

MS and Fitness



Guide for people with multiple sclerosis



"The feeling of fellowship in our group is amazing. Every week, we go out for coffee together after our exercise class."

- Mary

"Before my wife got sick, we used to love ballroom dancing. It's extraordinary because now, despite multiple sclerosis, we're able to waltz or tango again."

- John

"My exercise class is also a social get-together, and I wouldn't miss it for the world!"

- Stewart

"Exercise in a group is good for my mood as well as my body. It's a very dynamic, stimulating environment."

- Pam

"Every success makes me proud and happy."

- Cindy

"I couldn't do without physical activity. Thanks to my exercise, I can now do my grocery shopping standing up and leave my wheelchair in the supermarket lobby."

- Cheryl

"Now I can play with my grandchildren. I should have started exercising much sooner!"

- Paul

To obtain more detailed documentation, free of charge, concerning multiple sclerosis and how to cope with this disease, contact the Quebec Division of the Multiple Sclerosis Society of Canada (see the address at the end of this booklet) or visit its website at the following address:

www.mssociety.ca/qc



Never mind the myths – just get moving!

Multiple sclerosis (MS) is the most widespread central nervous system disease among young adults in Canada. Its symptoms are unpredictable and their severity varies from one person to the next. These symptoms may include extreme fatigue, tremors, loss of balance, and sometimes even paralysis. Most people with MS, however, still continue to lead a relatively normal life many years after their diagnosis.

Physical activity is probably the last thing on the mind of someone who has just been diagnosed with MS. Moreover, as time passes, many people with MS experience decreased motor skills, muscle strength and endurance, which may unfortunately lead them to believe that physical activity is inappropriate, or even prohibited, for them. And it must be admitted that until recently, people with MS were advised against taking up activities they were likely to find tiring.

Today, however, it is generally acknowledged that we must change our way of thinking. A better understanding of this disease and of the related therapeutic process prove without any shadow of a doubt that inactivity must be shunned. There are many ways to do this. Of course, physiotherapy, kinesiology and occupational therapy can play a role. But more and more other activities are now available for people with MS who want to keep fit: walking, weight training, swimming, aerobics and dance, to name only a few.

No more inactivity

It is important to remain physically active, as much to preserve, and even improve, your abilities as to combat the harmful effects of inactivity. Exercise – regular efforts at a certain intensity level – is the key in this new approach to activity for people with MS.

It has been proven that movement in itself is not enough to achieve rehabilitation. Rather, one must promote the learning of new motor skills, in particular by engaging in regular physical activity.

More than ever before, physical exercise is now open to people with MS. Everything is possible because training methods are now adapted to each person's specific condition. Moreover, many of the physical activities and sports suggested for people with MS take place under highly professional supervision, in cooperation with many specialists.

Today, no detail or effort is spared to make regular physical activity an effective and pleasant practice. We encourage you to get moving! In the following pages, you will find some simple suggestions that will motivate you to do so.

Physical activity programs vary from one region to another. Contact your region's physical rehabilitation centre, another professional rehabilitation resource (physiotherapist, physical educator or kinesiologist, for example) or your local chapter of the Multiple Sclerosis Society of Canada to find out what is available near you.

Make physical activity part of your life!

Being physically active: A priority

Physical activity always constitutes one of the foundations of quality of life for human beings, regardless of how healthy they are.

This statement is just as true of people who have a physical disability.

Specialists say that when a disease is accompanied by one or more motor disabilities, they can have a harmful influence on a person's body identity, and may even cause that person to reject their own body. Reconciliation with the body therefore constitutes an important phase in the rehabilitation process. It is well known that sport and dance are excellent ways to accomplish this.

In addition to enhancing strength, endurance, cardiorespiratory capacity and mobility and avoiding certain medical complications that may be associated with inactivity in people with MS, as we will see below, physical activity can also contribute to a better lifestyle.

Avoiding social exclusion

Disease can easily lead a person to remain hidden at home, to feel isolated and avoid taking part in community life. This is especially frequent when the disease is accompanied by a motor disability that decreases the affected person's autonomy. Participating in sports or dance programs favours a kind of integration that counteracts social exclusion.

“Engaging in physical activity also represents a cherished social outing. People tell us how important they find that, and how much it raises their self-esteem. They are able to do more than they ever thought they could. For example, someone who was unable to walk for five minutes can now walk for as long as 25 minutes.”

