diets rich in other fatty acids (i.e. monounsaturated and polyunsaturated) revealed that:

- Diets containing either cheese or butter raised blood levels of high density lipoprotein (HDL-C) or “good cholesterol” compared with a low-fat diet.
- For a similar amount of SFA, cheese raised low density lipoprotein (LDL-C) or “bad cholesterol” to a lesser extent than butter.
- The increase in LDL-C resulting from butter consumption was compensated by a parallel increase in the capacity of HDL to remove cholesterol from the blood.

- High amounts of SFA from both cheese and butter had no adverse effects on a large number of other important risk factors for heart disease, including inflammation markers, triglycerides, insulin and blood glucose.

**BENEFITS TO THE DAIRY
INDUSTRY**

Provides strong evidence to support the lack of an adverse association between dairy fat consumption, in the form of cheese and butter, and risk of heart disease.

SCIENTIFIC PUBLICATIONS

Comparison of the impact of SFAs from cheese and butter on cardiometabolic risk factors: a randomized controlled trial. 2017.

ncbi.nlm.nih.gov/pubmed/28251937

Saturated Fats from Butter but Not from Cheese Increase HDL-Mediated Cholesterol Efflux Capacity from J774 Macrophages in Men and Women with Abdominal Obesity. 2018.

ncbi.nlm.nih.gov/pubmed/29659963

Effects of regular-fat and low-fat dairy consumption on daytime ambulatory blood pressure and other cardiometabolic risk factors: a randomized controlled feeding trial. 2019.

ncbi.nlm.nih.gov/pubmed/31584063