

# Pilates *for* Parkinson's Disease

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An Instructional Handbook

3<sup>rd</sup> Edition

A practical guide of Exercises  
to improve flexibility, posture,  
and balance.



**Bettina Blank**

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Over the last three decades we have taken care of many people with Parkinson's disease (PD). Patient after patient has taught us that exercise can make a difference in this disease. The people who commit to life-long daily exercise simply maintain better mobility and functional capacity over time. So what is the best exercise program for Parkinson's disease? This question is being carefully examined by many investigators around the world. Probably it is a combination program that takes into consideration aerobic, strengthening, flexibility, agility, and balance exercises. So why do Pilates? Although not scientifically proven, Pilates is founded on principles that address some of the more important mobility problems in Parkinson's disease. It helps strengthen the "core" muscles that can improve posture and balance. It improves rotation of the spine and overall flexibility which is very important in day to day functional capacity. Finally, it uses breathing techniques that increase circulation, encourage concentration and focus. Pilates is an integration of mind and movement patterns that enhance the natural rhythm of the body.

One of our patients, John White, was the first person to enlighten us about the benefit of Pilates for Parkinson's disease. John embraced Pilates with his usual sense of commitment to exercise. The improvement in his posture and flexibility were obvious. After 19 years of living with Parkinson's disease John became the inspiration to develop Pilates instruction for people with PD. At this time we had the good fortune to enlist the expertise and creative talent of Bettina Blank, a highly skilled and well respected Pilates instructor. Tina dedicated herself to learning about the mobility issues of Parkinson's disease and developed a Pilates program specifically to address these needs. The success of Tina's work has resulted in the training of other Pilates instructors about Parkinson's disease and the growth of this program into a community wide effort.

It is with genuine gratitude that we write this foreword. We view programs like Pilates for Parkinson's disease as one more opportunity to improve the lives of people with PD for whom we care so much about.

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I was first introduced to the Pilates Method of Exercise in 2000. After years of running and aerobics, I found that Pilates offered a balance to my body that left me feeling energized rather than fatigued. I discovered that Pilates is more than just a series of exercises, but rather a philosophy of movement that enhances everyday life, promoting better breathing patterns, posture, balance, flexibility and strength. I became so enthusiastic about Pilates that I decided to become a certified instructor. I completed a comprehensive course of study with Core Dynamics Pilates. I subsequently became a member of the Pilates Method Alliance, and furthered my studies to receive national gold certification. In 2009 I completed the Masters Program at The Pilates Center in Boulder, Colorado. Learning and practicing Pilates has become my passion.

In 2006, I was approached by Julie Carter, Associate Director of the Parkinson's Center of Oregon, to teach Pilates to a small group of people who had Parkinson's disease (PD). These seven people were the beginning of what has become a very meaningful and rewarding program of Pilates for PD ©. With this first class I dedicated myself to learning about Parkinson's disease so that I could apply it to the Pilates method. I discussed my observations with Julie Carter after each session and became knowledgeable about the mobility concerns of PD. With Fay Horak PhD., PT, a Senior Scientist in Neurology at the Oregon Health & Science University, I discussed issues of motor control which helped me to identify postural modifications for the exercises. The participants of this first group learned along with me and in the end became enthusiastic advocates for the benefit that Pilates brings to their lives. They described feeling stronger, having better balance, being more flexible and having more energy. They have also developed a bond with each other that brings enjoyment and mutual support.

My commitment and compassion for people living with PD has led me to expand this program to other studios in the Portland/Vancouver metropolitan area. There are currently five studios teaching group Pilates for Parkinsons classes and two more will be added in the coming year. The Pilates teachers in the program meet quarterly to share information and provide feedback on exercise options.

I owe special thanks to Julie Carter RN, ANP and Lisa Mann RN at the Parkinson Center of Oregon/OHSU for their continued support and guidance with the Pilates for Parkinsons Program. Andrea Serdar, Physical Therapist at OHSU has also provided feedback and is a valuable resource for the program. The Guidebook is intended to be used as a reference guide for Pilates teachers as well as people with Parkinsons disease.

This Guidebook is the third edition. It includes photographs modifications for seated exercises and I have added information listing Pilates equipment exercises for use by Pilates instructors.

I owe special thanks to Mark Elliott who offered to be the photographer and model for several of the seated exercises and also to Kathy Lopez and Dan Baker for demonstrating the seated exercises. The original mat exercises are demonstrated by Kathy Lopez and Alan Gluck. The Pilates for Parkinson's Guidebook would not have been possible without their continued commitment and support.

**Bettina Blank**  
*November, 2015*

## INTRODUCTION

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The Pilates Method of body conditioning was named after its founder, Joseph H. Pilates, who developed his exercise program over 100 years ago. It is a unique system of exercises that work to promote whole body health and whole body commitment. Pilates exercises strengthen and tone muscles, and help improve posture, flexibility and balance. The mind and the body must actively engage to achieve the maximum potential from the exercises.

Pilates exercises work for people of all ages and all levels of fitness. The exercises work well for an elite athlete, and work equally well for those with limited ranges of motion. Many of the exercises in this book provide options for “seated” Pilates as an alternative to the exercise work performed on a mat or on the floor. Focusing on the following principles of Pilates exercises will enhance the benefit of the exercise program.

