

## **Specific Strength, Power, Endurance – Part 3 – Corners**

By Susan Ellis

This article is the third in a four part series focusing on specific strength, power, and endurance for the straightaways, corners, and starts. This month our focus is on corners. If you haven't read the last two parts for straightaways yet (Specific Strength, Power, Endurance – Part 1 – Straightaway – May 2006, Specific Strength, Power, Endurance – Part 2 – Straightaway Jumps – June 2006), I would suggest you do so now and then come back to this article.

As per our previous discussions, to get the most out of your training you need to make it specific, both in terms of training within the energy systems (aerobic power and capacity, anaerobic power and capacity, alactic power and capacity), and in the specificity of movement. Again, that is not to say you should neglect the less specific forms of training such as running and cycling, as these are important to helping develop an overall base of fitness and endurance. Squats, lunges, Olympic lifts, core strength training, etc. all help lay the strength foundation. These foundations should be laid early in your training season in April, May and June. More specific training should come into the program towards the end of June and carry through to the start of ice, with maintenance programs throughout the winter.

### **Techni-Cords for Corners**

I honestly haven't found any other device to be as specific, as well as versatile, as Techni-Cords for specific strength, power, and technical work. Turn cables work well but require a partner, the tension is not adjustable, and the exercises one can perform on it are limited. Other than that I have only found one other machine in a gym quite a long time ago that you could somewhat simulate a skating push with resistance and I haven't seen it in any other gym since.

**Note:** For this demonstration you will notice that we use **two** sets of Techni-Cords – One attached at ankle height and one at waist height using 1 waist belt. In our testing we found that this provides more stability, a more even distribution of the resistance throughout the movements and allows us to maximize the resistance. All the drills can be done using only one set of cords but as you build your strength and want to maximize your training you may want to consider getting a second set of cords. (Techni-Cords can be purchased at Cascade Speedskates (<https://www.cascadespeedskates.com/speed-skate-dryland-training-list.aspx>.)

### **For Single Leg Work**

#### **Set up:**

- Start with the TC taut but not resisting. Adjust the tension to suit the exercise you are doing.
- Place one hand on the chair or milk crate, the other lightly holds the cords for additional balance. (Taller folks may need to use a chair while smaller people should use a milk crate, small box or step.)

- Start in a leaned compact position: Chest compressed toward thigh, butt tucked so your cheekbones are pointed towards the ground.
- Your ankle should be closed just enough to put your weight under the middle part of the side of your foot. (From this starting point you will then bring your weight forward to the ball.)
- You can use either a single point attachment or double cords for added resistance and stability.

### **LEFT Leg Execution:**

- All your weight should be on the inside part of your left foot (the side of the foot that would be closest to the corner) and there should be a straight line from your ankle, knee, hip and nipple.
- Your right leg should be fully extended to the side with just the ball of your foot touching the ground. There should be no weight on your right foot.
- From the compact position, starting with your weight mid-foot, bring your weight forward to the ball of the foot. As your weight approaches the back part of the ball of your foot start your extension through your hip, knee (and ankle if doing light resistance or jumps). At the same time bring your right knee up along the same plane of travel as your left leg toward your chest. Your weight should continue to move forward and to the side until you have completed your extension. Notice in the video the body follows the same trajectory on the extension as your starting lean.
- Now return to the starting position following the same movements as you did for the extension, only in reverse.

### **Key points to remember:**

- Remember to keep your straight line from your left ankle, knee, hip, and nipple throughout the entire movement.
- Complete every extension.
- Keep your butt tucked under you. There will be a tendency for your butt to want to release as you near complete extension.
- Keep your chest in the same plane as you move forward and across. Never let it come up or rotate.
- Pay attention to the count (speed of movement) you are aiming for.

### **RIGHT Leg Execution:**

- All your weight should be on the inside part of your right foot (the side of the foot that would be closest to the corner) and there should be a straight line from your right ankle, right knee, left hip and left shoulder.
- Your left leg should be fully extended to the side underneath you with just the ball of your foot touching the ground. There should be no weight on your left foot.
- From the compact position, starting with your weight mid-foot, bring your weight forward to the ball of the foot. As your weight approaches the back part of the ball of your foot start your extension through your hip, knee (and ankle if doing light resistance or jumps). At the same time bring your left knee up along the same plane of travel as your right leg toward your chest. Your weight should continue to move forward and to the side until you have completed your extension.

