

# MIND *full*

Over 100 Delicious Recipes for Better Brain Health

CAROL GREENWOOD PHD, DAPHNA RABINOVITCH, & JOANNA GRYFE



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Science of

**Baycrest**

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MINDFULL - OVER 100 DELICIOUS RECIPES FOR BRAIN HEALTH

CAROL GREENWOOD PHD, DAPHNA RABINOVITCH & JOANNA GRYFE

 HarperCollins e-books

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# INTRODUCTION

## LETTER OF INTRODUCTION

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Lasting memories often revolve around food: your grandmother's perfume of garlic, the way chocolate stained your mother's hands, laughing over late-night tubs of ice cream with your sisters. So we thought it fitting that food be a driving force in the battle to save the memories and minds of women and their loved ones everywhere.

*Sixty per cent of Alzheimer's diagnoses are attributed to lifestyle choices; poor eating habits and a lack of physical and intellectual stimulation are stronger drivers for dementia than genetics alone.*

While scientists have researched the nutrition of brain health for years, this information has never been handed over to the home cook. Women of Baycrest, a dynamic volunteer organization focused on brain-health research and healthy aging decided to create a cookbook that would fill the gap. And that's where we came in....

A leading Senior Scientist and Professor of Nutrition and Brain Health with our Rotman Research Institute – one of the top 5 ranked cognitive neuroscience institutes in the world, a professional food writer, baker and recipe developer as well as a curious “foodie” heeded the call to bake, roast, sift, and sauté a delicious translation of the science everyone wants to understand. We are forever indebted to the celebrated cooks, chefs and host of other food professionals across the country who generously contributed to this project. The product of this culinary collaboration is Mindfull – a cookbook that provides food for your table and even more food for thought.

Our hope is that this book will be a valuable tool for sustaining a brain-healthy diet. From dining room dinners to portable snacks, every page bursts with a fresh approach to cooking designed to take you from morning to night.

From the bottom of our hearts, we thank you for including Mindfull in your cookbook collection, and

in doing so, supporting Baycrest, a leader in developing and providing innovations in aging and brain health. It is our hope that each morsel and mouthful advances brain-health science and takes you one meal closer to sharing more meals with your family and friends for a long, long time.

Here's to many healthy helpings,

Carol, Daphna, Joanna and the Women of Baycrest.

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## A MESSAGE FROM BAYCREST

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For nearly a century, Baycrest has continually adapted to changing needs to remain at the forefront of seniors' care and brain research. Today we are recognized as the global leader in innovative care delivery and cutting-edge cognitive neuroscience. Affiliated with the University of Toronto, Baycrest is among the world's most respected academic health sciences centres focused on the needs of seniors and our aging population.

We provide care and service to approximately 2,500 people a day through a unique continuum of care from wellness programs, residential housing, and outpatient clinics to a 472-bed nursing home and a 300-bed complex continuing care hospital facility with an acute care unit.

Baycrest is leading the charge to reshape the future of aging today. The Rotman Research Institute is home to world-renowned researchers, encompassing a broad spectrum of expertise ranging from behavioural neurology to cognitive psychology to neuropharmacology.

At Baycrest, we create, evaluate and transfer new practices, knowledge and products from our health sciences platform and bring them to market to provide a system-wide impact on care delivery, quality of life and health and wellness for an aging population.

Annually, nearly 1,000 students, trainees and other practitioners from 24 universities and colleges have a unique opportunity to experience the delivery of high quality care alongside leading experts on one of the world's most comprehensive campuses of care focused on aging and care of older adults.

Bringing Mindfull into your home is one more way that we are changing what it means to age.

To learn more about Baycrest's activities, visit our website: [www.baycrest.org](http://www.baycrest.org)

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# MINDFULL COOKBOOK: THE SCIENCE OF BRAIN HEALTH

BY DR. CAROL E. GREENWOOD

*In the last 20 years, we have seen a burst of new information which has fundamentally changed our thinking about the human brain. No longer is the brain considered a 'static' organ which ceases to grow beyond adolescence. Instead, we now know it has a wonderful capacity to refresh, to renew and to repair itself and create new brain cells and new connections throughout a person's life.*

Today, what we refer to as "successful aging" embraces this capacity of the brain to grow and renew—even in the face of the challenges of aging. In fact, we now know that our lifestyle choices can have a huge impact on the degree to which we retain our brain's capacity. The health and lifestyle choices we make as early as age 40 can determine our brain's health and function much later in life. So it is never too early to adopt a healthy lifestyle (and never too late!) to promote successful aging, not just for our bodies but also for our brains.

