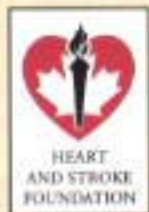




Lowering Your Blood Cholesterol

Ideas for Heart-Healthy Eating



Being told by your doctor that your blood cholesterol is too high can come as a shock. Like high blood pressure, a high blood cholesterol doesn't always make you feel sick. Not at first, anyway. But if left untreated, the excess blood cholesterol gradually clogs your arteries. This reduces blood flow to your brain, heart and legs and puts you at greater risk of a stroke or heart attack.

The good news is that most people can lower blood cholesterol by making changes in some lifestyle habits. Keep reading for some practical information on how to achieve and maintain a healthy blood cholesterol and improve your overall heart health.

FOCUS ON THE BIG PICTURE

You've probably heard about all kinds of cholesterol-lowering foods and substances, from oatbran to Aspirin®. Some of these can help but they don't perform miracles, particularly if some major lifestyle habits are unhealthy.

Above all else, these are the habits that have the greatest potential to lower blood cholesterol, even if you're prescribed a cholesterol-lowering medication:

- **Quit smoking if you smoke**
- **Be physically active every day**
- **Follow a healthy eating pattern**
- **Keep your weight in a healthy range**

A Myth About Cholesterol

One long-standing myth about high blood cholesterol is that it is caused by eating foods containing cholesterol. It's not so – research shows that it is the fat in food, particularly the saturated and trans fat, and not the cholesterol in food that raises blood cholesterol the most* (for more information see page 10).

*Although the majority of people are not adversely affected by food cholesterol, a small percentage of people, particularly those with a family history of high blood cholesterol, are very sensitive to it and must limit it.

How to Make the Changes You Need to Make

Bringing about change in your life doesn't happen overnight. It's a gradual process that involves making smaller changes that eventually add up to a lifetime of healthier habits. The six-week program outlined here will help you adopt healthier eating habits and become more active one week at a time. By the end of the six weeks, your blood cholesterol should be on its way to a healthier level.

Are you ready to begin? These ideas will get you off to a healthy start.

Daily Fat Intake

For lowering blood cholesterol, aim to get no more than 25% of the day's calories from fat. In grams, this means:

**For most men,
75 g fat or less.
For most women,
53 g fat or less.**

Getting Physical

Being physically active has tremendous health benefits, particularly to the heart. It's estimated that if you're inactive and become physically active, you can reduce heart attack risk by 35-55%.

Key Activity Points

- Choose an activity you like so that you're more likely to stick with it. Good choices: walking, gardening, biking, swimming.
- Begin with a 5-10 minute activity, three times a week in week 1, gradually building up to daily activity of 20-30 minutes by week 6. Maintain or increase this level of activity.
- Add extra physical activity by taking the stairs, walking to the corner store, cleaning your own windows, etc.

In this first week, some key lifestyle changes are introduced.

If you smoke, make quitting a priority. For information about smoking cessation programs in your area, contact your local public health department.

Get a copy of *Canada's Food Guide to Healthy Eating*¹ and begin to follow its recommendations. Pay particular attention to:

- Choosing nutrient dense foods that are lower in fat and higher in fibre (e.g., lower fat milk products, leaner meats, whole grain foods)
- Reducing fat, particularly saturated and trans fat
- Eating more fibre, particularly soluble fibre from oat products, legumes and fruit
- Eating more vegetables, fruit and whole grains

Focus on reducing the fat you eat. Limit higher-fat foods, substituting with lower-fat alternatives whenever possible.

¹*Canada's Food Guide to Healthy Eating* is available free from local Heart and Stroke Foundation offices and public health departments.

