

Specific Strength, Power, Endurance – Part 1 – Straightaway

By Susan Ellis

This article is the first in a three part series focusing on specific strength, power, and endurance for the straightaways, corners, and starts. We will begin this series with straightaways.

As mentioned in previous articles specificity in training is crucial to getting full bang for your buck in training, and having that specific training translate in to gains on ice. Traditional training such as inlining, slide boards, skating imitations, and jumps are all very specific forms of training, but are they specific enough? All are excellent for improving muscular endurance and power in the skating position and should not be neglected or overlooked. They are a bit part of your summer program, especially when ice is not available. But the one component they lack is in improving max strength and max power. To improve these two components you need to do specific resistance training. Traditional strength and power training such as squats, lunges, steps up, and Olympic lifts give you an overall base of strength but lack specificity in movement. This article explains some of the specific imitations and jumps used for endurance and power as well as how to use Techni-Cords for strength, power, and endurance to make your workout even more specific.

Techni-Cords Straightaway

Watch the following video before continuing :

Before starting any Techni-Cords (TC) drills, make sure that your attachment is solid. Mamma would not be please if you pulled her porch down! Also make sure the surface you are working out on is non slip. Using a chair helps with balance, especially when performing max strength movements.

The amount of resistance (number of cords) will depend on

- 1) technique - You should ensure that every rep you do is performed with good technique, otherwise you will create bad habits that will transfer to the ice.
- 2) your strength – the stronger you are the more cords you will need. I would recommend starting out lighter, rather than heavy to ensure proper technique first.
- 3) number of reps - depends on whether you are training for max strength, power, or endurance
- 4) tempo of the reps – again depends on what specific quality you are training.

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. (We offer a cords only option on our website)

Watch the video again before continuing:

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, the other lightly holds the cords for additional balance.
- Start in a compact position: Chest compressed toward thigh, butt tucked so your cheek bones are pointed towards the ground.
- Put your recovery leg behind you so that the thigh is perpendicular to the ground and your recovery toe is pointed down and lightly resting on the ground.
- Your ankle should be open to about 75-80 degrees and your weight is on your heel.
- On your pushing leg there should be a straight line from your ankle, knee, hip and nipple.

Execution:

- Now let your weight fall forward and to the side to project your weight from the heel towards the ball of the foot. Just as your weight approaches the ball of the foot you start your push. The push should continue to project your weight forward and to the side, away from your body. At the same time bring your recovery thigh up under your chest, but do not let the foot touch the ground.
 - Key points to remember:
 - 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 across. Never let it come up or rotate.
 - Your recovery thigh must come through in a straight line directly under your nipple. Rotations will cause the crucial butt and hip muscles to unlock, reducing power.

Return to set up position:

- Allow the resistance of the TC to pull you back in to the set up position in a controlled tempo. If you were on video, imagine a good execution out to full extension and then a slow motion rewind. That is what your return to set up should look like. Everything you did going forward is done in reverse. Check your set up position to make sure it is good for your next rep.

Specific Techni-cords workouts for strength, power, or 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. 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.

Sample 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.

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)

Here is an excellent article describing strength and power training and the benefits of each from Peak Performance: <http://www.pponline.co.uk/encyc/power-training.html>
(The Peak Performance web site is a great source for training information)

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 – 5 x 25 reps, 1 out, 1 in, rest 1’, moderate to light resistance, build to 50 reps by adding 5 reps per week