



# THE **KELLOGG** **NUTRITION SYMPOSIUM**

Brought to you by the team of Registered Dietitians at *Kellogg's*\*

## Highlights from the 2008 Kellogg Nutrition Symposium

Presented in conjunction with the Dietitians of Canada Annual Conference in Winnipeg, Manitoba, Friday June 13th, 2007.

The 2008 Kellogg Nutrition Symposium (KNS) marked the 10 year anniversary of Kellogg Canada providing a half-day, nutrition and health science program as part of the Dietitians of Canada Annual Conference. This partnership provides members of Dietitians of Canada with scientific and consumer based information on topics integral to day-to-day dietetic practice.

Over the years, the KNS has covered a diverse range of topics, including: building healthy communities, diabetes and the health of school aged children. Visit [www.kelloggsnutrition.ca](http://www.kelloggsnutrition.ca) under the Healthcare Professionals section to learn more about past Symposia.

The 2008 KNS provided current science on two important factors influencing the health of Canadians; Understanding Perceptions and Motivations Impacting Healthy Lifestyle Choices and Health Promoting Properties Found in Everyday Food. The following summarizes the expert discussions on these two topics.

We look forward to seeing you at the 2009 Kellogg Nutrition Symposium in Charlottetown, P.E.I!

### **Understanding Perceptions and Motivations Impacting Healthy Lifestyle Choices**



#### **It's time for action: ParticipACTION**

**Impacting physical activity levels among Canadians**

**Kelly Murumets, President and CEO, ParticipACTION**

#### **We're Back!**

ParticipACTION, the national voice for physical activity and sport participation in Canada is back to help fight the obesity crisis. First launched in 1971 and long recognized as a Canadian icon, ParticipACTION touched most of us in our youth. Now after 30 years of operation, followed by 5 years of dormancy, ParticipACTION is back in full swing to tackle the inactivity crisis in our country.

#### **The Cost Of Inactivity**

The decline in physical activity is very complex and many trends are contributing. Today, more than half of Canadians are considered inactive. One in two adults is overweight, and one in seven adults is obese. In 2001, the economic burden of physical inactivity was \$5.3 billion, 2.6% of total health care costs in Canada.

## Our Kids Are At Risk

90% of children are not meeting the recommended daily physical activity guidelines set by Canada's Physical Activity Guides for Children and Youth. Physical activity levels in children and youth also fall short of levels needed for healthy development and growth. And the average Canadian child spends 42 hours a week on screens, more time than many adults spend at full time jobs.

## How To Get Canadians Moving More

At ParticipACTION, we must help Canadians build physical activity into their everyday lives. We must make MOVING MORE a social/cultural norm. To do this, ParticipACTION will play four key roles:

- **Communications** - inspiring Canadians to be more active and inspiring society to make it easier to be more physically active.



- **Leadership** – supporting the sector by generating sponsorship funds from private partners and by working collaboratively with government, sport, physical activity, and recreation not for profit partners to ensure initiatives are united and coordinated.
- **Action** - advocating for policy and action that sets the stage for long-term sustainable change.
- **Knowledge** - supporting public education and knowledge exchange across the sector through research, evaluation, and communications.

## ParticipACTION's vision

ParticipACTION's vision is to create a society that is the most physically active on earth. We must work together –

inspiring our kids and one another to be more active, sharing knowledge, advocating for policies and infrastructure change –to realize our collective goal of a healthy and more physically active Canada.



## Nutrition from a kid's perspective: Sending the right messages to kids and moms

**Brady Darvin**, Senior Director Consumer Insights, Strotzman International

### What do kids think?

Everybody these days seems to be engaged in the issue of childhood obesity – government, marketers, parents and advocacy groups – but what about kids themselves? Kids have a huge say on what goes into their mouths. So Strotzman International, a youth and family promotions agency started talking to kids and their moms in 2003 about their feelings and concerns about healthy eating.

### What's the fuss?

When it comes to nutrition, kids want to know 'what's all the fuss about?' Most kids care only about eating healthy food for Mom's sake, not for "health's sake". The worst consequence of not eating healthy food is 'getting sick' which they equate with being thin and having minor ailments. Most kids do not see becoming overweight as a health issue.

### 'Healthy' tastes bad

Health and nutrition are not primary motivators for healthy eating for children. Taste matters to kids more than anything else and "healthy" foods are perceived by kids as failing on this key attribute. They want the instant gratification that taste delivers and don't care about long-term consequences of unhealthy eating.

