

Pre-Season Fitness and Back Injury Prevention  
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Famous last words, "Next year I'm going to get in better shape before the river season starts." Using your first couple of trips as winter training is not always the best idea. We all have good intentions to start that fitness program, but it won't actually happen unless we make a conscious effort to change our routines. Injury prevention begins by changing our lifestyle, our habits and modifying our behaviors. Most of us know what we should do, but putting these thoughts into actions is the most difficult task.

One of the key elements in maintaining an exercise routine is to make it simple and enjoyable. Find activities that you can work easily into your schedule and that you like to do. You will find it much easier to stick with a program if you add some variety or in other words, "cross train." This is also much better for your body as the stresses to different joints and muscles will vary.

A training program for a river guide in the off-season is important for many reasons. One of the most important reasons is that as a guide you are participating in a multitude of athletic events. Each day is different and you never know what lies ahead. You are just not rowing or navigating a boat, but you are also providing an adventure for passengers. You not only have to assist in loading and unloading gear and supplies everyday but you are leading people on both wet and dry hikes in very rugged terrain in a wilderness environment. You may even be pulling in a passenger or two after a wild ride through a rapid. This all takes strength, endurance and flexibility.

Let's address a few of the basic necessities in an exercise program. Strengthening, stretching, and cardiovascular training are the three essentials. Maintaining lower back and extremity flexibility could include some basic hip, hamstring, calf, thigh, and lower back stretches. General stretches for the lower back could include lying on your back and pulling one knee to your chest, crossing legs and pulling both knees to your chest, or swinging your upper body one direction and lower body the other to get rotation stretch. Strengthening could include sit-ups both to the center and with elbows to opposite knees (this helps your back rotation muscles), pull-ups, or push-ups. Make sure with any strengthening that you first tighten your "core" muscles (buttocks, back, and stomach) before you push or pull any weight. Some yoga positions provide a good balance of flexibility and strengthening of the core. Cardiovascular conditioning should again be an activity that you enjoy. It could be indoor or outdoor walking, hiking, biking, swimming, or skiing. Make sure that you are elevating your heart rate to benefit your heart muscle. A quick and easy guide to finding a "target heart rate" is subtracting your age from 220. Then find 75-80% of that number. So, if you are 40, subtract 40 from 220 to get 180. This is a maximum heart rate. You do not want to exceed that heart rate when you are training. A "target" heart rate is 75-80% of your maximum or for a forty year old THR+ 144 beats per minute. Take your pulse for six seconds and add a zero to that number. Take your pulse after you have started an activity and are warmed up. This can help you set the proper pace to gain some cardiovascular conditioning. Exercising at a gym or at home with resistive weights for strengthening is also a good idea for pre-season fitness. Again, include some warm-up cardiovascular exercise. Make sure you are targeting both front and back muscles when strengthening the upper body. Bench and chest presses are fine, but the shoulder support system (rotator cuff

muscles) is found posterior to the shoulder and underneath the shoulder blades (scapulae). Keep both elbows at your sides, hold a weight in your hands and pull shoulder blades together in the back as you rotate both arms out. Placing a small towel roll in the armpit can also make this exercise for the rotator cuff more specific. Also add some rowing and lat pull exercises. Lower extremity resistive strengthening could include some hip abductor, quad, hamstring or leg press machines. Light squats can also benefit a variety of muscles. Be sure that you tighten your abdominal, gluteal/back muscles ("core" muscles) before exerting a force to push or pull.

Exercise balls are a good tool to use to stretch and strengthen. Lying forward or backward on the ball (or a raft) is a great support stretch position. It is possible to do sit-ups, buttocks and back exercises by changing positions on the ball from back to stomach. Push-ups from the ball strengthen a variety of "core" muscles as well as leg and arm muscles. Placing a ball behind your back and buttocks as you do a wall squat can make that exercise more comfortable and "enjoyable." Again, always remember to tighten your abdominal and gluteus when you are doing any leg or arm exercise to gain better trunk strength.

A "corset" of muscles supports the low back. Some of these include the abdominal and internal/external oblique on the front and side. There are also back extensor and rotator muscles that run parallel and at angles to the back. Don't forget the gluteus muscles, hamstrings, quads and hip rotation muscles that help maintain the pelvic girdle symmetry. These muscles all pull together and support the spine with all of our bending, twisting and lifting movements. They work most efficiently when they are in the proper position and not on stretch. Their mechanical advantage improves when the weight you are lifting is closer to your body. Yes, this all translates into (and you knew this was coming) "Bend at your hips and knees and keep your back and head upright as you lift." Bending at your waist to lift objects increases the pressure inside your back discs and provides poor mechanical advantage to your muscles. They cannot contract properly from a stretched position. When you are raising from a squatted lift position, make sure your head is the first thing that comes up, not your bottom.

Some other good tips for safe lifting include tightening your buttocks and stomach muscles as you stand up from a squatted position. Also, pivot your feet when lifting and turning with a load to avoid excessive loading on the lower back. Try to break down some of your heavier loads as you are moving gear around. If it is too heavy, get help. I do know that it is not always possible to get into the best positions with some lifts. If you have to do a lot of forward bending, be sure to stand up and do a few backward bends at your waist immediately afterward to take those muscles off stretch. Make sure that you are stretching and warming up each morning as you rise and getting at least a brisk walk to the kitchen.

Visualize a positive outcome for your pre-season fitness program and you will be successful. Have a great season!