



# THE KELLOGG NUTRITION SYMPOSIUM

Brought to you by the team of Nutrition Professionals at Kellogg's

## Highlights from the 2010 Kellogg Nutrition Symposium

Presented in conjunction with the Dietitians of Canada Annual Conference in Montréal, Québec on Thursday May 27, 2010.

### WELCOME AND OPENING REMARKS

#### Johanne Trudeau, RD

Director, Nutrition Marketing, Kellogg Canada Inc.

At Kellogg's, our approach to nutrition and health is evidence based where we believe in the strength of working together and sharing scientific advances in nutrition and food research. By partnering and learning together we can empower consumers to make informed dietary and physical activity choices. We remain committed to educating Canadians about the benefits of fibre, discussing issues and strategies for reducing childhood obesity, and promoting an active lifestyle.

Kellogg is also doing its part with respect to corporate responsibility. On April 7<sup>th</sup>, 2010, Kellogg launched its second annual global corporate responsibility report, which comprehensively describes our progress, challenges and future direction in four key areas: environment, workplace, community and marketplace. To download a copy of our report, please visit [www.kelloggs.ca](http://www.kelloggs.ca).

For resources and tools on various topics such as the benefits of breakfast or our newest publication called 'FIBRE-pedia', please visit [www.kelloggsnutrition.ca](http://www.kelloggsnutrition.ca).

The 2010 Kellogg Nutrition Symposium explored the science supporting the many health benefits of eating a diet high in fibre, investigated the causal web of childhood obesity, and discussed the increasing importance of physical activity in public health.

### DIETARY FIBRE: A FOUNDATION FOR FAMILY HEALTH



#### Gina Sunderland, MSc, RD

Consulting Dietitian, Action Physiotherapy & Wellness Clinic, Winnipeg



#### Dr. Christine Williams,

Professor of Clinical Pediatrics, Columbia University, New York, (retired)

#### Fibre Basics

It is well known that fibre provides a host of health benefits. Fibre is a non-digestible component of plant foods such as grains, fruit, vegetables and legumes and has been traditionally grouped into two categories: soluble and insoluble. Soluble fibres (e.g., psyllium seed husks, oats, and apples) can help with satiety, lower LDL-cholesterol, and maintain steady blood glucose levels. Insoluble fibres (e.g., wheat bran, certain fruits and vegetables, nuts and seeds), in addition to helping with satiety, speed up the movement of food through the digestive system helping to promote regularity or laxation. Both types of fibres function differently in the body and both are an important part of a healthy diet.

#### The Canadian Fibre Deficit

Canadians' fibre intake falls dramatically short of the recommendations for good health, with average intakes of both children and adults at about half of the AI levels.<sup>2</sup>

#### IOM Fibre Recommendations for Age and Gender

Population	Adequate Intake Level (grams per day)
Children aged 1-3	19 grams
Children aged 4-8	25 grams
Boys aged 9-13	31 grams
Girls aged 9-13	26 grams
Boys aged 14-18	38 grams
Girls ages 14-18	26 grams
Men aged 19-50	38 grams
Women aged 19-50	25 grams
Men aged 50 years and older	30 grams
Women aged 50 years and older	21 grams

## Fibre for Good Health Throughout the Lifespan

There is convincing scientific evidence that adequate dietary fibre intake across the lifespan is essential for optimal health. Since the whole family is often involved in making healthier lifestyle changes, exploring the challenges and understanding the physiological benefits of eating a high fibre diet for all ages is important.

The chart below outlines examples of physiological conditions that can develop during a person's lifespan. As well as some of the nutrition approaches for addressing these issues using a case study approach.