Jean-François Lamoureux
Physical educator
Centre d'activités physiques,
Cégep de Drummondville

“Physical activity first creates a feeling of well-being in a person with multiple sclerosis. Then, it helps them to carry out everyday activities such as holding a hair-dryer for ten minutes, moving from a wheelchair into bed or taking a shower standing up.”

Éric LeBouthillier
Physical educator
Centre de réadaptation
Lucie-Bruneau

“The most wonderful thing is to see people smiling as they do their exercises.”

Peter Boutin
Physical educator
Centre de réadaptation
Lucie-Bruneau

Fitness to fit every lifestyle!

As you can see, there are many ways for you to start enjoying physical activity:

- indoor or outdoor physical fitness training, with the specific goal of improving your muscle strength and endurance, your general endurance and your specific endurance for certain tasks (walking or using a wheelchair, for example);
- weight training;
- wheelchairs exercise;
- swimming and other exercises in the pool;
- tai chi and yoga;
- walking practice;
- dance and body self-expression;
- aerobics.

Whichever activities you choose, they will have to be perfectly adapted to your abilities and your pace. You could ask a physical educator, a kinesiologist or any other professional with training in exercise physiology for their help.



On your marks, get set, play....

Here are some examples of physical activities you could try:

→ Sports that can be played standing up	<ul style="list-style-type: none">• individual sports: track and field, badminton, archery, etc.• team sports: basketball, two-bounce volleyball, etc.
→ Wheelchair sports	<ul style="list-style-type: none">• individual sports: track and field (races, relays, throwing events)• team sports: basketball, two-bounce volleyball, etc.
→ Floor sports	<ul style="list-style-type: none">• individual sports: floor judo, etc.• team sports: most team sports can be played sitting or even lying on the floor.
→ Water sports	<ul style="list-style-type: none">• swimming• underwater diving• waterSPolo: a variant of water polo invented at the Université de Sherbrooke. Players sit in different coloured inner tubes, which set the teams apart.
→ Boating sports	<ul style="list-style-type: none">• sailing• kayaking• rowing, etc.
→ Snow sports	<ul style="list-style-type: none">• there are special kinds of sleds that enable people with a motor disability to travel downhill or do slalom (see illustration on page 12).
→ Ice sports	<ul style="list-style-type: none">• hockey: the people with a motor disability sit in chairs, while partners on skates push them.



Fighting an invisible enemy

Fatigue, which is observed in the vast majority of cases, constitutes an unavoidable reality in MS. Specialists think that it is caused by the change in nerve impulses.

We now know that training in general endurance, cardiovascular health and general physical condition is the ideal weapon for combatting fatigue. Thus, when people with MS exercise, their fatigue threshold is raised.

It is also essential to find the golden mean between rest and physical activity, since excessive rest increases deconditioning and, consequently, susceptibility to fatigue.

Thus, physical activity favours:

- a reduction in the energy required for each effort;
- a higher fatigue threshold;
- and a decrease in the time required for recovery.

Exercise is also said to reduce spasticity in certain people.

“Endurance is developed bit by bit. Gradually, people with MS become able to do more before they get tired.”

*Serge Faucher
Kinesiologist, Collège de la région de l'Amiante
(Thetford Mines)*

“Often the first reaction of people who have multiple sclerosis is to say that they can't exercise because they're already tired when they start. The goals we work for are to avoid excessive fatigue and to ensure that the fatigue caused by exercise can be recovered from in just a few hours.”

*Linda Parent
Physical educator
Centre de réadaptation Lucie-Bruneau*

The dangers of physical inactivity

Before taking a look at the many physical activities that may be adapted to the specific restrictions imposed by MS, let us examine the damaging effects of inactivity.

In fact, it has many, often harmful, consequences, not only for a person's motor skills and physical condition but also for their psychological state and social relationships.

Many specialists acknowledge that inactivity can result in a variety of medical complications, some of which could even have a significant impact on quality of life.

Medical complications

The main medical complications that may be associated with inactivity in people with MS are the following (note that they are not presented here in order of importance or frequency):

- impaired neuromuscular functions;
- infection of the upper respiratory tract (bronchitis and bronchial pneumonia);
- peripheral circulation disorder, for ex. thrombophlebitis;
- pressure ulcers;
- bowel and bladder problems;
- osteoporosis;
- contractures.