### **Proper breathing:**

Joseph Pilates was reported to have said, “above all..... learn to breathe correctly”<sup>1</sup>. The Pilates breathing technique focuses on a full inhalation through the nose, breathing into the back and sides of the ribcage (visualize a balloon filling with air), followed by a complete exhalation of all the air with an open, relaxed mouth and jaw, completely dispelling all the air from the lungs. The complete exchange of oxygen and carbon dioxide in the breathing process is vital to achieve the full potential of all the Pilates exercises.

### **Concentration:**

The ability to focus the mind on the exercise is an important component to the success of the Pilates exercises. The Pilates exercises are completed with a mental focus on the proper execution of the specific exercise. Awareness of how the body is moving, the connection of the breath

to the movement and how the movement pattern feels, all play a role in the overall benefit of the Pilates exercise.

### **Fluidity:**

The flowing movement patterns of the Pilates exercises are one of the distinguishing features that separate it from some other exercise programs. The exercises should not be rushed. When practicing Pilates, it is important to visualize fluid, flowing movement from a strong center at a controlled pace.

### **Centering:**

Pilates exercises focus on utilizing the muscles of the abdomen, low back, hips and buttocks, referred to as “the center” or the “core”. These muscles provide the “girdle of strength” to properly perform the Pilates exercises in a safe and effective manner. Concentrating the mind on the engagement of these muscles is a vital component of the Pilates program.

### **Precision:**

The precision of the Pilates movement pattern is also very important. Maintaining the focus and concentration on the execution of the movement pattern will lead to the success of the specific exercise.

### **Control:**

The combination of focus and precision is called control. Joseph Pilates called his method of exercise Contrology. In his book, *Return to Life*, J. Pilates states that Contrology is the “complete coordination of body, mind and spirit”<sup>1</sup>. Careful attention is given to each exercise to “control” the movement pattern by keeping the mind focused on the exercise.

Performed faithfully, Pilates exercises can help improve strength and flexibility of the body. Strengthening the postural muscles will help with balance and postural stability. The focus on extension of the spine and trunk rotation will help with improved posture and overall functional capacity. Proper breathing techniques will encourage concentration, calming the mind and the body and providing a natural rhythm and flow to the movement patterns.

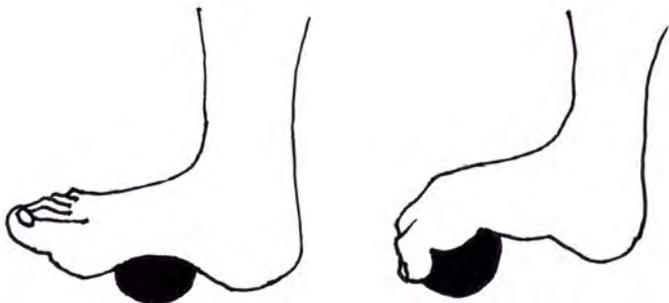
### **Safety considerations for the Pilates Exercises:**

1. As with any exercise program, check with your doctor and receive clearance before you begin the program. Start slowly and rest between exercises.
2. Listen to your body while performing the exercises. If you experience any pain you should stop performing the exercise.
3. Do not force the body to do any of the exercises. Work within the range of motion in your body. Use “props” such as a towel under the head to remove strain from the neck, or a small towel under the low back. Avoid positions that place any strain on the body.
4. When first starting out the exercise program, begin with your head resting on the mat and your feet on the floor hip distance apart. Advance to more complicated versions after you have gained strength.

## BEGINNING STRETCHES

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Prior to beginning the Pilates exercises, a gentle warm up is recommended. There are several stretches that help to prepare the body for movement, starting with the feet:



### Foot Stretch:

Use a tennis ball or small dense ball to “wake up the feet “ in order to stretch and massage the bottom of each foot. From a seated position in a sturdy chair, place the tennis ball under the arch of the foot. You may stay seated toward the front of the chair, or come to standing, holding the back of the chair for support. Begin rolling the ball from the heel, across the arch of the foot and to the ball of the foot, stretching and separating your toes as you roll. Apply good pressure to feel the stretch and release of tension. Using your foot, roll the tennis ball across the ball of your foot from side to side several times. Apply pressure to the tennis ball and press into the pad on the ball of your foot, then to the arch and back toward the heel several times. Continue to stretch your toes apart as you roll the ball. Switch feet when you have completed the roll for several minutes.

### Low back stretch:

From a seated position in a sturdy chair, carefully come to the floor for your exercises, or stay seated toward the front of the chair if you are choosing the arm chair Pilates options that are mentioned as modifications. If performing the exercises on the floor, choose a carpeted surface or have a firm mat available to lie on.

1. If you are choosing to perform the exercises from the floor, carefully transition from a sturdy chair to the floor. Be sure to have a rolled towel or small firm cushion under your head as needed for support.
2. Stretch one leg long in front of you on the floor as you continue to hug the opposite knee to your chest, taking full breaths of air. Switch legs when you are ready, and begin the Pilates session with Breathing 100's.

## Purpose:

Breathing 100's is one of the original Pilates exercises designed to build stamina, increase circulation and strengthen abdominal muscles. It is named after the breathing pattern: inhaling and exhaling for 5 counts each, working up to 100 counts. It is a challenging exercise.

