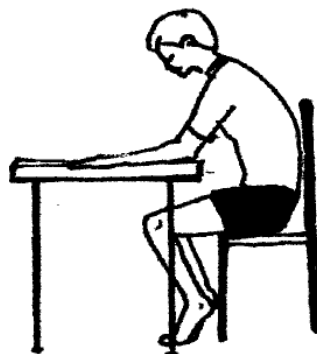


## **BRUGGER'S POSTURAL RELIEF EXERCISE**

Brugger's Postural Relief Exercise strengthens your muscles. It promotes stability and relaxes tight muscles that tighten due to postural stress (see Figure 2). Check the tension in your upper back and shoulders in the slumped posture and then in the postural relief position. Muscle tension is dramatically reduced in the postural relief position. Another check is to turn your head in the slumped and corrected postures. Again, a dramatic improvement in the postural relief position should be observed.



**Figure 1**



**Figure 2**

### **FOLLOW THESE SIX STEPS:**

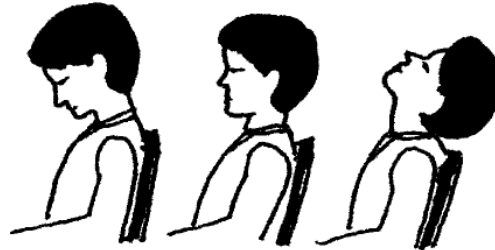
1. Sit with your buttocks at the edge of a chair.
2. Spread your legs apart slightly.
3. Turn your toes out slightly.
4. Rest your weight on your legs/feet & relax your abdominal muscles.
5. Tilt your pelvis forward & lift your chest up thus increasing the curve of your lower back to its maximum.
6. Turn your palms up.

This postural exercise should be done for 10 seconds every 20 minutes. It can be incorporated into sit to stand, walking, and lifting. Within a few weeks, you will experience the sensation of sitting and standing straighter naturally. When this occurs, conscious effort is not as necessary because you have learned a new skill on an automatic basis. This is ideal as a new postural habit once learned is unlikely to be broken.

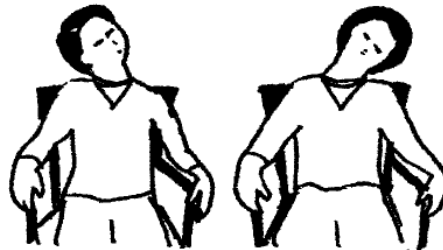
**UPPER BACK & NECK**  
*Range of Motion Therapeutic Exercises*

Name \_\_\_\_\_ Date \_\_\_\_\_

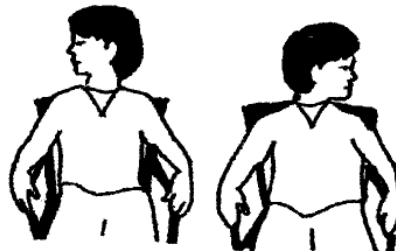
**Flexion/Extension:** Sit in a chair, keeping your neck, shoulders, and trunk straight. Tuck in your chin and lower your head slowly, keeping your mouth closed. Return to starting position and relax. Bring your head back as far as possible, looking up at the ceiling. Stop movement if you feel any pain.



**Lateral Flexion:** Sit in a chair, keeping your neck, shoulders, and trunk straight. Tilt your head, slowly lowering your ear to your right shoulder. Return to starting position and relax. Repeat the movement to your left shoulder. Keep your nose pointing forward and do not raise your shoulders toward your head. Stop movement if you feel any pain.



**Rotation:** Sit in a chair, keeping your neck, shoulders, and trunk straight. Turn your head slowly bringing your chin toward your right shoulder. Return to starting position and relax. Repeat the movement to your left shoulder. Keep your eyes level with the floor. Stop movement if you feel any pain.