“Because of the decline in motor and physical skills associated with multiple sclerosis, people with this disease generally engage in little or no physical activity. They avoid professions that require physical effort and they don't exercise. Inevitably, then, their motor efficiency and physical condition deteriorate.”

*Jacques Vanden-Abeele
Associate Professor, Faculty of Medicine and
Faculty of Engineering, Université de Sherbrooke*

“Physical inactivity in people with multiple sclerosis is even more dangerous than physical inactivity in the average man or woman on the street.”

*Marie-Claude Lavoie
Viomax Coordinator
Centre de réadaptation Lucie-Bruneau*

A dynamic approach to motor rehabilitation

The new focus in the rehabilitation of people with MS is based on the structured use of sports. In this regard, the research carried out at the Université de Sherbrooke by Professor Jacques Vanden-Abeelee and his team has allowed for the development of a dynamic rehabilitation approach. The major features are discussed below.

From the outset, it is important to clearly establish that so-called “adaptive” physical education, as well as games, sports and dance, are key elements of a reorganization of the body and its motor skills.

The physical activity programs, such as walking school, wheelchair school and sports and dance programs that have been designed for you, include the following elements:

- basic dynamic rehabilitation;
- neuromotor training;
- training of your physical condition;
- prevention of osteoporosis.

Preventing osteoporosis

Like paraplegic people, people with MS have an increased risk of osteoporosis.

It has been determined that physical activities that generate an impact, such as jumping or hopping, help prevent osteoporosis. Thus, it is recommended that you favour these kinds of activities (no matter how light the impact), as well as those that can strengthen muscles.

The fundamental principles

Dynamic rehabilitation is the outcome of a series of principles; the main ones are presented below:

- ➔ YOU are the main agent in YOUR rehabilitation since you absolutely have to participate actively;
- ➔ the reorganization can only take place through a self-assessment that will allow you to discover the optimal motor strategies based on your abilities;
- ➔ it is necessary to learn new motor skills: you need to learn and perform specific motor actions;
- ➔ a spacious, dynamic environment is required;
- ➔ the motor actions must be meaningful to you;
- ➔ your training program must be customized;
- ➔ exercise for fun is more effective than exercise you are forced to do;
- ➔ work in small groups is enriching;
- ➔ unpredictability, spontaneity and creativity are essential factors for any good exercise session;
- ➔ reorganization is a long-term process, full of unexpected events. Thus, rehabilitation must be prolonged beyond the stay in hospital, sometimes in a rehabilitation centre. It must even continue after you go home again.

Start at the beginning

The starting point is not your disease but you yourself, with your own motor, physical, cognitive, psychological and social skills, as well as your own hopes and aspirations.

Basic dynamic rehabilitation is specifically designed to:

- ➔ improve motor efficiency by dynamic neuromotor training;
- ➔ gradually improve your physical condition;
- ➔ carry out an initial exploration of the kinds of games, sports and dance that you are able to do.



The benefits

Regular exercise, sport and dance present many advantages as a rehabilitation method:

- ➔ these activities will improve your motor, physical and psychological capacities;
- ➔ they generally take place in sports facilities, which allows your rehabilitation to be “demedicalized”;
- ➔ it has been proved that rehabilitation through sports reduces the duration and cost of rehabilitation;

➔ games, sports and dance are enjoyable, meaningful and dynamic and they take place in locations that are usually spacious;

➔ they favour and speed up social integration.

There's no doubt about it: they are focused on YOU !



Dive into life

There are so many physical activities, and so many ways to perform them, that very few people with MS will not be able to find something they can do.

One particularly interesting possibility is engaging in physical activities in the water, that is, in “low-gravity” conditions. The effect of gravity is reduced by flotation and the water pressure makes it easier to keep your body upright.

These activities can be performed in a shallow pool or one whose depth can be adjusted due to a moveable floor. Specialized equipment makes it possible to transfer people who use a wheelchair.

“In the pool, we have developed flexion and extension exercises, as well as swimming exercises with inner tubes. The movements are really varied so it doesn’t get monotonous.”

Serge Faucher

*Kinesiologist, Collège de la région de l’Amiante
(Thetford Mines)*

Shall we dance?

Brigitte Graff, dancer, choreographer and director of the Corps et Graff Company in Sherbrooke, has developed some strategies that allow people who have a motor disability to dance standing up, with or without a cane, crutch or walker, with or without help from another person, or even sitting in a wheelchair.