HIGHER-FAT FOODS

Butter, margarine, vegetable oils, salad dressings, mayonnaise

Homogenized milk, cream, full-fat cheese

Fattier meats such as sausage, ribs, bacon, fried chicken and fried fish

Many cookies, pastries, crackers

Chips, cheeries

LOWER-FAT ALTERNATIVES

Lam, honey, mustard, "light" mayonnaise, low-fat salad dressing

Skim or 1% MF milk, low-fat yogurt or cottage cheese. Lower-fat cheese with 5-17% MF

Fish, skinless poultry, lean cuts of meat prepared without extra fat (beef: inside, outside and eye of the round, rump roast, sirloin; pork tenderloin)

Lower-fat products such as: social tea and arrowroot biscuits, ginger snap cookies, melba toast, rice cakes, soda crackers, angel food cake

Pretzels, light popcorn

Take extra time when grocery shopping to look for healthier products and read nutrition labels. Here are some good places to start:

- At the dairy counter: compare milk, yogurt, cottage cheese, cheese slices and block cheese for fat content (listed as a % MF - milk fat).
- Compare crackers and ready-to-eat cereals for fat and fibre.
- Read ingredient lists of cereals. Choose whole grains such as oatmeal, whole oats and whole wheat.

Plan time for your physical activity program. Participate in your chosen activity for 5-10 minutes, three times a week.

Canada's Food Guide to Healthy Eating

The number of servings needed daily from each food group depends on your age, size, weight and activity level. Adults should aim for at least the lower number of servings. If there is a need for more food, increase the number of servings from the Grain Products and the Vegetables & Fruit groups.

Grain Products

5-12 servings

1 serving is:
1 slice bread
1/2 bagel, pita or bun
30 g ready-to-eat cereal
175 mL hot cereal
125 mL pasta or rice

Vegetables & Fruit

5-10 servings

1 serving is:
1 medium size vegetable or fruit
125 mL fresh, frozen or canned
125 mL juice; 250 mL salad

Milk Products (adults)

2-4 servings

1 serving is:
250 mL milk
2 slices processed cheese
50 g hard cheese
175 mL yogurt

Meat & Alternatives

2-3 servings

1 serving is:
50 - 100 g meat, poultry, fish
1 - 2 eggs
125 - 250 mL beans
30 mL peanut butter

Work on these changes while continuing to practice what you learned in week #1.

As you cut back on fat, more of the day's calories should come from carbohydrates or starches. Starchy foods are naturally low in fat and many are good sources of fibre.

You can easily add more fibre to your diet using higher-fibre, ready-to-eat cereals such as bran flakes, oat-based cereals, oatmeal and psyllium-containing cereals. Aim for cereals containing at least 2 grams of fibre per serving.



Meal planning is very important. This keeps shopping and meal preparation on track and discourages poor choices at the last minute. As a guideline, use the list shown below to plan each meal.

- 2-3 servings of Grain Products
- 2-3 servings of Vegetables & Fruit
- 1/2 - 1 serving of Milk Products
- 1/2 - 1 serving of Meat & Alternatives

Work on making heart-healthy breakfasts this week. Here are some ideas:

- 1/2 grapefruit, poached egg on whole wheat toast with sliced tomato, one slice toast with spread of marmalade, coffee with milk, not cream.
- 1/2 cup (125 mL) orange juice, 1 serving of favourite cereal with 1% milk and topped with 1/4 cup (50 mL) oatbran and sliced banana, one piece toast with jam, coffee with milk.
- 2 low-fat bran muffins with jam, no butter, 1 cup (250 mL) orange juice, 1% yogurt with 1/2 cup (125 mL) strawberries.

Increase your physical activity pattern to four times a week, for 10-20 minutes each time.



Good Choices for Carbohydrates and Fibre

- legumes such as beans, split peas, lentils
- whole wheat pasta and brown rice*
- whole grain breads and cereals*
- vegetables such as potatoes, corn

* Enriched white pasta, white rice, white bread and refined cereals do not provide significant amounts of fibre.



Eggs Are for Eating

Even though egg yolk contains cholesterol, one large egg provides only 5 grams of fat and most of it is unsaturated fat. Egg whites, on the other hand, contain no fat. This means eggs can be included in a lower-fat, cholesterol-lowering diet, although, as with any other food, use in moderation and prepare and serve eggs without adding extra fat. Avoid combining eggs with foods that are high in fat, particularly saturated fat such as bacon, sausage, full-fat cheese and butter.