"Tastes Good" is at the bottom on the list of characteristics kids ascribe to healthy foods

Good for my heart	84%
Keeps me from getting sick	79%
Will help me do well in school	70%
Gives me energy	64%
Will make mom & dad happy	63%
Makes me happy	37%
Will make me thin	33%
Tastes good	32%

### Messaging that works

Nutrition messages can be confusing for kids and knowledge that foods are healthy often does not translate to action. Explaining the science of nutrition and the negative long term health effects of obesity is beyond kids and many moms! Messages designed to get kids to eat well need to resonate with them. For example, kids don't understand terms like 'energy balance' and 'balance' in general, but they do understand the concept of 'energy in, energy out.' Keep in mind that kids care about short term benefits related to performance, like:

- 'give me more energy'
- 'help me run fast'
- 'give me brain power'
- 'help me see better'

An example of a message that resonates with kids is "Making smart choices can improve your performance – jump higher, think better, run faster!"



### Breakfast is a great opportunity

Breakfast represents a significant opportunity to change kids' eating habits with simple healthier options. Research shows it's got to be a family affair with parents acting as role models. Parents must understand that they have the power to influence their children.

### Keep it positive

In talking to both parents and kids it's important to use positive messages. Tell them what to eat instead of what they should not eat. Effective messages link healthy eating to things kids care about like thinking better, running faster, jumping higher, feeling energized. Teaching kids that food is fuel works well.

## Health Promoting Properties Found in Everyday Foods



### Probiotics, prebiotics and synbiotics as modulators of gut health

**Glenn Gibson**, PhD, Head of Food Microbial Sciences, Department of Food Biosciences, University of Reading, UK

#### The gut microflora

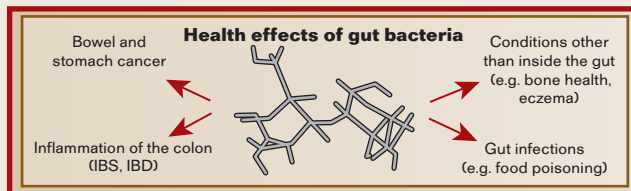
The human large intestine is an intensively colonised area containing bacteria that are health promoting, as well as pathogenic. This has led to functional food developments that fortify the former at the expense of the latter. Since many conditions have various levels of gut involvement, there is a growing body of research focused on the health benefits of modulating the gut microflora using probiotics, prebiotics and synbiotics.

#### Probiotics

There are one billion bacteria per mL of contents in the large intestine, with up to 1000 different species. Poor diet, stress, antibiotic intake and other living conditions all affect the gut microflora composition. Probiotics are live bacteria in the diet with a long history of use in humans. Regular consumption of foods containing probiotics can help populate the gut with beneficial or health promoting bacteria. One of the key challenges is ensuring that probiotics added to foods are kept alive so they can colonize the large intestine.

#### Prebiotics

Prebiotics are non digestible food ingredients that beneficially affect the host by targeting indigenous components thought to be positive. In other words, the prebiotics support the growth of beneficial bacteria in the gut. Dietary carbohydrates, such as fibres are candidate prebiotics, but to date most promise has been realised with oligosaccharides. Human breastmilk is an excellent source of prebiotics.



#### Synbiotics

Synbiotics are combinations of both probiotics and prebiotics that work synergistically to modulate the gut microflora. Appropriate prebiotics use could enhance probiotic survival.

#### Research

Research indicates that probiotic bacteria inhibit harmful bacteria, enhance the absorption of various food ingredients and minerals, and play a role in vitamin synthesis, immunomodulation, phytochemical conversions and short chain fatty acid production. Conversely, harmful bacteria may be implicated in digestive cancers, irritable bowel syndrome and disease, ulcers, gut infections and some conditions that manifest outside the gut such as eczema and bone health. Currently there is also interest in exploring whether gut microflora may even play a role in the development of obesity.

#### Dietary intervention

If progress in the use of dietary intervention directed towards particular gut bacteria is to be exploited, a sound research base is required. More research is needed to understand microflora changes in response to diet, the potential benefits for more vulnerable groups and the health consequences associated with gut flora modulation.



### Novel dietary approaches to the treatment and prevention of cardiovascular disease

**Peter Jones**; PhD, Director, Richardson Centre for Functional Foods and Nutraceuticals, University of Manitoba

#### Cardiovascular disease risk

Cardiovascular disease is the leading cause of death for men and women in Canada and the risk increases with age. LDL cholesterol is still the leading biomarker of heart disease. A number of novel dietary factors including stearic acid, soy protein, plant sterols and soluble fibre contribute to heart disease risk reduction through their influence on cholesterol absorption, synthesis and metabolism.

