

**HEALTHY**  
*Eating*  
**FOR**  
**HEALTHY**  
*Aging*

A NUTRITION EDUCATION KIT FOR  
COMMUNITY LEADERS INTERESTED  
IN HELPING OLDER ADULTS  
LEARN ABOUT HEALTHY EATING.

# Healthy Eating for Healthy Aging

**A nutrition education kit for community leaders interested in helping older adults learn about healthy eating.**

**July 2003, Nutrition Resource Centre - Healthy Eating for Healthy Aging**

The Healthy Eating for Healthy Aging Kit has been developed for community leaders who have the opportunity to incorporate healthy eating information into programs they are currently running or planning for older adults.

The development of this resource was supported by the Ontario Ministry of Health and Long-Term Care through the Ontario Stroke Strategy. The incidence of stroke in Ontario is fast becoming one of critical proportions. Currently, at least 90,000 Ontarians are living with the effects of stroke, such as motor, sensory, cognitive or communication deficits. As the population of Ontario ages, the number of strokes is expected to increase. It is now known that stroke is highly preventable. (Report of Joint Stroke Strategy Working Group, Ministry of Health and Long Term Care, June 2000)

The number of Ontarians at risk of stroke can be significantly reduced through lifestyle modifications such as smoking cessation, increased physical activity, good eating habits, reduction of high blood pressure and avoidance of excessive alcohol consumption. (Report of Joint Stroke Strategy Working Group, Ministry of Health and Long Term Care, June 2000). With the development of this nutrition education kit, the NRC has worked to "tie together" existing materials and resources related to promoting the nutritional health of older adults.

## **Acknowledgement:**

The NRC would like to thank Nutridata Consulting Services for project coordination services. As well, the NRC would like to acknowledge the members of the Working Group who provided valuable input for the development of this resource: Ann Armstrong RD, North Kingston Community Health Centre  
Julie Fung RD, Black Creek Community Health Centre, Toronto, Erin Gilgan, MHSc. student, University of Toronto, Pat Vanderkooy RD, Evergreen Action Nutrition - Evergreen Seniors Centre, Guelph

The NRC would also like to acknowledge the following for their assistance in development of this kit:  
The Graffic Link Design Studio, Brantford, Clear Language and Design, Toronto, Concorde French Communications Ltd., Toronto

## **Potential Users of the Kit:**

- Dietitians and nutritionists in public health units and community health centres
- Health promoters in public health units and community health centres
- Health educators in community centres and seniors residences
- Community Food Advisors

## **Audience:**

The materials in this kit have been developed for adults 50 years of age and older. A number of physiological changes occur throughout the aging process. In addition, nutritional needs change after the age of 50 years. For example, recommendations for calcium and vitamin B6 increase and iron recommendations for women decrease.



## Content of Healthy Eating for Healthy Aging Kit

The Kit includes:

### Background Information

1. Evergreen Action Nutrition: Lessons learned planning and implementing nutrition education for seniors using a community organizations approach. Hedley MR, Keller HH, Vanderkooy PD, Kirkpatrick SI. J Nutr Elderly 21(4):61-73, 2002. This article can be found in the front flap of the folder cover.
2. List of 9 additional references and abstracts from a literature search of the past few years on nutrition and the older adult. These can be found at the end of this booklet.

### Handouts

3. 10 fact sheets on a number of nutrition related topics of interest to the older adult, adapted from a variety of sources and edited for a literacy level of grade 6. These fact sheets can be found in the back flap of the folder cover.

### Suggested Activities

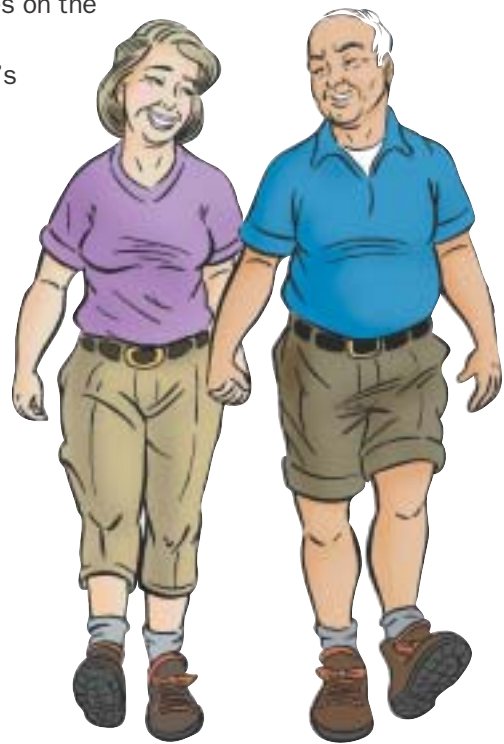
4. Suggested activities, which can be used with the presentations, can be found in the pages that follow:
  - a. Recipe demonstrations
  - b. Discussion topics
  - c. Quiz challenges

### Ready-to-use Presentations (cd or disk in front flap)

5. Three ready-to-use presentations which can be combined in a number of ways according to time and interest. The presentations can be found in PowerPoint files on the compact disc provided.
  - a. Healthy Eating for Healthy Aging – a closer look at Canada's Food Guide to Healthy Eating;
  - b. Nutrition and Health for Older Adults – identifies specific nutrient needs and chronic disease concerns related to aging;
  - c. Shopping for One or Two – addresses what to look for at the grocery store to address nutrient needs as well as how to shop economically.

### Additional resources of interest

6. Web site links to information on nutrition issues for the older adult and additional fact sheets and resources available to download can be found following the Suggested Activities in this booklet.
7. The complete booklet and 10 fact sheets are provided in PDF files on the compact disk included with the folder.