In the next few pages, you will discover what it means to pursue a "brain healthy" lifestyle. Later, you will discover how the food choices you make can play an important role as well. We'll review the current scientific evidence on the best "brain foods", discuss the many myths and misconceptions about the brain, and show you what types of changes to make for your own brain-healthy diet.

Rest assured; all the recipes in this book are both easy to prepare and designed to be consistent with the science behind brain health. Think of them as "stepping stones" on a gradual path towards a diet which increases your ability to strengthen your memory, mental clarity and brain health. All of the information in this cookbook is based on sound science. Wherever possible, we also provide you with helpful links to credible web sites if you choose to further your reading in specific areas.

## A HEALTHY BODY LEADS TO A HEALTHY BRAIN

In addition to eating a brain-healthy diet, there are many things you can do during the day that boost your cognitive function. This information opens each chapter and is linked to specific times of day or meals. Also emphasized are strategies to help us maintain our body weights. That's because the brain is intimately involved in controlling our feelings of hunger and satiety. As you may know, obesity-related disorders can damage the health of your brain. Maintaining a healthy body weight is an

important part of maintaining a healthy brain.

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So the first thing we need to focus on when talking about brain health is the overall health of our bodies. Many chronic disorders including high blood pressure,<sup>1</sup> elevated blood cholesterol<sup>2</sup> and type 2 diabetes,<sup>3</sup> are associated with increased rates of cognitive decline with aging. In some instances, this loss of cognitive function can proceed to actual dementia. We all recognize these as lifestyle disorders which we can control through lifestyle choices, including diet. While adopting a healthy lifestyle may not prevent cognitive decline or dementia, it can help delay the age at which we start to experience symptoms.<sup>4</sup> Here's some advice from the Alzheimer Society of Canada<sup>5</sup> about what you can do to promote healthy brain aging:

## HEADS UP FOR A HEALTHIER BRAIN – ADVICE FROM THE ALZHEIMER SOCIETY OF CANADA

**CHALLENGE YOURSELF** – Research suggests that mental stimulation enhances brain activity and may help you maintain your cognitive function throughout life. This can take many different forms, such as playing mind-challenging games (e.g. chess, crossword puzzles, Sudoku), learning a new language or musical instrument, and staying engaged in hobbies. While playing computer games may help with challenging you cognitively, many computer games have not been scientifically tested for their ability to improve brain function or to help retain cognitive function over time. So if you select 'gaming' as a means of supporting or enhancing your cognitive function, be certain there is scientific evidence supporting any claim.

**BE SOCIALLY ACTIVE** – People who regularly interact with others maintain their brain function better than those who do not. There are many ways to maintain social connectedness – keeping in touch with old friends, volunteering, joining groups, even just saying hello and striking up a conversation with people you meet in public or while shopping.

**BE PHYSICALLY ACTIVE** – Physical activity not only protects you from developing high blood pressure, elevated blood cholesterol and type 2 diabetes, it also has direct benefits on the brain. Even moderate physical activity helps maintain blood flow to the brain. In addition, research suggests that physical activity may help promote the development of new brain cells and aid in making new connections between existing brain cells. You don't have to run marathons or climb mountains, either. In fact most experts say just 30 minutes of moderate physical activity a day, such as walking, are enough to make a significant difference in your health. A component of your exercise should be aerobic to maximize its brain beneficial effects.

**REDUCE STRESS** – As you may know, chronic stress can have adverse effects on your blood



vessels and can trigger the release of hormones which damage brain cells. While reducing stress is sometimes easier said than done, practicing activities like meditation, yoga, Tai Chi, deep breathing, massage and physical activity are all examples of ways to relieve stress.

**PROTECT YOUR HEAD** – With recent media attention, we are all becoming more aware of the terrible danger of concussions and the need to protect our heads. We now know to wear helmets when participating in contact sports or fast-moving sports (e.g. cycling, skiing, skateboarding). And we remember to buckle our seat belt when driving, knowing that hitting the windshield is a common cause of severe head injury that can lead to permanent cognitive loss.

