

# Healthy Eating: A guide for people with MS



## HEALTHY EATING: A GUIDE FOR PEOPLE WITH MS

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## **COVER ARTWORK**

Diane Estrabrook

*Pear Power*, Watercolour on paper

*"Pear Power is an analogy for me; I can either stand out or sit out in life."*

Diane Estabrook has had MS as long as she has painted. With over 30 years of joy and struggle behind her, she has never given up. Diane bought a business at age 43, achieved a BFA degree at 49 and received a certificate in Arts Management a year later.

This is the second time one of Diane's paintings has appeared on the cover of an MS Society of Canada publication. *Gone Forever* appears as cover art on the publication *Cognitive Change and Multiple Sclerosis*.

## HEALTHY EATING: A GUIDE FOR PEOPLE WITH MS

Like everyone else, people with MS can benefit from a healthy diet. This booklet explains what is meant by a 'well-balanced diet', why we should all be aiming for one and how to get one. You might find that symptoms of MS affect what you can eat or how you prepare meals. Learning new ways of cooking, or using energy-saving tips can help you carry on eating what you enjoy. Adjusting to MS will not always mean changing your diet, but sometimes it can help. Many special diets have been proposed as treatments, but none have been proven to prevent MS or affect the way it may develop. Special diets are best approached with caution as some may be expensive or even harmful. Most people do not need to use expensive supplements either. You can usually obtain the nutrients you need through your daily meals. With careful planning, perhaps with the help of a dietitian, you can make sure you meet your dietary needs – even if they change over time. Many people with MS report that they feel better when they eat well.

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## The benefits of a well-balanced diet

Eating nutritionally balanced meals helps the body work to its full potential, which is particularly important for people living with long-term, unpredictable conditions like MS. The effects of MS vary from person-to-person and can change from one day to the next. Many people find they can improve their quality of life and sense of well-being by focusing on aspects of health that can be controlled and changed – such as diet. This, combined with appropriate exercise, can help:

- ➔ weight control
- ➔ decrease fatigue
- ➔ maintain regular bowel and bladder function
- ➔ minimize the risk of skin problems
- ➔ keep bones healthy and strong
- ➔ maintain healthy teeth and gums
- ➔ strengthen the heart
- ➔ improve muscle strength and range of motion
- ➔ increase flexibility

## What makes up a healthy, balanced diet?

It is now widely recognized that a healthy diet contains a balance of the major food groups:

- ➔ proteins – for growth and tissue repair;
- ➔ carbohydrates – for energy;
- ➔ fats – to absorb certain vitamins and for essential fatty acids;
- ➔ fibre – for healthy digestion;
- ➔ vitamins and minerals – for numerous processes in the body, including tissue repair, bone strength and the absorption of other nutrients; and
- ➔ fluids – for optimum working of the body. Water carries nutrients around the body and is used in the various chemical processes carried out in our cells.

## **A WELL BALANCED DIET**

‘A healthy, well-balanced diet, combined with exercise has a wide range of health benefits.’

The chart below from the Canada Food Guide shows how many food guide servings you need from each of the four food groups every day. Having the amount and type of food recommended will help:

- meet your needs for vitamins, minerals, and other nutrients;
- reduce your risk of obesity, type 2 diabetes, heart disease and certain types of cancer and osteoporosis;
- contribute to your overall health and vitality.

	<b>Children</b>			<b>Teens</b>		<b>Adults</b>			
<b>Age in Years</b>	<b>2-3</b>	<b>4-8</b>	<b>9-13</b>	<b>14-18</b>		<b>19-50</b>		<b>51+</b>	
<b>Sex</b>	<b>Girls and Boys</b>			<b>Females</b>	<b>Males</b>	<b>Females</b>	<b>Males</b>	<b>Females</b>	<b>Males</b>
<b>Vegetables and Fruit</b>	4	5	6	7	8	7-8	8-10	7	7
<b>Grain Products</b>	3	4	6	6	7	6-7	8	6	7
<b>Milk and Alternatives</b>	2	2	3-4	3-4	3-4	2	2	3	3
<b>Meat and Alternatives</b>	1	1	1-2	3-4	3-4	2	3	2	3

What is one food guide serving? Look at the examples below:

