



Multiple Sclerosis  
Society of Canada

# Everybody **Stretch**

A Physical Activity Workbook for People  
with Various Levels of Multiple Sclerosis

Janine Fowler, BPE



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with Various Levels of Multiple Sclerosis

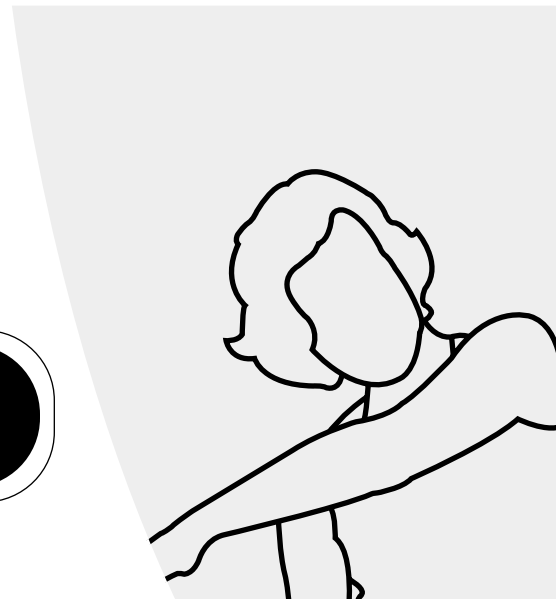
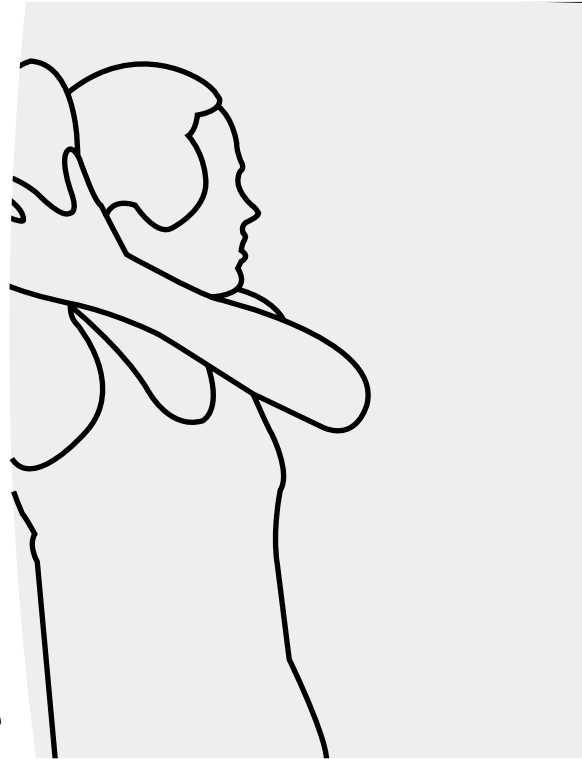
Janine Fowler, BPE

*Dedicated to the memory of Jack A. Scholz*

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**PLEASE NOTE:** Any exercise program should be done under the supervision of a physician. The author and the Multiple Sclerosis Society of Canada will not accept any liability for any injury that might occur during or after performing any exercises through the use of this workbook.



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Exercise is recognized as an important step toward wellness when living with a chronic illness. The benefits of exercise are numerous and include reduction in fatigue, spasticity and pain, as well as improvement in muscle tone, strength and overall endurance. *Everybody Stretch* helps individuals design an exercise routine under the supervision of a health professional regardless of their level of disability. The program's step-by-step instructions and pictures make following a regular schedule

fun and easy. As a nurse involved in MS care for over 15 years, I would highly recommend *Everybody Stretch* to individuals who want to maintain wellness through regular physical activity.

**Colleen Harris, RN, MN, MSCN**  
**Nurse Practitioner/Nurse Coordinator**  
**Calgary MS Clinic**  
**President of the International**  
**Organization of MS Nurses (1999 – 2002)**

Managing your own well-being often begins with the choices you make on a daily basis. Such choices may involve diet, physical activity and the determination to enjoy life. Choosing to participate in physical activity is up to you. You can develop a personalized routine to suit your level of ability, but it is important to try to maintain it regularly. Before you begin any form of exercise, please be sure to consult your doctor. Let your doctor know that you want to include physical activity in your healthy lifestyle.

This workbook will focus on flexibility, range of motion, and some mild muscular strength and endurance. As you go through these activities, you will learn about the importance of exercise and MS. You will also develop your own individualized routine step-by-step. As your condition changes, this workbook will allow you to go back and change areas of your routine, making it more or less challenging wherever necessary.

There are many benefits of a regular stretching regime. Physical activity will make you feel better mentally, emotionally and physically, and help you gain or maintain a sense of control over your life.

## Benefits of Flexibility

- ▶ Enhanced physical fitness
- ▶ Improved ability to learn and perform skilled movements
- ▶ Increased mental and physical relaxation
- ▶ Development of body awareness
- ▶ Reduced muscular soreness
- ▶ Reduced muscular tension
- ▶ Decreased stiffness

- ▶ Increased range of motion
- ▶ Increased resistance to tissue injury (ligaments, tendons, muscles).

## IMPORTANT INFORMATION BEFORE YOU START

### Not just MS!

This workbook has been designed with multiple sclerosis in mind; however, the content of this activity book is adaptable to other physical disabilities. These exercises are basic movements that focus on all the major muscle groups. Make sure you involve your physician in deciding which exercises are appropriate for you.

## Exercise and Multiple Sclerosis

Because multiple sclerosis affects individuals in so many different ways, it is impossible to outline a single, simple exercise program that's right for everyone. For this reason, this workbook has been designed to allow YOU to pick and choose the routines that are best for your level of ability.

The effects of MS may vary considerably over time for different individuals. As a result, what may be a suitable exercise at one time may be inappropriate at another. Thus, an exercise program for multiple sclerosis must be personalized and may need to change as your condition changes. It is okay to change parts of your routine or to use an aid to perform a stretch.

## What to look for in exercise professionals

Make sure that you involve qualified professionals in individualizing your exercise regimen and remember to check out their qualifications. Look for the following when choosing exercise professionals:

- Detailed knowledge of multiple sclerosis, or willingness to learn.
- Knowledge of community resources for people living with MS.
- Exercise-related training such as a degree or a certification approved by a national organization, such as the Canadian Physiotherapy Association (CPA). A good example is the National Fitness Appraisal Certification and Accreditation (FACA), which is granted by the Canadian Society for Exercise Physiology (CSEP) and supported by the federal government.

Discuss any professionals you plan to consult with your physician.

## Information to give to exercise professionals

It may be difficult to know what to tell exercise professionals about your condition. Sometimes you may not wish to share all of your medical history with people. Remember that you have the right to disclose only what you feel comfortable with. The following list may help you decide what to tell those assisting you with your exercise regime:

- Symptoms you have on a daily basis

- Medications you use for physical symptoms e.g. spasticity
- The time of day you have the most energy
- The type of MS attacks you have experienced
- Any mobility aids you use and the types of assistance you need (e.g. for changing clothes, opening doors, going down stairs, dialling a phone number)
- Your favourite activities (e.g. gardening, walking, using the computer)
- Your activity level: do you exercise every day, twice a week, or once a month?
- Your goals (e.g. general fitness, improved flexibility, ability to hold a pen or pencil).

