



Core Strength for Ski Racing

Core strength is without question the most important physical element needed for ski racing performance. The three areas considered to be part of the core muscle group are the abdominals, obliques (sides), and the back. A strong and balanced core is mandatory to transfer power from turn to turn while maintaining balance, which is crucial to carrying speed in a race course.

The great thing about training core is that you can do very effective workouts without the need of special equipment or a weight training gym to achieve results. Listed below are several examples of core strengthening exercises. Described are which part of the core they work, and the proper technique to do them properly. Please call me anytime for help. Good Luck and have fun!

Note – you should work your core at least 3 times a week to make strength gains but even training once in a while will help activate these muscles! Use this outline for planning your workout on your own or with your siblings or parents.

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ABDOMINALS & OBLIQUES

1. Cross Sit-Ups

primary – upper, mid abdominals
secondary – obliques

- lie on back, legs bent at 90 degrees, toes up and touching, heels and knees 6 inches apart, fingers touching side of head (ear muffs)
- curl up slow and steady, twist torso so that elbow touches opposite knee, move back controlled to starting position and repeat to other knee

Do not go further than touching elbow to knee, and do not let yourself go all the way down either – just let the shoulder blades touch the ground, then rise back up. Follow a rhythm of 1 second per repetition.

2. Crunches

primary – upper abdominals

- put your feet up on a bench, chair or hold them up in the air, knees bent at 90 degrees
- curl up so that elbows touch knees, move back to starting position and repeat

Concentrate on a strong upper abdominal contraction. Do not go further than touching elbows to knees, and do not let yourself go all the way down either – just let the shoulder blades touch the ground, then rise back up. Follow a rhythm of 1 second per 2 repetitions (faster than cross sit-ups).

3. Cherry Pickers

primary – upper abdominals
secondary – mid abdominals

- lie flat on your back, point legs straight up (if you can't make your legs straight that means your hamstrings need more flexibility)
- point your hands to the sky, then reach as high as you can for each repetition

Stretch as high as you can, lifting as much upper body off the ground as you can. Do not let yourself go all the way down either – just let the shoulder blades touch the ground, then rise back up. Follow a rhythm of 1 second per repetition.

4. Leg Holds

primary – lower abdominals
secondary – mid abdominals

- lie flat on your back with your legs straight up, in the same position as Cherry Pickers
- lower legs 15 to 30 degrees while maintaining ground contact with your lower back and hold this position



- Lower back must press firmly into the ground as you hold your position.

The most important element of this technique is that you are maintaining ground contact with your lower back. This ensures that you have a strong lower abdominal contraction.

5. Windshield Wipers (or scissors)

primary – mid, lower abdominals

secondary – obliques

- lie flat on your back, point legs straight up (if you can't make your legs straight that means your hamstrings need more flexibility)
- swing your right leg across your body down to the left side (waist high), close to the ground. At the same time lower your left leg straight down close to the ground. From here you rise back to the top and then do the same thing on the other side.

Try to keep both legs as straight and as controlled as you can. When your feet are down, your legs should be at a right angle. Follow a rhythm of 1 second per repetition.

6. Rowing

primary – upper, mid abdominals

secondary – lower abdominals

- start in the same position as a crunch, legs tucked up into your chest, and extend your hands out beside you holding them off the ground
- at the same time extend your legs straight out and roll back just so your shoulder blades touch, then bring both legs and chest together again

Try to keep both legs close, but not touching the ground. Also try to keep your hands and arms motionless a few inches off the ground. Follow a rhythm of 1 second per repetition.

7. Hi Moms

primary – upper, mid abdominals

secondary – lower abdominals, obliques

- same idea as rowing except the upper body twists to the side with the hands leading the way instead of rolling the shoulders back as in Rowing. This action incorporates the obliques. Legs continue to stay just above the ground as you extend and contract them, be sure to keep knees close together

8. Side Bridge

primary – obliques

- support yourself sideways with only your elbow and your feet touching the ground
 - be sure your entire torso and legs are straight. Try to keep your hips as high as possible while holding a static position
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BACK

1. Back Lifts

primary – lower, mid back

- lie on stomach, back of hands on forehead, elbows out to the side, lift and point toes back
- lift upper body as high as possible - hold for 1 sec at top, slowly lower back to the ground (2-3 seconds down)

2. Supermans

primary – upper, mid back

secondary – lower back

- stretch your arms out in front and lift opposite arms and legs as high as you can, point toes. Hold at the top for 1 second and lower controlled to just above the ground.