**UPPER BACK & NECK**  
*Isometric Therapeutic Exercises*

Name \_\_\_\_\_ Date \_\_\_\_\_

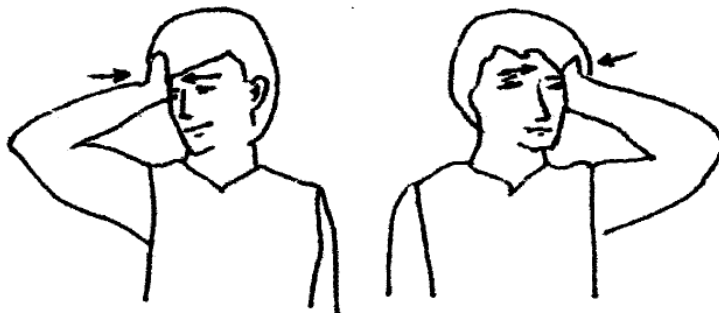
**Flexion:** Place your palm on your forehead. Press your head into your palm and resist the movement with your palm. Hold for 5 seconds, then relax. Repeat with the left side. Stop movement if you feel any pain.



**Extension:** Place your palm on the back of your head. Press your head into your palm and resist the movement with your palm. Hold for 5 seconds, then relax. Repeat with the left side. Stop movement if you feel any pain.



**Lateral Flexion:** Place your right palm on the right side of your head. Press your head into your palm and resist the movement with your palm. Hold for 5 seconds, then relax. Repeat with the left side. Stop movement if you feel any pain.

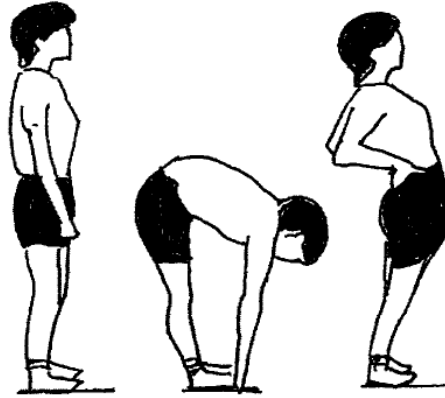


## LOWER BACK

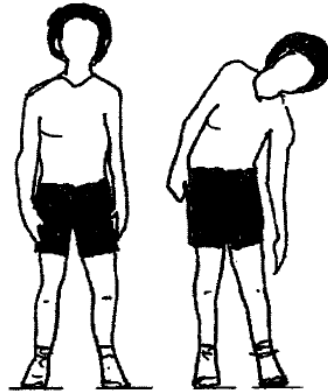
### *Range of Motion Therapeutic Exercises*

Name \_\_\_\_\_ Date \_\_\_\_\_

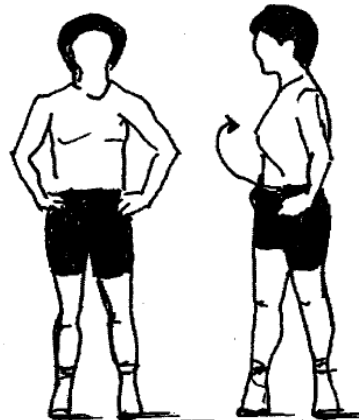
**Flexion/Extension:** Stand upright with your arms relaxed at your sides and your feet slightly apart. Bend forward and reach for your toes, let gravity pull you towards the floor. Straighten back up and relax. Place your hands on the small of your back. Apply gentle forward pressure. Arch backwards, keeping your eyes level with the floor. Stop movement if you feel any pain.



**Lateral Flexion:** Stand upright with your arms relaxed at your sides and your feet slightly apart. Bend slowly to the right, sliding your hand down your leg. Keep both heels on the floor. Straighten back up and relax. Repeat to the left side. Stop movement if you feel any pain.



**Rotation:** Stand upright with your arms on your hips and feet slightly apart. Twist at the waist and look over your right shoulder with your head and eyes. Keep both feet on the floor. Return to starting position and relax. Repeat to the left side. Stop movement if you feel any pain.



**UPPER BACK & NECK**  
*Range of Motion With Ball*  
*In-Office Therapeutic Exercises*

The purpose of exercising with an exercise ball is to strengthen the neck muscles. When the ligaments of your neck have been damaged, the muscles must work harder to guide and direct your movements and also to re-establish stability. By exercising on a regular basis you will increase the strength, coordination and function of your neck as well as hold your adjustments for longer periods of time. It's up to you!

**Exercise #1:**

This exercise works the muscles in the front area of your neck.