This week encourages you to apply your new healthy eating habits by preparing foods in healthier ways.

To increase your intake of vegetables and fruit, try these ideas: slice a banana on top of cereal, snack on fruit, take an extra serving of vegetables at dinner, add extra vegetables to soups and stews.

Pay attention to how you prepare food, since a lot of fat gets added at this point. Roast or broil fish and meats, reduce the fat in recipes. Use less butter and margarine by trying these ideas: spread toast with no-fat items such as jam or honey, use salsa or a thin spread of light mayonnaise when making a sandwich or a tortilla wrap, squeeze lemon juice or a sprinkle of pepper on vegetables.

Hungry? Start a list of low-fat, nutritious snacks such as vegetables, fruit, low-fat yogurt, a low-fat muffin, a bagel with jam. Check out the grocery store for other low-fat snack ideas such as lower-fat crackers, rice cakes, pretzels and light popcorn.

Focus on putting together heart-healthy lunches this week. For example:

- a salmon or egg salad sandwich made with low-fat mayonnaise, on whole wheat bread with salad, a glass of skim milk and a piece of fruit
- hearty minestrone soup with a whole wheat bun, vegetable sticks and low-fat yogurt for dessert.

Increase your physical activity program to five times a week, for 20-30 minutes each time. Ask a friend to join you once this week.

SLICED EGG SANDWICH

Here's a quick and easy meal that combines the goodness of grains, vegetables and eggs.

Honey-mustard Dressing

Makes 1/2 cup (125 mL)

This all-purpose dressing can also be used for salads.

1/3 cup	light mayonnaise	75 mL
2 tbsp	plain, low-fat yogurt	25 mL
2 tsp	Dijon-style mustard	10 mL
2 tsp	honey	10 mL