# Suggested Activities

## Suggested Recipes for Demonstrations

### Fruit Smoothie (serves 2-4)

Orange juice \* . . . . .2 cups  
 Banana \*\* . . . . .1 piece  
 Pineapple \*\* . . . . .1 slice  
 Honey \*\*\* . . . . .1 tablespoon  
 Crushed ice . . . . .1 cup

Alternatives:

- \*milk
- \*\*any combination of fruits  
(peach, apples, berry, kiwi)
- \*\*\*maple syrup



Blend 15 seconds. Enjoy!

Reproduced with permission from: Garcia A, Johnson S, 1999. Nutrition and Physical Activity for Immigrant Older Adults: A resource manual for educational interventions. Acadia University, NS.

### Fruited Yogurt (serves 2-4)

Plain low fat yogurt . . . . .1 cup  
 Grated or chopped apple\* . . . . .1 cup  
 Chopped walnuts\*\* . . . . .2 tbsp  
 Maple syrup\*\*\* . . . . .2 tbsp  
 Cinnamon and nutmeg . . . . .pinch  
 Raisins . . . . .2 tbsp

Alternatives:

- \*other fruit (kiwi, pear)
- \*\*other nuts
- \*\*\* honey or a dash of vanilla



Combine all ingredients and chill.  
 Eat alone or with fresh/canned peaches/pears.  
 Refrigerate unused portion.

Reproduced with permission from: Garcia A, Johnson S, 1999. Nutrition and Physical Activity for Immigrant Older Adults: A resource manual for educational interventions. Acadia University, NS.

### Apple and Celery Salad (serves 4-6)

Lemon rind . . . . .1 tsp  
 Lemon juice . . . . .2 tbsp  
 Brown sugar . . . . .2 tsp  
 Apples, unpeeled, diced . . . . .5 large  
 Celery stalks, chopped . . . . .4 pieces  
 Mozzarella cheese, diced . . . . .1/4 pound  
 Ginger root (finely grated) . . . . .1/2 tsp  
 Mayonnaise . . . . .1/3 cup  
 Plain yogurt . . . . .1/2 cup

Optional ingredients:

Unsalted peanuts, chopped . . . . .1/4 cup  
 Dried raisins . . . . .1/4 cup

1. Mix lemon rind, lemon juice and brown sugar in a bowl
2. Mix in chopped apples, celery and cheese
3. Stir the ginger root, mayonnaise and yogurt in a small bowl
4. Mix the mayonnaise mixture with the rest of the ingredients
5. Sprinkle with chopped peanuts and raisins, if using.

Adapted from Brockest B, Lynch-Volelzang S. 1997. Cooking Healthy Together: Program Manual. Toronto Public Health, ON.



### Bean Salad (serves 4-6)

Red kidney/black beans . . . . .1 can  
(19 oz/540mL)  
Red bell pepper (diced) . . . . .1/2 whole  
Green bell pepper (diced) . . . . .1/2 whole  
Tomato (diced) . . . . .1 large  
Red onion (finely chopped) . . . . .1/2 small  
Corn . . . . .1 can  
Lime, fresh . . . . .1  
Vegetable oil . . . . .2 tbsp  
Cumin . . . . .1 tsp  
Red pepper, dried flakes . . . . .to taste  
Parsley to garnish . . . . .optional

1. Drain and rinse the beans and corn. Mix with red and green bell peppers, tomato and onion
2. Squeeze juice from lime. Mix with vegetable oil, cumin and red pepper flakes. Stir into bean mixture.
3. Refrigerate for 2 to 3 hours, mixing occasionally, before serving. Garnish with parsley, if using.

Adapted from Brockest B, Lynch-Volelzag S. 1997. *Cooking Healthy Together: Program Manual*. Toronto Public Health, ON.



### Meatballs (makes about 20 meatballs)

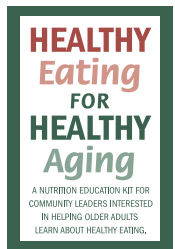
Lean ground beef . . . . .1 pound  
Egg . . . . .1 large  
Bread crumbs (fine & dried) . . .1/4 cup  
Onion (finely chopped) . . . . .1 small  
Salt . . . . .1/2 tsp  
Pepper . . . . .1/4 tsp  
Garlic powder (optional) . . . . .1/2 tsp

1. Preheat oven to 350°F.
2. In a large bowl, beat egg and bread crumbs. Stir in onion, salt, pepper and garlic (if using). Add the meat and mix until well blended.
3. Form 1 tablespoon of meat mixture into a ball and place on a baking pan.
4. Bake for 25 minutes or until browned and no longer pink inside (or thermometer reads 160°F or 71°C).

Helpful tips:

- You can use an ice cream scoop to help form the meatballs
- You can double this recipe and freeze the cooked meatballs in small packages for another meal.

Adapted from Brockest B, Lynch-Volelzag S. 1997. *Cooking Healthy Together: Program Manual*. Toronto Public Health, ON.



## Stir-fried Vegetables (serves 4)

Mixed vegetables . . . . .3 cups  
Soy sauce . . . . .1 tbsp  
Corn or canola oil . . . . .2 tbsp

Optional ingredients:

- Sesame oil . . . . .1 tsp
- Hot pepper sauce . . . . .2 drops
- Garlic cloves . . . . .1 or more
- Ginger . . . . .1 tbsp

Your choice of vegetables may include any combination of fresh vegetables in season or frozen vegetables, especially during the winter months.

