



Endurance
Rehabilitation

STRADA
CYCLING
PERFORMANCE
ENHANCEMENT CLINIC

Endurance Rehabilitation
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CORE STRENGTHENING FOR THE CYCLIST – What does it mean, how does it apply to cycling

“Core” – It’s been awhile since I took Gross Anatomy but I don’t recall there being a part called the “core” in my anatomy book. The general consensus from most of the literature is that the “core” involves the hip muscles, abdominals, back muscles and scapular muscles. Therefore, core strengthening would require utilization of these muscles during an activity that requires effort and maybe has resistance in some form (bands, weights, gravity, etc.).

The design of a core strengthening program should be individualized to the athlete providing the biggest bang for your buck. There are a million variations of exercises available everywhere you look (in the gym, magazines, websites, etc.). In the ideal world, program design would be based on a thorough evaluation of the athlete by a Physical Therapist or Athletic Trainer. The evaluation would include an injury history, cycling history, range of motion measurements, flexibility assessment, muscle strength testing (to assess for imbalances), dynamic muscle testing, joint stability and specific injury testing.

Muscular imbalances and restrictions can result in an inefficient pedal stroke, position issues (less aerodynamic, pain, etc.), loss of the ability to transfer power to the pedal (secondary to decrease hip stability or tightness) and obviously can result in overuse injury. With some simple strengthening and flexibility work you can address this issues and have a more successful and injury-free season.

In most cases a general program designed specifically for cycling can be effective since cyclists tend to have the same general issues. Cyclists tend to develop the same muscle imbalances and muscular restrictions since we all move in the same plane and within approximately the same range of motion. Common physical limitations of a cyclist include: weakness of the hip lateral and rotational muscles (since we never move this way!), poor single limb stability (cyclists are not used to ground reaction forces) and tightness in the hips and spine. Therefore, when designing a program we are careful to pay close attention to these imbalances.

In the beginning phase of core strengthening we strive for symmetry and balance. It is more about neuromuscular control – learning how to control your body and less about pure strengthening. In other words, there should be no flailing body parts while during an exercise.

A program specific for cycling should be initiated in the offseason so that you will have 8-12 weeks to adequately progress. We typically change and progress the program every 3-4 weeks. Ideally, the program should be performed at least 3 times a week and should last 45-90 minutes (depending on the stage). In order for the gains that you make to be sustained throughout a long season it will be necessary to continue a scaled-down version throughout the season (2 times a week 30 minutes).

"The treatment and education that I received at Endurance Rehab were integral in fixing my injury and maintaining my strength throughout a cycling season. I appreciated the fact that the exercises were specific to my imbalances and specific to cycling."

- Robbie Ventura, former US Postal Cyclist, current coach and commentator

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Dynamic Stretching-Pre Ride

- 5 to 10 minute warm up 1st.

Exercise: Anterior Lunge with Twist



Perform: 15 reps

Complete: 1 sets

Exercise: Hip Openers

Dynamic Hamstring



Perform: 15 reps

Complete: 1 sets

15 reps

1 sets

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Quad Walk

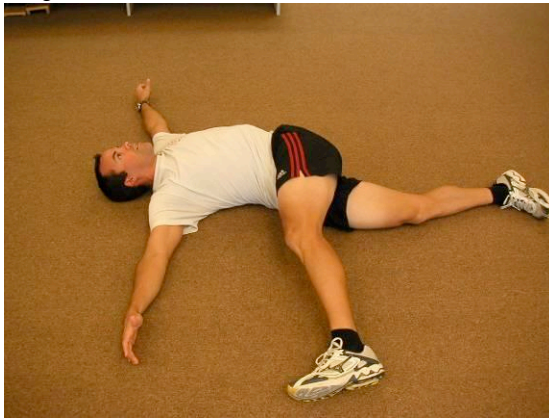


Piriformis



Perform: 10-20 steps

Leg Crossover



Scorpion



Perform: 10-20 each way.

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Static Stretching- Post Ride

ITB Foam rolling/Self massage



Glut self massage.



Exercise: Thoracic Spine Mobility on Foam Roller



Perform: Static hold 1-2 minutes/spot AND/OR arm raises 10x/spot

Hip Flexor stretch



Perform: 30-60 second Hold; 2-3 sets

Hip flexor/quad



Perform: 30-60sec hold; 2-3 sets

Hamstring Stretch Variations:



Perform: 1x 30-60 second hold/each variation

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Calf stretch



Piriformis/Glut stretch



Perform: 30-60seconds 2-3 sets.