Stand about one foot away from the wall you are facing, holding the ball at the center of your forehead, and gently pushing forward. This is called the neutral position. 1) Roll your forehead down towards your chest, (the ball will roll up your forehead). Don't let the ball roll off! 2) Now raise your head up so that the ball is rolling down your forehead towards your nose. When you are at eye level bring your head down and over as if you wanted to look towards your right shoulder. Follow that line back to the neutral position. 3) Now look down to the left shoulder. These three steps make one set. Do ten sets.

**Exercise #2:**

This exercise works the muscles on the sides of your neck.

Turn your body so that your shoulder is against the wall and you are standing up straight. Place the closest foot along the wall but on the floor. Place the ball just above your ear, while pressing lightly, this is the neutral position. You may want to use your hand to steady the ball. 1) Roll your head as if touching your ear to your shoulder, then return up to the neutral position. 2) then roll your head up and away from your shoulder. Take care to remain standing up straight, don't let your hips and shoulders sway in and out from the wall; just your neck is doing the work. Repeat this ten times, and then turn to do the other side.

**Exercise #3:**

**This is the most important neck exercise you will perform.**

This exercise works the back area neck muscles.

Turn your back to the wall with your feet shoulder width apart and about 6 inches from the wall. Place the ball just above the base of your skull (against the little bump on the back of your head). At this point you are going to draw a "W" with your head-doing the center of the "W" first. Press back gently against the ball, 1) Look straight up at the ceiling bringing your head up as far as you can go. 2) Next roll your head down so your chin is nearly to your chest. 3) Now bring your head up again while looking to the right at a 45-degree angle (think of bringing your right ear towards your right shoulder while bringing your head back). 4) Bring your head back down to neutral position (chin to chest) then 5) Roll up 45 degrees to the left and 6) return to the neutral position. This is one repetition. Do this ten times.

These exercises, when done regularly, will develop the range of motion of your neck. A few simple rules are this; use proper technique, don't lean with your body, just roll with your head. Stop if there is any discomfort. Remember, you are in control of the amount of force and stress placed on your neck throughout the entire range of motion.

**Note: These directions are intended for use after hands-on instruction has been given.**

## LOWER BACK

### Range of Motion With Ball In-Office Therapeutic Exercises

Name \_\_\_\_\_ Date \_\_\_\_\_

**Flexion:** Kneel behind the ball in prayer position. Slowly roll your body forward on the ball, gently rocking forward and backward. Maintain your balance while smoothly performing the movement. Stop movement if you feel any pain.



**Extension:** Squat in front of ball and place your back on top of ball. Slowly roll your body backward on the ball. Reach above your head with your arms, gently rocking forward and backward. Stop movement if you feel any pain.



**Lateral Flexion:** Kneel beside the ball with the knee closest to the ball bent. Keep the opposite leg straight. Place the arm closest to the ball on top of the ball for balance. Slowly roll your body on top of the ball. Reach above your head with your free arm. Repeat to the other side. Stop movement if you feel any pain.

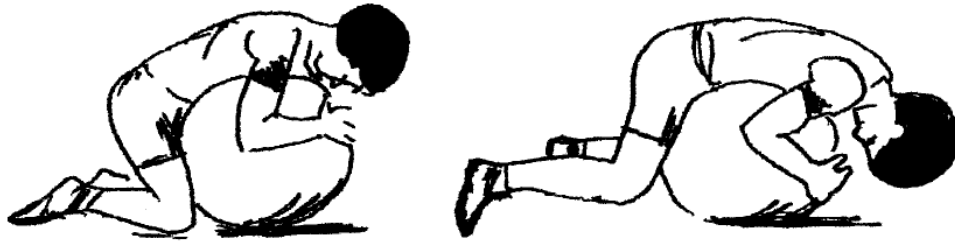


## LOWER BACK

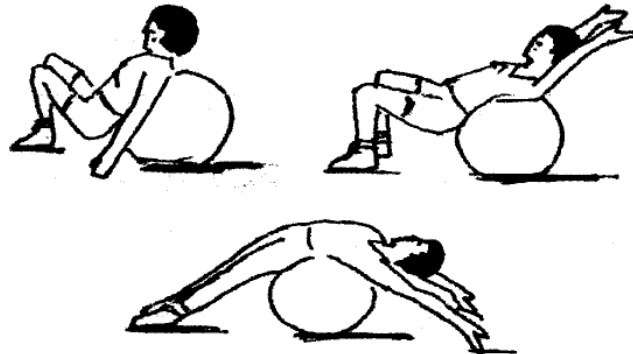
### Range of Motion With Ball In-Office Therapeutic Exercises