## Tips before starting

### • Talk to your doctor

It is recommended that you discuss any exercise program with your physician prior to starting it. Perhaps you can share this workbook with your physician or physiotherapist. Ask for guidance as to which exercises are most appropriate for you.

### • It's okay to stop and start

MS may be constantly interrupting your daily routine, which can be very frustrating. Try to be realistic about exercise. One thing MS teaches you is to know your limits. Remember this when exercising: it's okay to rest, it's okay to take a day off, it's okay to do only 15 minutes instead of your regular 30 minutes. You can still have a regular exercise routine even if you have to adjust it. Do not begin an exercise program during

the course of an MS attack unless you are so advised by your physician. Also, after an MS attack, re-evaluate your routine with your physician. Make the necessary changes and assess whether it is realistic to pick up where you left off prior to your MS attack. Begin again slowly and build up your routine.

### ► **Feeling hot, hot, hot!**

Getting hot while exercising can temporarily increase MS symptoms such as spasticity and/or fatigue. If you are using some form of resistance in a stretch, such as pushing against a wall or pulling against a strap, then the harder you work against the resistance, the more likely you are to get overheated. Be aware of how much exertion is right for you and be sure to rest during your routine. Learn to pace yourself and aim for slow, steady gain.

As an alternative, you may consider aquatic exercise programs to help keep your temperature regulated. There are a variety of programs available. Check in your local community. Make sure you speak with the instructor prior to any classes to address any needs you may have during the class. Be sure to inquire about the temperature of the pool, since therapeutic pools are often heated.

### ► **Keeping the ball rolling**

Staying motivated can be challenging, especially if you are recovering from an MS attack. Keeping an exercise log is a great way to stay motivated. On page 12 you'll find a sheet and directions on how to start an exercise log. This way, if you have a setback, you can look at your log to see how you improved and how you felt. Hopefully, this will help you regain your motivation.

Make your routine as enjoyable as possible. Wear comfortable clothing that does not restrict movement. Experiment with different times of day to find out the best period(s) for you to exercise. Some people prefer to break their exercise session into two parts, one in the morning and one in the afternoon or evening.

### ► **Pain is not gain**

When beginning any exercise program, go slowly. Do not force any part of your body or push yourself beyond your comfort limit. If you experience any pain or discomfort during any exercise, stop immediately. Check with your physician or physiotherapist before doing that exercise again.

## HOW TO USE THIS WORKBOOK

This workbook is designed so that you can create your own stretching program. There are 12 sections, each of them emphasizing a different muscle or muscle group. In each section you will find **Essential Exercises** 🏠 as well as **Optional Exercises** 🏠. If possible, you should try to do all the Essential Exercises. Add in whatever Optional Exercises work for you. There are three different versions or “Adaptations” of each exercise. Please note that the various adaptations *do not* indicate level of difficulty; they simply provide options to suit different abilities. Choose the one that works best for you. In the end, you will have a custom-made stretching program that can be altered at any time to suit your needs.

### How to choose exercises

Read through each exercise and look at the different adaptations available. Decide which one is best for you based on the following criteria:

<b>BALANCE</b>	Make sure you feel stable and safe.
<b>FATIGUE</b>	Be aware of your fatigue levels. For example, if standing is tiring for you, choose a seated position to conserve energy.
<b>COORDINATION</b>	Choose a position you can easily hold.
<b>COMFORT</b>	Make sure you feel comfortable in the stretching position.

## HOW TO ADAPT EXERCISES

To get the most out of your program, adaptations are crucial. Adaptations are suggested in each section. But in the meantime, here are some basic principles.

### ► Use an assistant

While we don't always like to ask for help, sometimes other people sure do come in handy! Ask a friend, family member or fellow exerciser to assist you as you move into stretching positions. In a passive stretch, your assistant can stretch your muscles for you. Be sure to keep your muscles relaxed and communicate to your assistant how the stretch feels.

### ► Use a strap

If no assistant is available, you can use some form of strap to help in your stretches. A towel, man's tie, pair of tights or piece of sturdy fabric works fine. (Avoid plastic or rubber, which could affect your circulation.) For example, in the Adaptation 1 version of “Ankle Circles” (Section 12), you can use a strap to help you raise your ankle into position. You can also use a strap to hold your arms in a certain position (for example, the triceps stretch in Section Five).

### ► Walls, walls, walls

Use the walls that are all around you! A wall can be a support for your back or just something to hold on to when you stand. You can also use a wall to hold your stretches (for example the biceps stretch in Section Five). Doorways, headboards and the backs of chairs can work, too.

## ► Is it naptime?

If you are feeling unstable while doing stretches, prop pillows on either side of you. They will give you some stability and cushion you should you lose your balance.

## What if the suggested adaptations don't work for me?

Remember that the suggested adaptations are just that - suggestions. If they don't work for you, ask an exercise professional to help you find other ways to do the stretches. Share your ideas with others and ask what works for them.

## What if I have to change my program?

When your body's abilities change, you have to change with them. You may find at times that there are some parts of your exercise routine you are no longer able to do. But there will be others you can still do, although you may have to modify them.

If one component of your exercise program is not working or you need to adjust a few exercises due to changes in your MS, just go back to that section and choose a different adaptation. Add the new adaptation of that exercise into your program. You may have to go back and choose an entirely new program if you are recovering from an MS attack. You are not starting over; you are adapting to change. Slowly build your way up again.

## HOW TO STRETCH

It is very important to understand the proper technique for stretching. If you have questions, please consult an exercise professional.

Begin by stretching the muscle slowly. Take that stretch to a point you can hold comfortably while still feeling tension in your muscles. You should hold stretches longer for larger muscles. Listen to your body to figure out the right time for you – anywhere between 30 and 60 seconds. You can also measure lengths of time by deep breaths. See how long a deep breath usually takes you and use that to time your holds.

For each stretch, follow these steps:

- Take a deep breath.
- Reach slowly into the stretch while exhaling.
- Hold the stretch at a point that is comfortable but still creates tension in your muscles.
- Remember to breathe deeply.
- Hold the stretch until you feel you might be able to stretch it a little farther - but don't.
- Take a deep breath.
- While exhaling, slowly bring the stretch back to your beginning position.
- Relax that muscle or muscle group for 30-60 seconds.
- Repeat the stretch as appropriate.

## **Numbing, tingling or functional loss**

You should never feel pain while stretching. If you are not always aware of your muscles due to numbness, tingling or functional loss, it is easy to injure yourself. If you have limited sensation in one particular area, stretch lightly and think about how other parts of your body would react to a similar stretch. Be aware of your body at all times. Do not stretch beyond what you can comfortably hold. If you are using an aid, such as a wall or a strap, do not use these to force your muscles beyond your comfort point. Remember that stretching is about slow, controlled movements. If you move too quickly or forcefully, you can injure yourself. If you are uncertain of how far to carry a stretch, please speak to an exercise professional or your physician.