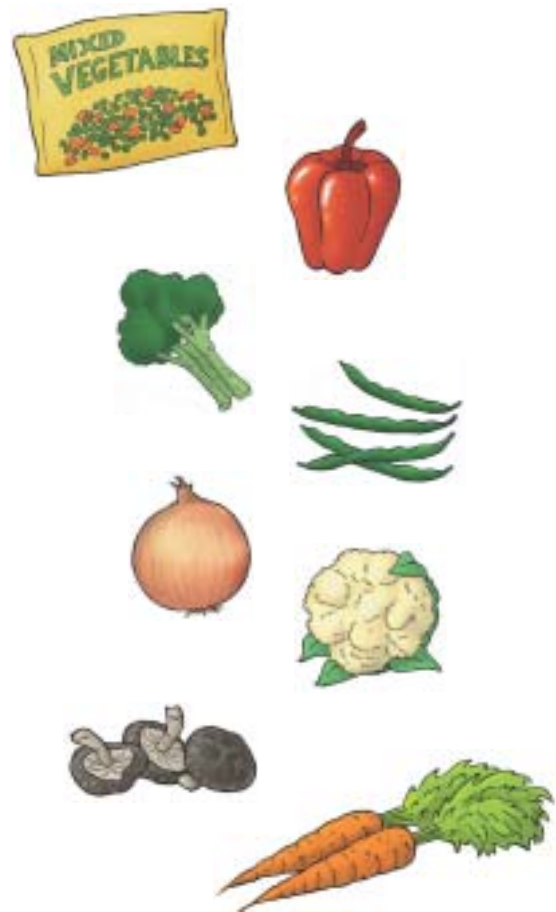
Some tasty choices include:

- Onions
- Cauliflower
- Bean sprouts
- Zucchini
- Carrots
- Broccoli
- Snow peas, green peas
- Sweet bell peppers (green, yellow, red)
- Shredded cabbage
- Mushrooms
- Celery

1. Cut vegetables, keeping them separate from each other. Finely chopped spices such as garlic and ginger release more flavour compared to larger chopped pieces.
2. In a large frying pan or wok, heat the oil over medium-high heat.
3. Optional ingredients such as sesame oil, hot pepper sauce, garlic and ginger should be added to the hot oil before adding the vegetables.
4. Add the vegetables, one group at a time, starting with the firmer vegetables. Stir fry for 1 to 2 minutes between each group before adding the next.
5. Toss vegetables with soy sauce and serve immediately.

Helpful hint: carrots, cauliflower and broccoli are firm vegetables. To soften them, you can place the raw vegetables in a pot of boiling water for 30 seconds then drain immediately.

Adapted from Brockest B, Lynch-Volelzang S. 1997. Cooking Healthy Together: Program Manual. Toronto Public Health, ON.



# Suggested Discussion Topics:

## 1. Discuss ways to increase calcium intake.

### a. Milk product suggestions

- i. Add skim milk powder to meatloaf, casseroles, sauces (e.g. tomato sauce). The amount added could be 1 rounded tablespoon; the recipe would not change.
- ii. Have lattes more often (1/2 coffee and 1/2 warmed milk); for a more cappuccino like flavour try 1/2 coffee and 1/2 warmed chocolate milk.
- iii. Try puddings and custards rather than drinking milk – this way you still get the vitamin D in the fluid milk.

### b. Experiment with new foods

- i. Fortified soy or rice beverages
- ii. Fortified orange juice is now available
- iii. Try new recipes with canned salmon
- iv. Try tofu mixed into stir-fries

### c. Use the “Calcium Calculator” (English only) or the “Non-Dairy Calcium Sources” handouts to discuss options with your group

## 2. Discuss meal ideas to make sure all four food groups are incorporated into the meal plan. Issues to explore include:

### a. Including all four food groups

### b. Vegetarian options

### c. Menu options with softer foods for those with chewing difficulties (use the handout on “Eating Soft Foods” for ideas)

### d. Selecting one food item from each food group and building a meal around it

- i. e.g., Grain Product – pick pizza bread as the main item, then add foods from the other three food groups like cheese, broccoli, onions, tomato sauce, spinach and chicken slices.
- ii. e.g., Vegetables and Fruit – pick romaine lettuce as the main item, then add foods like feta cheese, sliced BBQ steak, chick peas or hard-cooked eggs, more vegetables like snow peas, carrots, cucumbers, tomatoes, and radishes, crusty whole wheat bun to have with the salad.



**HEALTHY  
Eating  
FOR  
HEALTHY  
Aging**

A NUTRITION EDUCATION KIT FOR  
COMMUNITY LEADERS INTERESTED  
IN HELPING OLDER ADULTS  
LEARN ABOUT HEALTHY EATING.



**3. Bring a number of food packages in and have the group discuss the nutrition labelling information on the packages.**

Participants can compare similar products (e.g., crackers) to see which have more fibre, and which has less fat or sodium.

**4. Increased physical activity is one important behaviour change which can reduce the risk of many chronic diseases as we age.**

Discuss the ways that people in the group can make simple changes to increase their activity levels.

**a. Use “Canada’s Physical Activity Guide for Older Adults”,** which can be downloaded from: <http://www.hc-sc.gc.ca/hppb/paguide/older/pdfs/guide.pdf>

**b. Suggest activities such as walking** (are there mall walking groups in your community?), **gardening in the summer, and simple stretching exercises.**

For a younger group (50-65 years of age) or healthy, active group, more formalized activities such as swimming/aquafit, lawn bowling, yoga and dance classes may be appropriate.

## Suggested Quiz Challenges

**These quiz challenges are interactive questions that can be incorporated into the presentation to apply knowledge in a practical way.**

For example, two Nutrition Facts tables can be compared as in quiz challenge: (1), (2), and (3), or identifying foods that are a key source of a nutrient as in quiz challenge (4) and (5). In addition, they can be used as a starting point for a discussion on a relevant topic.

- Here are the Nutrition Facts tables for two cereals.  
Which has the lower fat content?  
Which has the higher fibre content?