Age and Related Health Issues	Nutrition Approach	Practical Tips for Your Clients
<p><b>Child, age 6</b> Children often eat too many SoFAS (solid fats and added sugars) and consume too much fruit juice. They tend not to consume enough fluid or fibre from whole grains, fruits and vegetables. <b>Constipation</b> is a common child health issue and is the number one gastrointestinal complaint presenting at the pediatrician's office.</p>	<p>When dietary fibre is increased (especially insoluble fibre like wheat bran), regularity improves.</p> <p>A simple way to help children take steps towards meeting their recommended fibre intake is to set achievable goals like the "Age + 5 Rule".<sup>3</sup></p> <p>Start with the age of the child and add five. For example, a 6 year old should strive to get at least 11 grams of fibre per day (6 years + five grams = 11 grams per day). This rule can be used as a guide to slowly increase the amount of fibre until the child meets their recommended intake for age.</p>	<ul style="list-style-type: none"> <li>Choose water, milk or whole fruit instead of juice more often.</li> <li>Increase intake of fibre at meal and snack occasions (e.g., high fibre cereal or cereal bars, whole wheat bread, whole fruit, raw veggies).</li> </ul>
<p><b>Active Teen, age 15</b> Teens also tend to consume too many SoFAS and lack fibre in their diet. Although teens may be physically active, weight gain can still occur if caloric intake exceeds expenditure.</p> <p>The clustering of significant weight gain, high blood pressure, and high fasting insulin suggests <b>metabolic syndrome</b>.</p>	<p>Weight loss through changes in diet and continued physical activity is the primary treatment recommendation, followed by understanding the role that fibre plays in satiety and weight loss.</p> <p>Fibres known to decrease food intake include wheat bran, psyllium, pea fibre, guar gum (beans/legumes), cellulose and soy polysaccharides.<sup>4</sup></p>	<ul style="list-style-type: none"> <li>Skip the fast food lunches and opt for sandwiches with lean deli meats and whole grain bread.</li> <li>Drink water instead of soda.</li> <li>Increase intake of fibre and grains at meal and snack occasions (e.g., high fibre cereal, cereal bars and crackers, nuts and seeds in trail mix, whole fruit, raw veggies).</li> </ul>
<p><b>Busy Single Mom, age 44</b> Being a single parent with a hectic schedule of work and family obligations can mean that personal health is sacrificed. This can contribute to an <b>inconsistent eating pattern, weight gain, type 2 diabetes, irritable bowel syndrome (IBS)</b>, and feelings of bloating and <b>constipation</b>.</p>	<p><b>Breakfast, Fibre, and Weight Management:</b></p> <ul style="list-style-type: none"> <li>Breakfast provides us with essential nutrients and is a great time to add fibre to the diet. People who regularly eat breakfast also have healthier body weights than those who skip breakfast.<sup>5,6,7</sup></li> <li>Fibre prevents weight gain and promotes weight loss because fibre takes longer to chew, has a lower energy density, slows the rate at which we eat and signals post meal satiety.<sup>4,8</sup></li> <li>Hawarth et al. demonstrated that eating an additional 14 grams of fibre/day resulted in a 10% reduction of caloric intake, with a weight loss of 4 lbs in 3.8 months.<sup>9</sup></li> </ul> <p><b>Diabetes:</b> Over two million people in Canada have diabetes and this number is expected to reach three million by 2010.<sup>10</sup></p> <ul style="list-style-type: none"> <li>Eating a fibre rich diet can reduce the risk of diabetes by one-third.<sup>11</sup></li> <li>High intakes of cereal fibre have also been shown to improve insulin sensitivity<sup>12</sup> and the addition of soluble fibre improves post-prandial blood glucose control.<sup>13</sup></li> </ul> <p><b>Digestive health:</b> When it comes to overall wellness including immunity and regularity, maintaining good digestive health with fibre is key.</p> <ul style="list-style-type: none"> <li>Prebiotic fibres help to stimulate growth of health-friendly bacteria in the gut.<sup>14,15</sup> One of the most commonly known prebiotic fibres is inulin (from chicory root, asparagus, onions, artichokes). It helps to improve symptoms of IBS by aiding digestion, restoring normal balance of intestinal flora and boosting immune function.<sup>8</sup></li> <li>A higher fibre diet can help reduce constipation and bloating.<sup>16</sup></li> </ul>	<ul style="list-style-type: none"> <li>Make breakfast a habit. Eat a nutritious breakfast (e.g., high fibre hot or cold cereal, a glass of milk and a piece of fruit)</li> <li>Increase fibre intake at meal and snack occasions (e.g., high fibre cereal and bars, raw veggies and fresh fruit with skins, nuts).</li> <li>Consume more prebiotic fibres from fruits and vegetables, foods fortified with inulin fibre from chicory root, grains, seeds and nuts.</li> <li>Consume more cereals and snacks made with wheat bran to promote regularity.</li> <li>Look for wheat bran or whole wheat as the first ingredients when choosing high fibre foods.</li> </ul>
<p><b>Retired Grandpa, age 73</b> In many older adults, health issues such as <b>coronary heart disease (CHD)</b>, dyslipidemia and a family history of <b>colon cancer</b> are prevalent. Older adults may not be able to tolerate medications such as statins and look for other ways to manage their conditions.</p>	<p><b>Heart Disease:</b></p> <ul style="list-style-type: none"> <li>Soluble fibres such as psyllium fibre, legumes, apple and pears are beneficial to heart health by lowering total cholesterol, LDL cholesterol and blood pressure.<sup>17</sup></li> <li>A pooled analysis of 10 large prospective studies reported that each 10 g/day increase in dietary fibre was associated with a 14% reduction in risk of CHD.<sup>18</sup></li> <li>Pereira et al. demonstrated that fibre from cereals and fruits had a strong inverse association with CHD risk (10% and 16%, respectively).<sup>18</sup></li> </ul> <p><b>Colon Cancer:</b> Colorectal cancer is among one of the most common cancers in Canada and the 3<sup>rd</sup> most common in the world.<sup>19,20</sup></p> <p>The World Cancer Research Fund/American Institute for Cancer Research has recommended consuming 25 g/day of fibre to reduce risk of colorectal cancer.<sup>21</sup></p> <p>Research suggests that there are several fibre mechanisms that act in combination to provide protective effects<sup>22</sup>:</p> <ul style="list-style-type: none"> <li>Fibre is fermented in the bowel to produce short-chain fatty acids, providing cells with energy for renew and repair.</li> <li>Fibre speeds up the passage of waste material through the colon, reducing the amount of time that toxic substances stay in the digestive tract.</li> <li>Fibre-rich foods tend to contain antioxidants which have been linked to cancer-protective effects.</li> </ul>	<ul style="list-style-type: none"> <li>Include 3 servings of high soluble fibre foods every day to help reduce high cholesterol (e.g., 1 serving of cereal with psyllium fibre, 2-3 Tbsp of beans, chick peas or lentils, 1 medium pear).</li> <li>Replace refined grain products with higher fibre options and increase fruit and vegetable intake.</li> <li>Increase fibre intake at meal and snack occasions to ensure AI of 30 grams is met, or at least a minimum of 24 grams per day to reduce risk of colorectal cancer.</li> </ul>