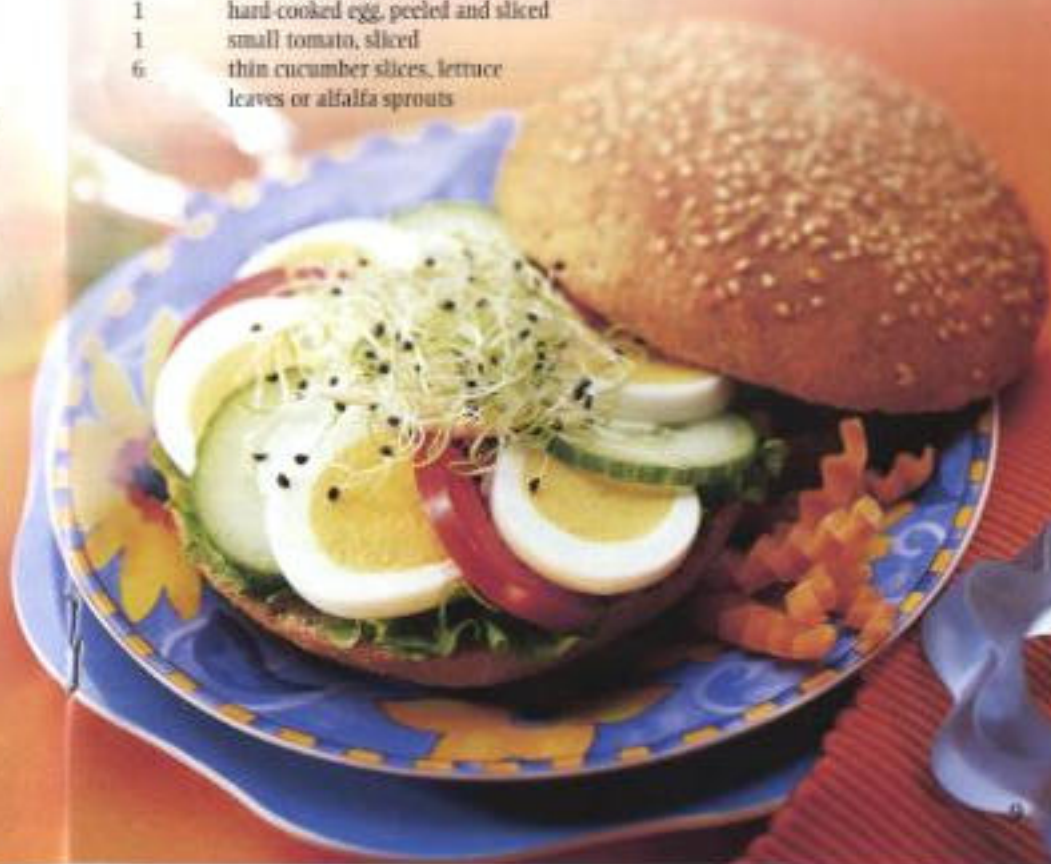
Sandwich

- 1 whole grain bun or slice of bread
- 4 fresh basil leaves (optional)
- 1 hard-cooked egg, peeled and sliced
- 1 small tomato, sliced
- 6 thin cucumber slices, lettuce leaves or alfalfa sprouts

In a small bowl, combine ingredients for the dressing. Split bun in half. Layer ingredients on the bottom half of the bun. Drizzle with 1 tsp (5 mL) of salad dressing. Refrigerate remaining dressing for later use.

Per Serving

Calories	278
carbohydrate	30 g
fibre	4.8 g
total fat	11 g
saturated fat	2.7 g
protein	13.1 g



Monounsaturated fat

can help lower LDL (bad) cholesterol and raise HDL (good) cholesterol. Found in olive and canola oil, soft-tub non-hydrogenated margarines made with these oils, nuts and seeds.

Polyunsaturated fat

(includes omega-3 and omega-6 fatty acids): can help lower LDL (bad) cholesterol. Found in safflower, sunflower, corn oil, soft-tub non-hydrogenated margarines made with these oils, nuts and seeds and fatty fish such as mackerel, salmon, swordfish, trout.

Saturated fat

raises LDL (bad) cholesterol. Found in meat, poultry, milk products, cheese, butter, lard, palm and palm kernel oil, coconut oil.

Trans fat

raises LDL (bad) cholesterol, lowers HDL (good) cholesterol. Found in any food containing partially hydrogenated vegetable oil; e.g., some margarines, shortening, cookies and crackers and other store-bought products made with shortening or margarines that contain hydrogenated oil.

This week, you will learn about the fat in food and how to increase your physical activity program into a daily routine.

Although it's a good idea to reduce your fat intake, some fat is essential. Foods containing mostly monounsaturated or polyunsaturated fat are healthier than foods containing saturated and trans fat. Saturated and trans fat increase blood cholesterol and increase your risk of heart disease.

Try two lower-fat recipes this week. *Lighthearted* and *HeartSmart™* cookbooks and pamphlets such as this one are good sources of lower-fat recipes.

Be creative about adding extra fibre to your diet. Add 1/4 cup (50 mL) of bran to a muffin mix or a meat loaf, add green peas to a stir-fry, eat an orange instead of drinking orange juice.

Vary meals by using a meat alternative in place of meat twice this week. Here are some ideas: baked beans, lentil soup and salad, pasta frittata, omelette, vegetarian chili.

Increase your physical activity program to 20-30 minutes, preferably every day. In addition to your regular workout, do something extra this week that involves physical activity – a golf game, a swim at the local pool or community centre, a bike through the park, skating, hiking, or cross country skiing.

PASTA FRITTATA

This is a great dish to make with leftover pasta. You could cook extra pasta just to have the leftovers. Serves 8.

2 tbsp	olive oil, divided	25 mL
1	small onion, finely chopped	1
1	clove garlic, finely chopped	1
1/2 cup	pureed plum tomatoes, or commercial or home made tomato sauce	125 mL
2	eggs	2
6	egg whites	6
3 cups	cooked pasta (plain or with sauce)	750 mL
1/2 tsp	pepper	2 mL
2 tbsp	grated Parmesan cheese, optional	25 mL
2 tbsp	chopped fresh parsley	25 mL

1. Heat 1 tbsp (15 mL) oil in large non-stick, ovenproof skillet. Add onion and garlic and cook gently until tender and fragrant, about 4 minutes. Add pureed tomatoes and heat.