**CHOOSE WISELY** – Avoid harmful habits such as smoking and excessive alcohol consumption. Also, see your family physician regularly and keep on top of your weight, blood pressure and cholesterol. Be sure to get 7-8 hours of sleep whenever possible, as sleep deprivation can have a negative impact on brain function, too.

**HEALTHY FOOD CHOICES** – The Alzheimer Society of Canada suggests that you consume a diet that is high in fruits, vegetables, whole grains, fish (and other sources of [omega-3 fatty acids](#)) and low in saturated fat, salt and alcohol. They also suggest consuming a wide variety of colourful foods and maintain your body weight within a healthy range.

## **EATING YOUR WAY TOWARDS A HEALTHY BRAIN**

There are many scientific studies that show a high quality diet helps protect your brain function as you age. Studies in Canada,<sup>6</sup> Europe and the USA repeatedly demonstrate that a diet high in fruits, vegetables, whole grains, cereals, and fish protects your brain. Conversely, diets high in saturated fat, red meat and highly processed foods are associated with greater rates of cognitive decline and increased risk of developing dementia.<sup>7, 8</sup> A healthy diet filled with fruits, vegetables, whole grains and fish supports your body and brain in so many ways. First, it strengthens your blood vessels, so more oxygen and nutrients can reach every cell in your body. Second, it nourishes areas of your brain that are actively involved with speech, learning, and reasoning. Third, it protects your body and brain against inflammation, which has been linked to many diseases. And finally, a nutrient-rich diet promotes the growth of new brain cells and new neural connections.

## **DELICIOUS BRAIN-HEALTHY NUTRIENTS**

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### ***BRAIN-HEALTHY NUTRIENT: Plant Based Phytochemicals, or Polyphenols.***

These are natural substances found in fruits, vegetables and nuts and range from the anthocyanins in

berries, the resveratrol in red wine, the catechins in green tea, the flavonoids in chocolate, the lycopenes in tomatoes, to the curcumin in turmeric and piperine in black pepper. All of these compounds were originally felt to exert their brain protective effects because of their antioxidant and anti-inflammatory properties. Antioxidants help protect tissues, including the brain, from oxidative stress and inflammation and may reduce the effects of age-related conditions such as Alzheimer's disease or dementia. More recent research suggests that these compounds may also support brain nerve cell communication and survival.<sup>9</sup>

#### *WHERE TO FIND THEM:*

Most plants, including nuts, fruits, vegetables, seeds and spices, especially those that are deeply coloured.

Foods that have been studied for these properties and contain high levels of potent phytochemicals include blueberries, strawberries, pomegranate, tomatoes, green tea, chocolate, grapes and red wine, walnuts, turmeric and black pepper.

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#### *BRAIN-HEALTHY NUTRIENT: **Vitamin E***

Also functions as an antioxidant and is involved in immune function. Higher levels of this vitamin correspond to less cognitive decline as you get older.<sup>10</sup>

#### *WHERE TO FIND THEM:*

Nuts, seeds and oils, including sunflower seeds, almonds, walnuts, hazelnuts, Brazil nuts, cashews, peanuts and peanut butter, sesame seeds, and flax seed and oil.

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#### *BRAIN-HEALTHY NUTRIENT: **Omega-3 Fatty Acids***

[Omega-3 fatty acids](#) are essential for healthy brain function and may help reduce brain inflammation. While fish is the preferred source of omega-3 fatty acids for the brain, those found in other plant foods can also be used by the brain, albeit less efficiently.

#### *WHERE TO FIND THEM:*

Fatty fish including salmon, mackerel, sardines, herring and trout; soybeans; flax, soybean or canola oil; omega-3 fortified beverages or eggs.

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#### *BRAIN-HEALTHY NUTRIENT: **Monounsaturated fats***

Monounsaturated fats contribute to healthy blood flow throughout your body, including your brain. They also help fight high blood cholesterol and hypertension, which are risk factors in cognitive decline.

#### *WHERE TO FIND THEM:*

Avocados, olives, olive and canola oils, nuts including hazelnuts, pecans, almonds, cashews, filberts and pistachios.

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#### *BRAIN-HEALTHY NUTRIENT: **Fibre***

Fibre stabilizes your blood glucose levels and helps lower your blood cholesterol. Your brain depends on glucose for "fuel."

#### *WHERE TO FIND THEM:*

Lentils and beans; whole grains, such as oatmeal, whole-grain breads, and brown rice.