Nutrition Facts	
Per (30g or 250mL)	
Amount	% Daily Value
<b>Calories</b> 100	
<b>Fat</b> 0.6g	0%
Saturated Fat n/a + Trans Fat n/a	
<b>Cholesterol</b> n/a	
<b>Sodium</b> 260mg	11%
<b>Carbohydrate</b> 24g	8%
Fibre 4.3g	17%
Sugars 4.1g	
<b>Protein</b> 3.3g	
Vitamin A 0%	Vitamin C n/a
Calcium 1%	Iron 28%

Bran Flakes

Nutrition Facts	
Per (30g or 300 mL)	
Amount	% Daily Value
<b>Calories</b> 110	
<b>Fat</b> 0.2g	0%
Saturated Fat n/a + Trans Fat n/a	
<b>Cholesterol</b> n/a	
<b>Sodium</b> 215mg	9%
<b>Carbohydrate</b> 26g	9%
Fibre 0.8g	3%
Sugars 2.3g	
<b>Protein</b> 2.1g	
Vitamin A 0%	Vitamin C n/a
Calcium 0%	Iron 28%

Corn Flakes





2. Here are the Nutrition Facts tables for two yogurts.  
Which has the lower fat level?  
Which has the most calcium?

Nutrition Facts	
Per 175g	
Amount	% Daily Value
<b>Calories</b> 170	
<b>Fat</b> 4.5g	7%
Saturated Fat n/a	
+ Trans Fat n/a	n/a
<b>Cholesterol</b> 10mg	
<b>Sodium</b> 85mg	4%
<b>Carbohydrate</b> 27g	9%
Fibre 0g	0%
Sugars n/a	
<b>Protein</b> 6g	
Vitamin A 15%	Vitamin C 0%
Calcium 20%	Iron 0%

Yogurt 2.5% M.F.

Nutrition Facts	
Per 175g	
Amount	% Daily Value
<b>Calories</b> 130	
<b>Fat</b> 0.5g	1%
Saturated Fat 0.3g	
+ Trans Fat 0g	2%
<b>Cholesterol</b> 4mg	
<b>Sodium</b> 125mg	5%
<b>Carbohydrate</b> 26g	8%
Fibre 0g	0%
Sugars n/a	
<b>Protein</b> 8g	
Vitamin A 8%	Vitamin C 4%
Calcium 25%	Iron 0%

Yogurt Fat Free

3. Here are the Nutrition Facts tables for three cookies.  
Compare the serving sizes and fat content.

Nutrition Facts	
Per 44g (2 cookies)	
Amount	% Daily Value
<b>Calories</b> 230	
<b>Fat</b> 11g	17%
Saturated Fat 2.2	
+ Trans Fat n/a	11%
<b>Cholesterol</b> 5mg	
<b>Sodium</b> 87mg	3.5%
<b>Carbohydrate</b> 31g	10%
Fibre 0.6g	2%
Sugars n/a	
<b>Protein</b> 1.8g	
Vitamin A n/a	Vitamin C n/a
Calcium n/a	Iron n/a

Maple Cookie

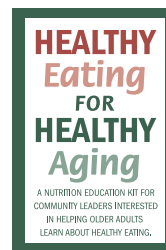
Nutrition Facts	
Per 40g (8 cookies)	
Amount	% Daily Value
<b>Calories</b> 185	
<b>Fat</b> 5.7g	9%
Saturated Fat 1.4	
+ Trans Fat n/a	7%
<b>Cholesterol</b> 0mg	
<b>Sodium</b> n/a	
<b>Carbohydrate</b> 30g	10%
Fibre n/a	
Sugars n/a	
<b>Protein</b> 2.8g	
Vitamin A n/a	Vitamin C 0%
Calcium 2%	Iron 8%

Social Tea Cookie

Nutrition Facts	
Per 40g (3 cookies)	
Amount	% Daily Value
<b>Calories</b> 142	
<b>Fat</b> 2.6g	4%
Saturated Fat 0.6	
+ Trans Fat n/a	3%
<b>Cholesterol</b> 0mg	
<b>Sodium</b> 111mg	4.5%
<b>Carbohydrate</b> 28g	9%
Fibre n/a	
Sugars n/a	
<b>Protein</b> 1.4g	
Vitamin A 0%	Vitamin C 0%
Calcium 2%	Iron 5%

Fig Newton Cookie

Note: Additional information on Nutrition Facts tables and more activities can be found in Health Canada, 2003 Nutrition Labelling Toolkit for Educators.  
[http://www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/labelling-etiquetage/toolkit\\_educators\\_e.html](http://www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/labelling-etiquetage/toolkit_educators_e.html)



4. Which of the following non-dairy foods provide the most calcium?  
Check the Non-dairy Sources of Calcium handout for the answers.



1/2 cup of navy beans



100 g (1/3 cup) tofu



canned salmon with bones  
(100 g/1/2 can)



1/2 cup cooked broccoli

5. Two of the following foods are good sources of folate and two are good sources of vitamin B6 and one is a good source of both. Identify each.



spinach



potatoes



bread



asparagus



red kidney beans

## Answers to Quiz Challenges

### 1. Comparison of cereals

- Both cereals are very low in fat. The bran flakes have 0.6 grams and the corn flakes have 0.2 grams of fat. Since both cereals contain amounts less than 0.5% Daily Value, they are listed as having 0% fat.
- The bran flakes have 17% Daily Value of fibre in 30 grams of cereal compared to only 3% Daily Value for the same amount by weight of the corn flakes.

### 2. Comparison of yogurts

- The fat free yogurt has the lower fat level with only 1% Daily Value of fat compared to 7% in the other yogurt. The 2.5 % MF means 2.5 % milk fat which represents 2.5 grams per 100 grams of yogurt. This container lists 175 grams as the serving.
- In this challenge, the fat free yogurt has a bit more calcium in the same amount of food.

