

CORE STRENGTH

Presented By:



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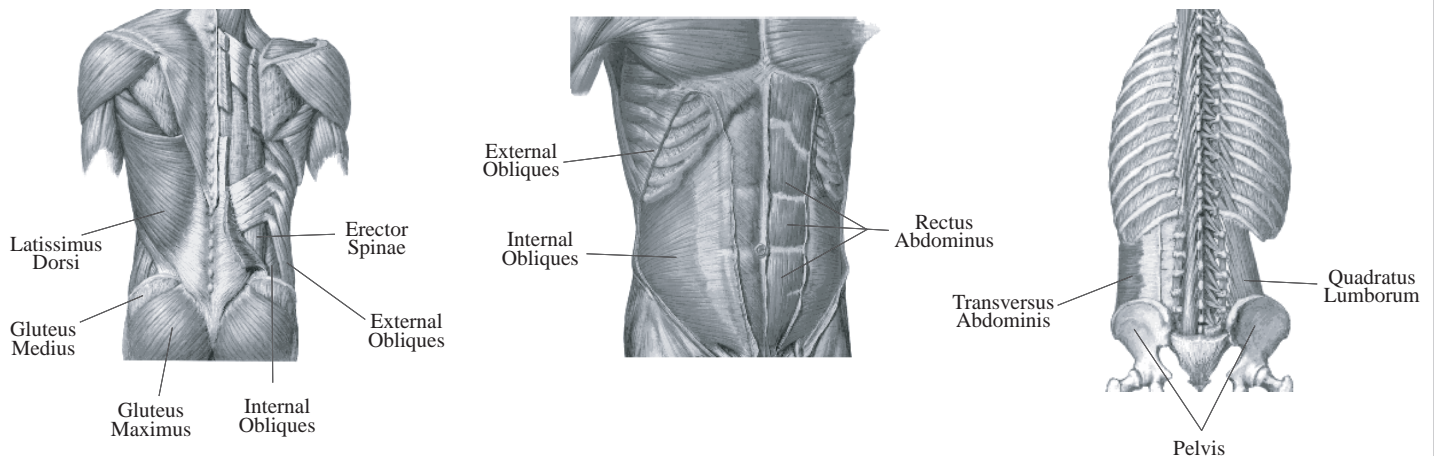
It is imperative for every athlete as well as non-athletes to have a strong core. The core is comprised of many different muscles including the rectus abdominis, internal and external obliques, quadratus lumborum, transversus abdominis, gluteal muscles and iliopsoas. It helps to stabilize and prevent excessive movement of the pelvis. An unstable pelvis will put unnecessary strain on a number of different structures from muscles and tendons to ligaments and nerves. This unnatural strain will frequently lead to injury anywhere from your feet up to your back and neck. For example, a pelvis that is rotated anteriorly (the front of the pelvis is moved downward and the back of the pelvis is moved up) puts a constant strain on the hamstrings. It also keeps the muscles of the low back in a shortened contracted position. This can often times lead to a hamstring pull, achilles tendonitis, and/or low back pain as well as numerous other maladies. Furthermore, excessive pelvic movement is inefficient and results in wasted energy that may decrease your level of performance.

This packet has detailed descriptions of six exercises designed to focus on different areas of the core. The Description section gives an explanation of the exercise and variations on more difficult versions. There are pictures that go along with the descriptions to give you a visual reference. You should start each exercise with the beginner version first and progress to the more advanced variations only when you feel you have mastered the beginning levels.

To get the most out of each exercise we recommend doing the exercises in a circuit format and to follow the order in which they are listed. Perform one set of the first exercise, take a 15 second break, and then complete the second exercise followed by another 15 second break. Go through the entire six exercises in this fashion. When you have completed all six you have completed one circuit. Take a three to five minute break and perform the circuit again. We recommend a total of two to four circuits. You should perform this routine at least three times a week and as often as six times a week.

Please consult with a health care professional before starting this or any other exercise program. If you feel pain or aggravation with any of these exercises STOP immediately and contact your physician!

MUSCLES OF THE CORE



1. The Bicycle

Start with your knees and hips bent 90 degrees. Place your hand beneath your low back as shown. Your low back should not lift off of your hand nor should it push down into your hand. Slowly bring your left foot down towards the ground while you keep your left knee bent (Figure 12A). When your left foot is approximately 1 inch off the ground stop and hold this position for 2 seconds before bringing your left leg back to the starting position. Repeat with your right leg. To make the exercise more difficult straighten your left leg as you bring your foot towards the ground and hold your leg approximately 4 inches off of the ground before bringing your leg back to the starting position (Figure 12B).