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#### *BRAIN-HEALTHY NUTRIENT: **Folate and Vitamin B<sub>12</sub>***

These vitamins help maintain the health of your blood vessels and are required for many biological reactions essential for brain cell communication.<sup>11</sup> Vitamin B<sub>12</sub> is also needed to maintain the myelin sheath which coats our nerves and allows for faster brain cell communication.<sup>12</sup> While evidence is mounting that these two vitamins can lower your risk of developing dementia, the current evidence remains insufficient to draw firm conclusions.<sup>13</sup>

#### *WHERE TO FIND THEM:*

Folate is found in dark green vegetables like broccoli and spinach and legumes such as chickpeas, beans and lentils. In Canada, folic acid is added to all white flour, enriched pasta and cornmeal products.

Vitamin B<sub>12</sub> is found only in animal foods including eggs, milk, cheese, milk products, meat, fish, shellfish and poultry and fortified foods including rice and soy beverages and soy-based meat substitutes (check the Nutrition Facts for levels in these foods)

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*ADAPTED FROM: [9](#), [14](#) See the Dietitians of Canada web site<sup>15</sup> for more information on good food sources of individual nutrients.*

A wide variety of different nutrients and consequently foods are required to fulfill all of these roles and no one single nutrient is the 'magic bullet'. The best way to ensure that you are getting all of these nutrients is to consume a wide variety of healthy foods. Variety is truly the spice of life!

## SPICE UP YOUR BRAIN FOR HEALTHY AGING

In addition to eating brain-healthy foods, certain spices and herbs can also contribute to your intake of brain protective compounds and help shield your brain from the wear and tear of aging.<sup>16</sup> Some of the more potent spices include turmeric, oregano, vanilla, cinnamon, parsley, basil, sage and pepper. Indian food, for example, contains a potent antioxidant and anti-inflammatory spice called turmeric (curcumin), which is a key ingredient in curry. Because people in India have lower rates of dementia than other countries,<sup>17</sup> scientists are looking at whether curried foods protect the brain from Alzheimer's disease. Many studies conducted in mice report that curcumin protects against inflammation and the cascade of pathologic events contributing to Alzheimer's disease.<sup>18</sup> The relevance of these studies to humans is still awaiting verification,<sup>16</sup> although there is one report of better cognitive performance in elderly Asians who consume curry relative to those who do not.<sup>19</sup>

Scientists are studying other phytochemicals (compounds that occur naturally in plants and are responsible for their colour and taste) in spices (e.g. piperine in black pepper) and foods (e.g. green tea, blueberries, cocoa) which also have antioxidant and anti-inflammatory properties. Similar to results with curcumin, consumption of the isolated phytochemicals or intact food associates with better cognitive performance and less indication of damage to brain areas involved in Alzheimer's disease in animal based studies.<sup>20, 21</sup>

Clearly, the phytochemicals in both the foods and spices that we eat can play an important role in protecting our brains. In general, we get much more phytochemicals from fruits and vegetables, compared to spices, simply because we eat larger quantities of them. While spices and herbs can contribute to the healthful properties of our diet, we should still be using them primarily for their taste and as a strategy to help increase our fruit, vegetable and grain intakes by enhancing their appeal.

## 6 BIG MYTHS ABOUT DIET AND BRAIN HEALTH

### I CAN WAIT UNTIL I'M OLDER BEFORE WORRYING ABOUT BRAIN HEALTH

Recent evidence suggests that our health status in our 50s is a better predictor of risk for cognitive decline in later life. This is particularly true with respect to obesity and other chronic disorders which compromise brain function.<sup>22, 23</sup> As we said before, it is never too early or too late to adopt a brain healthy lifestyle.

## I DON'T HAVE A HISTORY OF DEMENTIA IN MY FAMILY, SO WHY SHOULD I WORRY?

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While a number of genes have been identified which increase risk of dementia, the presence of these genes only accounts for 30-40% of late-life dementia. This means that our lifestyle choices, exposure to toxins, occupation, stress level, and socio-economic status play a larger role in our brain health than our genes!<sup>24</sup> These are all areas over which we have some control.