**NOTE:** Regardless of age, ensure adequate fluid intake when increasing dietary fibre. This helps fibre to work effectively.

## UNDERSTANDING THE CAUSAL WEB OF CHILDHOOD OBESITY



**Dr. Glenn Berall** Chief of Paediatrics,  
North York General Hospital, Toronto

### Obesity Trends

It is well understood that obesity is now pandemic, affecting millions of people worldwide. Obesity also increases an individual's risk of premature death from chronic disease such as coronary heart disease, stroke, type 2 diabetes, gallbladder disease and some cancers.<sup>23</sup>

### Childhood Obesity

In the past 25 years, we have seen a considerable increase in the percentage of Canadian children and adolescents who are overweight or obese.<sup>24</sup> In 2004, 26% of Canadian children and adolescents aged 2 to 17 were overweight or obese.<sup>25</sup> Although there are a myriad of influences contributing to obesity, lack of physical activity may be an important factor<sup>26</sup> along with the role that genetics can play.

### Physical Activity

Parents may be overestimating the role of schools in enforcing the guidance of 90 minutes of daily physical activity for their children during the day. Parents should therefore encourage as much physical activity at home as is possible. One solution is to limit screen time. For example, parents could try a "trade-off" strategy where children buy screen time by being active – 5 minutes of activity for 30 minutes of screen time. The best kind of activity or exercise for children or teens is whatever one they enjoy and will do. They can start slowly and increase the duration of their physical activity over time.

### Obesity and Genetics

Weight loss and management has been successfully shown in children following an environmental treatment program for a genetic cause of obesity such as Prader-Willi Syndrome. A program called "The Red, Yellow, Green System for Weight Management" is an eating plan based on the four food groups, categorizing food into high, medium and low calorie foods where serving sizes are carefully measured. The success of this program in helping to reduce body weight makes an excellent case for the possibility of overcoming genetic factors.

### Role of the Parent

With respect to healthy eating and weight management, the approach to nutrition counselling and monitoring of children and teens needs to be individualized. Counselling is geared more towards the parents for children under the age of 5, while still involving youngsters through the use of pictures they can understand. Older children require a balanced family approach to understand hunger and fullness signals while adolescents tend to do best when parents are not overly involved or intrusive with their eating and weight management plan.

### Are Eating Disorders a Consequence of Awareness and Treatment of Obesity in Youth?

Some researchers fear that dieting to reduce body weight may precipitate eating disorders and related complications. Findings suggest that a professionally administered weight loss program poses minimal risks of behavioural and related psychological complications in overweight children and youth. Concerns about potential negative effects of dieting should therefore not dissuade overweight or obese youth from pursuing sensible methods of weight loss.<sup>27</sup>

## THE CHARTER OF PHYSICAL ACTIVITY AND PUBLIC HEALTH



**Dr. Lise Gauvin** CIHR/CRPO  
Applied Public Health Chair on  
Neighbourhoods, Lifestyle & Healthy  
Body Weight, Montréal

### Physical Activity and Public Health

A growing body of scientific research shows that physical inactivity is a major contributor to all leading non-communicable diseases such as cardiovascular disease, diabetes and some cancers, contributing to over 2 million preventable deaths annually. As the prevalence of sedentary lifestyles is high in countries around the world, researchers and practitioners are striving to identify effective means of reversing these population trends.