### 3. Comparison of cookies

- When comparing foods, it is important to consider the amount of food listed in the Nutrition Facts table. In this case, the cookies listed show similar weights but they differ in the number of cookies that make up that weight. For example, two maple cookies weigh almost the same as 8 social tea cookies.
- They also differ in the amount of fat in each cookie. The maple cookies have the most fat. Eight social tea cookies have a bit more than twice the fat in 3 fig newton cookies. If you only eat 2 cookies, regardless of the type, the social tea would be the lowest because they weigh less.

4. The canned salmon contains the most calcium with 230 mg, followed by tofu with 100 mg. The navy beans provide 60 mg of calcium while the broccoli provides about 35 mg.

5. Green vegetables like spinach and asparagus are good sources of folate. The potatoes and the bread provide vitamin B6. Legumes, like red kidney beans are a good source of both folate and vitamin B6.



# Additional Resources of Interest

## i. Government

### Health Canada

#### *Dare to Live Well*

This CD ROM of 54 publications presents the many aspects of healthy aging and contains publications from Health Canada (Division of Aging and Seniors) and others resulting from Federal/ Provincial/Territorial collaboration. Order: seniors@hc-sc.gc.ca Tel: (613) 952-7606

#### *Foodborne Illness: Seniors at Greater Risk*

A brief overview is given regarding the importance of exercise, good nutrition, and food safety practices in order for seniors to help prevent the occurrence of foodborne illness. [http://www.hc-sc.gc.ca/food-aliment/mh-dm/mhe-dme/groundbeef\\_boeufhache/e\\_foodborne\\_seniors\\_risk.html](http://www.hc-sc.gc.ca/food-aliment/mh-dm/mhe-dme/groundbeef_boeufhache/e_foodborne_seniors_risk.html)

### Agriculture Canada

#### *National Institute of Nutrition: Executive Summary*

This report discusses a number of issues surrounding seniors' food choices and makes recommendations for meeting food and nutrition needs for seniors. <http://www.agr.gc.ca/misb/fb/food/consumer/mrkreports/eelderly.html>

### Canadian Health Network

#### *How do I keep my mind and body healthy?*

This website provides information on eating well and active living, which includes both physical activity and social activity. The section on eating well includes information from Canada's Food Guide as well as many other tips for seniors. [http://www.canadian-health-network.ca/faq-faq/seniors-personnes\\_agees/5e.html](http://www.canadian-health-network.ca/faq-faq/seniors-personnes_agees/5e.html)

### Calgary Regional Health Authority

#### *Nutrition for Seniors: Eating Well for a Lifetime!*

The following website provides tips for seniors to use for grocery shopping, meal planning, and meal preparation. Specific information is also provided to join a cooking group and how to set up a bus transportation service for grocery shopping.

<http://www.crha-health.ab.ca/hlthconn/topics/nutrseior.htm>

#### *Nutrition and the older adult*

This website offers tips on how to overcome some of the healthy eating and nutritional challenges that can be encountered by seniors. <http://www.crha-health.ab.ca/hlthconn/items/nut-oa.htm>

### Provincial Governments

The following website provides tips and information on how to deal with loss of appetite.

<http://members.shaw.ca/bcseniors/nutrition.html>

#### *The Senior Chef: Cooking for One or Two*

This site is a recipe book with nutritious, economical, and easy to prepare meals. It also includes variations to recipes, tips on buying and storing food, and Canada's Food Guide information. <http://www.healthplanning.gov.bc.ca/prevent/pdf/senchef.pdf>

#### *Healthy Eating for Seniors*

A variety of information is provided including a checklist for healthy eating, chewing difficulties, preventing constipation, cooking for one or two, and stocking an emergency shelf. [http://www.health.gov.sk.ca/rr\\_healthy\\_eating\\_forsen.html](http://www.health.gov.sk.ca/rr_healthy_eating_forsen.html)

#### *Improving your Appetite*

Specific tips are given to help improve appetite and also ideas are given to help cope with nausea. <http://www.gov.mb.ca/health/nutrition/pubs/appetite.pdf>

### Peterborough County-City Health Unit

#### *Hydration and Seniors*

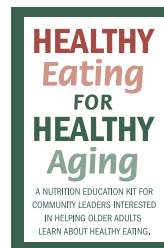
Information is provided on the importance of hydration in seniors with specific guidelines to follow.

[http://pcchu.peterborough.on.ca/nutrnews\\_hydration\\_seniors.htm](http://pcchu.peterborough.on.ca/nutrnews_hydration_seniors.htm)

### Holland Centre: Health & Social Services in English in the Greater Quebec City Area

#### *Agequake Cuisine – An exciting resource for seniors*

This program provides resources for seniors on menu planning, preparing grocery lists, grocery shopping tips, and cooking. [http://www.hollandcentre.ca/eng/whats\\_new/agequakecuisine.html](http://www.hollandcentre.ca/eng/whats_new/agequakecuisine.html)



## ii. Professional Organizations

### Nutrition Resource Centre

Cultural adaptations of Canada's Food Guide to Healthy Eating are available for use with the Chinese, Portuguese, Punjabi, Spanish, Tamil, Urdu, and Vietnamese speaking communities. <http://www.nutritionrc.ca/guide/html>

### Dietitians of Canada

#### *The senior friendly grocery store*

This informative package has a multitude of ideas that grocers and other retailers can use to make shopping for seniors easier and more convenient. [http://www.dietitians.ca/resources/SF\\_grocery.pdf](http://www.dietitians.ca/resources/SF_grocery.pdf)

#### *Senior Friendly Ideas for Healthy Eating*

The following fact sheets provide lots of tips for seniors to use for grocery shopping, meal planning, and meal preparation.