## I CAN FOCUS ON A FEW HEALTHY FOODS AND NOT WORRY ABOUT THE REST OF MY DIET

We need a large variety of nutrients to support optimal brain function. While some foods may be high in antioxidants, others will be high in other healthful nutrients. Unless you choose foods across all food groups (e.g. meat and meat alternatives, dairy, grains, fruits and vegetables) and across all classes of foods within a food group (e.g. berries, citrus, tree fruits) you run the risk of not meeting all of your nutritional needs. You don't have to give up all your "treats" – but they should be eaten only in moderation.

## I DON'T HAVE TIME TO PREPARE HEALTHY MEALS

Many of the recipes included in this cookbook can be prepared in 30 minutes or less. If you can boil water or cook pre-packaged pasta or microwave frozen foods—you can easily handle these recipes. What's more, home-prepared meals bring more flavour to your plate and help you avoid excessive salt intake. This is important because high levels of salt have been associated with more rapid cognitive decline, especially in those who live a sedentary lifestyle.<sup>25</sup>

## YOU CAN'T PROVE THAT CERTAIN FOODS OR NUTRIENTS IMPROVE BRAIN AGING

Well, actually, we can. There are dozens of studies like the ones mentioned above which demonstrate that people who consume a healthier diet are more likely to retain their cognitive function with aging. However, these studies simply show associations – those who eat a healthy diet also have better brain function. To provide absolute proof, we need to explore what happens when individuals with a poor diet actually change their eating habits. These types of studies are currently underway and we are awaiting the results. At present, there is one report of the adverse brain effects of adults at risk for Alzheimer's disease changing their diet to one which is high in saturated fat and [high glycemic index](#) carbohydrate foods for four weeks.<sup>26</sup> The results of this study show us that the brain responds quickly to a poor quality diet. The more important question awaiting an answer is what happens when someone improves their diet.

## IF A LITTLE BIT OF A VITAMIN IS GOOD, THEN MORE IS BETTER

This is absolutely not true. Most of the studies relating to vitamin (or mineral) intake and poor cognitive function include individuals who are vitamin (or mineral) deficient. So, correcting a nutrient deficiency is absolutely a good thing. As we increase our intake of vitamins and minerals, we improve the biologic processes that rely on them, up to a maximal level. Nutrient requirements are established to reflect the level of nutrient intake which supports optimal function. Intake over and above this level is not helpful and can lead to toxicity. In this sense, you can consume too much of a good thing—even vitamins. It is highly unlikely that you would ever achieve toxic levels of a nutrient by eating food alone, but this could occur if you were also taking high doses of nutritional supplements or frequently consuming fortified foods.<sup>27</sup>

## RECOMMENDATIONS FOR A BRAIN-HEALTHY DIET

You've probably heard about the health benefits of the "Mediterranean diet". The Mediterranean diet is rich in fruits, vegetables and grains. It relies primarily on olive oil as a source of fat, and fish, chicken, dairy products and beans as sources of protein. While red meat is consumed, it is eaten monthly, rather than weekly or daily.

The Mediterranean diet is a heart-healthy eating plan that also happens to lower your risk of dementia too. In fact, these findings are even observed in older adults residing in areas far from the Mediterranean, such as New York City.<sup>28</sup> The brain health benefits of the Mediterranean diet have been attributed, in part, to its high reliance on [polyphenol-rich foods](#), including fruits, vegetables and nuts.<sup>29</sup>

While this is clearly one approach to brain-healthy eating, it's not the only one.<sup>6</sup> Many styles of cooking (e.g. Asian, North American, and European), can all support better brain health provided they are rich in fruits, vegetables and grains and low in fat and highly processed foods.<sup>8</sup> This gives you the opportunity to bring greater variety into your diet, and the freedom to explore different tastes and cuisines. That's why the recipes in this cookbook embrace a multi-ethnic perspective and draw upon a vast array of foods, especially fruits, vegetables, grains and fish.

It is also true that there is no one specific 'diet' that is better than all others when you want to change your eating habits to lose weight. While some 'diets' may assist with more rapid weight loss in the first few weeks; the only factor that predicts whether you lose weight and keep it off is your ability to adhere to the diet.<sup>30</sup> That's why the recipes in this cookbook draw on familiar foods that are easy to prepare. General guidelines and not specific 'formulas' are given as there are many ways to adopt [healthy eating patterns](#). This makes changing your diet to a more healthful one that supports not only brain health but also helps you to maintain your body weight easy since it allows you to choose tastes

and textures that you enjoy.