“We break every dance convention,” she says enthusiastically. “We change the beat if necessary. A waltz in three-quarter time becomes a waltz in two-four time. The important thing is that a person with a disability is able to dance. The three favourite dances for people with motor problems are rock and roll dancing, tango and waltz. Any dance can be adapted.”

Wheeling better...

Approximately 25% of people with MS use a wheelchair. This situation demands not only good steering skills but also physical strength, especially in the upper limbs, when using a standard wheelchair.

Conversely, the frequent or constant use of a wheelchair entails that a person remains in the sitting position for long periods of time, which inevitably results in significant muscle weakening.

That is why it is important for people who use a wheelchair to stay physically fit, thanks to regular exercise. To do this, specialists have designed a whole panoply of exercises to do in the wheelchair, in a chair, on the floor (sitting or lying down) or in the pool.

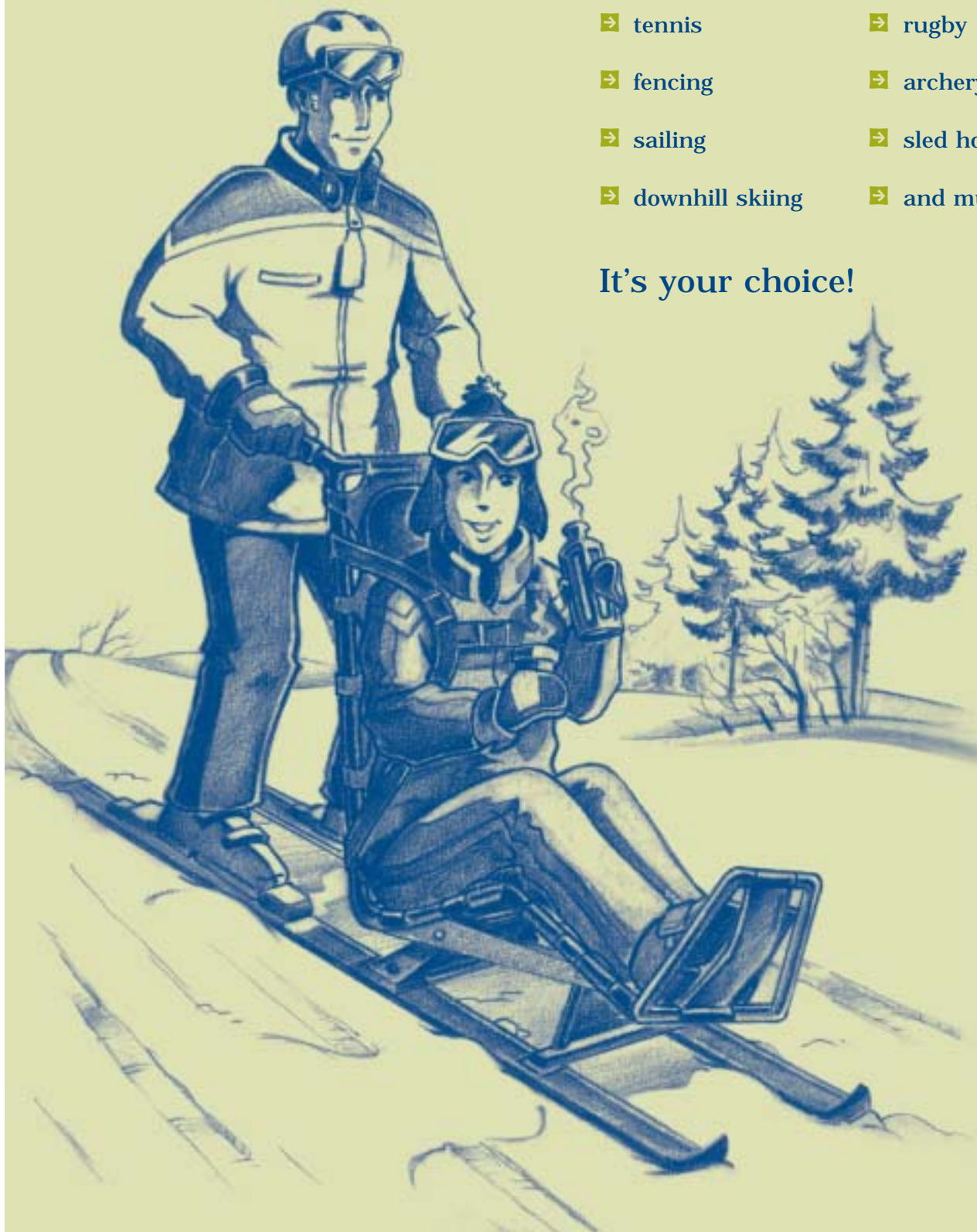
...and having fun!