- Planning meals using Canada's Food Guide to Healthy Eating
- Planning meals: variety and balance
- Planning meals: The fat challenge
- Shopping for one or two: planning
- Shopping for one or two: on a budget
- Shopping for one or two: meal preparation made easy
- Shopping for one or two: easy meals to make
- Shopping for one or two: creative use of leftovers
- Shopping for one or two: ready made meals
- Shopping for one or two: emergency food shelf
- Shopping for one or two: eating alone

[http://www.dietitians.ca/resources/senior\\_friendly\\_factsheets.htm](http://www.dietitians.ca/resources/senior_friendly_factsheets.htm)

#### *Eat well, live well for a lifetime: healthy eating and active living lead to successful aging*

This resource package provides many practical ideas on food choices, keeping bones healthy, fibre, fat, food safety, supplements, medication interactions, and quick easy meals. <http://www.dietitians.ca/english/pdf/nutrition-a.pdf>

#### *Enjoy L.I.F.E*

This resource focuses on healthy lifestyle suggestions, healthy food choices, and regular activity. <http://www.dietitians.ca/english/pdf/enjoylife-eng.pdf>

### Osteoporosis Society of Canada

This website provides lots of osteoporosis information for seniors regarding the importance of calcium and physical activity and calcium recipes. <http://www.osteoporosis.ca/english/About%20Osteoporosis/calcium%20Calculator>

### National Institute of Nutrition

#### *Does Eating Alone Get you Down?*

This website provides some tips to make eating alone more pleasurable. [http://www.nin.ca/public\\_html/Publications/HealthyBites/hb3\\_98en.html](http://www.nin.ca/public_html/Publications/HealthyBites/hb3_98en.html)

#### *Eating Well in the Retirement Years*

Information is provided on stimulating your appetite, getting the most nutrition from your food, and making use of community services for seniors. [http://www.nin.ca/public\\_html/Publications/HealthyBites/hb2\\_96en.html](http://www.nin.ca/public_html/Publications/HealthyBites/hb2_96en.html)

## iii. Industry

### Daily Bread Food Bank

#### *No Money, No Food*

This report of annual survey results from the Daily Bread Food Bank indicate that food bank need and hardship are on the rise in Toronto. <http://www.dailybread.ca/research/pdf/nomoney.pdf>

#### *Fact Sheet: Seniors Relying on Food Banks in GTA*

This report indicates that one in 10 food bank recipients is over the age of 60, which is double that of 1995. <http://www.dailybread.ca/research/pdf/Seniors.pdf>

## iv. Other Sites

### Women's Health Matters

#### *Folic acid supplements may be improving the health of older Canadians*

Information is reported on the improvement in folic acid levels in seniors since the folic acid fortification program started in 1998. [http://www.womenshealthmatters.ca/news/news\\_show.cfm?number=178](http://www.womenshealthmatters.ca/news/news_show.cfm?number=178)

#### *Nutrition Quiz*

Take the following nutrition quiz to help determine if you are eating healthy and keeping active. <http://www.womenshealthmatters.ca/centres/osteoporosis/risk/nutrition.html>

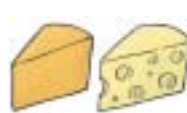
### Other

#### *Nutrition for the Big "M"*

Nutrition tips and suggestions are provided for women during menopause. <http://www.50plus.org/nutrition.htm>

#### *A standard drink and low risk guidelines*

The following website provides specific guidelines for seniors on the consumption of alcohol. [http://www.agingincanada.ca/a\\_standard\\_drink.htm](http://www.agingincanada.ca/a_standard_drink.htm)





## Bringing Nutrition Screening to Seniors in Canada [www.dietitians.ca/seniors](http://www.dietitians.ca/seniors)

Nutrition is a key factor in healthy aging and quality of life among seniors. Nutrition education and community support can help seniors continue to eat well and enjoy an independent lifestyle. *Bringing Nutrition Screening to Seniors in Canada (BNSS)* is a unique approach to early identification of nutritional difficulties that enables communities to enhance healthy eating among seniors.

*Bringing Nutrition Screening to Seniors in Canada* began in October 2000 as a national demonstration project by Dietitians of Canada and Professor Heather Keller, RD, Ph.D., University of Guelph. A national advisory committee of representatives from organizations serving seniors helped guide the project. Funds for the project were received from the Population Health Fund, Health Canada

### The aims of Bringing Nutrition Screening to Seniors in Canada were to:

- Enhance appreciation and understanding of the importance of nutrition as a key factor in healthy aging, amongst community living seniors and their caregivers
- Strengthen commitment and capacity of communities to identify nutritional risk in seniors and identify the capacity of current community resources to address this identified nutritional risk.

### Nutrition Screening Helps Seniors to Eat Well and Live Well

Studies of community living seniors have shown that nutrition concerns are common among Canadian seniors. Eating problems may be present for considerable time before symptoms and effects of poor nutrition appear. Early identification of nutrition problems, by nutrition screening, enables appropriate intervention before disability or illness occur.

## How to Learn More About BNSS and Nutrition Screening

The Bringing Nutrition Screening to Seniors in Canada project created valuable community models and resources for use by communities interested in nutrition screening. These tools are available on the Dietitians of Canada website at [www.dietitians.ca/seniors](http://www.dietitians.ca/seniors) and include:

- BNSS overview, fact sheets and outlines of demonstration site activities
- *Bringing Nutrition Screening to Seniors in Canada* Implementation Guide, a practical "Community How To" with tips and templates ready for use
- *Bringing Nutrition Screening to Seniors in Canada* Educational Resource Directory listing educational resources appropriate to seniors. There is also a dynamic inventory of nutrition resources related to seniors' health that one can search and submit additional resources.
- Two interactive E-Learning modules to facilitate training of Dietitians, service providers and community volunteers on the implementation of nutrition screening
- Executive Summary and Final Project Report of findings and recommendations.