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## USING THE NUTRITION INFORMATION IN THIS BOOK

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All of the recipes in this book provide you with important nutrition information. For example, we give you both the weight (in grams or mg) of the nutrient and its percentage of Daily Value (%DV) in a single serving.

We intentionally focused on nutrients that most individuals need to either reduce (such as fat or sodium) or increase (fibre) to support brain-healthy eating.

The nutrient values for the recipes were calculated using Food Processor – ESHA software<sup>31</sup> and database and within that the Canadian Nutrient File<sup>32</sup> whenever possible.

All calculations were based on: 1) the first ingredient listed when there was a choice; 2) smaller ingredient amounts if there was a range; 3) 1% milk and low-fat yogurt, unless otherwise specified; 4) optional ingredients were not included. Nutrient values have been rounded off to the nearest whole number or 0.5 in the case of saturated fat. This information was then used to calculate the %DV based on the same principles employed in the nutrition fact table, as outlined by Health Canada.<sup>33</sup>

When it comes to fruits and vegetables, it's simply important that you eat more of them, rather than worry about the individual nutrients in each. So we encourage you to do that.

As for Percentage Daily Value, it is a part of the nutrition fact table on packaged foods that we are now all familiar with. The %DV is not meant to be used in absolute terms; rather it can help guide you on whether a specific food, or in this case recipe, has a lot or a little of a particular nutrient and help you compare foods.<sup>33</sup>

The Percentage Daily Value is simply meant to help you make better food choices – not to suggest that these values add up to 100% at the end of the day. We did, however, use the %DV to help guide us, especially for fat and sodium. We wanted to ensure that as we recommend lowering your fat and sodium intakes that we are providing you with recipes that enable you to do so. Wherever possible, we try to keep fat and sodium content below 20%DV although we were not able to achieve this in all of the recipes, especially those that are meat based.

With meat-based recipes, we tried to keep %DV below 30% for fat. Since these recipes only represent one of several meals and snacks that you may eat daily, you can still keep your daily fat intake low by drawing upon plant-based recipes (e.g. salads, grains, beans) at other meals during the day.

It is important to recognize that while the %DV was developed to help Canadians consume an overall



healthy diet, there is currently no information to suggest that the brain's nutrient needs are different from those reflected in an overall healthy diet.

## CALORIES

Caloric, or energy needs, vary greatly among individuals and are dependent on factors such as genetics, body size and body composition. Our level of physical activity also has a profound effect on our daily energy needs. As a general guideline, Health Canada suggests that females aged 51-70 yrs should consume between 1650-2100 calories/day and males in the same age bracket should consume between 2150-2650 calories/day.<sup>34</sup>

These recommendations decrease by about 100 calories/day for people over 70 years of age. This range reflects the impact of physical activity on our daily energy needs. As a general principle, we should adjust our levels of physical activity and daily energy intake to maintain a healthy body weight. It is much healthier to do this by increasing physical activity rather than by decreasing energy (caloric) intake.

Individuals with very low energy intakes (calories) increase their risk of nutrient deficiencies because they are not consuming enough food. According to Health Canada's guidelines, we should aim to engage in 60 minutes of moderate activity each day – such as walking. This is in addition to the activity of simply going about your day. This amount of activity should not only help prevent weight gain but also enable you to gain the additional health benefits of physical activity.<sup>34</sup>

## PROTEIN

The Recommended Dietary Allowance for protein is 0.80g of good quality protein for each kilogram of body weight per day for both men and women.<sup>35</sup>

Most Canadians habitually consume protein well in excess of this level. As a result, your choice of protein should be based more on its overall quality rather than quantity. Be certain to rely on fish, poultry, dairy products, nuts and beans as your best choices for lean, brain-healthy protein.

## CARBOHYDRATES

Our specific requirement for glucose – usually consumed in the form of carbohydrate – is actually very low, just 130g a day.<sup>36</sup> That's much less than what most people eat each day.

The most important role that dietary carbohydrate serves is as a healthier source of energy compared to fat. Current recommendations are to consume a diet that contains 45-65% of calories as

carbohydrate and 20-35% as fat.<sup>37</sup>

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This balance of carbohydrate to fat is a prudent choice for lowering the risk of heart disease, obesity and obesity-associated disorders. Be certain to draw on complex carbohydrates (whole grains and cereals) versus refined carbohydrates (breads, cakes, cookies) as these carbohydrate sources have been associated with better retention of cognitive function with aging.