## Technique:

1. Lie down on the mat with your knees bent and your feet on the floor hip distance apart. A towel may be placed under your head for support. Lengthen your spine on to the mat and engage your abdominal muscles by "scooping" your navel to your spine. Inhale into the back and sides of your ribcage. Exhaling, reach your arms by your sides, slightly off the mat and in line with your shoulders.
2. Begin pumping your arms by your sides in an up and down motion, inhaling through your nose for 5 counts and exhaling through the mouth for 5 counts. Focus on breathing into the sides and back of your ribcage as you inhale and actively force all the air out of your lungs as you exhale. The pumping action of the arms is small. Remember to keep your shoulders relaxed and your collarbones wide as you pump the arms.
3. Repeat, working up to 10 sets or a count of 100.
4. Upon completion, hug your knees to your chest and relax as you breathe deeply. Gently roll your head from side to side.

## Watch Points:

- Make sure your back stays flat on the mat.
- Keep your arms straight and stretch your fingertips toward your feet as you pump your arms.
- Stretch your fingertips toward your feet as you pump the arms.
- Try to keep your torso and feet still as you move.



*Knees at table top.*

## Advanced Version:

As you become stronger, lift the legs off the mat into table top position with knees and hips bent at a 90° angle (see illustration). In the most advanced version, the head is lifted off the mat with only the lower tips of the shoulder blades touching the mat. Look toward your navel with enough space between chin and chest to hold a fist. Lower the head to the mat if you feel any neck tension.

## Additional Modifications For Parkinson's Disease:

Breathing 100's may be performed from a seated position in a sturdy chair. Position yourself forward in the chair and sit up as tall as you can. A small ball or rolled towel may be placed at the small of your back to help maintain your posture. Engage your abdominal muscles by gently lifting your navel in and up into your spine. Reach your arms to your sides as you widen your collarbones. Begin pumping your arms by your sides as described in the technique, working up to 10 sets or a count of 100.



# SINGLE LEG CIRCLES

## Purpose:

Single leg circles will increase flexibility, help to stretch the legs and strengthen the muscles of the hip. The beginning exercise is often done with the assistance of a theraband™ around the arch of the foot of the working leg to provide support.

## Technique:

1. Lie down on your back on the mat with a rolled towel or pillow under your head for support. Bend your knees and place your feet on the floor hip distance apart. Before you begin the leg circle, hug your knees to your chest for a moment to stretch your lower back, weighting your tailbone to the mat. Inhale as you prepare to move. As you exhale, lower one leg to the mat, keeping the knee bent with the foot on the floor. Bring the other leg into the “tabletop” position, with the back of the knee directly over the hip. Place the theraband™ on the arch of your foot.

2. Inhale as you prepare to move. As you exhale, lengthen your leg from the tabletop position to a straighter leg, keeping a slight bend in the knee. Inhaling, reach and circle the raised leg across the midline of your body, and as you exhale, continue the circle back to the starting position. It is important that you keep your pelvis stable and abdominals engaged as you circle the leg. Visualize “stirring” your femur in the socket to circle the leg. Keep your lower back on the mat as you circle the leg. Circle the leg in this direction for 3 to 5 times.

3. Reverse the circle, reaching the leg out to the side, down and across the midline of your body as you inhale, exhaling as the leg completes the circle back to the starting position. Repeat 3 to 5 times.

4. Upon completion of the exercise bend your knee and hug the leg to your chest and breathe deeply.

5. Repeat the exercise with the other leg. Continue for 5 repetitions on the opposite leg. Remember to reverse the circle after 5 circles in each direction.



*Extended leg version.*



*Modified bent knee version.*

## Watch Points:

- Maintain active breathing.
- Keep hips stable on the mat.
- Be sure that your low back stays on the mat the entire time.
- Pull your navel toward your spine while performing the exercise.

## Additional Modifications For Parkinson's Disease:

Single leg stretch may be performed from a seated position attaching a theraband™ to the arch of your foot. Follow the same instructions as above, sitting as tall as you can in the chair and engaging your abdominal muscles to stabilize your spine.



### Purpose:

The pelvic curl helps with spinal mobilization and pelvic stabilization. It strengthens the abdominals while promoting release of tension in the low back.

### Technique:

1. Lie on the mat with knees bent and feet hip distance apart. Feel the crown of your head lengthening away from your tailbone. Place your arms by your sides with your fingers reaching toward your feet. Make sure your neck is relaxed and widen your collarbones. As needed, place a towel under your head to maintain a neutral head position on the mat.
2. Inhale and gently pull (scoop) your navel in and up toward your spine as you prepare to move. Exhaling, curl your tailbone off the floor, and lift the pelvis off the floor one vertebrae at a time until your ribs are in line with your pelvis. Inhale keeping your body still, abdominals engaged.
3. As you exhale, return your spine to the starting position, slowly rolling down one vertebra at a time. Lengthen your tailbone toward your heels as you return slowly to the mat. Repeat 5 times.



### Watch Points:

- Avoid tension in the neck and shoulders.
- Reach arms toward the front of the mat.
- Breathe with the movement.
- The ribs should not be higher than the pelvis.
- Maintain the abdominal contraction.

NOTE: NO MODIFICATIONS ARE NECESSARY FOR THOSE WITH PARKINSON'S DISEASE.

## SPINE STRETCH FORWARD

### Purpose:

Spine Stretch Forward helps with posture by focusing on forward flexion of the spine followed by a return to a fully upright position. The emphasis of the exercise is on “stacking” the spine one vertebrae at a time as you return to the upright posture.