### A Global Call for Action

In an effort to combat obesity, the International Society for Physical Activity and Health, and the Global Alliance for Physical Activity developed a Charter for Physical Activity which was launched on Saturday May 8th 2010 at the 3<sup>rd</sup> International Congress for Physical Activity and Health in Toronto.

### The Toronto Charter for Physical Activity

The Toronto Charter for Physical Activity is a call for action and an advocacy tool to create sustainable opportunities for physically active lifestyles. The idea for this Charter was based on the premise of promoting consensual principles and actions for physical activity and was developed collaboratively through an extensive worldwide consultation on its content, format, and language needs. Feedback was received from 460 contributors from 55 countries, and edits and improvements were incorporated into the final version of the Charter. The Charter

outlines four action areas based upon nine guiding principles and is a call for all countries and communities to strive for greater political and social commitment to support health enhancing physical activity for all.

**Have Your Say!** The Charter can be used as a foundation document for the building and understanding of the promotion and importance of physical activity. For more information on the Charter and to register your agreement and support, visit [www.globalpa.org.uk](http://www.globalpa.org.uk)

### A Framework for Action

The Charter calls for concerted action across four key areas. While distinct, these four action areas are complementary and become the building blocks for successful population change:

- Implement a National Policy and Action Plan
- Introduce Policies that Support Physical Activity
- Reorient Services and Funding to Prioritise Physical Activity
- Develop Partnerships for Action

### How Health Care Providers can use the Charter

The Charter for Physical Activity can be used as an advocacy tool by health care professionals to:

- Support your current work
- Support your work with partners
- Engage with new partners
- Engage with policy and decision makers
- Gain increased government support
- Show the international support for more action on promotion of physical activity
- Develop funding applications
- Embed the Charter in your organization mission statement
- See how your country/region/community is doing



# Words of Wisdom from our Speakers

**This year's panel of "Kellogg Nutrition Symposium Canadian Idol" dietitians included Kim Arrey, H el ene Charlebois, and Lynn Roblin who facilitated questions from the audience.**

## Here are some of the words of wisdom from our esteemed speakers.

**Q:** Many foods on the market now have added fibre in them. Is this beneficial to our health?

**A:** Not all fibres are created equal. Different fibres have different effects in the body and all are beneficial. While soluble fibres generally lower blood cholesterol levels, insoluble fibres help to promote regularity and some novel fibres have a prebiotic effect. Products vary in fibre content so look at the label to determine how much fibre it contains.

*- Dr. Christine Williams*

**Q:** For weight management and diabetes, should the focus be on whole grains?

**A:** Whole grains certainly have health benefits for weight management and reduced risk of type 2 diabetes. It is important to remember that not all whole grain foods are a good source of dietary fibre. I encourage high whole grain intake but with adequate fibre that comes from eating a varied diet including whole grains, legumes, fruit and vegetables. Visit [www.kelloggsnutrition.ca](http://www.kelloggsnutrition.ca) to access a tool called 'Fibre Tracker' and see how your food choices contribute to your daily fibre intake. My patients love it!

*- Gina Sunderland*

**Q:** How can parents distinguish between picky vs disordered eating?

**A:** Let's take the example of a teen becoming a vegetarian. What's their reason? If it's spiritual or religious, then that's an explanation for their choice. We have to respect that and help them to become a vegetarian in a healthy way. If the reason is because they fear fat in their diet, then a suspicion about developing an eating disorder may be appropriate. Understanding a teen's motivation for a pattern of change is important in distinguishing between the two scenarios.

*- Dr. Glenn Berall*

**Q:** Why have certain organizations recently proposed reducing the physical activity guidelines for children aged 5-17 years from 90 minutes a day to 60 minutes a day?

**A:** Guidelines for physical activity are an evolving reflection of the science, are evidence-based, and are developed through consensus. As new research suggests, we now see a dose-response relationship at 60 minutes of moderate physical activity, and it is at this threshold that we start getting health benefits. Not only are recommendations based on science, they are meant to be achievable by the population. Of course, the more activity the better!

*- Dr. Lise Gavrin*

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