## FATS AND CHOLESTEROL

Fat provides energy, helps in the absorption of fat soluble compounds including vitamins, and contributes to texture and palatability of foods and is an important component of our diet.

Our actual requirements for fat are low and specific for the [omega-6 and omega-3 fatty acids](#) found in plant based oils and fish. Canadians, in general, need to focus on reducing total fat intake; especially saturated and trans fats.

High intakes of saturated fat, found predominantly in meats and higher fat dairy products, and trans fat, found in shortenings, hard margarines and commercially baked products, can increase blood cholesterol levels and risk of heart disease. By contrast, replacing saturated fat with monounsaturated fat sources, as we have done in this cookbook by using olive and canola oils, helps lower cholesterol.<sup>38</sup> Reducing your intake of fats found in meat will also help you reduce your cholesterol intake, since cholesterol is predominantly found in animal-based foods. In addition to increasing your risk for heart disease, high saturated fat diets are also implicated in accelerated cognitive decline and dementia risk.<sup>39</sup>

Current recommendations are to limit your intake of total fat to 20-35% of calories, your intake of saturated fat to no more than 10% of calories and to avoid trans fat. To achieve this, an individual consuming a 2000 calorie diet would limit their total fat intake to 65g/day and saturated fat intake to 20g/day. These are the values used when calculating the %DV for total and saturated fat. Following these guidelines will also help you lower your cholesterol intake below the 300 mg/day listed on the Nutrition Facts label and used to calculate its %DV.

## FIBRE

Fibre is not only an important contributor to the health of our intestinal system, but also confers other health benefits, including reducing the risk of heart disease, diabetes, obesity and certain types of cancer.<sup>40</sup> Since these diseases are also risk factors for cognitive decline and dementia, it is likely through fibre's ability to lower risk for these diseases that higher intakes are also implicated in better cognitive health. Current recommendations for fibre suggest that an adequate intake of fibre is 25 and

38 g/day for women and men, respectively.

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## SODIUM

While an adequate intake of sodium in the diet is 1300 mg/day for adults aged 51 – 70 yrs and 1200 mg/day for those over 70 years,<sup>41</sup> Canadians, on average, are consuming close to 3 times this amount.<sup>42</sup>

Current recommendations are to lower our sodium intakes such that we do not exceed 2300 mg/day.<sup>43</sup> To help you visualize this, a teaspoon of salt contains 2300 mg of sodium (the other part of the salt particle is chloride). While these recommendations are predominantly aimed at heart health, one study suggests that lowering salt intake could also be beneficial for brain health, especially in those with a sedentary lifestyle.<sup>25</sup>

Since over 75% of the sodium we eat is found in processed food, moving towards home prepared meals which draw on fresh ingredients will help you achieve this sodium reduction.

## SUMMARY

The best way to meet your nutrient needs and consume a diet which supports brain health is to take advantage of the wide variety of fruits, vegetables, nuts and grains available in today's marketplace. Abstinence from any one single food is not required, but do remember to frequently replace red meat with fish, poultry, eggs and plant-based protein foods such as nuts and beans, to include fruits and vegetables at each meal and to limit your intake of less healthful foods and use them as treats, reserved for special occasions.

**We hope this cookbook helps you lay the foundation for brain healthy eating.**

Chapter



The First  
Fuel  
Zone:  
Breaking  
The Fast

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## CHAPTER 1

# THE FIRST FUEL ZONE

## BREAKING THE FAST

*You probably know that having your children eat a healthy breakfast helps support their ability to learn and grow. But as adults, we often forget that we need to feed our body and brain throughout our life. Eating a healthy breakfast not only helps us think and perform at our peak during the day, it also helps us maintain a proper body weight.*

### BREAKFAST AND BODY WEIGHT

That's right; eating helps us to maintain our body weight! Individuals who regularly eat breakfast have lower body weights and lower body mass indices (BMIs) compared to those who skip breakfast. This is true not only in children and adolescents,<sup>43</sup> but also in adults. For example, this benefit of breakfast intake was reported by physicians in the USA who are participating in a physician health study.<sup>44</sup> Changing eating patterns to routinely include breakfast may be especially important for those who have dieted to reduce weight. Individuals who included breakfast in their lifestyle, after losing weight, were more successful in keeping the extra pounds off, compared to those who were not eating breakfast.<sup>45</sup>

Eating breakfast helps us control our hunger over the course of the day. Not experiencing hunger can help us avoid snacking between meals and over-eating at meals. The type of foods we choose during the day can also help us control our hunger.