### Technique:

1. Spine stretch forward is best performed sitting as tall as you can against a wall with your legs in front of you and feet crossed loosely at the ankle. Feel your entire spine reaching to the wall from your tailbone to the crown of your head. As an option, sit on a rolled yoga mat or rolled towel to help sit up straight.
2. Reach your arms in front of you in line with your shoulders and shoulder distance apart.
3. Inhale, scooping in your abdominal muscles and feeling your shoulder blades glide down your back. As you exhale, slowly peel one vertebrae at a time away from the wall, maintaining the abdominal contraction and keeping your low back against the wall. Think about stretching over an imaginary ball as you reach forward.
4. Inhale, drawing the abdominal muscles more deeply toward the wall. As you exhale, slowly return to the start position feeling each vertebrae connect with the wall one at a time. Concentrate on lengthening your torso to the ceiling as you return to the starting position. Repeat 5 times.

### Watch Points:

- Peel your spine off the “wall” to roll down.
- Stack the spine, one vertebrae at a time, to return to the full upright position.



### Additional Modifications For Parkinson's Disease:

Spine Stretch Forward can be performed sitting upright in a sturdy chair. Sit toward the front of the chair and reach the crown of your head to the ceiling with your gaze straight ahead. Follow the same instructions as above, again emphasizing the stacking of the spine to the full upright posture each time.



**Purpose:**

Swan Prep promotes spinal extension which is important to counter flexion posture. It is performed lying on your stomach and extending the spine.

**Technique:**

1. Lie on the mat face down, arms bent by your sides, fingertips in line with the tips of your ears. Your feet are apart with heels reaching toward the end of the mat. Feel your pubic bone gently reaching into the mat and slide your shoulder blades down your back as you relax your shoulders. Engage your abdominal muscles.

2. Inhale as you prepare to move. Exhaling, contract the abdominal muscles and slowly raise you head off the mat as if you were pushing a ball away from your nose. Let your gaze follow the imaginary ball as it rolls away, lifting your head and upper trunk off the mat.

3. Inhale in this position, maintaining the abdominal contraction. Exhaling, slowly lengthen and lower your spine to the mat “one shirt button at a time”. Repeat 3 to 5 times.

**Watch Points:**

- Watch that your shoulder blades do not start creeping up by your ears.
- If you feel tension in your low back, make the movement smaller.
- Do not hyperextend the neck by over-lifting your chin.
- Maintain the abdominal contraction.



**Additional Modifications For Parkinson’s Disease:**

Swan prep works well seated. Sit upright in the chair with your spine as straight as possible. Lengthen the crown of your head to the ceiling and engage your abdominal muscles. Inhale as you reach your arms to the ceiling. Exhale fully in this position. Inhale and lift your chest letting your eyes travel to the ceiling as the arms stay lifted. Feel your torso lengthening in this position. Exhale and return to the starting posture. Repeat the exercise 3 to 5 times.



# CROSS CRAWL

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## Purpose:

The cross crawl helps with balance, reciprocal arm and leg movement, and abdominal muscle strength. It is a great overall core strengthening move.

## Technique:

1. Begin in the kneeling position on all fours with wrists directly under shoulders and knees directly under hips at a 90° angle. Your head should be in a straight line with your body and knees, shins and feet should be hip distance apart. Engage your abdominal muscles.
2. Inhaling, reach your left arm straight out in front of you as you lengthen your right leg straight back. Exhale as you return to the start position. Switch arm and leg with each repetition for a total of 6 times. This exercise can start with just one arm reaching at a time, keeping the legs positioned kneeling on the mat. As you get stronger, slide the leg back on the floor as you reach the opposite arm. In the full exercise, lift and reach the leg straight back as you lift the opposite arm straight out in front of the body.
3. Upon completion, relax into shell stretch (see page 14) and breathe deeply.

## Watch Points:

- Avoid strain on wrists by performing the exercise with a fisted hand, or bring hands slightly forward from your shoulders.
- Imagine pushing away from the floor with your whole arm.
- Do not let your back “sag” toward the floor.
- Look toward the floor to allow your head to stay in alignment with your spine.
- Maintain your abdominal contraction.



## Additional Modifications For Parkinson's Disease:

Cross crawl exercise can be transitioned to a chair exercise if getting down to the floor is too difficult.

Sit close to the front of the chair with your spine as straight as possible. Inhaling, lift the right hand to the ceiling as you float the left leg off the floor. Exhale and return to the starting position. Repeat with the opposite arm and leg. Complete the exercise 3 to 5 times per side. Keep your abdominal muscles engaged and the crown of your head reaching to the ceiling.



## SHELL STRETCH OR RESET POSITION

### Purpose:

The Shell Stretch is the rest position and will help release tension in the spine. This position feels good after back extension or whenever a break in exercising is needed. It will help to release tension in the neck, shoulder and lower back muscles. If it is uncomfortable for your knees, place a rolled towel between your buttocks and hamstrings to protect the joints. You can also rest your head on a towel.

### Technique:

1. Begin kneeling on all fours in the same position as cross crawl.
2. Leaving your hands in the same position, slowly lower your hips back toward your heels, reaching your hands forward and letting your head rest on the floor. Breathe deeply into the back and sides of your spine.
3. An additional stretch can be added by reaching your hands to the right as you shift your hips to the left and reverse.