## How to use the Exercise Routine Work Sheet

- Step 1** Photocopy the exercise routine work sheet on the following page or write lightly in pencil so that you can change your routine as needed.
- Step 2** Go through the workbook section by section. Experiment with the exercises, and for each one choose the adaptation that is most appropriate for you, based on the criteria we discussed: balance, fatigue, coordination, and comfort. Enter the adaptation you have chosen in the column labelled “ADAPTATION.”
- Step 3** Post your routine on your fridge or some other place you pass by regularly. This should encourage you to do the routine regularly.

# Exercise Routine Work Sheet

SECTION 1	BREATHING CONTROL	LEVEL
	Deep Breathing	(E)
	Slow Leak	(E)
	Diaphragm	(E)
SECTION 2	EYES AND FACE	
	Clock	(E)
	Near and Far Focus	(E)
	Lemons and Roller Coasters	(E)
	AEIOU	(O)
	Facial Massage	(O)
SECTION 3	NECK	
	Ear to Shoulder	(E)
	Chin Roll	(E)
	Stop, Drop & Roll	(E)
SECTION 4	SHOULDERS	
	Shrugs	(E)
	Shoulder Rolls	(E)
SECTION 5	UPPER ARMS	
	Biceps	(E)
	Triceps	(E)
SECTION 6	FOREARMS	
	Forearms	(E)
	Wrist Circles	(E)
	Door Knob	(O)
SECTION 7	HANDS	
	Fists	(O)
	Hand Massage	(O)
	Fingers	(E)
SECTION 8	CHEST AND BACK	
	Rhomboids	(E)
	Cross-Over	(E)
	Twisting Reach	(O)
	Twist and Shout	(E)
SECTION 9	ABDOMINALS	
	Seated Crunches	(E)
	Abdominal Stretch	(O)
SECTION 10	BUTTOCKS	
	Buttock Stretch	(E)
SECTION 11	UPPER LEGS	
	Hip Flexor	(E)
	Quadriiceps	(E)
	Hamstrings	(E)
SECTION 12	LOWER LEGS AND FEET	
	Ankle Circles	(E)
	Foot Flexion/Extension	(O)
	Toes	(O)

(E) = Essential

(O) = Optional

### Why is an Exercise Log important?

The Exercise Log enables you to chart your progress and see any improvements you have made. It's also a great tool for your health care team. It helps them see progression, difficulties, improvements and other factors to help them determine treatment and therapy for you.

### How do I use the Exercise Log?

First, it is not necessary to write in your log every day. Try to write in it at least once a week. This log will help measure how you felt that day physically and emotionally and note any achievements or difficulties. You may want to photocopy the log sheet on the page that follows or find a book where you can record the information. Just fill in the date, then record how many days it is since the commencement of your program. Rate both your physical and emotional state on a scale of 1-10. Use the following criteria as a guide to mark on your log where you are on that particular day. For example, I am feeling good today... no new symptoms or worsening symptoms... my arm is feeling a little more relaxed since yesterday and I have more movement in my left foot... today I would put myself at 6, or maybe 7.

#### Physical Rating

<b>1 =</b>	I am feeling worse than usual. New symptoms or worsening symptoms are present. I think I need to see my family physician.
<b>5 =</b>	I don't feel better or worse. Some of the symptoms that I normally have are present, but it is nothing I haven't had before.
<b>10 =</b>	I am feeling great! I have improved a lot since my last session. I still may not be able to do some things, but I can see tremendous improvement.

#### Emotional Rating

<b>1 =</b>	I am very sad or angry today. I am very frustrated with the way things are going. I just want to lie in bed. If I feel this way for more than two weeks, I should call my doctor. I can't do this anymore!
<b>5 =</b>	I don't know how I feel today. I guess I am just neutral. I'll go through my regular routine today.
<b>10 =</b>	Today is a great day! I feel so positive about my life. I'm going to call a friend and maybe go somewhere special. I'm looking forward to every part of my day!

Date \_\_\_\_\_ Day \_\_\_\_\_ of my program \_\_\_\_\_

**Physical Rating**

1 2 3 4 5 6 7 8 9 10

**Emotional Rating**

1 2 3 4 5 6 7 8 9 10

Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date \_\_\_\_\_ Day \_\_\_\_\_ of my program \_\_\_\_\_

**Physical Rating**

1 2 3 4 5 6 7 8 9 10

**Emotional Rating**

1 2 3 4 5 6 7 8 9 10

Comments \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## BREATHING CONTROL

By being aware of our breathing, we can become more aware of our bodies. Try it right now.

- Sit quietly and listen to your breathing. Describe your breathing. Is it fast, short, long, deep, shallow, laboured?
- Now take a deep breath, hold it and slowly exhale. Do this two more times.
- Now listen to your breath. Has it changed? Is it the same? Do you feel differently?

The following exercises will help you focus on your breathing and hopefully improve it.

*CAUTION: If you become dizzy, light-headed or experience anything unpleasant as a result of these exercises, discontinue them and consult your physician.*



### Deep Breathing:

This exercise slows your heart rate and helps you to relax.

- Take a full, slow inhalation.
- Hold for 1-3 seconds.
- Exhale fully and slowly.

Repeat 3-6 times



### Slow Leak:

This exercise helps you to recognize full exhalation. Notice how your abdominals work at the end of the exhalation.

- Take a full, slow inhalation.
- Exhale slowly.
- Toward the end of the exhalation, exhale by making a quiet 'HEE' sound.
- 'HEE' as long as you can.

Repeat 3-6 times



## Where's My Diaphragm?

The diaphragm is a muscle between the abdomen and thorax (chest) that assists in breathing. This exercise helps you to learn to breathe with your diaphragm.

- Place your hands on your stomach, or focus on your stomach area.
- Inhale slowly.
- Your stomach should move out as you inhale.
- Your shoulders should not move when you inhale or exhale.
- Exhale slowly.
- Your stomach should move in while you exhale.

Repeat 3-6 times

## EYES AND FACE

I'll never forget the day I watched an aerobics video for the eyes! There was even background music. But given the number of muscles around your eyes and in your face, it makes sense to exercise them. You can do these exercises while listening to music or the radio or sitting in the park. If there is anyone around you, please let him or her know what it is that you are doing. Otherwise you might give people quite a scare with these exercises!



### Clock:

This exercise really stretches all of the little muscles around your eyes.

- Find a spot on the wall that represents 12 o'clock.
- Keep your head stationary.
- Move your eyes around the clock according to the options below (Adaptation 3, Adaptation 2 or Adaptation 1) at 3-second intervals.
- Repeat counter-clockwise.