\*\*Dietitians of Canada (DC) is the nation-wide voice of 5,000 dietitians – bringing you information on food and nutrition you can trust. The Department of Family Relations and Applied Nutrition at University of Guelph is a leader in geriatric nutrition and specifically, applied nutrition in the community. Heather Keller is a leading Canadian researcher in nutritional care of the older adult.

#### Disclaimer

The view expressed herein do not necessarily represent the official policy of Health Canada.

**HEALTHY  
Eating  
FOR  
HEALTHY  
Aging**

A NUTRITION EDUCATION KIT FOR  
COMMUNITY LEADERS INTERESTED  
IN HELPING OLDER ADULTS  
LEARN ABOUT HEALTHY EATING.



# Reference List of Abstracts

## The Nutrient and Anthropometric Status of Physically Active and Inactive Older Adults.

Gerritor SA. J Nutr Educ Behav. 2002; 34 (suppl):S5-S13.

**Objective:** To assess nutrient intake, anthropometrics, and biochemical indicators in physically active and inactive older adults.

**Design:** A cross-sectional sample of older adults who participated in the Third National Health and Nutrition Examination Survey, 1988-94, was divided into two groups based on activity level.

**Participants/Setting:** A national sample of men (n = 1876) and women (n = 2009) 65 years of age and older who reported diet and exercise information and were medically examined.

**Main Outcome Measures:** Association of activity level with nutrients, anthropometrics, and biochemistries.

Analysis: Means were calculated for each of the variables observed by activity category. T tests were used to determine if the differences in the means were statistically significant at  $P < .05$ .

Results: Older adults reported intakes of food energy, calcium, magnesium, and zinc below recommendation. Nutrient intakes and anthropometrics for active and inactive women were similar; those for active and inactive men differed significantly for many nutrients and for anthropometrics associated with activity.

Conclusions and Implications: Inadequate intakes of food energy and micronutrients are of concern because of the metabolic stresses associated with activity.

Future research is needed to determine the impact of increased physical activity on nutrient needs and body composition in the elderly.

Abstract is reprinted with permission of the Journal of Nutrition Education and Behavior.

## Nutrient Intakes of Senior Women: Balancing the Low-Fat Message

Bogan AD. Canadian Journal of Public Health. 1997; Vol 88(5): 310-313.

Nutrient intakes based on six days of food intake were collected from 52 elderly Nova Scotian women. Mean reported energy intake was 1600 kilocalories, of which fat contributed 31%. Mean intakes of zinc and Vitamin D were below recommendations. Other nutrients of concern were protein, calcium, folate, and vitamins B6 and B12. Nutrition education efforts should be directed at assisting older people to maintain the generally recommended low fat intake, while stressing the desirability of a balanced food intake of sufficient quantity, which includes low-fat milk and dairy products, lean meats and legumes as sources of nutrients in low supply.

Abstract is reprinted with permission of the Canadian Public Health Association.

## Dietary Intake, Dietary Patterns, and Changes With Age: An Epidemiological Perspective

Wakimoto P and Block G. Journals of Gerontology: SERIES A 2001, Vol.56A (Special Issue 11):65-80.

Cohort and cross-sectional data were reviewed to describe the changes in dietary intake with age. Total energy intake decreases varied substantially with age, by 1000 to 1200 kcal in men and by 600 to 800 kcal in women. This resulted in concomitant declines in most nutrient intakes. For some nutrients, substantial numbers of older Americans consumed only one fifth to one third of the recommended dietary allowance. For most nutrients, research is lacking with which to judge the health impact of reduced nutrient consumption with age, although there is some evidence of an age-related decline in absorptive and metabolic function. With the aging of the population, more research is needed on nutrient requirements and health outcomes, and public health efforts are needed to increase physical activity and food intake among older people.

Copyright © by The Gerontological Society of America. Reproduced with permission of the Publisher.

## Nutritional Needs of Seniors

Blumberg J and Mayer J. Journal of the American College of Nutrition. 1997; 16 (6):517-523.

Aging is accompanied by a variety of economic, psychologic, and social changes that can compromise nutritional status. Aging also produces physiologic changes that affect the need for several essential nutrients. While nutritional status surveys of the elderly have shown a relatively low prevalence of frank nutrient deficiencies, there is a marked increase in risk of malnutrition and evidence of subclinical deficiencies with a direct impact on function. A critical risk factor of malnutrition among older adults is their declining need for energy due to a reduction in the amount of lean body mass and a more sedentary lifestyle. Decreasing energy intake with advancing age has important implications for the diet in terms of protein and micronutrients. Dietary quality is difficult to ensure when overall energy intake is low. The gap between actual nutrient



consumption common among older adults and the recommended intakes from diets associated with health promotion and prevention of chronic diseases is large. The significance of sound nutrition education and the adverse impact of consumer misinformation about the benefits of these food choices becomes clear with the recognition that nutritional status influences the rate of physiologic and functional declines with age. New dietary guidelines for the elderly should emphasize the value of high quality, nutrient-dense foods. This approach will require new efforts in consumer education sensitive to the needs and beliefs of older people.

Copyright © by the American College of Nutrition. Abstract is reprinted with permission of the American College of Nutrition.

### **Meal-Based and Non-Meal Based Community Services: Comparison of Nutritional Risk and Health of Vulnerable Canadian Seniors**

Keller HH. Journal of Nutrition for the Elderly. 2001; 21 (2):23-47.

