Team Members

Heidi Bates  Director, Integrated Dietetic Internship
Rhonda Bell  Human Nutrition
Jean Buteau  Human Nutrition
Cathy Chan  Human Nutrition
Anna Farmer  Community Nutrition
Catherine Field  Nutrition & Metabolism
René Jacobs  Human Nutrition
Diana Mager  Clinical Nutrition
Vera Mazurak  Nutrition & Metabolism
Carla Prado  CAIP Chair, Nutrition, Food and Health
Spencer Proctor  Metabolic & Cardiovascular Diseases
Donna Vine  Human Nutrition
Jens Walter  CAIP Chair, Nutrition, Microbes & Gastrointestinal Health
Noreen Willows  Community Nutrition
Modern sanitation may reduce bacterial diversity in our gastrointestinal tract.

While our sanitation and water practices prevent infections and improve our health, they might make us susceptible to other effects.
Good sanitation and treated drinking water may be reducing the diversity of beneficial bacteria in our gastrointestinal tract. A study led by AFNS’ Jens Walter found that adults from the United States lacked approximately 50 bacterial types that were key members of the gut microbiota found in adults of two rural, non-industrialized regions of Papua New Guinea.

The study also found that the ability of bacteria to move from individual to individual appears to be the main reason for the difference in gut bacteria collections in each population. It is possible that North America’s modern sanitation and water practices might be limiting the ability of beneficial bacteria to be transmitted among humans, said Walter. While these practices prevent infections, and are a key feature of a westernized lifestyle that contributed to improvements in overall health and life expectancy, they might make us susceptible to other effects.

“Some scientists have hypothesized that modern lifestyle might predispose us to chronic lifestyle diseases like obesity and type-1 diabetes.”

“Some scientists have hypothesized for some time now that modern lifestyle might deplete the human gut microbiota, and by doing this, might predispose us to chronic lifestyle diseases like obesity and type-1 diabetes that are increasing in westernized societies.”

In fact, several recent studies have consistently shown that non-westernized human populations have more diverse microbiomes.

“There are several aspects of western lifestyle that have been hypothesized to alter the gut microbiome and decrease diversity,” said Walter. “These include diet, sanitation, and clinical practices such as antibiotic use and caesarean sections, but we lack a conceptual understanding of how our microbiomes are altered.”

However, Walter said it’s important to be cautious about questioning modern lifestyle practices. Non-industrialized societies have a high incidence of infectious diseases, including life-threatening diarrhea. Research is therefore necessary to determine how to prevent the negative impact of westernization on our microbiome while preserving its benefits.

PhD candidate Rebecca Duar and microbial ecologist Jens Walter
Pregnant and lactating Alberta women not getting enough fatty acids

New ALES research reveals almost 75 per cent fall well below recommended levels

An overwhelming number of pregnant and lactating women in Alberta are not meeting the recommended intake of omega-3 fatty acids vital to their babies’ development and to their own health, according to new research.

Nutrition researcher Catherine Field led a study which found that only 27 per cent of Alberta women were meeting the recommended minimum of 200 mg per day of DHA during pregnancy. By three months postpartum, that had dropped to 25 per cent.

“(Omega-3 fatty acid) DHA is also important to a mother’s health. Low levels in the body have been associated with depression.”

DHA is the major omega-3 fatty acid required during pregnancy for fetal and placental development, and is critical for infant brain development and other growth in every cell of the body.

“DHA is also important to a mother’s health,” said Field. “Low levels in the body have been associated with depression.”

The recommended intake of DHA during pregnancy could be met by consuming one to two portions per week of fish that are high in omega-3 fatty acids. Health Canada cites the best sources as salmon, tuna, herring and trout.

The study was conducted as part of Alberta Pregnancy Outcomes and Nutrition, a project studying more than 2,000 women and their infants funded by Alberta Innovates Health Solutions.
ALUMNI PROFILE

Casey Berglund
‘11 BSc (Ag)
Food and Nutrition

CURRENT POSITIONS:
Registered Dietitian, owner of nutrition and wellness company Worthy and Well, media commentator on nutrition and a spokesperson for Dietitians of Canada.

HOW SHE GOT THERE:
After graduating with a degree in Nutrition and Food Science and obtaining her Registered Dietitian designation, Casey completed training in multiple yoga disciplines, dispensed freelance nutrition counselling and worked part-time as a dietitian for Alberta Health Services.

Then she launched a blog about nutrition, mindfulness and yoga, held cooking classes and started speaking about nutrition in the media and for the Dietitians of Canada. Working for a private clinic, she offered nutrition counselling to executives and developed a yoga program for stress management. In January 2015, she opened her own company, combining counselling on nutrition and mindful eating with yoga practice to show women how to have a healthy relationship with food.

THE VALUE OF HER AFNS STUDIES:
Doing practicums in clinical nutrition, a community placement in a seniors home food facility, some public education in schools and a three-month internship at Misericordia Hospital — all as part of her degree and internship — laid the foundation for her current career, says Casey.

“Had I not had the experience in my schooling and practical experience in my internship, I would not have the confidence to do one-on-one counselling and group talks.”
People with type 2 diabetes might be able to reduce their dependence on glucose-regulating drugs due to a new discovery by nutritionist Cathy Chan and plant physiologist Jocelyn Ozga.

Their recent research shows that by cooking certain types of pea-seed coats or by breaking them down through hydrolysis, they can enhance the fibrous material’s ability to lower blood-sugar levels.

This prepares the way to developing appealing food products for diabetics that can help them control their levels of blood sugar.

Earlier studies by Chan and Ozga determined that raw pea-seed coats reduce blood sugar in rats by about 15 per cent. However, raw pea-seed coats are not very digestible by humans.

But if the coats of some pea-seeds are cooked, there’s a reduction of 20 to 25 per cent in blood sugar. If other pea-seed coats’ large flavonoid molecules are broken down through acid-hydrolysis, then the reduction is slightly higher, 25 to 30 per cent.

The findings are significant for people with type 2 diabetes, who are usually treated with a prescription drug called metformin, which allows the body to use insulin more effectively, along with diet and exercise. Identifying foods or ingredients that also lower blood-sugar levels could reduce the need for the drug.

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