Name \_\_\_\_\_ Date \_\_\_\_\_

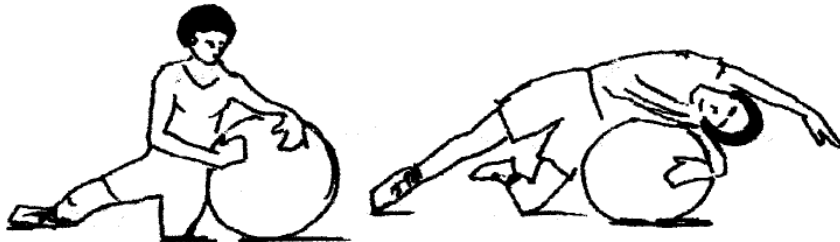
**Flexion:** Kneel behind the ball in prayer position. Slowly roll your body forward on the ball, gently rocking forward and backward. Maintain your balance while smoothly performing the movement. Stop movement if you feel any pain.



**Extension:** Squat in front of ball and place your back on top of ball. Slowly roll your body backward on the ball. Reach above your head with your arms, gently rocking forward and backward. Stop movement if you feel any pain.



**Lateral Flexion:** Kneel beside the ball with the knee closest to the ball bent. Keep the opposite leg straight. Place the arm closest to the ball on top of the ball for balance. Slowly roll your body on top of the ball. Reach above your head with your free arm. Repeat to the other side. Stop movement if you feel any pain.



**NEUROMUSCULAR REEDUCATION EXERCISES**  
**STEP 5: SWISS BALL CURL-UPS & STEP 6: SUPERMAN**

NAME \_\_\_\_\_ DATE \_\_\_\_\_

The key to these exercises is your ability to maintain balance on the ball while smoothly performing very specific movements. Speed does not substitute for balance and coordination.

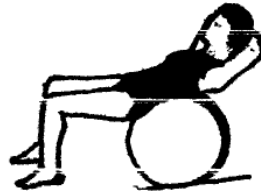
**NMR  
STEP  
5**

\_\_\_\_ Sets  
 \_\_\_\_ Reps

**CURL-UPS:** Sit on ball. Walk out to a horizontal position, keeping your shoulders on the ball. Establish a pelvic tilt. **Level A:** Curl up and reach toward your knees with your arms stretched out before you. If too difficult, place more of your back on the ball. **Level B:** Curl up with your arms folded across your chest. **Level C:** Curl up with your arms behind your head. Be careful not to strain your neck.



**LEVEL C**



**NMR  
STEP  
6**

\_\_\_\_ Sets  
 \_\_\_\_ Reps

**SUPERMAN:** Place the soles of your feet against the wall and your belly over the ball with your hips and knees bent at 90°. Establish a pelvic tilt. Keep your chin tucked in. **Level A:** Slowly push off the wall and align your trunk and legs in a straight line. Roll back. **Level B:** Perform Level A, and reach your arms in front of your body as though you were flying through the air like Superman. **Level C:** Perform Level B and add a swimming motion with alternating arm reaches overhead.



**LEVEL A**



**LEVEL B**



**NEUROMUSCULAR REEDUCATION EXERCISES**  
**STEP 1: PELVIC TILT & STEP 2: UNILATERAL BALANCE**

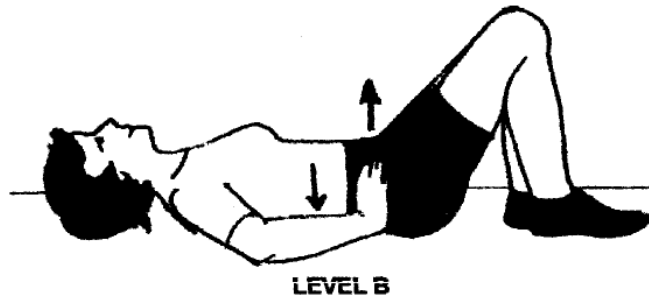
NAME \_\_\_\_\_ DATE \_\_\_\_\_

The key to these exercises is your ability to maintain balance while smoothly performing very specific movements. Speed does not substitute for balance and coordination.