Repeat 2 times in each direction

Adaptation 3	Adaptation 2	Adaptation 1
Move your eyes from 12 to 1, 2, 3, 4 etc.	Move your eyes from 12 to 3, 6, 9 and back to 12.	Move your eyes from 12 to 6 and back to 12. Then move your eyes from 9 to 3 and back to 9.



## Near and Far Focus:

The focus of this exercise...okay, that's a bad pun. This exercise lets you really concentrate on your eyes' focusing abilities.

- Hold thumb approximately 15 cm/ 6 inches away from your eyes.
- Focus on your thumb for 5-10 seconds.
- Bring your focus to the wall beyond your thumb and hold for 5-10 seconds.
- Bring your focus back to your thumb.
- Always finish this exercise when you are focused on the wall.

Repeat 3 times

Adaptation 3	Adaptation 2	Adaptation 1
Follow the steps outlined above.	Instead of your thumb, focus on something in the middle of the room that is at eye level e.g. a lamp, pillar, or cabinet.	Focus on the wall, then close your eyes. Open your eyes and focus on the wall again.



## Lemons and Roller Coasters:

- Scrunch up all of your facial muscles and eyes as if you have just eaten a lemon.
- Hold for 5-10 seconds.
- Open up the face and eyes as if you are going downhill on a roller coaster.
- Hold for 5-10 seconds.

Repeat 2 times



## AEIOU:

- Say the vowels out loud.
- Open your mouth, eyes, nose etc. up as much as you can during each vowel.
- Really try to overemphasize your facial expressions.

Repeat 3 times

Adaptation 3	Adaptation 2	Adaptation 1
Sound out the vowels and make facial expressions.	Sound out the vowels and make expressions with your mouth.	Make expressions with your mouth.



## Facial Massage:

- Using your ring fingers, make very small circular rotations, starting at the bridge of your nose, then across your brow line to the temples.
- Move from the temples to the top of your jaw and proceed toward your chin.
- Move from the chin, up to your cheekbones, then over to your ears.
- Follow the base of your skull to the back of your head.

Repeat as needed

Adaptation 3	Adaptation 2	Adaptation 1
Use finger tips.	Use palms and backs of hands.	Use forearms.

## NECK

The neck holds up the head, and the average human head weighs eight pounds (about 3.5 kilograms). If you had to hold eight pounds in your hand above your head all day, imagine how tired those arms would be! A lot of our tension is carried in our neck and shoulders, so it's important to make time for these exercises. Compare how you feel before and after doing these exercises.



### Ear to Shoulder:

- Facing forward, tilt your head so your ear is closer to one shoulder.
- Your shoulder should be relaxed and dropped slightly.
- Try holding for 30 seconds.
- Drop head forward slightly so you are looking downward, still tilted to the side.
- For a stronger stretch, let the opposite arm (if tilting to left, use right arm) hang by your side and reach toward the ground.



Repeat 2-3 times on each side



### Chin Roll:

- Pretend you have a tennis ball under your chin.
- Extend your chin forward over the pretend tennis ball and drop chin. Drop your chin as if rolling your neck over the tennis ball.
- Bring chin down as far as comfortable; it should not touch your chest.
- Bring chin up as if the tennis ball is still tucked under your chin.

Repeat 2 times



### Stop, Drop & Roll:

- Drop your head to one shoulder and roll head forward slowly from one shoulder to the other.
- Roll only to the front and sides. **Do not** roll your head backwards.

Repeat 10 times

## SHOULDERS

There are many muscles involved in shoulder movement. The most recognized of these muscle groups is the rotator cuff. This group of muscles wraps around your shoulder to provide support and facilitate a variety of movements. It is very important to keep a good range of motion and flexibility in the shoulder area as we carry a lot of tension in this area. For many people it is difficult to learn how to relax the shoulders. These exercises will help release some of that tension and make you more aware of tension as it is forming.



### Shrugs:

- Slowly shrug shoulders in an upward, then downward motion.
- Repeat.
- Alternative: shrug upward slowly while taking a deep breath in; shrug downward quickly, while exhaling forcefully.

Repeat 10 times



### Shoulder Rolls:

- Roll shoulders in a backward direction.

Repeat 10 times

Adaptation 3	Adaptation 2	Adaptation 1
Place hands on shoulders and make circles with elbows.	Leave arms hanging at sides and roll shoulders backward.	Move shoulders forward, back to neutral; backward, back to neutral. Then upward, back to neutral; downward, and back to neutral.

## UPPER ARMS

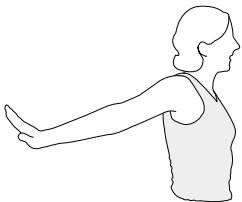
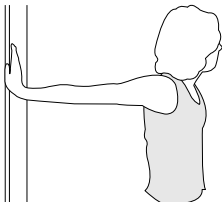
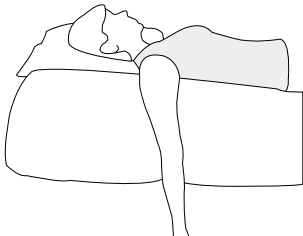
The upper arm has long been considered a symbol of strength: when you want to show someone how strong you are, you flex your biceps muscle. Our upper arm assists us with picking up things, waving, eating, and brushing our teeth. Our tricep muscle, which is on the back of the upper arm, does not get as much attention as the biceps muscle. You will become aware of your triceps though, after you stretch them.



### Biceps:

- In a seated, or standing position, place your arm straight in front of you with your palm facing down.
- With your hand slightly below shoulder level, slowly swing your arm to the side.
- Your head and body should still be facing forward.
- Swing arm further back and raise your hand as if you were telling someone behind you to stop.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.

Repeat 3 times

Adaptation 3	Adaptation 2	Adaptation 1
<p>After extending hand backward, raise arm slightly up toward ceiling to feel more stretch.</p> 	<p>Stand/sit next to a wall near a doorway. Face away from the doorway and place your shoulder an arm's length from the doorway. Bring the arm by the wall behind you and grasp the doorway edge with your hand. If you like, you can walk your hand up the doorway edge for more of a stretch.</p> 	<p>Lie on your bed or couch, face up, with your shoulder right on the edge. Extend that arm off of the bed or couch. Keep the elbow as straight as you can and let the arm drop toward the floor. Keeping the arm at this level, move it slowly so that you create more space at the armpit.</p> 



## Triceps:

- In a seated or standing position bring one arm up in front of you and up over your head.
- Bend at the elbow, as if you are patting yourself on the back.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.

Repeat 3 times

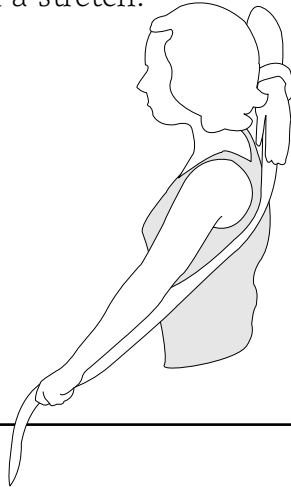
### Adaptation 3

For an extra stretch bring the opposite arm across your body and apply pressure between your elbow and the armpit of the arm being stretched.