2. In a large bowl, beat together eggs and egg whites. Add onion/garlic and tomato mixture and blend in. Stir in pasta, breaking up any clumps with spoon. Stir in pepper (add 1/2 tsp (2 mL) salt if pasta is plain).

3. Heat remaining 1 tbsp (15 mL) oil in same skillet. Add egg/pasta mixture and cook on medium-high heat until bottom is brown and crusty. Occasionally lift edge so some of uncooked eggs can run under frittata.

4. Sprinkle top of frittata with cheese. Place under preheated broiler about 10 inches (25 cm) from element and cook until eggs are set and top is brown. Serve in wedges from pan or slide frittata onto serving platter and then cut into wedges. Sprinkle with parsley.

Per Serving	
Calories	143
carbohydrate	17 g
fibre	1 g
total fat	5 g
saturated fat	1 g
protein	7 g

Recipe from *More HeartSmart™ Cooking with Bonnie Stern* Random House 1997

If you enjoy the taste and convenience of fresh egg dishes but have been told by your doctor to limit egg yolks, try this: instead of using two whole eggs for an omelette, use 2 fresh egg whites and 1 whole egg.



Cholesterol-containing Foods

Shrimp, like eggs and other cholesterol-containing foods, are usually allowed on a cholesterol-lowering diet in moderation.

Omega-3 Fats

Fish high in omega-3 fats: mackerel, herring, salmon, swordfish, trout, cod, bluefish.

Blood Cholesterol Primer

Most of the cholesterol in your blood is made by your own liver. A cholesterol test usually measures three different forms of cholesterol: total cholesterol, LDL-cholesterol* and HDL-cholesterol.** LDL-cholesterol is the form of cholesterol that clogs your arteries, blocks your circulation and puts you at risk for a heart attack or stroke. The lower, the better.

HDL-cholesterol on the other hand is a good form of cholesterol which you want to be high, not low.

Generally you want:

- A total cholesterol less than 5.2 mmol/L
- An LDL-cholesterol less than 3.4 mmol/L
- An HDL-cholesterol higher than 0.9 mmol/L

* LDL - Low density lipoprotein

** HDL - High density lipoprotein

Week #5 pushes you to healthier heights by introducing some weight loss tips for those needing to lose weight and encourages you to try new foods.

For weight loss, follow the same healthy eating pattern, sticking to the lower number of servings and keeping serving sizes small. It's a good idea to weigh and measure food portions at first since it is common to underestimate what you eat. Step up your physical activity program - it's a key factor in weight loss.

Make it your goal this week to try a new whole grain food. It could be whole wheat pita bread, whole wheat pasta, brown rice or a breakfast cereal made with rolled oats.

Include fish in at least two of your meals from this week on. Fish is either very low in fat or high in omega-3 fats that are good for heart-health. Here are some meals to consider: a salmon or tuna sandwich, baked or grilled salmon or swordfish, a fish soup, scallops with pasta.

This week, make a list of desserts that will satisfy you without sending your blood cholesterol skyward. Here are some suggestions to get you going: low-fat frozen yogurt, angel food cake with fresh fruit, meringues filled with lemon yogurt and fresh berries.

For your physical activity program, continue with your daily plans. In addition to this, take on three errands or household jobs that require some physical activity such as walking to the mail box, cleaning out the basement or mowing the lawn.

LEMON POPPY SEED MUFFINS

Use this versatile batter to make 12 large muffins or bake as a bread in a 9 x 5 inch/ 2 L loaf pan for 45 - 50 minutes.

2 1/2 cups	all-purpose flour	625 ml.
1 tbsp	baking powder	15 ml.
3/4 tsp	baking soda	4 ml.
1/4 tsp	salt	1 ml.
1/4 cup	vegetable oil	50 ml.
1/2 cup	granulated sugar	125 ml.
2	eggs	2
1 1/2 cups	buttermilk or low-fat yogurt	375 ml.
1/4 cup	poppy seeds	50 ml.
2 tbsp	grated lemon peel	25 ml.

Syrup

1/3 cup	lemon juice	75 ml.
1/3 cup	granulated sugar	75 ml.