<b>Vegetables and Fruit</b>	Fresh, frozen, or canned vegetables 125 mL (1/2 cup)	Leafy vegetables Cooked: 125 mL (1/2 cup) Raw: 250 mL (1 cup)	Fresh, frozen or canned fruits 1 fruit or 125mL (1/2 cup)	100% juice 125 mL (1/2 cup)
<b>Grain Products</b>	Bread 1 slice (35 g)	Cooked rice, bulgur or quinoa 125 mL (1/2 cup)	Cereal Cold: 30g Hot 175 mL (3/4 cup)	Cooked pasta or couscous 125 mL (1/2 cup)
<b>Milk and Alternatives</b>	Milk or powdered milk (reconstituted) 250 mL (1 cup)	Fortified soy beverage 250 mL (1 cup)	Yogurt 175 g (3/4 cup)	Cheese 50 g (1 ½ oz)
<b>Meat and Alternatives</b>	Cooked fish, shellfish, poultry, lean meat 75 g (2 ½ oz.)/125 mL (1/2 cup)	Cooked legumes 175 mL (3/4 cup)	Eggs 2 eggs	Peanut or nut butters 30 mL (2 Tbsp)

You can find out more information about Canada's Food Guide recommendations by going to the website: <http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php> or by calling Health Canada at: **1-800-622-6232**.

These food groups contain nutrients with specific roles and a lack of any of these may cause health problems directly, or affect how other nutrients are absorbed by the body. For example, a lack of calcium can cause bone weakness, but even if there is enough calcium in the diet, a lack of vitamin D can slow the absorption of calcium and also lead to bone weakness. This is why it is important that there is a balance of all these food groups in your diet.

Remember that there is no harm in the occasional treat that is high in saturated fat, sugars or salt. You needn't feel guilty for enjoying a chocolate bar or bag of chips every now and then. Some treats can be healthy! Strawberries, for instance, are full of vitamins and zinc, even if they do have a little cream poured over them. Dining out can also be a good way to try new things – and can give you new ideas to try out at home.

### **Can supplements help, or be used instead of fruit and vegetables?**

Vitamins and minerals have a number of vital functions in the body. Certain drug treatments can lower levels of vitamins and minerals in the body and a doctor or dietitian may suggest supplements to replenish these. But a balanced diet usually provides a sufficient supply for most people and there is no evidence that high doses benefit people with MS. Excess vitamins and minerals can be harmful. Some studies have suggested that eating fruit and vegetables has greater health benefits than taking vitamin and mineral supplements. This is because supplements do not contain many of the nutrients known as 'phytochemicals', which are found in fruit and vegetables. These nutrients have only recently been looked into, but it appears they may have health benefits. In addition to this, fruit and vegetables are healthy sources of fibre and carbohydrates.

## **Vegetarian and vegan diets**

Vegetarian and vegan diets may need more careful planning to ensure they cover all essential nutrients, but a dietitian can help you find alternatives.

## **Food allergy and intolerance**

Research does not support the use of gluten-free or other diets excluding specific foods to treat MS. However, just like anyone else, people with MS can react to particular foods. If you think you may have an intolerance or allergy, your doctor or dietitian can help you look into it further. Reliable testing for food allergies or intolerance involves following a properly supervised exclusion diet. As this process can be time-consuming, inconvenient and costly, it is worth considering the pros and cons: will following the diet be worse than the symptoms it could alleviate; will you still be able to have a balanced diet and maintain a healthy weight and, how would such a diet impact on finances, shopping, cooking, family meals and meals out?

## **Adapting to a new diet and new techniques**

The effects of MS vary greatly and you may never experience some of the symptoms or problems mentioned in this booklet. Changes to your circumstances might affect the foods you choose and your nutritional needs.

Because everyone has different experiences, culture and lifestyle, how each person adapts will vary. Food is more than just a necessity. It can also be a social activity, so any changes to your diet need to be realistic and suited to your lifestyle as well as your dietary needs. Be ready to try new things – if you choose healthy food that you like, it might be easier to stick to any changes you make.

Some MS symptoms can have an impact on dental hygiene, so it is important to have regular check ups with your dentist. Tremor and fatigue, for example, might both make brushing your teeth more difficult. Certain drugs used to treat MS symptoms can cause a dry mouth, which might also affect the health of your teeth and gums. Your dentist may recommend a mouthwash or fluoride gel to help avoid problems and can give advice on the easiest ways to brush effectively.

## **PRACTICAL SUGGESTIONS FOR A BALANCED DIET**

Of course, our eating habits don't neatly fit into diagrams or lists of food groups, and judging whether a diet matches these proportions can be difficult. Planning a flexible menu for the week can be helpful, and by following some simple principles of healthy eating, you can be confident you are getting a balanced diet.