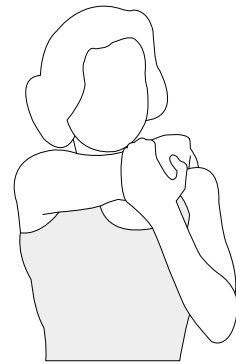
### Adaptation 2

Place a strap around the wrist of the arm to be stretched. Drape the rest of the strap over that same shoulder. Grasp the strap with your other hand behind your back and pull gently on the strap until your arm, which is attached to the strap, is in the position shown below and you feel a stretch.



### Adaptation 1

Take one arm and grasp the opposite shoulder. For more stretch you can use the free hand to grasp the elbow of the arm being stretched and apply pressure.



## FOREARMS

Our forearms are involved in a lot of movements. They control movement in our wrists as well as our elbow joints. How often in a day do you brush your teeth, or hold a glass? Yet although we use our forearms constantly, how often do we stretch them?



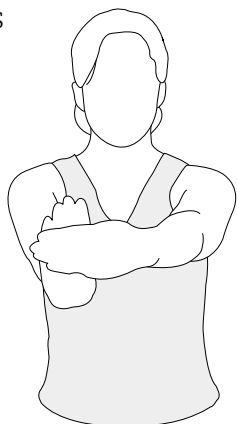
### Forearms:

- Hold arm straight in front of you with palm facing down.
- Extend hand so that fingers are pointed toward the ceiling, as if you are gesturing “stop.”
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.
- Then flex hand by letting the hand drop forward with your fingers pointing toward the ground.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.

Repeat 3 times for each hand

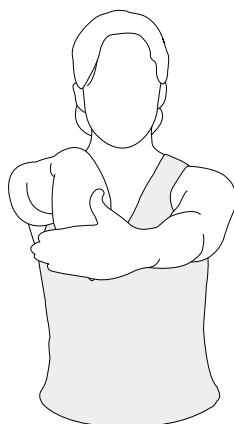
### Adaptation 3

When fingers are pointed toward the ceiling, apply pressure with the opposite hand by placing fingers in the palm of the arm being stretched. When fingers are pointing toward the floor, apply pressure with the opposite hand by placing fingers on the back of the hand of the arm being stretched.



### Adaptation 2

Standing/sitting in front of a wall, extend arm, placing palm against wall to stretch. Then place the back of the hand against the wall to stretch.



### Adaptation 1

Don't hold your arm straight out in front of you. Instead apply pressure to the palm of your hand by resting it on your thigh and applying pressure against the thigh. Do the same to apply pressure to the back of your hand.



## Wrist Circles:

You can do this with fists, or open hands.

- Make circles with your wrist.
- Change directions.
- Do figure eights with your hands.

Repeat 10 rotations for each hand

Adaptation 3	Adaptation 2	Adaptation 1
Make the circles in the air.	Use one hand to assist the other to rotate the wrist.	Make a fist and place it against your thigh. Rotate the fist against your thigh.



## Door Knob:

- Open your hands as if you are about to grab a doorknob.
- Turn hands as if you are rotating a doorknob back and forth.

Repeat 10 rotations.

## HANDS

Think of all the different things hands can be used for. Consider the number of muscle groups there are in our hands. These exercises can be adapted in many different ways to suit the level of movement you have in your hands.



### Fists:

- Make fists with your hands and squeeze tight for 10 seconds.
- Open up your hands and extend for 10 seconds.

Repeat 3 times



### Hand Massage:

Rub your hand focusing on the following parts:

- Every part of the palm.
- All the fingers.
- The thumb and the muscles below the thumb.

Spend 1-3 minutes on each hand, longer if you like.  
You can also repeat this on each hand.

Adaptation 3	Adaptation 2	Adaptation 1
Rub your hand with the opposite hand.	Rub your hand with the knuckles of the opposite hand.	Rub your hand using your kneecap.



## Fingers:

- Stretch each finger individually by grasping the entire finger.
- Extend it gently toward the back of your hand.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.
- When stretching the thumb, extend it toward the back of your hand and away from your hand as well (extension and abduction).

Repeat on each finger as needed

<b>Adaptation 3</b>	<b>Adaptation 2</b>	<b>Adaptation 1</b>
Grasp your fingers with the fingers of the opposite hand.	Use the palm of your hand to grasp and stretch the fingers.	Press your fingers against your thigh for a stretch.

## CHEST AND BACK

These are your posture muscles, sometimes called trunk stabilizers. Together with your abdominal muscles, these muscle groups help to keep the spine straight. They also help us throw our weight around. For example, these are the muscles that help your arms to open doors. The next time you open a door, note how tense and rigid your chest, back and abdominal muscles become.

These two large muscle areas have been put together because the following stretches accommodate both groups.



## What are Rhomboids?

Your rhomboids are the muscles located between your spine and your shoulder blade.

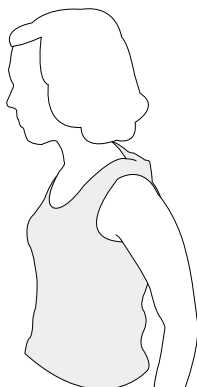
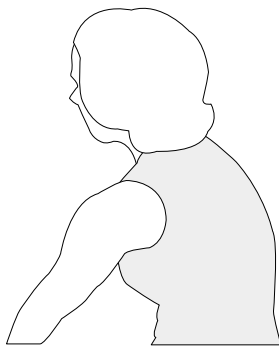
- Sitting nice and tall, roll shoulders forward and concentrate on pulling your shoulder blades (scapula) apart from each other, creating more space between your spine and shoulder blade.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.

- Then roll shoulders back and push chest out.
- Your shoulder blades are now pulled in toward each other.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.

**Repeat 3 times**

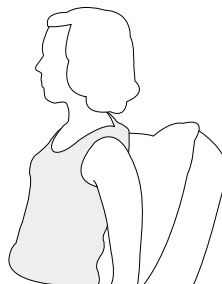
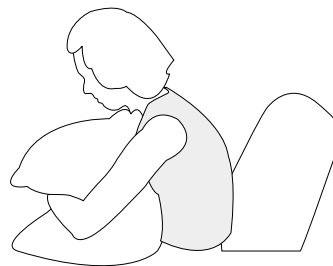
### Adaptation 3

Do this without an adaptation.



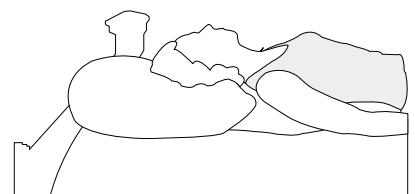
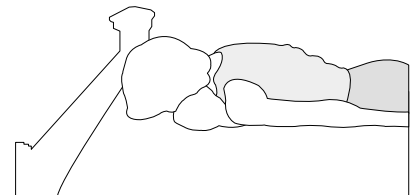
### Adaptation 2

In a seated position, hold a large pillow in your arms. Slowly hug the pillow as you bend slightly forward at the hips. Slowly roll back so that you are sitting nice and tall again. Place the pillow behind your back and slowly lean back on the pillow. You should feel your shoulders go back.