### PROTEIN AND SATIETY

The potential to curb appetite and reduce feelings of hunger has led many researchers to study the satiating properties of different types of food.

Protein is considered one of the most satiating of nutrients (compared to carbohydrates and fat). This means it helps us feel "full" for longer periods of time and helps us reduce the amount of food that we consume at our next meal.<sup>46</sup>

The proteins found in dairy products are of special interest. While the evidence is still growing, research suggests that casein and whey, the major proteins in dairy products, are especially satiating. In addition, their metabolic processing may help us reduce the risk of developing metabolic syndrome – a health condition associated with increased risk of cognitive decline and possibly dementia.<sup>47,48</sup>

You can easily add dairy foods at breakfast by including milk, low fat yogurt and low fat cheese in your 'breakfast pantry'. Not only can this help you sustain a healthy body weight and better metabolic control, it can also help you get your recommended daily amount of calcium and vitamin D intake – two nutrients that are often lacking in the typical Canadian diet.

Have a little fun meeting your dairy requirements. For instance, try the [Parliament Hill Smoothie](#) -- a smoothie recipe provided by Laureen Harper. Or explore other dairy-based breakfast meals such as the [Overnight Swiss Chard, Sun-Dried Tomato And Mushroom Strata](#) or [Blintz Envelopes With Blueberries](#). All of these recipes have the added advantage of including fruit or vegetables and other healthy ingredients to improve their nutritional profile.

## WHOLE GRAINS AND SATIETY

Whole grains and other high fibre foods also help reduce your feelings of hunger. The argument here is that whole grains are slowly digested and absorbed. As a result, the glucose in these carbohydrates enters our body more gradually, and helps us maintain our blood glucose levels for longer periods of time to reduce our feelings of hunger.

Also, because whole grains pass slowly through your body, the simple presence of food in your digestive system sends signals to your brain that say "I'm full." There is evidence that high fibre food can reduce your appetite, too.

However, there is still some debate as to which type of fibre is best.<sup>49,50</sup> Fibre can be classified as either soluble or insoluble. Many whole grains are high in insoluble fibres, such as cellulose, which are best known for their ability to prevent constipation. Soluble fibre, on the other hand, is known for its ability to help lower blood cholesterol. Soluble fibre can be found in grains like oats as well as fruits and vegetables. Ultimately, we need to include both types of fibre in our diet. Draw upon recipes such as the [Easy Maple Granola](#), [Sweet Potato Waffles](#) and [Winter Fruit Compote](#) as easy and tasty ways to increase your intake of both types of fibre.

## HOW TO USE THIS INFORMATION

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So how do you make sure that you are eating a healthy breakfast? Well, there are a number of healthy choices. Foods that are high in protein or in [low-glycemic-index carbohydrates](#) can help you control your appetite and maintain your body weight. Both types of foods also contribute other important nutrients which are beneficial to your overall health. The good news is that you can bring variety into your breakfast, knowing you are giving your body a healthy start to the day.

Remember that maintaining a healthy body weight and controlling your cholesterol are key aspects of a brain-healthy diet. The breakfast recipes provided here were all developed to help you do this. They are low in fat and high in whole grains, fruits and vegetables. They will help contribute to your feelings of satiety throughout the day and also draw on foods which help you control your cholesterol levels and improve your overall health and metabolism.

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## CHAPTER 1

# THE FIRST FUEL ZONE

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Sweet Potato Waffles

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Whole-Wheat Oatmeal Blueberry Pancakes with Ricotta Topping – Dale Mackay

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Blintz Envelopes with Blueberries

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Shakshuka with Warmed Zaatar Pita

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Morning Hash with Faux Poached Eggs

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Overnight Swiss Chard, Sun-Dried Tomato and Mushroom Strata

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Breakfast Crostini with Ricotta, Honey and Figs

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Fruit Bruschetta

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Easy Maple Granola

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Breakfast Burritos – Nettie Cronish

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Parliament Hill Smoothie – Laureen Harper

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Winter Fruit Compote



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