Suggestion	Nutrition	Health benefits
<p><b>Five portions of fruit or vegetables every day including one portion of dark green, leafy vegetables</b></p>	<ul style="list-style-type: none"> <li>• Fruit and vegetables are good sources of vitamins, minerals, and fibre.</li> <li>• Dark green, leafy vegetables also contain a small amount of an omega 3 essential fatty acid (EFA).</li> </ul>	<ul style="list-style-type: none"> <li>• Vitamins and minerals have many benefits, including working as antioxidants and helping the body use other nutrients</li> <li>• Fibre helps keep the digestive system healthy.</li> <li>• Omega 3 EFAs are important for a healthy nervous system, heart and circulation.</li> </ul>
<p><b>Use polyunsaturated margarines and oils such as sunflower oil or corn oil, instead of saturated fat such as lard and butter.</b></p>	<ul style="list-style-type: none"> <li>• Sunflower oil and corn oil are polyunsaturated fats which are also good sources of the omega 6 EFAs.</li> </ul>	<ul style="list-style-type: none"> <li>• Omega 6 EFAs are important for a healthy nervous system.</li> <li>• Polyunsaturates can lower blood cholesterol levels and therefore help reduce the risk of heart disease.</li> </ul>
<p><b>Grill, bake, steam or poach food instead of frying.</b></p>	<ul style="list-style-type: none"> <li>• Frying foods often means using more fat. It is better to use these lower fat cooking options.</li> </ul>	<ul style="list-style-type: none"> <li>• Cutting down saturated fats can reduce the risk of heart disease.</li> </ul>
<p><b>Choose lean cuts of meat. Hot dogs, pâtés and hamburgers are often high in saturated fat.</b></p>	<ul style="list-style-type: none"> <li>• Meat is rich in iron, zinc, B vitamins and protein.</li> </ul>	<ul style="list-style-type: none"> <li>• Iron helps the blood to carry oxygen around the body.</li> <li>• Zinc is important for healing and repair and allows the body to use carbohydrates, fat and proteins effectively.</li> <li>• B vitamins have a variety of uses: to maintain a healthy nervous system, to release energy from our food and to help blood carry oxygen around the body.</li> <li>• Protein is needed for the body to repair and heal itself.</li> </ul>
<p><b>Avoid too much saturated fat, hydrogenated vegetable oil and shortening in foods like pastry, cakes and chocolate. Use a non-hydrogenated margarine.</b></p>	<ul style="list-style-type: none"> <li>• When liquid vegetable oil is turned into solid fat – through a process called hydrogenation – harmful ‘trans fats’ can be formed. Like saturated fat, trans fats can raise blood cholesterol levels.</li> </ul>	<ul style="list-style-type: none"> <li>• Cutting down on saturated and hydrogenated fats can reduce the risk of heart disease.</li> </ul>

# HEALTHY EATING: A GUIDE FOR PEOPLE WITH MS

Suggestion	Nutrition	Health benefits
<p><b>Eat at least two portions of fish a week, one of which should be oily fish like mackerel, pilchards, salmon or sardines.</b></p>	<ul style="list-style-type: none"> <li>• Fish is a good source of protein, vitamins and minerals, such as selenium and iodine.</li> <li>• Oily fish is rich in omega 3 EFA and vitamins A and D.</li> </ul>	<ul style="list-style-type: none"> <li>• Omega 3 EFAs are important for a healthy nervous system, heart and circulation.</li> <li>• Vitamin A is good for the skin and eyes.</li> <li>• Vitamin D helps keep bones and teeth healthy.</li> <li>• Selenium plays a role in a healthy immune system and acts as an antioxidant.</li> <li>• Iodine helps produce important hormones for a healthy metabolism.</li> <li>• White fish is particularly low in fat.</li> </ul>
<p><b>Use low-fat dairy products such as skimmed milk, low-fat yogurt or low fat cheeses.</b></p>	<ul style="list-style-type: none"> <li>• Dairy products are a good source of protein, calcium and vitamins A, B12, and D.</li> <li>• Lower fat alternatives, like skimmed and 1% milk, reduce the fat but keep the other nutrients.</li> </ul>	<ul style="list-style-type: none"> <li>• Protein is needed for the body to repair and heal itself.</li> <li>• Calcium and vitamin D are needed for strong bones and teeth.</li> <li>• Vitamin A is good for the skin and eyes.</li> <li>• Vitamin B12 is important for a healthy nervous system.</li> </ul>
<p><b>Eat wholewheat bread and wholegrain cereals.</b></p>	<ul style="list-style-type: none"> <li>• A low-fat source of carbohydrates.</li> <li>• High in B vitamins and vitamin E.</li> <li>• High in fibre.</li> </ul>	<ul style="list-style-type: none"> <li>• Carbohydrates are a vital source of energy.</li> <li>• Vitamin E has many functions, including as an antioxidant.</li> <li>• B vitamins have a variety of uses: for a healthy nervous system, to release energy from our food and to help blood carry oxygen around the body.</li> <li>• Fibre helps keep the digestive system healthy. A high fibre diet contains 25-30g of fibre daily.</li> </ul>
<p><b>Drink six to eight cups of fluid daily (about 1.5 litres). Don't rely on high-caffeine drinks, such as coffee, tea and cola.</b></p>	<ul style="list-style-type: none"> <li>• Water is needed for the body to function.</li> </ul>	<ul style="list-style-type: none"> <li>• Dehydration can affect memory, concentration and energy levels.</li> <li>• A good fluid intake can help keep the bladder and bowels healthy.</li> <li>• Caffeine and alcohol can make the body more dehydrated.</li> </ul>