### Watch Points:

- Use a rolled towel under the back of your legs if you feel any strain on your knees.
- Widen the stance of your knees to make the position more comfortable.
- As an option to arms stretched in front of the body, rest your forehead on your hands, stacking one hand on top of the other, elbows wide.



### Additional Modifications For Parkinson's Disease:

Shell stretch may be performed using a table and chair. Sit as tall as you can in the chair and engage your abdominal muscles. Stretch your arms across the table with your arms shoulder width apart. Remember to breathe fully as you slide your arms across the table. Inhale in this position, and keeping your abdominal muscles engaged, return to the starting position, stacking vertebrae upon vertebrae until you have returned to your beginning posture.



# THREAD THE NEEDLE

## Purpose:

Thread The Needle increases torso rotation while working on balance and strengthening the core muscles. It is an extremely useful exercise in Parkinson's disease.

## Technique:

1. Begin in a kneeling position on all fours with knees, shins and feet hip distance apart and arms directly under your shoulders. Your hips and shoulders should be at a 90° angle. Maintain a neutral spine, with the crown of the head reaching away from your tailbone. Engage your abdominals to support the spine.
2. Inhaling, reach your right arm up to the ceiling, opening the chest and looking toward the hand. Exhaling, "thread" the hand under the body in the space between the left arm and leg, bending the left arm as your torso twists to the floor. Allow your head to follow the movement of your hand as you reach your ear toward the mat.
3. Inhale and return to the start position, reaching your hand back up toward the ceiling and opening the chest. Repeat 3 times on each side.

## Watch Points:

- Your head should follow the movement of your spine.
- Reach your fingertips of "threading arm" to enhance the stretch.
- Relax your shoulder down to the floor when the threading arm comes through.



## Additional Modifications For Parkinson's Disease:

Thread The Needle can be performed in a chair. Sit forward in the chair and lengthen the crown of your head toward the ceiling. Reach your arms to a high diagonal in front of you. Inhale and "thread" your right arm directly underneath your left elbow, feeling the stretch across your torso. Let your head follow the curve of your spine. Exhale and return to the starting position. Repeat 5 times per side. Remember to keep your hipbones on the chair and rotate above the waistband.



*High Diagonal Illustrated*

## SIDE BODY ARM CIRCLES

### Purpose:

Side Body Arm Circles, like Thread The Needle, will help with trunk rotation and will stretch and open the chest. It is also a very good breathing exercise to expand the lungs.



### Technique:

1. Lie on your side with your knees bent at a 90° angle (as if you were sleeping on your side). Reach your arms in front of you with your palms together. Place a pillow under your head to avoid neck strain.
2. As you inhale, slide your top arm as far as you can to the side of your body, reaching past the lower arm. Exhale and circle the arm forward on the mat, circling past your knees and opening the chest as your arm comes to rest on the other side of your body.
3. Inhale in this open chest position, and exhale as you return to the starting position by reversing the direction of the arm, sliding the arm low across your body and stacking the arm on top of the lower arm at the side of your body.

### Watch Points:

- If you have shoulder discomfort or limited range of motion in the shoulder girdle, keep your elbow bent and your hand resting on your chest as you roll your body to the open chest position.
- Keep the body relaxed.

### Additional Modifications For Parkinson's Disease:

This exercise is a good “morning stretch” for the torso and can be performed lying in the middle of the bed. Remember to breathe deeply while expanding the chest.

## SEATED SIDE BENDING

### Purpose:

Side bending, lateral flexion of the spine, is a great way to feel a stretch along the side of your body while maintaining a stable pelvis on the floor.

### Technique:

1. This exercise is performed seated, with legs loosely crossed at the ankle. Place a rolled mat or firm towel under your buttocks as needed to sit as tall as possible. Place your hands by your sides in line with your shoulders. Feel your shoulders glide down the back.



2. Inhale deeply to prepare to move. Exhaling, lift your left arm up toward the ceiling and reach the arm over to the right side of your body bending to the right. Keep your shoulders relaxed as you bend. Inhale again in this side bend, breathing into your ribcage. Exhale, and return to the starting position.

3. Repeat this exercise 3 to 5 times on each side of the body.

### Watch Points:

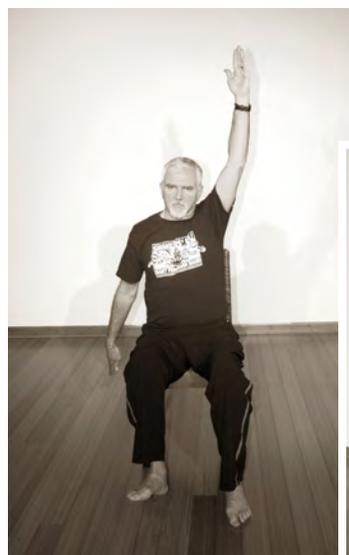
- Lift your ribcage off your pelvis as you lift your arm toward the ceiling, feeling the stretch across the side of your body. Keep your shoulders relaxed and your gaze forward. Stay “lifted” throughout the exercise, trying not to collapse into the side you are bending toward.
- Try not to lean back while bending the spine.