Figure 12A



Figure 12B

2. Prone Core Stabilization

Balance all your weight on your knees and your forearms (Figure 13A). Keep your back as straight as possible. Maintain this position while you slowly lift your left knee 4 inches off the ground. Hold for two seconds and return your knee to the ground. Repeat with right leg. For added difficulty balance on your toes and forearms (Figure 13B).



Figure 2A



Figure 2B



Figure 2C



Figure 3A



Figure 3B

3. Bridge

Start on your back with your arms lifted above your head and your weight balanced on your shoulders and the heels of your feet (Figure 11A). Straighten your right knee (Figure 11B). Hold this position for two seconds and then switch legs. After both legs have been up in the air you have completed one rep.

4. Side-Lying Core Stabilization

Balance all of your weight on your forearm and the side of your knee with your knees bent (Figure 10A). Maintain a posterior pelvic tilt by pushing the bottom of your pelvis forward and the top of your pelvis back. Keep your body as straight as possible and do not let your hips sag towards the ground. For added difficulty come up onto the side your foot (Figure 10B). Then move your top leg through a running motion (Figure 10C).



Figure 4A



Figure 4B



Figure 4C



Figure 5

5. Fire Hydrant

Start on your hands and knees. Extend your right hip while keeping your knee bent (as shown in picture). Push your right foot up towards the ceiling without arching your low back. All the movement should come from your hip. Repeat by adducting your knee away from your body and again by abducting your knee across the body. All three directions constitutes one rep. For added difficulty lift your left arm off the ground.

6. Supine Core Stabilization

Balance all of your weight on your forearms and heels. (Figure 7A) Keep your back, hips and legs as straight as possible during the entire exercise. Lift your right leg 4 inches off of the ground. (Figure 7B) Hold this position for 2 seconds and return your leg to the starting position. Repeat with left leg.



Figure 6A



Figure 6B



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SMI is a non-profit public benefit corporation dedicated to the prevention and treatment of overuse injuries, optimization of human function and enhancement of athletic performance. Through education, research and the operation of a charitable therapy clinic and human performance lab we help active individuals and athletes of all abilities maximize their potential and function at the highest level possible.

FACILITIES

SMI provides the highest level of care in the best possible environment. Our facility boasts nine private rooms for advanced manual therapy and a Physical Therapy clinic specializing in performance enhancement and the treatment and prevention of overuse injuries. Our newly constructed Human Performance Lab allows physiologists to conduct sophisticated exercise testing that complements our therapy services and provides our clients with the most advanced level of care available in the Bay Area. Our community center acts as a locale for athletes of all levels to stretch, strengthen, use cold hydrotherapy tanks, discuss training and just get together after hard workouts; all of which are free of charge to SMI clients, athletes and patients.

DONATIONS

SMI is a Public Benefit Nonprofit Corporation 501(c)(3) organized exclusively for education and charitable purposes. We are an institute, clinic and community center whose mission is to promote research, clinical development and delivery to the public of functional health services and advanced manual therapy treatments, particularly in the fields of injury prevention, injury rehabilitation and athletic performance. It is a further purpose of this corporation to support under-funded competitive amateur athletes from the youth level through the collegiate and post-collegiate levels, by offering affordable services and financial assistance. Our donation programs are designed to help subsidize the reduced rates that we offer our beneficiaries. If you have any questions regarding donations please contact our Development Manager Rachael Holloway at 650-322-2809 x329. Please keep in mind that donations made to SMI are tax deductible. Our federal tax ID # is 94-3256879.

TEAM FRIENDS

SMI has developed a partnership with the Leukemia and Lymphoma Society's **Team In Training (TnT)**. We provide TnT with injury prevention, stretching, strengthening and injury rehabilitation services. SMI staff provides support for TnT with coaching, injury prevention and rehabilitation, strengthening and stretching. SMI has also developed partnerships with other Bay Area Teams and organizations. These include **Team Sheeper, TRIBE Triathlon, Team Diabetes, Asha and Joints in Motion**. All Team in Training members and Team Friends receive a discount on SMI services.

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