## PRACTICAL SOLUTIONS FOR PREPARING FOOD

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'Some tasks can be done just as well sitting as standing.'

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'If you live with others, sharing tasks can make preparing meals easier and quicker.'

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'There are gadgets and tools to help with almost every daily task in the kitchen.'

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Living with MS can mean that regular tasks like shopping and preparing food take longer or need more careful planning. For example, fatigue can make shopping trips over-tiring, or tremor could make chopping vegetables difficult. An occupational therapist can suggest energy saving tips and helpful equipment or adaptations. They can also advise on grants that may be available for adaptations.

### Shopping

There are many grocery delivery services available, including online shopping, which can save a trip round the supermarket, and avoids carrying heavy shopping home.

## Techniques for preparing foods

- ➔ To avoid moving around the kitchen unnecessarily, why not gather all the ingredients together before you start to cook? Some people prefer to use a table in the kitchen to eat at, rather than carry meals to another room. If balance is a problem, grab rails can be fitted to many kitchen units and walls.
- ➔ Cooking with a microwave means there are no heavy pans to lift.
- ➔ Some tasks can be done just as well sitting as standing. Overhanging worktops can often be fitted to kitchens to make this easier. Height-adjustable stools and stools with sloping seats can make getting up and down less tiring.
- ➔ Dishwashers can make cleaning less tiring, but may not be the best option for all as they still need to be filled and emptied.
- ➔ If heat makes symptoms worse, microwaves can help as they don't warm the kitchen while cooking. Induction hotplates also warm the pans without heating the air around them.
- ➔ If you live with others, sharing tasks can make preparing meals easier and quicker, and cooking together can be fun.

## Pre-prepared foods

- ➔ If preparing food is difficult or tiring, ready-made meals can be a good solution. However, they are sometimes high in fat and salt so may not be suitable for every day. Dietitians can advise on easy-to-prepare alternatives or ways to supplement your diet if you rely greatly on ready meals.
- ➔ Many communities throughout the country offer a meals on wheels service – where ready-prepared meals are delivered to your door. Check your your local MS Society to see what is available in your area. Caterers can usually meet special requirements on health or religious grounds.

## Practical equipment

There are gadgets and tools to help with almost every daily task in the kitchen. The list below gives an idea of what is available. An occupational therapist can help you identify what would be helpful in your particular situation. You can also find information via organizations like:

### **The Abilities Foundation**

[www.enablelink.org](http://www.enablelink.org)

Call your local MS Society of Canada if you have any questions about what resources or services might exist in your community.

If grip is difficult or dexterity affected:

- ➔ jar and ring-pull openers
- ➔ easy-grip handles on cutlery, peelers and other utensils
- ➔ tap turners – large handles to fit over existing taps
- ➔ knob turner – adaptable gadget that fits many different shapes and sizes to help with fiddly controls
- ➔ two-handed cups
- ➔ non-slip chopping boards

If lifting heavy items is difficult:

- ➔ cooking baskets – let you lift food in and out of pans, rather than lifting a heavy pan of boiling water
- ➔ a wheeled trolley – to move ingredients, pans and prepared food more easily
- ➔ kettle tipper – lets you pour a kettle without lifting it

If you have visual problems:

- ➔ large controls and displays on ovens, microwaves, timers and weighing scales
- ➔ speaking weighing scales