### Additional Modifications For Parkinson’s Disease:

As with other exercises, side bending adapts well to a seated chair exercise. Sit forward in the chair, lengthening the crown of your head to the ceiling and maintaining relaxed shoulders. Place your feet on the floor, hip distance apart, and allow your hands to rest comfortably along the sides of the chair by your hips. Inhale fully as you stretch your left arm to the ceiling and reach the arm and torso to the right, maintaining the right hand on the side of the chair for balance. Be careful to keep your pelvis stable on the chair as you lift and reach the arm. Exhale and return to the starting position.

This exercise may also be performed standing to the side of a chair with feet placed hip distance apart and one hand resting on the back of a chair. Inhale fully as you reach the other arm to the ceiling and stretch your spine toward the chair. Breathe into the open side of your torso, expanding your ribcage as you breathe.

Perform 3 to 5 repetitions of this exercise on both sides of the body.



*Beginning stretch Illustrated.*



*Standing stretch Illustrated.*

**Purpose:**

The twist strengthens the oblique abdominal muscles and helps to improve posture.

**Technique:**

1. Sit as tall as you can on the mat with your feet out in front of your body. Bend your knees slightly or place the feet and legs in a “froggy” position in front of you, to avoid feeling a gripping or tightening in your quadriceps ( front of thigh muscle). Place a rolled up mat or towel under your buttocks as needed to straighten your back. Sit up tall.

2. Reach your arms to your sides slightly in front of the body. Inhale as you twist your body to the right and exhale as you return back to the center. Inhale and repeat the exercise to the opposite side. Sit tall with shoulders relaxed and away from your ears as you twist from side to side. Imagine “wringing out a towel” as you twist from side to side, letting your torso take charge of the movements. The arms and the head follow the torso.

**Watch Points:**

- Start slowly and gently with this exercise and discontinue if you feel any low back discomfort.
- Remember to sit as tall as you can and engage your abdominal muscles.
- Keep your neck lengthened and shoulders away from ears.
- Focus on breathing into your ribcage as you rotate.



**Additional Modifications For Parkinson’s Disease:**

Try this exercise seated very erect in a sturdy chair, with feet planted on the floor hip distance apart. Grow taller each time you rotate and return to center. Twist to each side of the body 3 to 5 times.



## MARCHING ON THE FLOOR (with optional arm swings)

### Purpose:

This exercise will strengthen abdominal muscles while maintaining a stable pelvis. The addition of arm swings will assist with reciprocal arm and leg movements.

### Technique:

1. Lie down on the mat with knees bent hip distance apart and feet on the floor. Your pelvis is in a neutral position with your tailbone and sacrum reaching to your heels. Place a towel under your head as needed. Stretch your arms to your sides with your fingers reaching to the front of the mat.

2. Inhale fully into the back and sides of your ribcage as you prepare to move. As you exhale, engage your abdominal muscles and bring one leg up into the table top position with your knee directly over your hip. Keep your pelvis stable. Inhale as you maintain the leg position and as you exhale, slowly return the leg to the floor.

3. Alternate legs for a total of 5 repetitions per side. As an option raise your right arm to the ceiling as you raise the left leg and switch sides.

### Watch Points:

- Do not allow your low back to arch off the mat.
- If your back arches when the leg is raised in the table top position, bring the leg closer to your chest.
- Keep your shoulders away from your ears.
- Move your leg on the exhale.
- Maintain a stable pelvis on the mat.

### Advanced Version

Instead of bringing the feet to the floor with each repetition, slide the legs away as if your legs were sliding on an imaginary coffee table.



### Additional Modifications For Parkinson's Disease:

Try this exercise seated in the chair with an upright posture. Remember to breathe fully and engage your abdominal muscles as the legs lift off the floor.



### Purpose:

Side Leg Kicks incorporate pelvic and lumbar stabilization and work to increase hip extensor flexibility. Abdominal muscles and back extensors work to stabilize the core. It is recommended to use a theraband™ for the working leg to provide support for the leg.

### Technique:

1. Lie on your side with your upper spine in line with the back of the mat and your straightened legs at a diagonal line to the front of the mat (45° angle). Your shoulders and hips should feel as if they are stacked one on top of the other. Cradle your head in your lower hand or use a pillow under your head as necessary to avoid neck strain. Place your top hand in front of your breast bone and engage your abdominal muscles as you lift your top leg hip height. If using a theraband™, place the band across the arch of the foot, and hold on to the ends of the band with your top hand.



2. Inhale and reach your top leg to the front of the mat with gently flexed feet. As your leg comes forward, lengthen your top hip toward your heel, keeping the hips stacked one on top of the other. Keep your torso still and abdominals engaged. It is important to keep the pelvis in a neutral position while you swing the leg.

3. Exhale and extend the leg behind you, keeping the leg at hip height and the hips and shoulders stacked. Gently point the toe as the leg reaches behind you. Do not allow the back to arch in this position. Imagine that you are wearing a vest with buttons across your torso. Keep the “vest” engaged and do not let the buttons “pop” as you move the legs forward and back.

4. Return the leg to the starting position and repeat 3 to 5 times. At the completion of the exercise, gently

reach the top leg behind you, bending the knee to stretch the quadricep either holding on to the shin or a pant leg. (see page 24 for quadricep stretch)

5. When completed, repeat the exercise on the other side of the body for a total of 3 to 5 repetitions.

### Watch Points:

- Do not let your torso roll forward or backward as you move your leg.
- Keep one hip stacked on top of the other.
- Maintain your abdominal contraction and neutral pelvis.
- Keep your gaze forward and your head in line with your spine.
- Use a smaller range of motion if you feel discomfort in your low back.

