Core Strength for Speed Skating

By Susan Ellis

Traditionally speed skating has been thought of as a sport where maximum power is generated by the legs, in particular the quadriceps and hamstring muscles, and little upper body work is needed as it is not important in skating. A few sit-ups here and there are helpful to maintain a balanced body, and really helpful if you are into showing off the ripped six-pack on the beach, right?

In truth, skating involves the whole body, right from the shoulders and arms, through the back and abdominal muscles, through the hips, and the legs. No, we don't use our arms to propel ourselves forward, but a good strong arm swing is just one of the links in the chain in generating maximum power to the legs. Have you ever seen anyone skate a full out 500m with two arms on their back? Nope.

To generate maximum power in any sport, all of the muscle groups involved in performing the action must be strong to ensure the kinetic chain of power is maintained. Any weak link in this chain of power will result in losses in power. So even if you have thighs like Eric Heiden, you will need a strong upper body and core to be able to transfer that power. Being strong through the core helps stabilize the body so you can use the power where it is needed without losing power through unnecessary movement in the upper body. Think of the core muscles as a shock absorber. If the core is strong enough to control the violent movements occurring in the lower body (push) and the upper body (arm swing), the less energy they use up in stabilizing the transfer of power, resulting in a smoother, more powerful ride.

The skating position itself requires you to be strong through the back, stomach, hip and glute muscles. Your abdominal and back muscles work to keep your chest in a low position and your abdominal, hip, and glute muscles work to maintain your butt tucked under you. Often, when you see a skater's knees start to rise it is because the core is not strong enough to maintain the upper body and butt position.

Core strength is perhaps even more important in short track. Because of the tighter radius, there is a high degree of centrifugal force pushing against the body. The core muscles must work to combat the centrifugal force to keep your chest from rising, especially on the pivot, and the exit of the turn where centrifugal force is at its max. Also, there is the inevitable contact in short track. Having good core strength may help you to stabilize yourself against the contact so you don't wind up on your butt.

Starts require a great deal of core strength to be able to drive your hips forward to maximize the contraction of the glutes and the extension of the muscles in the front and side of the hips. It is the extension through these muscles that allow you to fully access the power in the quads. In other words, if you don't extend powerfully through the hips and your butt is left behind, you will be left behind.

Good core strength plays an important role in injury prevention. Training for skating and racing places an enormous torque and strain on various body parts. Many injuries, particularly knee, groin, hip and lower back injuries can be prevented through developing core strength. Not to mention the added bonus of having a good shock absorber when hitting the mats at 25 mph!

Core training for speed skating should focus on the abdominals including rectus abdominus, internal and external obliques, transverse abdominus and intercostals, upper and lower back (deltoids, rhomboids, lats), hips (gluteals, hip flexors, psoas), outer and inner thighs (abductors and adductors), hamstrings, even some chest, arm and shoulder work. There are 10001 different ways and exercises to train the core, from Swiss Balls, medicine balls, machines, Pilates, and traditional sit ups, crunches, and back extensions.

Find some exercises that you like to do from each of the areas listed above and dedicate a few minutes a day to doing the exercises that you enjoy doing and that work for you. There is not one magic exercise that works it all so choose maybe three a day working 2-3 of each muscle group.

Check out these sites for some core strength exercises:
D3 Multisport: Core Strength Program, Part I (https://d3multisport.com/d3-university/article/d3-multisport-core-strength-program-part-i/)
D3 Multisport: Core Strength Program, Part II (https://d3multisport.com/d3-university/article/d3-multisport-core-strength-program-part-ii/)

As with any training, approach your core strength training slowly. Ease into it so you don't get injured or develop overuse injuries. Rome wasn't built in a day, and core strength takes time to develop. Be extremely careful and pay attention to exact execution of each exercise. Core strength using weights, resistance, or machines should only be done after you have developed a reasonable base of strength.

References:
Round Table discussion on Core Strength *by* ***Skip Allen****, B.S., C.S.C.S. Manager, Peak Performance Youth Athletic Development Academy,* ***Mike Iosia****, M.Ed. Head of Strength and Conditioning, Tulane University,* ***G. Alton Dudley****, Ph.D., F.A.C.S.M., C.S.C.S., Professor of Exercise Science, The University of Georgia,* ***Dixie Stanforth****, M.S., Instructor, Kinesiology and Health Education, University of Texas,* ***Brent Steuerwald****, M.A., Head Football Coach, Department of Athletics, Shenendehowa Central School District*

Core Strength Training – The Key to Optimum Sports Performance – Jason Morgan
Optimal Sports Performance And Core Strength Training! (https://www.bodybuilding.com/fun/morgan3.htm)

Core Strength Training – Steve Pyle
Tri-eCoach: Endurance Sport Coaching (http://www.tri-ecoach.com/art5.htm)