- ➔ coloured tape around worktops can help provide a contrasting edge
- ➔ brightly coloured chopping boards, cutlery and utensils also contrast better with surfaces and make items easier to spot in drawers

## MANAGING YOUR WEIGHT

Both weight loss and weight gain can be a problem for people with MS, but this can be managed and controlled by tailoring a 'personal diet plan'. A dietitian can help you develop a plan that adjusts as your needs change, ensuring you always get a healthy balance of nutrients. It is not always easy to stick to a rigid plan, so keep it flexible and remember that occasional treats are not forbidden. Remember also that weight problems may not be directly linked to your MS. Your doctor or other healthcare professional can investigate the problem to find the cause.

### Weight loss

If someone is underweight they may become malnourished and weak, which can make MS symptoms like fatigue, muscle weakness or spasms worse.

There are many reasons people with MS might not eat as much as they need. Problems with posture, swallowing, fatigue and tremor can all make shopping for, preparing or eating food more difficult. Appetite can also be affected by stress, anxiety and depression, as well as certain drug treatments. You should approach your doctor if you have concerns about any of these issues.

Because early signs of malnutrition, like fatigue and muscle weakness, can also be symptoms of MS, the problem may initially go unnoticed. Your doctor or dietitian can help investigate and treat the underlying causes of your weight loss.

If getting enough energy and nutrients is difficult, over-the-counter or prescription supplements may be useful. If you use high-energy foods and drinks, remember that they often have high-sugar content, so early, preventative dental care is important.

### **Weight gain**

Keeping generally fit and healthy can make it easier to cope with the symptoms of MS. But having MS may mean you are less active than you once were, so you might find you put on weight. Appropriate exercise and a healthy, balanced diet can help you return to your healthy weight, but there may be additional things you can do to help with weight loss.

For example, to keep up an adequate intake of liquids, some people rely on fruit juices or sugary drinks. Switching to water or low-sugar versions could cut down the calories without risking dehydration.

Sugary and fatty snacks are sometimes 'comfort food' at times of stress and worry. Occasional snacking like this should be no great cause for concern, but if you are "comfort" eating a lot and think you may be depressed, discuss this with your doctor as depression is treatable. Some drug treatments, including steroids used for acute relapses, can also cause weight gain.

## DIET AND YOUR MS

Certain changes to what and how you eat may help with managing the effects of MS.

### Bladder problems

Some people with bladder problems drink less to reduce their need to use the toilet. However, this can mean you have more concentrated urine, which can irritate the bladder and increase the chances of getting urinary tract infections. Drinking six to eight cups (about 1.5 litres) of water per day is generally recommended. It is best to avoid large quantities of caffeine and alcohol as these irritate the bladder.

### Bowel problems

Dietary changes are often suggested as the first line of treatment for people with MS who experience constipation. Good fluid intake can help regular bowel function, as can a diet with plenty of insoluble fibre. This fibre cannot be digested and passes straight through the gut, helping digestion of other foods and removal of waste. A well-balanced diet, with plenty of fruit and vegetables can provide this fibre. Prunes (or prune juice), figs, wholewheat bread, fibre-fortified white bread, brown rice and high fibre breakfast cereals are particularly good sources of insoluble fibre.

## Swallowing problems – Dysphagia

Difficulties with swallowing – or dysphagia – can be a distressing symptom, especially if not managed properly, but there are a number of ways to modify your eating habits or diet that can help.

- ➔ If chewing is difficult, try to avoid tough or stringy food.
- ➔ If big meals are a problem, small, frequent meals and high calorie drinks can help to ensure you get enough calories.
- ➔ A change in your seating position may make swallowing easier.
- ➔ Soften food with a fork or blender to minimize chewing and make swallowing easier.
- ➔ If swallowing is difficult, thin fluids like water or tea can go down the wrong way, causing discomfort and a potential choking hazard. Using thickening agents in drinks can help and are available over the counter and/or by prescription.
- ➔ Some people find it harder to drink enough fluid through the day when drinks have been thickened. To avoid dehydration, sip little and often. Pre-thickened fruit juices, also available over the counter and/or on prescription, may be more appetizing and they are always the right consistency.
- ➔ If swallowing difficulties are causing weight loss, nutritional supplements might be helpful.

These ways of eating and drinking might also help if you experience facial pain (trigeminal neuralgia), which can make opening the mouth and chewing difficult.