### Adaptation 1

Lie face down with a large pillow placed lengthwise under your chest. Concentrate on relaxing your shoulders, so that you feel your shoulders round forward. Roll over and lie on your back so that the pillow is placed lengthwise along your spine. Make sure the pillow reaches up to your neck. Concentrate on relaxing your shoulders, so that you feel your shoulders round backward.

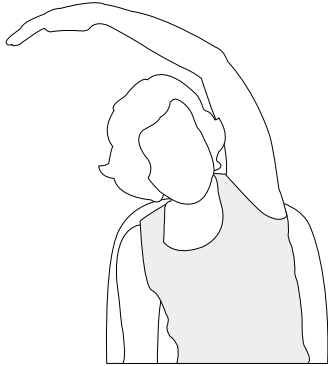
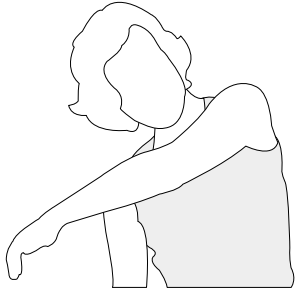
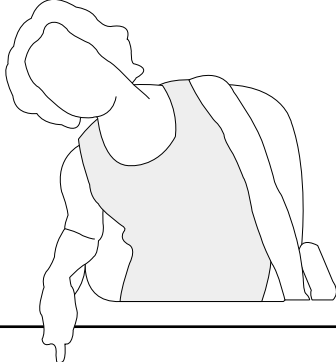




## Cross-Over:

- While you are sitting straight and tall, take your left arm and reach up to the ceiling.
- Then reach straight across the top of your head so that you are leaning to the right side.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.
- Feel the stretch down your left side and throughout your ribs.
- Repeat using your right arm.

Repeat 2 times on each side

<b>Adaptation 3</b>	<b>Adaptation 2</b>	<b>Adaptation 1</b>
<p>Do this without an adaptation.</p> 	<p>Reach across your chest, the midline of your body, instead of reaching up in the air.</p> 	<p>Do not reach with your arms. Lean over to one side using the armrest of a chair or a table edge for support.</p> 



## Twisting Reach:

If you tend to get dizzy or disoriented, do not attempt this exercise.

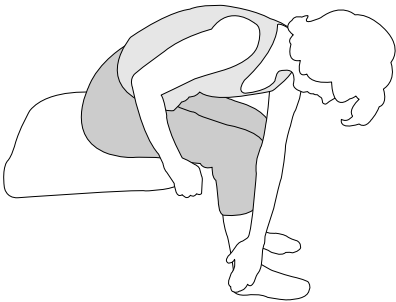
- Starting in a seated position, extend your left arm forward in front of you and slowly cross the midline of your body.
- With the arm you have extended, reach down toward the right foot or knee, depending how far you can go.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.
- Repeat on the other side.

Caution: When coming up from the hold position, use your arms, not your back, to push your body up.

Repeat once on each side

### Adaptation 3

Go slowly and reach all the way down toward your foot. Come back up very slowly, concentrating on rounding your back as you come up.



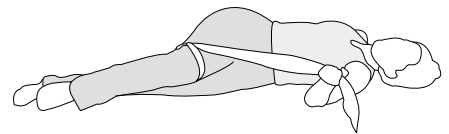
### Adaptation 2

Reach your arms only as far as the outer side of your knee, or grasp the armrest on that side. Do not bend at the hips.



### Adaptation 1

Take a strap and tie it around your upper thigh. Lie on your back and grasp the strap. Pull the leg on top of your other leg. Your hip should rotate so that you are on your hip, but your back is still against the bed or floor. Hold and then repeat for the other side.



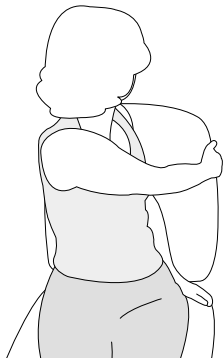




## Twist & Shout:

You don't have to shout if you don't want to, although a nice loud yelp now and then does reduce tension!

- In a seated position, reach with one arm across the front of your chest.
- Twist your torso around and turn your head in the same direction.
- You should be looking over your shoulder.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.
- Repeat in the other direction.

Repeat once in each direction

<b>Adaptation 3</b>	<b>Adaptation 2</b>	<b>Adaptation 1</b>
<p>When you reach across your chest, grasp onto the armrest or back of the chair.</p> 	<p>When you reach across your chest, drop your arm so that your forearm rests on your abdomen; Wrap your hand around your side.</p> 	<p>Leave arms at your sides and rest hands on one thigh. Bring opposite shoulder toward the side of the body your hands are resting on.</p> 

## ABDOMINALS

Abdominal muscles are one of the most ignored muscle groups, yet they are very important. The abdominals provide support to the spine by working opposite to certain back muscles. If the abdominals are weak, they may cause or contribute to back pain. If one group of abdominals is stronger than the other, there will be anatomical imbalance. That imbalance can lead to postural problems. There are very few ways to stretch or contract abdominal muscles without doing crunches or sit-ups in a lying position. Try these exercises. They take concentration, but once you learn them, you can do them anywhere, at any time!



### Seated Crunches:

- Sit tall in your seat.
- Take your thumbs and rest them on your lowest rib.
- Rest your index fingers on your belly button.
- Relax your hands and focus on your abdominal area.
- Bring your thumbs and index fingers closer together by contracting your abdominal muscles; remember to keep breathing.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.
- Relax.

Repeat 10 times to start - slowly increase the number by 5 each week

Adaptation 3	Adaptation 2	Adaptation 1
Do this without an adaptation.	Breathe in while your hand is resting on your abdominal area. Breathe out as you begin to contract your abdominal muscles. Hold this position but remember to keep breathing.	Lying on your back, breathe in slowly while concentrating on distending your abdomen. Breathe out through your mouth while concentrating on contracting your abdominal muscles. Keep breathing. Don't pause.



## Abdominal Stretch:

- Sit tall in your seat.
- Cross your arms on your chest.
- Slowly rotate your torso to the left. Try not to rotate your neck.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.
- Repeat by rotating to the right.

**Repeat 3 times on each side**

## BUTTOCKS

Your buttocks have many different muscles. One of the larger muscles is the gluteus maximus. The gluteus maximus is one of the strongest muscles in your body. It works hard. It deserves a stretch!



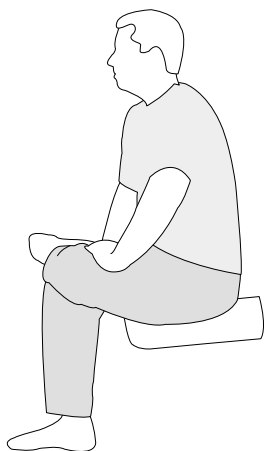
### Buttock Stretch:

- In a seated position, bring your left leg up and rest your left ankle just above your right knee.
- Let your knee drop to the left so that your leg is horizontal.
- Follow further instructions in Adaptation 2 or 3.
- Hold. Try holding this at least 60 seconds, but be sure to listen to your body to know what an appropriate hold time is for you.
- Repeat on the other side.