Wheelchair sports are the ideal option for any person whose range of movement is limited physically and for whom traditional sports in the standing position are inappropriate or simply impossible. This kind of activity also makes it possible to improve your steering...

Which sports are accessible to people in wheelchairs?

- ➔ basketball
- ➔ track and field
- ➔ tennis
- ➔ rugby
- ➔ fencing
- ➔ archery
- ➔ sailing
- ➔ sled hockey
- ➔ downhill skiing
- ➔ and much more...

It's your choice!



Expert advice

The physical conditioning and training specialists we consulted while preparing this document have some excellent advice for you that will help you to take full advantage of the joys of physical activity. Here are some tips:

- The most important thing is to go gradually. Rome wasn't built in a day...
- Choose activities that motivate you.
- Take regular breaks.
- Don't hesitate to ask for advice.
- Respect your own pace.
- Don't exercise during MS attacks.
- Opt for exercise that develops endurance more than physical strength.
- Start with sessions that last 10 minutes per day (four or five times a week). Remember that regularity is more important than length of time.
- Choose the time of day when you feel best to do your exercises. During the summer, it's usually coolest in the morning.
- Set realistic goals.
- Start to exercise as soon as possible after receiving your diagnosis of MS.

“People with multiple sclerosis shouldn't be afraid that physical activity will make their condition worse. The opposite is true: it will improve with exercise, just as it does for everyone else.”

Jean-François Lamoureux
Physical educator
Centre d'activités physiques,
Cégep de Drummondville

“Everything is possible. When we have quadriplegic people who can dance or do tai chi, I see no reason why people with multiple sclerosis shouldn't do as much. We adapt to their abilities and modify the exercises accordingly.”

Jean Laroche
Exercise specialist,
Université de Sherbrooke

“Physical inactivity has negative impacts on multiple sclerosis itself and increases the risk factors, as well.”

Éric LeBouthillier
Physical educator
Centre de réadaptation Lucie-Bruneau,
Montreal

References:

- ▶ **Conférence sur les bienfaits de l'activité physique pour les personnes atteintes de SP. (Presentation on the benefits of physical activity for people with multiple sclerosis.)**
Sylvain Bourque. Université du Québec à Trois-Rivières (UQTR). May 28, 2003.
- ▶ **Taking an active approach to managing MS.**
Active Living. August 20, 2002.
- ▶ **L'entraînement en circuit : données générales. (Circuit training: General information.)**
Jean Laroche and Jacques Vanden-Abeelee. Université de Sherbrooke. February 2002.
- ▶ **L'importance de l'activité physique pour les personnes ayant la sclérose en plaques. (The importance of physical activity for people with multiple sclerosis.)**
Handout for the presentation given at the Montérégie Chapter of the Multiple Sclerosis Society of Canada's second conference, Saint-Jean-sur-Richelieu, Saturday, December 1, 2001.
- ▶ **L'école du fauteuil roulant. (Wheelchair school.)**
Handout for the presentation at the Quebec Division of the Multiple Sclerosis Society of Canada's Symposium, May 26 and 27, 2001.
- ▶ **S'entraîner en s'amusant. (Have fun exercising.)**
Newsletter of the Association de la sclérose en plaques de l'Estrie. December 2000.
- ▶ **L'éducation physique adaptative et les activités physiques des personnes ayant une incapacité motrice. (Adaptive physical education and physical activity for people with a motor disability.)**
Current focuses in the context of the latest scientific developments and the new health initiative. Université de Sherbrooke. November 2000.
- ▶ **Les conséquences néfastes de l'inactivité et comment les combattre. (The harmful consequences of inactivity and how to combat them.)**
Handout for the talk presented at the Espoir Famille Conference organized by the Quebec Division of the Multiple Sclerosis Society of Canada, Trois-Rivières, October 20-22, 2000.
- ▶ **La SP... ça marche !!! (MS... moving right along!)**
Handout for the presentation at the Espoir Famille Conference organized by the Quebec Division of the Multiple Sclerosis Society of Canada, Sherbrooke, October 16, 1999.
- ▶ **Le sport en fauteuil roulant... pour une vie active. (Wheelchair sports... for an active lifestyle.)**
Quebec Wheelchair Sports Association. June 1998.
- ▶ **L'utilité et la nécessité des activités physiques pour les personnes ayant la sclérose en plaques. (The usefulness and necessity of physical activities for people with multiple sclerosis.)**
Handout for the presentation at the Quebec Division of the Multiple Sclerosis Society of Canada's Symposium, Oka, May 30, 1998.