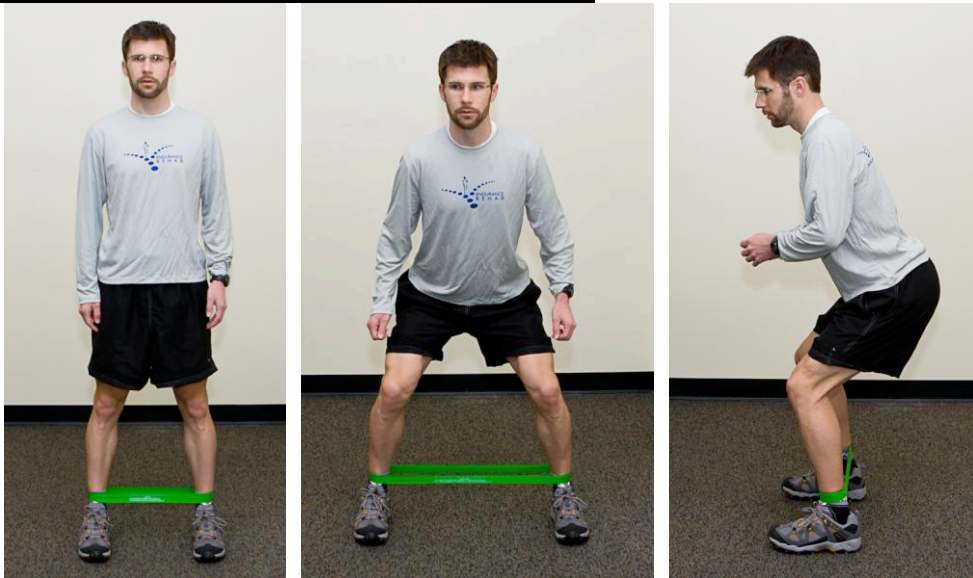
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PHASE 1 STRENGTHENING

- This group of exercises are designed to increase leg and core endurance and stability related to cycling.
- Perform this program for 4-6 weeks. It is ideal to perform 3-4 times a week. During a race season it is often necessary to cut back to 2 times a week and eliminate leg exercises during a taper week.
- Remember that recovery from this program is also necessary. That means getting proper nutrition and hydration.
- Always perform a proper warm up and dynamic stretches prior to starting this program.

FUNCTIONAL CORE STRENGTHENING



MONSTER WALK: Use a resistive band around the ankle. Keep back straight, abs tight, weight on midfoot and heels (not toes) and knees bent. Walk sideways (both directions). **DO THIS WITH KNEES STRAIGHT and BENT.**

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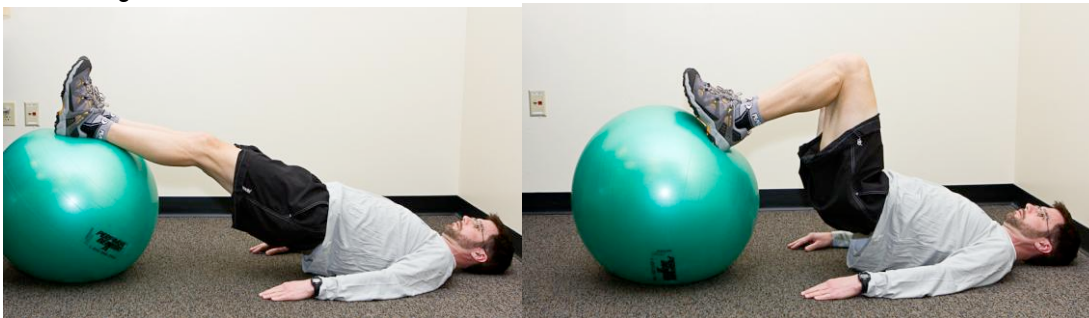


CLAM HIP AT 45 DEGREES: Lay on your side with hips at 45 degrees and knees at 90 degrees. Place top hand on hip to keep forward. Keep your abdominals (TA) tight and feet together and lift knee up and slowly lower down.