Repeat 3 times on each side

#### Adaptation 3

After you have your ankle resting on your right thigh, place your hands on your upper left leg and apply light pressure away from you. For more of a stretch, lean forward slightly by bending at your hips. Only go as far forward as is comfortable. Keep your back straight.



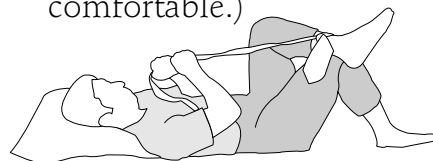
#### Adaptation 2

In a seated position, tie a strap to your ankle. Raise the leg up, by pulling on the strap, to bring your ankle to a resting position slightly above the knee of your right leg. If you can, place your hands on the upper part of your left leg and apply light pressure away from your body. For more of a stretch, lean forward slightly by bending at the hips. Only go as far forward as is comfortable. Keep your back straight.



#### Adaptation 1

Lie on your back with a strap tied to your left ankle. Bend your right knee, so that your foot is still resting on the bed. Pull on the strap to raise your left leg up so that your left ankle rests just above the knee on the right leg. Relax the leg that is tied. (If you do not feel the stretch, while in the same position, place another strap along the backs of your thighs and use both your hands to pull the strap. That will bring both your legs up toward your chest. Only pull as far as is comfortable.)



## UPPER LEGS

The muscles in your upper leg take on the entire weight of your body. They assist in getting in and out of chairs. They help us climb stairs. They keep us mobile. If you have lost any function in your legs, you understand how important these muscles are for mobility. So we should keep these muscles as healthy as possible by doing these stretches!



### Hip Flexor:

The hip flexors are the muscles on the front of your pelvis. They help leg movement when you walk, kick, climb stairs, or stand. When you are in a seated position for long periods of time, these are the muscles that really need a good stretch.

- Lie on your bed on your back so that your knees hang off the edge of the bed.
- You should feel the stretch in the front of your leg where it attaches to your hip.
- Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold.

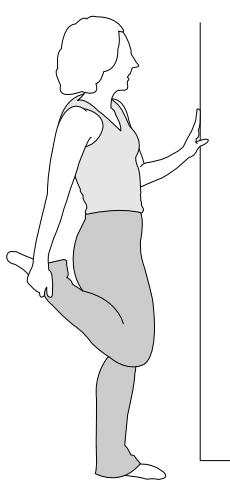
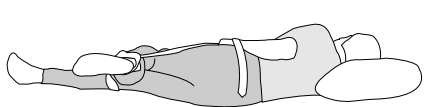
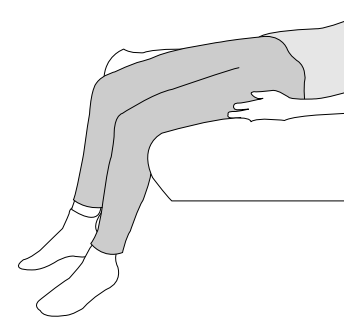
Adaptation 3	Adaptation 2	Adaptation 1
While lying down, extend your knees off the edge of the bed and place your feet on the floor. Contract the buttock muscles for more of a hip flexor stretch.	While lying down, extend your knees off the edge of the bed and relax your legs. Relax your whole body.	Lie on your front, with legs resting on the bed. Relax.



## Quadriceps:

- In a standing position, hold on to a wall for support.
- Grab one leg at the shin and bring it up so that your foot is near your buttocks.
- Stand straight, and bring the knee of the bent leg back so that you feel the stretch in your upper leg.
- Hold. Work your way up to a 60-second hold.
- Change sides.

Repeat 3 times each side for adaptations two and three

<b>Adaptation 3</b>	<b>Adaptation 2</b>	<b>Adaptation 1</b>
<p>Take the position described above. While you are holding, contract your buttock muscles for more stretch.</p> 	<p>Take a strap and tie it to one ankle. Lie on your side so that the tied ankle is the top leg. Pull on the strap so that your ankle is brought up near your buttocks. Bring your knee back so that you feel the stretch in your upper leg. Your bottom leg should be straight. Contract your buttock muscles for more stretch.</p> 	<p>Lie on your back on the bed with your legs hanging over the edge from the knee. Relax. (Yes, this is the same as the hip flexor exercise. It stretches both sets of muscles.)</p> 



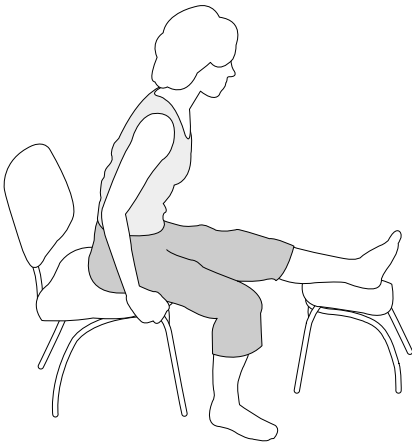
## Hamstrings:

- Sitting tall in a chair, extend one leg straight out in front of you.
- Drop the extended leg so that the heel is resting on the floor; your extended leg should be straight, so move forward on the chair if you need to.
- Point your toe toward your face.
- Relax your arms at your sides and slowly hinge or bend forward at your hips.
- Stop when you feel a comfortable stretch.
- Hold. Gradually work your way up to a 60-second hold.
- Repeat with the other leg.

Repeat 3 times for each leg in adaptations 2 and 3

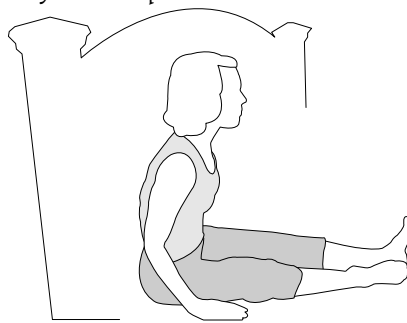
### Adaptation 3

While in the seated position, rest your lower leg on a footstool or chair lower than the one you are sitting in. Leaving your arms resting at your sides, slowly hinge forward at your hips. Remember to keep your back straight. Only go as far as the stretch is comfortable.



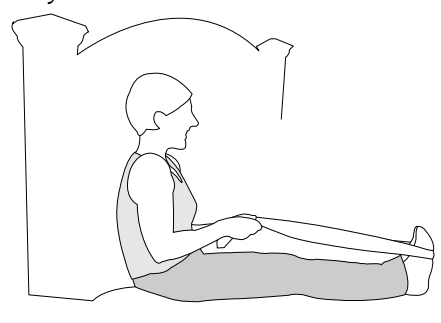
### Adaptation 2

Sit on your bed with your back resting against the wall or headboard. You should be sitting tall with your hips at a 90-degree angle. Bend one leg slightly and let it fall comfortably to the side. Point the toe of the straight leg toward your face. Relax your arms by your side and, keeping your back straight, slowly hinge forward at your hips.