Bibliography

- ▶ **MULTIPLE SCLEROSIS SOCIETY OF CANADA (QUEBEC DIVISION)**
Au mieux de sa forme... tout en douceur !
Exercise video for people with multiple sclerosis, adapted from the American version called Gentle Fitness, and produced in cooperation with Marie-Claude Lavoie and Linda Parent, 2003.
- ▶ **MULTIPLE SCLEROSIS SOCIETY OF CANADA**
Everybody Stretch: A Physical Activity Workbook for People with Various Levels of Multiple Sclerosis, Janine Fowler, B.Phys.Ed., 2003, 45 pages.
- ▶ **TAOIST TAI CHI SOCIETY OF CANADA**
Taoist Tai Chi for Special Needs
bilingual edition, 1994, 136 pages.
- ▶ **Yoquatics: Hatha Yoga practiced in Water**, videotape produced by TEI Agency Ltd, 2000.
- ▶ **Sit and be Fit** (specialty exercise, videotape for MS with Mary Ann Wilson, R.N.), 1993.
- ▶ **Stretching with a Helper for People with MS: An Illustrated Manual**, National MS Society, 2002.

Organizations and associations that are involved in the field of physical activity and rehabilitation

- ▶ **Active Living Alliance for Canadians with a Disability**
104-720 Belfast Rd.
Ottawa, ON K1G 0Z5
Tel.: 1 800 771-0663
www.ala.ca
- ▶ **Association des établissements de réadaptation en déficience physique du Québec**
505 de Maisonneuve Blvd. West, Suite 400
Montreal, QC H3A 3C2
Tel.: (514) 282-4205
Fax: (514) 282-4280
www.aerdpq.org
- ▶ **Canadian Association for Disabled Skiing**
P.O. Box 307
Kimberley, BC V1A 2Y9
Tel.: (250) 427-7712
Fax: (250) 427-7715
www.disabledskiing.ca

- ▶ **Canadian Therapeutic Recreation Association**
5122 Côte-des-Neiges
P.O. Box 49557
Montreal, QC H3T 2A5
www.canadian-tr.org

- ▶ **Fédération des éducateurs et éducatrices physiques réadaptateurs du Québec**
Michel Caouette, president
Hôpital Rivière-des-Prairies
7070 Perras
Montreal, QC H1E 1A4
Tel.: (514) 323-7206

- ▶ **Fédération des kinésologues du Québec**
Université de Montréal
Département de kinésiologie
P.O. Box 6128, Downtown Station
Montreal, QC H3C 3J7
Tel.: (514) 343-2471
Fax.: (514) 343-2181
E-mail: info@kinesiologue.com
Website: www.kinesiologue.com

- ▶ **Normand Clark Foundation – Therapeutic riding centre**
Ranch: 227 rang Lepage
Sainte-Anne-des-Plaines, QC
J0N 1H0
Tel.: (450) 838-0000

Office: 7595 St-Laurent Blvd.
Montreal, QC J0N 1H0
Tel.: (514) 274-2222 or 1 800 539-3904
Fax: (514) 274-4085
www.ranchplus.org

- ▶ **Ordre professionnel de la physiothérapie du Québec**
7101 Jean-Talon Street East, Suite 1120
Anjou, QC H1M 3N7
Tel.: (514) 351-2770 or 1 800 361-2001
Fax: (514) 351-2658
www.oppq.qc.ca

- ▶ **Quebec Wheelchair Sports Association**
4545 Pierre-de-Coubertin Street
P.O. Box 1000, Station M
Montreal, QC H1V 3R2
Tel.: (514) 252-3108
Fax: (514) 254-9793
www.aqsfr.qc.ca

- ▶ **Association québécoise pour le loisir des personnes handicapées**
4545 Pierre-de-Coubertin Street
P.O. Box 1000, Station M
Montreal, QC H1V 3R2
Tel.: 514 252-3144
Fax: 514 252-8360
www.aqlph.qc.ca

- ▶ **Taoist Tai Chi Society of Canada Eastern Region – Province of Quebec**
5271 Saint-Hubert Street
Montreal, QC H2J 2Y4
Fax: (514) 272-5606
E-mail: montreal@taoist.org
www.clic.net/~stct/TaiEn/welcome.htm

To find out more about the physical education programs and activities offered in your area, contact your local chapter or call the Quebec Division of the Multiple Sclerosis Society of Canada toll-free at 1 800 268-7582.