1. In a bowl, combine flour, baking powder, baking soda and salt. Mix well.
2. In a large bowl, beat oil with sugar, eggs, buttermilk, poppy seeds and lemon peel.

3. Add dry ingredients to large bowl and combine until just moistened.

4. Spoon batter into 12 large non-stick, lightly oiled or paper-lined muffin cups. Bake in preheated 400° F/200° C oven for 20 to 25 minutes.

5. Meanwhile, in a small saucepan, bring lemon juice and sugar to a boil. Cool for a few minutes.

6. When muffins come out of the oven, prick in a few places with a toothpick. Spoon syrup over top and allow to soak into muffins. Cool and remove from pan.

Per Muffin

Calories	232
carbohydrate	37 g
fiber	1 g
total fat	7 g
saturated fat	1 g
protein	5 g

Recipe from *More HeartSmart™ Cooking with Bonnie Stern* Random House 1997

Tips for Dining Out

Ask for lower-fat dishes to be prepared. For example, ask for a tomato sauce on pasta instead of a cream sauce or grilled fish instead of fried.

Avoid: butter on bread, higher-fat appetizers like Caesar salad or cream soups, deep fried entrées such as fish and chips, rich desserts.

At a fast food restaurant choose an unbreaded, grilled chicken sandwich, a single patty hamburger, a vegetarian pizza, low-fat milk or juice, low-fat or fat free salad dressings.

In this last week you are challenged to put your new-found skills to work by adjusting favourite recipes and choosing wisely while eating out.

Use lower-fat seasonings in place of butter or margarine to make foods tastier. For instance, flavour vegetables with balsamic vinegar, put jam on dry toast, syrup on plain pancakes, and brown sugar on squash*.

Plan for those days when you're too tired to cook and you want something fast and easy but low in fat. Freeze meal-size leftovers or stock a few lower-fat frozen entrées and dinners for times when you don't feel like cooking.

*NOTE: If triglycerides are high, sugar and alcohol must also be limited.

Reduce the fat used in two of your recipes this week. For instance, if a pot roast recipe calls for browning the meat in a quarter of a cup of butter, cut this back to just 2 tablespoons. Better still, use 2 tablespoons of olive oil instead of butter. Another tip is to cut the fat in a muffin recipe. For instance, if the recipe calls for 1/2 cup (125 mL) butter, reduce this to 1/4 (50 mL) or 1/3 cup (75 mL). Chances are you won't notice the difference.

Eating out always presents challenges for anyone on a special diet. It's time to test your newly acquired skills by going out to your favourite restaurant and choosing a meal that fits with a healthy eating pattern.

At this point, your physical activity pattern should be well established. Continue to do it every day if possible and think about ways to increase physical movement throughout the day.

By now you are well on your way to a lower blood cholesterol and a healthier lifestyle overall. The knowledge gained and the skills learned in the past six weeks will continue to serve you well for the rest of your life.

Where to Get More Information

Heart Healthy Cookbooks

These cookbooks are available for purchase through Heart and Stroke Foundation offices and book stores everywhere.

Anne Lindsay's Lighthearted Everyday Cooking, Macmillan of Canada, 2002

HeartSmart™ Cooking for family and friends by Bonnie Stern, Random House Canada, 2000

More HeartSmart™ Cooking with Bonnie Stern, Random House 1997

Simply HeartSmart™ Cooking, Bonnie Stern, Random House 1994

Lighthearted Everyday Cooking, Anne Lindsay, Macmillan of Canada 1991



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The Canadian Egg Marketing Agency provides reliable information on diet and health and is pleased to support the educational initiatives of the Heart and Stroke Foundation. This booklet, and others, are made available as part of our *Resourceful Partner* program.

Enjoying a variety of foods is part of healthy eating. Eggs are a nutritious food and should be eaten in moderation. Canadian Egg Producers financially supports the Health Check™ education program. This is not an endorsement. See www.healthcheck.org

Nutrition information per 50g serving (1 Large egg): Energy 71 Cal, Protein 6g, Fat 5g, Carbohydrate 0g