Vulnerable seniors are frequently at nutritional risk and have significantly poorer health and quality of life than the general population. This study compares three groups (n = 367) of vulnerable seniors on demographic, health, nutritional risk and quality of life variables. These vulnerable seniors were recruited from meal-based programs, meal programs which also provided socialization, and community services which were not meal-based. Differences in perceived health, some nutritional variables, social characteristics, transportation and quality of life were found. Seniors recruited from non-meal based programs were the most unwell. Seniors recruited from programs that provide meals and socialization appear to be socially involved and the least vulnerable. This comparison provides descriptive information that will assist program planners in meeting the health and nutritional needs of their senior clients.

Abstract reprinted with permission of the Journal of Nutrition for the Elderly.

### **Malnutrition of Elders: A Review of the Literature and Suggestions for a Comprehensive Treatment Program**

Xaverius PK. et al Journal of Nutrition for the Elderly. 1999; 19 (1):41-47.

Malnutrition is a problem experienced by an estimated 4.9 million older adults in the United States. This paper provides an overview of the problem of malnutrition, a brief review of successful interventions that report successful outcomes, and a description of the features that might be included in a comprehensive initiative designed to combat malnutrition of elders living in the community.

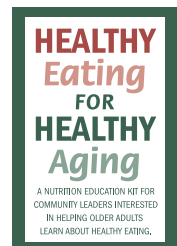
Abstract reprinted with permission of the Journal of Nutrition for the Elderly.

### **Nutritional and Health Consequences Are Associated with Food Insecurity among U.S. Elderly Persons**

Lee JS and Frongillo EA. Journal of Nutrition. 2001; 131:1503-1509.

The purpose of this study was to examine the consequences associated with food insecurity for the nutritional and health status of the elderly in the United States. The data analyzed were from the Third National Health and Nutrition Examination Survey (1988-1994) and the Nutrition Survey of the Elderly in New York State (1994). Multiple logistic and linear regression analyses were used to assess the extent to which food-insecure elderly were likely to have lower nutrient intake, skinfold thickness, self-reported health status and higher nutritional risk. Regardless of food insecurity status, older people consumed less than the recommended dietary allowance for eight nutrients. Food-insecure elderly persons had significantly lower intakes of energy, protein, carbohydrate, saturated fat, niacin, riboflavin, vitamins B-6 and B-12, magnesium, iron and zinc, as well as lower skinfold thickness. In addition, food-insecure elderly persons were 2.33 (95% confidence interval: 1.73-3.14) times more likely to report fair/poor health status and had higher nutritional risk. These results indicate that food-insecure elderly persons have poorer dietary intake, nutritional status and health status than do food-secure elderly persons. It is necessary to ensure the nutritional well-being of all elderly persons who are at nutritional and health risk, including those who are food insecure and have even poorer nutritional and health status than those who are food secure.

Abstract reprinted with permission of the Journal of Nutrition, American Society for Nutritional Sciences.



## **Micronutrients: highlights and research challenges from the 1994-5 National Diet and Nutrition Survey of people aged 65 years and over**

Bates CJ. et al. British Journal of Nutrition. 1999; 82:7-15.

The aims of the National Diet and Nutrition Survey series are summarized, and the new National Diet and Nutrition Survey of people aged 65 years and over is explored, with particular emphasis on micronutrient intakes and status indices. Mean nutrient intakes were generally satisfactory for most micronutrients, but intakes of vitamin D, Mg, K and Cu were low. Intakes of vitamin D were far below the reference nutrient intake for people aged 65 years and over, and there was also biochemical evidence of vitamin D deficiency, for 8% of free-living and 37% of institution participants, attributed partly to limited exposure to sunlight. A substantial proportion of people living in institutions had inadequate biochemical status indices, notably for vitamin C, Fe and folate. Relationships between intake and status were close for vitamins. Mineral intakes did not correlate well with currently used status indices. Some intakes and indices, especially those of vitamin C, carotenoids, Na and K, were strongly correlated with socio-economic status and with north-south gradients in Britain. Future research challenges should address the functional and health significance of low intakes and sub-optimal biochemical indices for certain micronutrients, especially for people living in institutions; the shortcomings of mineral status indices especially as indicators of mineral intake; the social and geographical inequalities of micronutrient intakes and status, and why micronutrient status deteriorates with increasing age. The answers to these questions will help to define the characteristics of nutritional risk for older people in Britain, and to clarify future needs for education and interventions. Abstract reprinted with permission of the British Journal of Nutrition.

## **Nutrition, exercise, and healthy aging**

Evans WJ. Journal of the American Dietetic Association. 1997; 97 (6):632-638.

Advancing age is associated with a remarkable number of changes in body composition, including reduction in lean body mass and increase in body fat, which have been well documented. Decreased lean body mass occurs primarily as a result of losses in skeletal muscle mass. This age-related loss in muscle mass has been termed "sarcopenia". Loss in muscle mass accounts for the age-associated decreases in basal metabolic rate, muscle strength, and activity levels, which, in turn are the cause of the decreased energy requirements of the elderly. In sedentary persons, the main determinant of energy expenditure is fat-free mass, which declines by about 15% between the third and eighth decade of life. It also appears that declining energy needs are not matched by an appropriate decline in energy intake, with the ultimate result being increased body fat content. Increased body fatness and increased abdominal obesity are thought to be directly linked to the greatly increased incidence of non-insulin-dependent diabetes mellitus among the elderly. In this review we will discuss the extent to which regularly performed exercise can affect nutrition needs and functional capacity in the elderly. We will also discuss a variety of concerns when prescribing exercise in the elderly, such as planning for a wide variability in functional status, medical status, and training intensity and duration. Finally, we will attempt to provide some basic guidelines for beginning an exercise program for older men and women and establishing community-based programs. Abstract is reprinted with permission of the American Dietetic Association.

© 2003 Nutrition Resource Centre, OPHA