#### Stearic Acid

Stearic acid is unique among saturated fatty acids in that it does not increase LDL cholesterol levels. This is accompanied by the suppression in cholesterol absorption, an effect seen repeatedly in animal and human studies. Possible mechanisms include a decrease in cholesterol solubilization in the gut, interference with micelle formation and decreases in the proportion of secondary bile acids in the gallbladder.

#### Soy protein

Soy protein interferes with absorption of sterols, such as cholesterol. The proposed mechanism is through reduced intestinal absorption of cholesterol along with increased fecal cholesterol excretion. Recently, it has been shown that hydrolysates of soy protein appear to be effective in reducing sterol absorption by directly inhibiting the absorption of micellar cholesterol.

#### Plant sterols

Clinical trials attest to plant sterols lowering cholesterol absorption by 20-40%, an extent beyond which cholesterogenesis can compensate to restore normal circulatory cholesterol levels. Average adult daily plant sterol intakes are in the range of 150-400 mg/day; however, experts recommend 2 g/day to achieve a significant cholesterol-lowering effect. Major dietary sources of plant sterols include fats and oils, breads and cereals, vegetables and fruit and nuts.

#### Soluble fibre

Dietary soluble fibre represents another means of reducing intestinal cholesterol uptake, in part through enhanced bile acid clearance through the gut. Pectin, beta-glucans, fructans and gums have been identified as agents that work through the production of a viscous matrix which hinders movement of cholesterol and bile acids. Sources of soluble fibre include legumes, fruit (such as prunes and berries) and psyllium.

#### Dietary approaches

The dietary portfolio developed by Jenkins and colleagues is an example of an approach that combines a number of dietary components such as soy protein, plant sterols, and soluble fibre to maximize cholesterol-lowering. Future opportunities exist to evolve diet-derived agents and combinations that reduce cardiovascular disease risk through favorable modification of cholesterol and/or triglyceride metabolism.

# In the WORDS of our SPEAKERS

This year's symposium featured a new and interactive Question & Answer format. Dietitians H el ene Charlebois, Lynn Roblin and Gina Sunderland took part in a panel that represented the audience by posing questions put forth by symposium participants. Here's what our esteemed speakers had to say on questions of relevance to the daily practice of dietitians.

## **Q WHAT DO YOU THINK ABOUT THE RECENT TREND OF PHYSICALLY ACTIVE GAMING?**

**A** Automation and physically active gaming are here to stay, so we have to work with it. In fact, this isn't really a new phenomenon; games incorporating dancing have been around for a while now and they are even starting to turn up in some community and recreation centres. It's important to recognize that virtual games can be part of the solution in terms of increasing physical activity, but not the primary part. We still want to encourage kids to get out of the house to play games and take part in individual or team sports.

~ Kelly Murumets and Brady Darvin

## **Q WHY DO KIDS THINK HEALTHY FOODS TASTE BAD?**

**A** I think this really has to do with parents' attitudes. Parents unwittingly communicate this from the time children are very young. Unfortunately, it's very hard to eliminate this stereotype once it's there. One way dietitians can help is by providing parents with new and interesting ways to introduce foods that kids may not otherwise want to eat, such as certain vegetables. Moms are always looking for help with new recipe ideas.

~ Brady Darvin

## **Q WHAT CAN WE RECOMMEND TO OUR CLIENTS WHO ARE ASKING US QUESTIONS ABOUT THE DOSE OF PROBIOTICS THEY SHOULD TAKE?**

**A** When it comes to probiotics, the more you can get in, the better. In my opinion, anything with a dose of less than 10 million really doesn't have a chance of working; having said that, the more you can get in the better. There really isn't any concern about too many probiotic bacteria, because there are so many bacteria already in the large intestine. Also, it's a good idea to recommend products from the larger well known reputable manufacturers so that you can be confident regarding the probiotic content and efficacy.

~ Dr. Gibson

## **Q CAN WE RECOMMEND A MODIFIED PORTFOLIO DIET GIVEN THAT PLANT STEROL ENRICHED FOODS ARE NOT YET AVAILABLE IN CANADA?**

**A** Plant sterols tend to be concentrated in vegetable oils which can add to caloric intake, but are also found in plant based foods such as vegetables, fruit and nuts. I would steer patients towards a plant based diet rich in vegetables and fruit, nuts, soy protein and viscous soluble fibre. Aim for a daily intake of 20 to 30 grams of viscous fibre, 25 grams of soy protein, 2 grams of plant sterols and a handful of nuts.

~ Dr. Jones