- Now return to the starting position following the same movements as you did for the extension, only in reverse.
- See Key points to remember under Left Leg Execution above.
- Remember to keep your straight line from right ankle, right knee, left hip and left shoulder throughout the entire movement.

### **Specific Techni-Cords Workouts for Strength, Power, and Endurance**

Strength: Max strength is developed through slower movements with high resistance to allow the muscle time to recruit as much muscle fiber as possible. Tempo, or speed of movement, is controlled through use of a specific count. As a minimum a 2 out, 2 in count is required and the count can be as high as 5 in 5 out. What this means is that from the start of the movement at the set up position, to the completion of the movement at the end of the extension, will take two seconds, counting one – one thousand, two – one thousand. This is the ‘out’ count. Then from the completion of the extension to the return to set up is a two count. This is the ‘in’ count.

Samples of strength specific programs are:

- 4 x 10 reps (on each leg) using 2 out, 2 in, rest 2’.
- 5 x 8 reps, 3 out, 3 in
- 4 x 12 reps, 1 out, 3 in

Power: Max power is developed through high velocity (fast) movement using moderate to high resistance. The goal here is to execute the movement as fast as possible given the load, with the best technique possible. The return to set up can be a slower count to recruit muscle fibre and promote strength gains.

Samples of power programs are:

- 5 x 5 reps, X out, 1 in, rest 3’ medium resistance (X stands for explode quickly)
- 3 x 5 reps, X out, 2 in, rest 3’ medium high resistance
- 5 x 3 reps, X out, 3 in, rest 3-4’ high resistance (the 3 in at high resistance gives an added strength component to the workout)

Endurance: Specific muscular endurance is developed using lower resistance and high repetitions. The movements are performed at a fairly high speed on both the out and the in.

Samples of endurance programs are:

- 3 to 5 (sets) x 25 reps, 1 out, 1 in, rest 1’, moderate to light resistance, build to 50 reps by adding 5 reps per week

### **Techni-Cords Jumps for Power and Endurance**

Jumps using Techni-Cords provides a super specific power or endurance workout. The jumps can be done either single leg or alternating leg. Single leg might be better for absolute power, while alternating leg gives a great endurance workout.

The objective of the power jumps is to put as much power into each jump as possible with as much speed of movement as you can on the jump portion, keeping in mind proper technique. On the return to set up after the jump, take your time to ensure the set up position is correct before performing the next jump. Follow at the method of execution above remembering to snap (extend) all the way from hip to ankle.

A higher resistance, lower reps program will develop strength and power:  
3 x 6-10 reps r 3-4'

A lower resistance with higher reps will develop power endurance:  
3-5 sets of 15+ reps r 2-5' (The amount or reps you do will depend somewhat on the resistance you use as well as your fitness level.)

### **Corner Jumps**

Corner jumps without Techni-Cords, or some other form of resistance, are a bit awkward in terms of replicating specific technique as it is difficult to get the same lean and feeling of centrifugal force resistance, but they can still be done for endurance purposes.

### **Hill Jumps**

Hill jumps have the advantage of allowing a bit more lean. Start from as leaned a position as possible in the compact position, that is cheeks pointed to the ground, chest compact towards thigh. Your weight starts mid-foot and as you lean more your weight should fall forward and to the side, to the ball of the foot. As your weight approaches the ball of your foot, start your push while bringing your other leg through. Complete each push with a snap of the ankle. The goal is not to take giant leaps up the hill with your driving leg as this will cause oversteps. However, if you understep you will just fall over because of the momentum of your body. When pushing off your left leg, drive your right leg under the left side your chest. Try to land in as much a right leg alignment as possible, in as leaned a position as possible without losing your balance. When pushing off your right leg, drive your left leg under the left side of your chest and not outside it, landing in a left leg alignment and as leaned as possible. As always, keep your cheek bones pointed toward the ground and your chest down. Using a good arm swing will help generate power (see The Corner Arm Swing – February 2003).

### **Corner Switch Jumps**

Corner switch jumps are great for hip flexibility and strength endurance.

- Start in the compact position with all your weight on your left leg and your right leg fully extended.
- Drive your weight straight up off your left leg, and then drive your left leg under you to a fully extended position.

- Once you are in the air your right leg drives up and across your body as far as possible, and you land on your right in the compact position.
- Keep your butt tucked and your chest down throughout the exercise.
- Use a good arm swing.