### Adaptation 1

Sit on your bed with your back resting against the wall or headboard. You should be sitting tall with your hips at a 90-degree angle. Take a strap and place it on the underside of your feet. Take the ends of the strap in each hand and pull your feet into a flexed position so that the toes are pointing toward the ceiling or your face.



## LOWER LEGS AND FEET

We already stretched the lower legs thoroughly when we did the hamstring stretch. The following will focus on the ankles and feet. However, the lower legs are still involved. Be kind to your feet. Treat them to a nice footbath or a foot massage. Believe me, they will thank you!



### Ankle Circles:

It is best to wear closed-toe shoes, such as running shoes, while doing this stretch.

- Gently make circles with your ankles.
- Change directions.

Repeat 10 rotations in each direction

Adaptation 3	Adaptation 2	Adaptation 1
<p>In a standing position, hold on to a wall for support. Place the toes of one foot on the ground. Relax your leg and slowly rotate your ankle. Repeat with the other foot.</p>	<p>In a seated position, place the toes of one foot on the ground. Relax your leg and slowly rotate your ankle. You can also raise the foot in the air and rotate it, but you get a wider range of motion when the toes are resting on the ground and your leg is relaxed. Repeat with the other foot.</p>	<p>In a seated position, place a strap around one ankle. Pull that ankle up so that it rests just above the knee on the opposite leg. Take your hands and manually rotate that ankle. Repeat with the other foot.</p>



## Foot flexion/extension:

- Flex foot by pointing toes up toward your face.
- Hold.
- Extend foot by pointing toes away from your face.
- Hold.

Repeat 3 times with each foot

Adaptation 3	Adaptation 2	Adaptation 1
<p>In a seated position, extend your leg out and flex the foot so that the toes are coming toward your face. Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold. Extend your foot by pointing it away from your face. Hold.</p>	<p>While lying down, flex the foot so that the toes are coming toward your face. Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold. Extend by pointing your foot away from your face. Hold.</p>	<p>While lying down, take a strap and place it on the underside of one foot. Take the ends of the strap in each hand and pull it to flex your foot. Hold. Listen to your body to know what an appropriate hold time is for you. Try working up to a 30-60 second hold. Relax, and pull to flex again. Repeat. Your legs should not be bent at the knee.</p>



## Toes:

For each hold instruction, try holding for 30-60 seconds. But be sure to listen to your body to know what an appropriate hold time is for you.

- Flex your toes by keeping your feet flat, but pointing toes up.
- Hold.
- Extend toes by curling them under.
- Hold.
- Spread toes apart.
- Hold.
- Contract toes together.
- Hold.

Repeat 3 times

These are some common terms that may be used in exercise programs and by exercise professionals.

**Range of motion:**

Extent of movement that is possible within a joint.

**Passive range of motion:**

Extent of motion possible in a joint when moved with assistance.

**Active range of motion:**

Extent of movement that is possible in a joint when the person actively moves without assistance.

**Spasticity:**

A tightening or stiffness of the muscle due to increased muscle tone and exaggerated response to muscle stretch.

**Muscle atrophy:**

Muscle fibres that have not been contracted for a period of time and therefore diminish in size and, eventually, in strength.

## Movements

**Flexion:**

The act of moving a joint so that your limb is bending.

**Extension:**

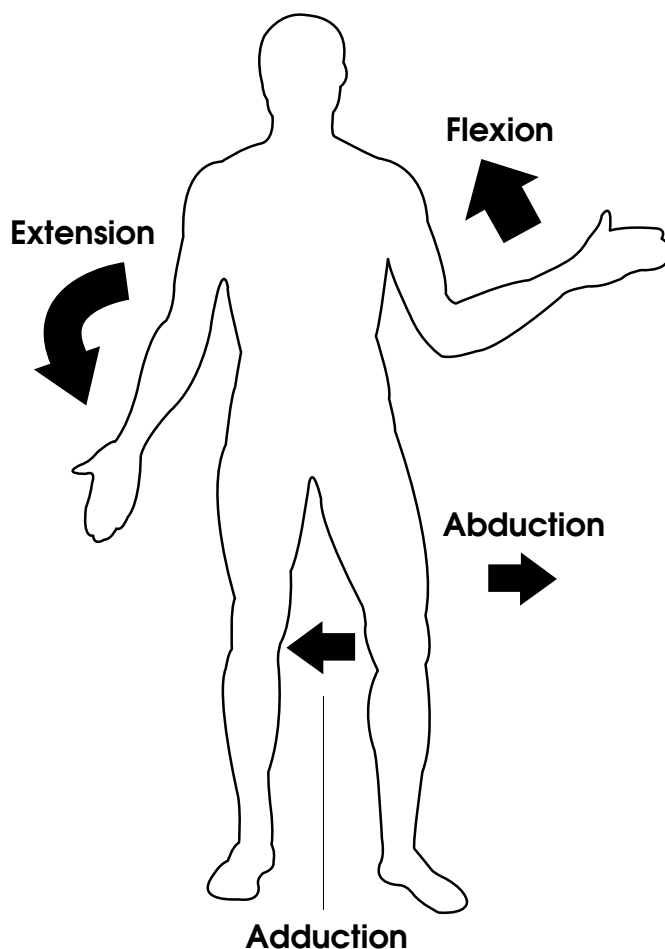
The act of moving a joint so that your limb is straightening out.

**Abduction:**

The act of moving a joint so that your limb is moving away from your body.

**Adduction:**

The act of moving a joint so that your limb is moving toward your body.




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Colleen Harris RN, MN, MSCN



## Multiple Sclerosis Society of Canada

### Atlantic Division

71 Ilsley Avenue, Unit 12  
Dartmouth, Nova Scotia  
B3B 1L5  
(902) 468-8230

### Quebec Division

666 Sherbrooke Street West  
Suite 1500  
Montréal, Québec  
H3A 1E7  
(514) 849-7591

### Ontario Division

250 Bloor Street East  
Suite 1000  
Toronto, Ontario  
M4W 3P9  
(416) 922-6065

### Manitoba Division

141 Bannatyne Avenue  
Suite 400  
Winnipeg, Manitoba  
R3B 0R3  
(204) 943-9595

### Saskatchewan Division

150 Albert Street  
Regina, Saskatchewan  
S4R 2N2  
(306) 522-5600

### Alberta Division

10104-79th Street  
Edmonton, Alberta  
T6A 3G3  
(780) 463-1190

### British Columbia Division

1130 West Pender Street  
16th Floor  
Vancouver, British Columbia  
V6E 4A4  
(604) 689-3144

### National Office

250 Bloor Street East  
Suite 1000  
Toronto, Ontario  
M4W 3P9  
(416) 922-6065

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

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

Web site: [www.mssociety.ca](http://www.mssociety.ca)



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