### Additional Modifications For Parkinson's Disease:

Try this exercise standing, using a sturdy chair for support. Place the chair by your side, holding on to the side of the chair. Stand erect and engage your abdominal muscles. Inhale as you reach your outside leg forward from the chair. Exhale and sweep the leg straight back as you maintain the abdominal contraction. Do not allow your back to arch as you reach the leg back. Repeat 3 to 5 times per leg.



## SIDE LEG LIFTS

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### Purpose:

As with side kicks, this exercise strengthens the lateral flexors of the trunk while maintaining lumbar and pelvic stability.

### Technique:

1. Lie on your side in the same position as side kick, with shoulders and hips stacked on top of each other and legs in front of the torso at a 45° angle. Your head should be in line with your spine, and your gaze forward. Place the feet in parallel with one foot stacked on top of the other. Engage your abdominal muscles
2. Inhaling, reach the top leg away from the mat approximately two feet toward the ceiling with gently flexed feet, toes relaxed. Keep your torso stable and your abdominals engaged. The upper hip should stay stacked on top of the lower hip. Exhale and with a flexed foot slowly lower the leg to the mat, resisting gravity on the way down. Focus on keeping the foot level to the mat, reaching through the heel of the foot as you raise and lower the leg. Repeat 5 times.
3. When you have completed 5 repetitions, roll to the other side and repeat the exercise again for a total of 5 times.

### Watch Points:

- Do not let your torso roll forward or back as you complete the exercise.
- Keep a long, neutral spine and contracted abdominals.
- Keep shoulders and hips stacked one on top of the other.
- Inhale as you lift the leg, exhale as you lower as if moving through heavy water.



### Additional Modifications For Parkinson's Disease:

Standing to the side of a chair, place your hands on the chair and your feet hip distance apart in a parallel position. Engage your abdominal muscles. Inhale as you reach your outside leg straight out to the side of your body and exhale as you slowly return to the beginning position. Move slowly with control as if you were moving through heavy water. Repeat the exercise 3 to 5 times per leg.



### Purpose:

The Side Starfish will stretch the spine, hip flexors and gluteal muscles and will open the chest. It is a “feel good” exercise!

### Technique:

1. Lie on the mat on your side with legs, hips and shoulders stacked one on top of the other. Let your head rest on your outreached arm or use a pillow under the head if necessary. Engage your abdominal muscles.
2. Inhaling, roll on to your chest reaching your top arm to the front diagonal of the mat as you reach your top leg to the back diagonal of the mat, making an X position on the mat.
3. Exhaling, reverse the X, opening the chest to the ceiling as the top arm sweeps across the body and the top leg reaches forward on the mat. Allow the head to roll with the body.
4. Repeat the full sequence 3 times in that direction and then repeat the exercise on the other side.

### Watch Points:

- Maintain active breathing throughout the exercise.
- Avoid strain in the neck, using pillows or rolled up towels to cradle the head.
- Reach your arm away from your foot as you move.



*Photo above illustrates chest opening position.*

### Additional Modifications For Parkinson's Disease:

This exercise would be a good morning stretch in bed, letting your head rest on the pillow. Make the exercise as expansive as you can, with active breath to open the chest and twist the spine.

## QUADRICEP STRETCH

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### Purpose:

The quadricep stretch will assist in lengthening the quadricep muscles while providing a stretch for the hip flexors.

### Technique:

1. At the completion of the Side Kick series and Starfish, bend the top leg back with your heel reaching toward your tailbone. Reach your top hand back to clasp the calf or pant leg of the top leg, gently stretching the quadricep. Breathe deeply, fully inhaling and exhaling.

### Watch Points:

- Maintain a neutral spine, engaging the abdominal muscles and keeping hips and shoulders stacked on top of each other.
- Do not allow the back to arch.

### Additional Modifications For Parkinson's Disease:

Try this stretch in a sturdy chair. Position yourself on the right side of the chair, holding on to the chair with your left hand to maintain your balance. Reach your right hand back to clasp your calf, pant leg or ankle of your right leg, pointing your knee down to the floor to feel the stretch across the quadricep. Be sure to keep your spine erect with your chest lifted and abdominals engaged.



### Purpose:

Prone Hip Extension strengthens the hamstrings and gluteus muscles and provides a stretch for the front of the leg.

### Technique:

1. Lying prone on the mat, stack one hand on top of each other and rest your forehead on your hands, or place your hands by your sides, arms bent at a 90° angle as illustrated. Lengthen your legs on the mat and feel your pubic bone reach to the floor as you engage your abdominals.
2. Inhale to begin the exercise and as you exhale lengthen and lift the right leg off the mat, initiating the leg lift from the origin of the hamstring (think of lifting the leg from the seat of your pants). Hold the lift for 5 seconds, and slowly return to the starting position. Be careful to keep your abdominal muscles engaged throughout the exercise.
3. Repeat the leg lift 3 times with the right leg and repeat the exercise with the left leg 3 times. Note that the leg lift is not high, but instead focuses on lengthening the leg while maintaining active abdominal muscles.

### Watch Points:

- Maintain a stable pelvis.
- Resist rocking the hips side to side as the leg reaches and lifts.
- Focus on maintaining the abdominal contraction and active breath cycle throughout the exercise.
- Keep a long, relaxed neck, head in line with your spine.