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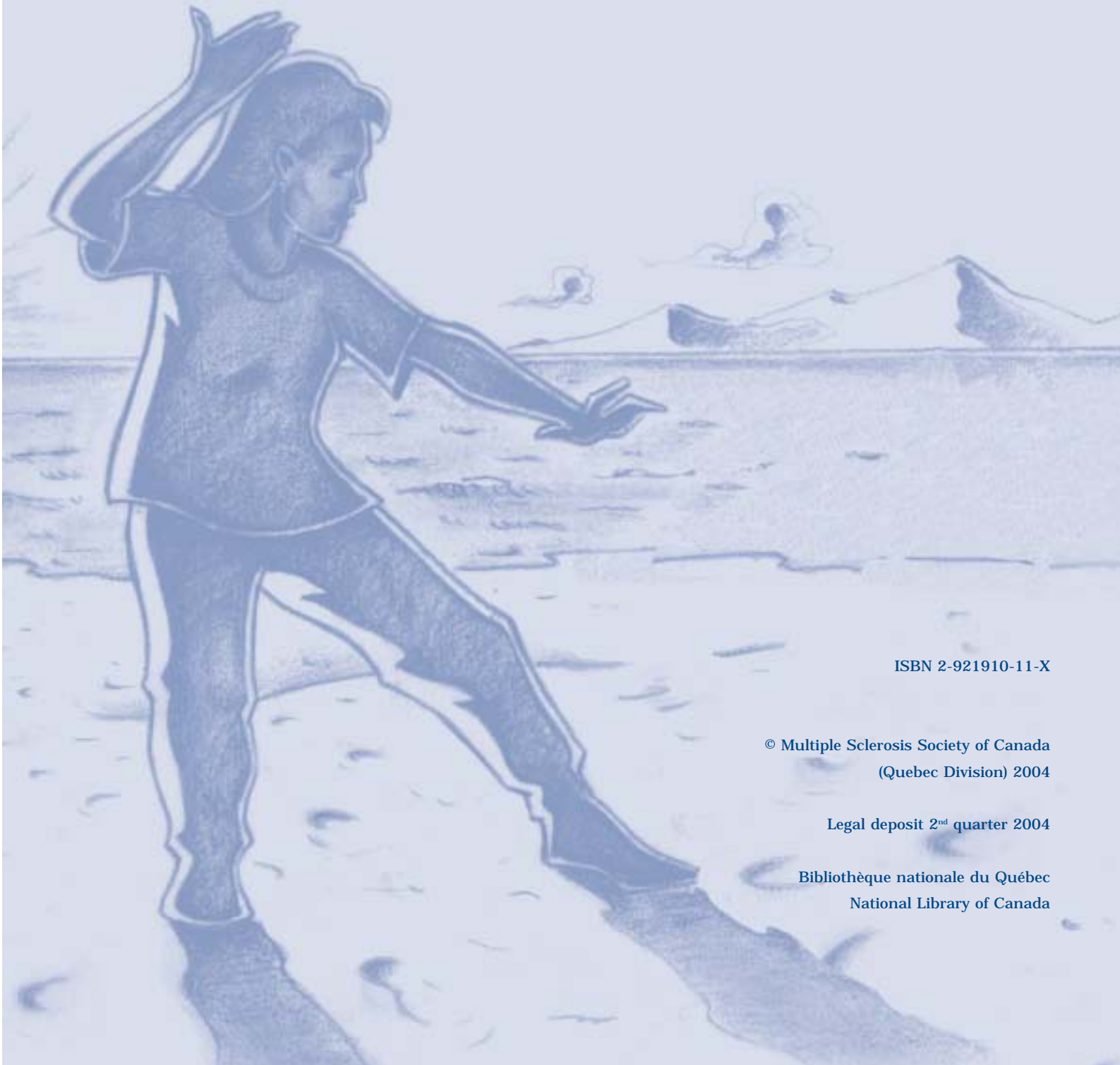
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Our Mission

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

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