## Fatigue

Fatigue can sometimes be helped by adjusting the diet. For those who get tired quickly, eating large, hot meals can be difficult, so smaller, more frequent snacks may be better. Proteins with all meals or snacks, or complex carbohydrates such as a wholegrain bread can help keep energy levels up. Relying too much on sugary foods for energy can make fatigue worse, as they cause energy peaks followed by lows.

Dehydration can lead to tiredness, so aim to drink six to eight cups (about 1.5 litres) of fluids per day. Drinks that contain a lot of caffeine, such as tea, coffee and cola can have a pick-me-up effect initially, but too much caffeine can dehydrate you.

## Tremor

Tremor can affect your nutritional needs or your approach to eating. Constant tremor uses up calories, so high-energy foods and drinks between meals might be necessary to avoid weight loss or worsening fatigue.

If tremor affects holding or reaching for things, certain foods may be easier to eat than others. A sandwich, for example, is easier to manage than spaghetti or soup. Specially designed cutlery, crockery and kitchen utensils can make the preparation and eating of food more manageable.

## Visual problems

Double-vision or blurring may make preparing or eating food more time consuming and may seem to limit choice. However, there are practical solutions that can help. These are outlined on page 16.

## Osteoporosis

Osteoporosis causes bones to become fragile and increases the risk of breaking. Several factors may increase the risk of osteoporosis for people with MS:

- ➔ extensive use of steroids to treat relapses;
- ➔ a lack of weight-bearing exercise, for example, for those who are less mobile;
- ➔ avoiding sunlight because of heat sensitivity or fatigue, leading to lower vitamin D intake.

To help reduce this risk, it is important to keep up good levels of both vitamin D and calcium in the diet, as these both help keep bones strong and healthy. In addition, researchers are also now looking carefully at vitamin D as a way to possibly reduce the risk of MS developing in the first place.

Good sources of vitamin D include oily fish, liver and eggs. Many physicians now suggest that people with MS might benefit from taking a daily intake of 1,000-2,000 IU of vitamin D because they may be vitamin D deficient.

Milk and dairy products are the richest sources of calcium, but tinned sardines, sultanas, bread, spinach and red kidney beans are also good sources. Skimmed milk contains as much calcium as full-fat milk, so cutting down on fat need not mean losing out on calcium. Calcium-enriched soya products offer a non-dairy alternative.

### **Pressure sores**

If someone lies or sits in one position for long periods, there is a risk of pressure sores developing. Losing too much weight can add to this risk if you lose the natural padding over bony points. A dietitian can help you monitor and maintain a healthy weight to avoid this.

## **CARING FOR THE DIETARY NEEDS OF PEOPLE MORE SEVERELY AFFECTED BY MS**

Some people more severely affected by MS can find food and fluid intake difficult. They may be unable to prepare meals, buy food or plan a balanced diet. Caregivers – sometimes family or friends – may become more involved and might want to consult specialist healthcare professionals to ensure they are meeting the dietary needs of the person they care for. Professional advice can benefit everyone – getting a healthy balanced diet is valuable for caregivers too.

## Likes and dislikes

Whatever someone's needs or restrictions when eating and drinking, they will have favourite foods and foods they would rather avoid. Religious, cultural and personal tastes should all be taken into account with any changes that need to be made.

Making changes to a diet can mean having to cook new foods, or prepare them in new ways. A 'likes and dislikes' list can help make meals enjoyable as well as nourishing. A dietitian can help with this, ensuring the list of 'likes' is broad enough to keep things interesting as well as healthy, accommodating tastes and preferences as much as possible. A perfectly balanced diet is of no use if it is left uneaten!

## Planning for the week

It is not uncommon for someone to have a number of caregivers, possibly a mix of professionals, friends or family. If several people assist with food, it can help to monitor meals prepared, to be sure there is a good overall balance. Agreeing on a weekly plan is one way to do this. Shopping lists can be tailored to the weekly plan, avoiding food going to waste and unnecessary trips to the grocery store. Also, getting together to plan the week's food lets everyone have input, even if they do not visit the grocery store themselves. Internet shopping is another way to choose groceries from home.

Keeping the plan flexible allows for the changes and surprises that can happen in daily life. The idea is to plan for a healthy, balanced diet, rather than regiment an everyday activity.

## **Make food and drink accessible**

It can be handy to have a selection of food and drinks available and easily accessible night and day. A secure, clean place to store food and drink near the bedside, for example, can save unnecessary trips to the kitchen – and is especially helpful if eating regular small meals or sipping drinks.