### Additional Modifications For Parkinson's Disease:

Hip extension can also be completed from a standing position. Stand to the side of the chair, using your arm for balance on the backrest of the chair. Grow tall through your spine, lengthening the crown of your head to the ceiling. Engage your abdominal muscles.

Inhale as you prepare to move, and as you exhale reach your left leg straight back, initiating the leg raise from the top of your leg. Try to keep your foot flexed and the leg as straight as possible. Inhale while the leg is reaching back, and exhale as you return to the starting position.



## CAT STRETCH

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### Purpose:

The Cat Stretch serves two purposes: flexing the spine and extending the spine while maintaining a gentle abdominal contraction. It helps to relieve tension and provide a tool for proper Pilates breathing.

### Technique:

1. Begin kneeling on all fours with hands directly below your shoulders and your knees directly below your hips. Your knees and feet should be hip distance apart. Straighten your arms and imagine “pushing away” from the floor. You can place a small, rolled towel under your wrists if you feel wrist strain. Keep your neck in a straight line with your body.

2. Inhale as you prepare to move. Exhaling, pull your navel in toward your spine and curl the head and tailbone, making a shallow C-shape with your spine. Inhale in this position, breathing into your back.

3. Exhale, lengthening your head and tailbone away from each other as you gently extend the spine and return to the starting position. Repeat 5 times and then sit back on your heels in the rest position (see page 14 for shell stretch).

### Watch Points:

- Keep your shoulders away from your ears.
- Try to lengthen the top of the foot on the mat to get a stretch.
- Widen your collarbones as you extend the spine.



### Additional Modifications For Parkinson's Disease:

Try this exercise standing at the back of a sturdy chair with legs hip distance apart and hands straight in front holding on firmly to the back of the chair in front of you. Inhale as you prepare to move, and exhale pulling your navel in toward your spine as you curl your head and tailbone toward one another (make a C shape with your spine). Inhale in this position, and exhale as you return to the starting position.



### Purpose:

Standing Marches assist with posture, balance and coordination. Use the side of a chair for support if balance is in question.

### Technique:

1. Stand tall with feet hip distance apart and engage your abdominal muscles. Inhaling, slowly raise one arm to the ceiling as the opposite leg floats off the floor. Start with just the heels lifting off the floor, and progress to the entire foot as balance improves. Exhale as the arm and leg returns to the starting position. Inhale as you transition to the opposite arm and leg.



### Watch Points:

- Hold on to the side of a sturdy chair for added balance support.
- Engage your abdominal muscles to stabilize the body.
- Start with just lifting the heel off the floor until you feel more stable.
- Stand tall, lengthening the crown of your head to the ceiling.
- Keep your eyes and gaze straight ahead.

### Additional Modifications For Parkinson's Disease:

Marching can be effective seated in a chair. Sit up straight and forward toward the front of the chair. Reach the crown of your head to the ceiling and engage your abdominal muscles.

Inhale and lift your left foot off the floor as you reach your right arm straight up to the ceiling. Exhale as you return to the start position. Try to lift the leg from the back of your leg (your hamstrings) as you march. Repeat this exercise with the other leg and arm for a total of 5 repetitions per leg.



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## **Pilates Equipment Exercises for Consideration by Pilates Instructors:**

The exercises in this guidebook are primarily mat exercises with modifications shown on a sturdy chair. Pilates instructors have numerous options on the Pilates equipment including but not limited to the Reformer, Cadillac and Chair. It is recommended that the focus be on balance and gait, with preference given to extension, torso rotation and abduction. Verbal cueing is crucial with emphasis on tempo and reciprocal movement patterns. Utilize big movements encouraging whole breath. As with any Pilates program, safety is the number one priority for the Parkinson's client.

Listed below are a sampling of exercises to consider, based on the specific client profile. Note that some of the exercise names may have a different title based on the instructor's specific teacher training program.

### **Reformer exercises :**

- Footwork, all foot positions
- Arm Springs
- Leg springs
  - Frog
  - Leg circles
  - Long spine prep
- Swan or swan prep on the long box
- Pull Straps series
- Short Box Series
  - Flat back
  - Twist
  - Side bend
- Mermaid/Side Bending
- Jumping with Light Springs
  - Option: Add Reciprocal movement patterns
- Running
- Eve's lunge

### **Cadillac Exercises:**

- Roll down & one arm roll down
- Leg Spring series
- Arm springs
- Breathing
- Swan or swan prep
- Push Through Series
  - Saw
  - Circular saw
- Seated Mermaid
- Footwork and /or running (springs from below)

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## Chair Exercises

- Footwork
- Seated Mermaid ( side bending )
- Swan from above
- Leg pumps ( caution : stabilize with pole for support of balance )

## Foam Roller :

- Arm series : protraction/retraction
- Arm circles
- goal post arms
- Toe dips
- Reverse cross crawl ( opposite arm/leg lifts )
- Prone swan
- Side mermaid
- Bicycle and leg circles with pelvis supported by foam roller
- Chest stretch over roller with head supported by hands / knees bent

## Spine corrector:

- Side bending / mermaid /torso rotation
- Supported extension
- Bridge /pelvic lift
- Bicycle / scissors



**Bettina Blank**

For further information about Pilates and Parkinsons,  
please visit my web site:  
[www.pilatesforparkinsons.com](http://www.pilatesforparkinsons.com)

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