**NMR**  
**STEP**  
**1**

\_\_\_\_ Sets  
\_\_\_\_ Reps

**PELVIC TILT:** Lie on your back. Bend your knees and place your feet flat on the floor. **Level A:** Explore pelvic tilting with the assistance of the therapist. **Level B:** Explore pelvic tilting on your own. **Level C:** Lower and raise one leg at a time, slowly so that it is parallel with the ground. Be careful not to lose your pelvic tilt.



**NMR**  
**STEP**  
**2**

\_\_\_\_ Sets  
\_\_\_\_ Reps

**UNILATERAL BALANCE:** Establish a proper pelvic tilt. Balance while standing on one foot. **Level A:** Balance on one foot with the assistance of placing your fingertips against the wall or chair. **Level B:** Balance without assistance. **Level C:** While balancing on one foot, trace the alphabet (A-E) in the air with the toes of your raised foot. For an additional challenge, close your eyes while performing this NMR.



# **NEUROMUSCULAR REEDUCATION EXERCISES** **STEP 3: SWISS BALL SEATED LEG LIFTS & STEP 4: BRIDGES**

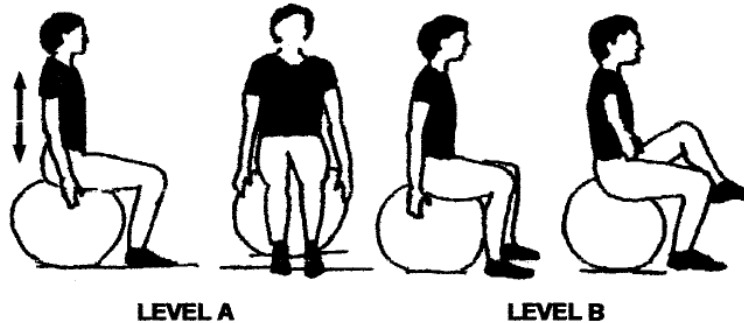
NAME \_\_\_\_\_ DATE \_\_\_\_\_

The key to these exercises is your ability to maintain balance on the ball while smoothly performing very specific movements. Speed does not substitute for balance and coordination.

## **NMR** **STEP** **3**

\_\_\_\_ Sets  
 \_\_\_\_ Reps

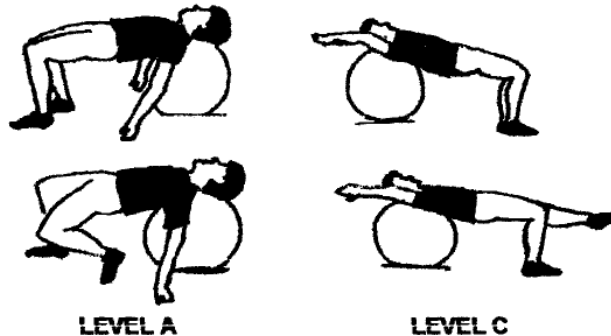
**SEATED LEG LIFT:** Sit on the ball with knees bent 90°. **Level A:** Explore pelvic tilting. Bounce up and down, easily at first, then a bit more energetic. **Level B:** Lift one foot at a time, beginning with heel raises, and slowly perform a small march. **Level C:** Lift one leg at a time, slowly so that it is parallel with the ground. Be careful not to slouch.



## **NMR** **STEP** **4**

\_\_\_\_ Sets  
 \_\_\_\_ Reps

**BRIDGES:** Sit on ball. Walk out to a horizontal position, keeping your shoulders on the ball. **Level A:** Explore pelvic tilting while keeping your pelvis from dropping or rotating. If too difficult, place more of your back on the ball. **Level B:** Lift one foot at a time, beginning with heel raises, and slowly perform a small march. **Level C:** Lift one leg and the opposite arm at a time, slowly so that they are parallel to the ground.