Some people with severe visual problems find it helpful if food is set out in an agreed way. For example, laying out the different parts of a meal as if the plate were a clock face makes it easier to choose which foods to eat – potatoes might be placed at '12 o'clock' and meat at '6 o'clock'.

## **Chewing and swallowing – Feeding Tube**

If chewing and swallowing are so difficult that softening food, thickening drinks and eating small meals fail to stop weight loss or dehydration, the use of a feeding tube may be appropriate. A Speech and Language Pathologist can assess a person's need for a feeding tube.

A feeding tube allows nutritionally complete liquid food to go directly through a tube into the stomach and can be a relief to those who have severe chewing or swallowing difficulties. People can often continue to eat a little by mouth, so they can still enjoy their favourite foods.

The feeding tube is usually fitted under local anaesthetic and the process is fully reversible if no longer needed. Even so, it can still be a daunting step for a person with MS and their

caregivers. Some changes to a person's lifestyle are inevitable and caregivers will need to learn to care for the feeding tube. Public Health Nurses and dietitians can help when considering tube feeding, or if issues arise once a feeding tube system is fitted.

### **RESEARCH INTO DIET AND MS**

No diet has been proven to impact the course of MS. That said, it makes sense to choose healthy, nutritious foods. A diet low in saturated fats (meat, eggs, dairy products) and high in monounsaturated fats (canola oil, olives and olive oil, nuts, seeds, avocados) and polyunsaturated fats (flaxseed oil, fish and fish oil) may be helpful. Some individuals with MS believe that avoiding wheat and dairy products helps alleviate their symptoms. Eating plenty of fruits, grains and vegetables helps to keep your heart healthy, avoid constipation, and maintain a healthy weight.

In addition, people with MS sometimes wonder whether they should take extra vitamins or food supplements. There is no scientific evidence that they will make a difference with one exception. Researchers are now looking carefully at vitamin D as a way to possibly reduce the risk of MS developing in the first place. In terms of food supplements, people with MS should avoid those that claim to boost the immune system. That could be a problem in MS, which results because of a misdirected immune attack on myelin within the central nervous system.

Effective studies into diet can be more difficult to design and control than laboratory trials into drug treatments. To be confident in a trial, researchers have to account for anything that may affect the results. For example, if a new drug is given to a group of people in a trial, researchers need to know if any of them are already taking other drug treatments. If they are, this could explain unusual results. However, because diet is part of a person's everyday life and within that diet they will eat many different types of food, it is almost impossible to ensure everyone involved in the trial eats exactly the same things, over a long period of time. This makes it very difficult to closely monitor particular foods and draw definite conclusions from the research.

Currently, research does not show that diet causes MS. Neither have any special diets been proven to prevent MS or affect the way it may develop. Research has not found that high-doses of any vitamins or minerals are of any benefit either.

A healthy, balanced diet will usually provide you with appropriate levels of nutrients. High doses of certain vitamins and minerals should be avoided as they may do more harm than good.

## **ESSENTIAL FATTY ACIDS AND MS**

One aspect of MS research that has received a lot of interest in recent years is the role of fats and oils, also known as 'lipids'. There are three main forms of lipids in our diet: saturated, monounsaturated and polyunsaturated. Lipids are a source of energy that store certain vitamins. They have received

particular attention in MS research because they also have a role in the central nervous system (the brain and spinal cord). This is where damage occurs in MS.

In particular, some think that omega 6 linoleic acid – an ‘essential fatty acid’ – may benefit some people with MS. Health professionals do not all agree that this is the case, but there is no doubt that linoleic acid is a valuable part of a healthy diet. The recommended amount can usually be obtained through a balanced diet, without the need for supplements.

The ways in which essential fatty acids affect the central nervous system are complex and not yet fully understood. But part of the story may be their immunosuppressive and anti-inflammatory effects.

### **A good balance of Essential Fatty Acid (EFA)s**

It is unclear exactly how omega 3 and omega 6 interact and the relative advantages of each. Both play an important part in a healthy nervous system, but to be broken down and used effectively they have to compete for the same chemicals in the body. Too much of either might limit the effects of the other, and the best levels needed for each EFA are not yet clear. A good balance of both omega 6 and omega 3 may be more important for people with MS than the total amounts of each. Further research is needed to identify the ideal intake. A balanced diet as recommended on pages 11 and 12 should provide healthy amounts of both.