3. Swimming

primary – upper, mid back

secondary – lower back

- stretch your arms out in front. Keep legs including knees off the ground at all times.
- Move your arms in a round swimming motion from front to back, then back to front. Keep your entire arms from touching the ground



UPPER BODY

1. Push Ups

primary – chest

secondary – triceps, shoulders

- keep body straight from ankle to shoulders, look ahead slightly
- lower chest so arms are bent at 90 degrees, elbows point backward at about 45 degrees

Good form is absolutely necessary. Vary hand width from narrow, to shoulder width, to wide. Keep a steady pace of about 2 seconds going down and 1 second up.

2. Dips

primary – triceps

secondary – chest, shoulders

- for these basic dips put your hands shoulder width on the end of a 12-18 inch high bench, face fingers forward, extend legs straight out in front of you on the ground
- lower your body so that your arms go to at least 90 degrees - explode up fast. Speed ratio should be about 1:3 (up to down)

To increase difficulty as you become stronger, first put your feet up on a bench, then add weight onto your legs (put 10 lbs on your lap)

3. Chin Ups

primary – laterals (complimentary muscle group to chest)

secondary – biceps

- You do need some kind of bar that is above your head to do chins. Grab the bar shoulderwidth apart, palms facing towards you. Start at complete arm extension, then lift yourself up until your chin is at the bar.
- You can do many variations of chin ups, including reverse grip, very wide or narrow hand width. Go with a speed that is about 1 sec up and 3 sec down.
- To increase difficulty try going very slowly down (up to 30 sec)



Example of Workouts

GREEN – start with these. Repeat **Hwy 33** four times before starting **Squirrel**

Hwy 33

cross sit-ups	2 sets of 15 – 20 reps
back lifts	2 sets of 15 – 20 reps
crunches	2 sets of 15 – 20 reps
dips	2 sets of 12 – 15 reps
swimming	2 sets of 1 minute

Squirrel

cross sit-ups	2 sets of 20 – 25 reps
back lifts	2 sets of 25 – 30 reps
cherry pickers	2 sets of 20 – 25 reps
dips	2 sets of 20 – 25 reps
supermans	2 sets of 25 – 30 reps
side bridge	2 sets of 45 sec a side (static hold)

BLUE – rotate through each. Repeat **Born to Run** four times before **Paradise**

Born to Run

windshield wipers	2 sets of 30 reps
leg lowering	2 sets of 45 second holds
swimming	2 sets of 1 minute
dips	2 sets of 30 reps
cherry pickers	2 sets of 25 – 30 reps
supermans	2 sets of 30 reps
push-ups	2 sets of 10 – 25 15 reps

Paradise

cross sit-ups	2 sets of 30 – 35 reps
windshield wipers	2 sets of 30 reps
dips	2 sets of 20 – 25 reps
leg lowering	2 sets of 45 second holds
cherry pickers	2 sets of 20 – 25 reps
supermans	2 sets of 20 – 25 reps
push-ups	2 sets of 20 – 25 reps
hi moms	2 sets of 30 – 55 reps
side bridge	2 sets of 45 sec hold, then 20 reps

BLACK – if you get to **The Cliff** you will be an athletic machine!

The Cliff

rowing	3 sets of 30 – 35 reps
push-ups	3 sets of 20 – 25 reps
windshield wipers	3 sets of 30 reps
leg lowering	3 sets of 1 minute holds
cherry pickers	3 sets of 30 – 35 reps
supermans	3 sets of 25 – 30 reps
hi moms	3 sets of 30 – 35 reps
dips	3 sets of 35 – 40 reps, feet on bench
side bridge	3 sets of 60 sec hold, then 30 reps