

EXERCISES TO IMPROVE FLEXIBILITY: ACTIVE-ISOLATED STRETCHING: PART TWO

By Marlene Royle

Do you put your oars in the rack and dash out of the boathouse? No extra time? Don't like stretching? Or both? In my last article, I introduced Active-Isolated Stretching (AIS) to you promising a solution for painful stretching. Effective and comfortable, AIS improves your flexibility while targeting specific muscles. Based on preventing a muscle's internal stretch reflex from triggering during stretching, you first relax the muscle to be lengthened, by contracting the muscle opposite to it, and then you move through the controlled motion with no more than two seconds at the end range. By holding the position briefly, the stretch reflex does not have time to kick in and restrict the muscle. If the reflex activates when you are stretching, it will interfere with the lengthening of your muscle because it wants to protect your muscle from overstretching and tearing. Should an inner tug of war start during your flexibility exercises it negates exactly what you are trying to accomplish-more muscle length to improve leg compression on the slide.

This way of working on your flexibility is very relaxing. The exercises are best performed right after rowing or lifting when your muscles are still warm. If that is not possible, you may include them in your warm-up, do them at home, or even during your lifting session. The first exercises aim at improving hip flexibility so they address both the lower back and the hamstrings. Several muscles that flex and extend the hip are also part of the low back and knee. Restrictions in two-joint muscles such as the hip flexors or hamstrings limit the hip, pelvic girdle, and low back motions. This is a red-hot area for rowers. Put particular emphasis on these stretches in your workouts.

The *hamstring stretch-supine* is done lying down on your back. You will need a boat strap or piece of rope long enough to stirrup around your foot. Hold one rope end in your left hand and the other in your right. Using the contraction of your quadriceps (thigh) muscles will assist the stretching of your hamstrings. Your non-exercising leg should remain flat on the floor. If you have severe low back considerations, then you may flex your non-exercising leg slightly. Keep the exercising leg straight at all times. Lift your leg straight up off the floor by contracting your thigh muscles. Continue as high as you can without bending at the knee. Give brief, gentle overpressure with the rope at the end of the movement as the quadriceps muscles move your leg. Release and return your leg back down to the floor. Repeat a set of 10 repetitions twice on your right leg, then on your left leg. If you notice one leg is tighter than the other-common among sweep rowers-do an extra set of 10 repetitions for that leg until you feel balanced. In the event you don't have a rope you can use your hands behind your knee to apply overpressure. Be careful not to allow your knee to bend.

An advanced exercise for the hamstrings is the *hamstring stretch sitting-straight legs*. This is for rowers who are already quite flexible. The hamstrings are lengthened using the quadriceps muscles to lock the knees during the exercise. Start from a sitting position, draw your chin to your

chest, exhale, and tighten your abdominals firmly as you lean forward. The knees are not allowed to bend. Use your hands near your ankles to give a light assistance at the end of the motion. Return to sitting and repeat 10 times. It is best to do this stretch after the *supine hamstring stretch* above.

In the gym or resting between pieces on the erg, you can use the *hamstring stretch-standing* if you feel the need to stretch the hamstrings and back during your workout. From standing, contract the abdominal muscles so the back muscles can be stretched without tension. Contract the front thigh muscles. Lean forward as far as you can as if you were bringing your nose to your knees. Use your hands around your calves for gentle assistance at the end of the movement. Then slowly return to standing. Repeat 10 times. Do not bounce; simply move into the end range of the motion and then out of it in a controlled way.

The final exercise is for your calf muscle to improve ankle flexibility. The purpose of the *gastrocnemius (calf) stretch* is to lengthen the two-joint gastrocnemius muscle improving your Achilles tendon extensibility. Adequate Achilles tendon length is important for the final one-quarter of the recovery as you approach the shins-vertical position and in the weight room for squats or leg presses. Sit on the floor with your legs flat. With your exercising leg, keep your knee locked using your thigh muscles. Using the shin muscles, pull your toes towards you. Using a strap or rope, as in our first exercise, apply gentle overpressure at the end of the motion. Make sure the shin muscles continue to be contracted when you apply assistance. Hold briefly then relax your foot letting your toes point away from you. Do two or three sets of 10 repetitions, first the left, then the right. Spend more time on one ankle if you feel an imbalance.

You will soon notice improvements in your flexibility when you begin to use these AIS exercises. To measure your gains or losses objectively you can do an easy test. Put a milk crate against the wall. Sit on the floor. Place your feet flat against the side of the crate. Lean forward as in the *hamstring stretch sitting-straight leg* and measure the distance between your fingertips and the edge of the crate. The edge is your reference of zero inches; if you cannot reach the edge you have a minus value. The distance you reach beyond the edge has a plus value. Values greater than five inches are good; more than 10 inches represents excellent low back and hamstring flexibility.

Good rowing technique requires adequate mobility for biomechanical reasons. Restrictions in the hips and ankles necessitate modifications be made through your rigging to achieve the right angle of entry. In extreme cases this can be quite difficult. Making your muscles more elastic will reduce the need for compensation through your equipment, reduce your risk of injury, and help you acquire better stroke length through the water.