## VITAMINS, MINERALS AND MS

Vitamins and minerals have a number of vital functions and have complex relationships with each other. Some are needed so that the body can use other nutrients effectively – for example zinc and vitamin B6 are both needed in the diet if you are to benefit from omega 3 and omega 6 essential fatty acids. Others, such as vitamins A, C and E, can work as ‘antioxidants’.

### Antioxidants

Oxidants, or free radicals, are chemicals that react easily with other substances in the body, changing or damaging their structure. For example, essential fatty acids are vulnerable to attacks from oxidants. Certain vitamins can limit the damage oxidants cause and protect the essential fatty acids. These vitamins are known as antioxidants.

Some research has suggested that oxidant activity in the central nervous system may be linked to the damage that occurs in MS. However, there have been few studies into the use of antioxidants for people with MS and the significance of oxidants is still unclear.

Antioxidant therapy might also carry a risk for people with MS, as some antioxidants have a stimulating effect on the immune system, which in theory could worsen the effects of MS. Further research is needed to determine the safety and potential benefits of antioxidant therapy for MS.

## Vitamin B12

The exact relationship between MS, MS treatments and vitamin B12 is complex and not yet fully understood.

Vitamin B12 is needed for the body to make myelin – the protective layer around nerve fibres that gets damaged in MS. Because of the importance of vitamin B12 in the nervous system, and because a deficiency can lead to symptoms similar to those found in MS, some people have suggested it can help treat or prevent MS. However, research does not support these theories.

Most people with MS have normal vitamin B12 levels but deficiencies can arise. Your doctor can check if this is a problem and provide appropriate treatment if necessary.

## Vitamin D

We obtain vitamin D through our diet and exposure to sunlight.

Some people have suggested that low levels of exposure to the sun could increase the chances of developing MS. This is because MS is more common in areas further from the equator – areas where there is less intense sunshine and people may therefore receive less vitamin D. However, there may be other explanations for these geographical differences. Further research is needed to understand the relationship between exposure to sunlight and MS.

As mentioned earlier in the publication, vitamin D – whether delivered through sunlight, fish such as salmon or tuna, milk, or in pill form – may play a role in preventing MS. Many

physicians now suggest that people with MS themselves might benefit from taking a daily intake of 1,000-2,000 IU of vitamin D because some people may be vitamin D deficient. If you do change your diet radically or increase your intake of vitamins, it is a good idea to consult your doctor or a nutrition specialist.

In addition, because vitamin D and sufficient calcium can help reduce the risk of osteoporosis, sufficient intake is important. This is particularly true for those who are less mobile or have taken long courses of steroids.

## FURTHER INFORMATION

### **MS Society publications, website and magazine**

The MS Society of Canada has publications on a wide variety of topics. For more information, please call 1-800-268-7582, or visit the website at [www.mssociety.ca](http://www.mssociety.ca)

### **Further reading**

*Dietary Supplements and Multiple Sclerosis: A Health Professional's Guide*, by Allen C. Bowling and Thomas M. Stewart. Published by Demos Medical Publishing (2004), ISBN: 1888799900. Aimed at health professionals, this book summarizes the research behind a range of dietary supplements.

*I-Can't-Chew-Cookbook. Delicious soft-food recipes for people with chewing, swallowing and dry-mouth disorders*, by J Randy Wilson. Published by Hunter House Publishers(2003), ISBN: 0897934008. This American book contains recipes for a wide variety of meals and includes nutritional information for each one.

## Useful resources

### **Dietitians of Canada**

[www.dietitians.ca](http://www.dietitians.ca)

### **Abilities Foundation**

[www.enablelink.org](http://www.enablelink.org)

Links to Canadian disability resources and services

### **Health Canada**

[www.hc-sc.gc.ca/index-eng.php](http://www.hc-sc.gc.ca/index-eng.php)

### **Canada's Food Guide**

<http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/index-eng.php>

## **How to reach the MS Society of Canada**

**Current as of December, 2008**

**Call toll-free in Canada: 1-800-268-7582**

**[www.mssociety.ca](http://www.mssociety.ca)**

### **British Columbia Division**

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[info.bc@mssociety.ca](mailto:info.bc@mssociety.ca)

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## Contact the Multiple Sclerosis Society of Canada:

Toll-free in Canada: 1-800-268-7582

Email: [info@mssociety.ca](mailto:info@mssociety.ca)

Website: [www.mssociety.ca](http://www.mssociety.ca)

### Our Mission

To be a leader in finding a cure for multiple sclerosis and enabling people affected by MS to enhance their quality of life.