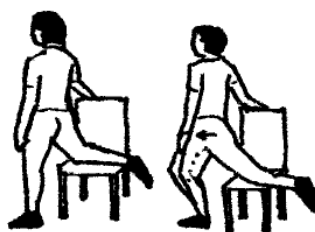
## LOWER BACK & LEGS

### Stretching Therapeutic Exercises

#### GENERAL INSTRUCTIONS:

Do only those exercises taught to you by your therapist.  
Exercise twice daily, 10 of each.

**Psoas:** Place knee on chair. Bend the opposite knee so that you can feel a stretch. Do not allow your back to arch. Hold 5 seconds. Repeat on the other side.



**1**

**Hamstrings:** Sit with feet against the wall and hands behind back. Allow trunk to slump (slouch with poor posture). Bend neck forward until you feel a stretch. Hold 5 seconds.



**2**

**Quadriceps:** Stand up straight, near something you can use for support. Bend your left knee to bring your heel up toward your buttocks. Reach back and grab your foot or ankle. Pull your leg behind you. Repeat on the right side.



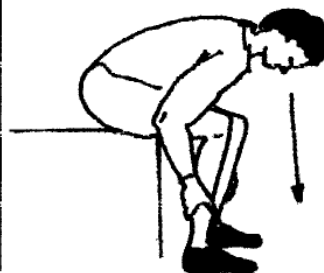
**3**

**Soleus:** Face a wall, about two paces away. Place your hands against the wall. Step forward with your right leg, keeping both heels flat on the floor. Lean your hips toward the wall while keeping your left leg straight to stretch your calf. Repeat on the other side.



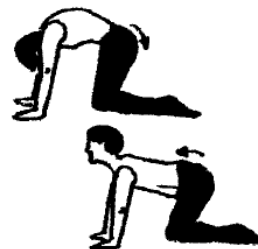
**4**

**Erector Spinae:** Sit down. Bend forward and reach down to grasp your calves with both hands. Pull your body toward the floor. Hold. Relax.



**5**

**Erector Spine: Cat & Cow Stretch.** Get on your hands and knees. Put your hands under your shoulders and knees under your hips. Let your head hang down. Pull your stomach in and arch your back up. Hold and release. Slowly let your back sag down and raise your head up.



**6**

#### EXERCISE GUIDELINES:

Exhale on exertion. Hold position for 30 seconds and then relax.

Pulling sensations may occur while exercising. Stop exercising if you experience pain, nausea or dizziness.

**LOWER BACK**  
*Isometrics With Ball*  
*In-Office Therapeutic Exercises*

The purpose of exercising with an exercise ball is to strengthen the back muscles. When the ligaments of your back have been damaged, the muscles must work harder to guide and direct your movements and also to re-establish stability. By exercising on a regular basis you will increase the strength, coordination and function of your back as well as hold your spine stable for longer periods of time. It's up to you!

**Exercise #1:**

This exercise works the muscles in the abdominal region.

Stand about one foot away from the wall you are facing, holding the ball at the center of your torso, and gently pressing forward. Hold the forward pressure for five seconds and release. Repeat this exercise ten times.

**Exercise #2:**

This exercise works the muscles on the sides of your back.

Turn your body so that your shoulder is against the wall and you are standing up straight. Place the closest foot along the wall but on the floor. Place the ball just beneath your armpit, while pressing lightly. This is the neutral position. You may want to use your hand to steady the ball. Gently press your side into the ball. Take care to remain standing up straight, don't let your hips and shoulders sway in and out from the wall; just your back is doing the work. Hold the sideways pressure for five seconds and release. Repeat this exercise ten times and then turn to do the other side.

**Exercise #3:**

**This is the most important back exercise you will perform.**

This exercise works the back muscles.

Turn your back to the wall with your feet shoulder width apart and about 6 inches from the wall. Place the ball just beneath your shoulder blades. Press back gently against the ball, Hold the backward pressure for five seconds and release. Repeat this exercise ten times.

*These exercises, when done regularly, will develop the strength, power and endurance of your back muscles. A few simple rules are this; use proper technique, don't lean with your body, just Press with your body. Stop if there is any discomfort. Remember, you are in control of the amount of force and stress placed on your back throughout the entire exercise. As you are able, steadily apply more pressure.*

**Note:** These directions are intended for use after hands-on instruction has been given.