Dynamic Glute Med: While balancing in single leg stance, maintain an upright posture and reach back and to the side with the opposite leg. Tap foot without placing weight into it and return to the starting position drawing your leg through and finishing with your knee up.

Double Leg



Can Progress to Single Leg

Supine Ball hamstring Curls: While maintaining a TA contraction, the patient should bridge up digging heels into the ball, and roll ball towards their rear end.

LEVEL 1 Bridging



Single Leg Bridging



Bridging Sequence: Keep abs tight and pelvis level (do not let pelvis dip) and lift butt up and hold 5 seconds. Do not let leg that is in the air go higher than your knee. Cross your arms over your chest when this gets easy. Hold top position for 5 seconds. 2 sets of 1 minute. Progress to level 2.

Exercise: Prone Ball Plank.

Side Plank.



Keep abdominals tight and spine straight and neutral. Perform 2 sets of 1 min.

Shoulder on Ball Bridging Single Leg SOB Bridging



This position to held for: 5 seconds 2 sets of 1 minute. Keep hips level and do not let your pelvis drop.



Thoracic Spine Mobility:

- Begin with roller in the mid back.
- Place your hands behind your neck for support
- Slowly roll to the mid/upper shoulder blade region



Piriformis/Gluteal:

- Sit on the roller
- Cross your R foot on top of L knee.
- Roll onto your R gluteal region, keep your R hand on the ground behind you and place your L hand at your ankle
- Roll from top of gluteals to bottom
- Alternate legs



Alternate Piriformis/Gluteal:

- Place roller lengthwise and sit on roller.
- Sit on roller, similar to above
- Roll side to side
- Alternate legs



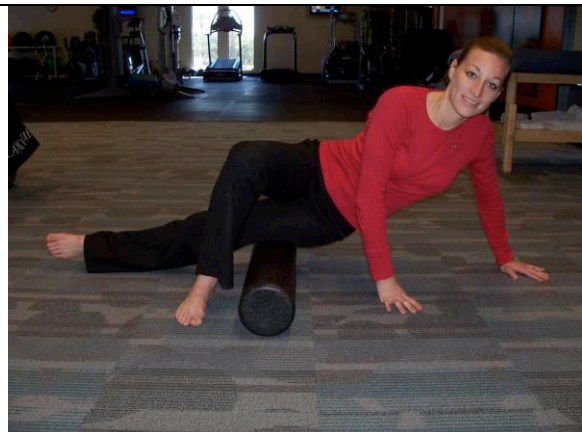
Iliotibial (IT) Band:

- Lie sideways on your hip bone, keeping your body perpendicular to the ground
- Stack you legs on top of each other supported by your hand or elbow and keeping your feet off the ground.
- Roll from your hip bone to the outside of your knee.
- Change emphasis by slightly rolling forward to mobilize the lateral quad, or rolling slightly backward for lateral hamstring.
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Alternate IT Band:

- If you cannot tolerate the pressure of both legs stacked on top of each other. Cross your top leg in front of the leg being rolled.



Hamstrings:

- Place roller behind your knee supporting your weight on your hands behind.
- Bend your R knee or cross your R leg on top of the L to focus on the L leg.
- Slowly roll from behind your knee to the gluteal area.
- Alternate legs



Gastroc/Soleus:

- Place roller at your Achilles region supporting your weight on your hands behind.
- Cross your R leg on top of L to focus on the L leg
- Slowly roll from your Achilles region to behind the knee.
- Alternate legs



Quads:

- Lie face down on the roller with the roller under your hips.
- Support your bodyweight in your hands or elbows.
- Slowly roll from the hips to above the knees.



Tensor Fascia Latae (TFL):

- Lie sideways on your hip bone.
- Rotate slightly forward
- Roll a small area from the hip bone to 6" above.
- Alternate legs.



Adductors:

- Lie face down with the roller under your inner thigh region with your hip flexed and externally rotated.
- Support your body weight on your elbows and opposite toe
- Roll sideways from the inside of the knee to the inside of the groin region
- Alternate legs



Anterior Tibialis/Peroneals:

- Lie facedown supporting your weight on your hands or elbows
- Place the roller under your shins and cross the opposite leg on top of the leg to be rolled.
- Roll just to the outside of the shin bone and roll from the ankle to below the front of the knee.
- Next roll slightly more to the outside of the lower leg. Roll from the lateral ankle region to the lateral knee region.
- Alternate legs.



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