

Core Exercises: Strengthening and Stretching Routine

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Over the last several years there has been a lot of talk in skating about the importance of core training. However, many U.S. skaters continue to have poor strength and flexibility in the core region. Lower back and hip injuries in skaters are often correlated with muscular imbalances and weaknesses in the core.

CORE MUSCLES

All coordinated human movements integrate balance, strength and flexibility. The pelvis is the hub between the weight of the upper body or "HAT" (Head, Arms, Trunk) and the forces that are transmitted from the ground up through the body each time the foot hits the ground or ice. The core region must be strong enough to accommodate and stabilize the high forces of jumping and turning while maintaining the flexibility to keep the pelvis aligned when the legs and torso are in various positions.

Core muscles attach to the pelvis from the torso or legs and control the position of the lower back and hips. The muscles in the front of the body (abdominal muscles and hip flexors) and the back of the body (low back muscles, gluteus maximus [buttocks] and hamstrings) control the front to back tilt of the pelvis. The outer hip muscles (IT band, gluteus medius and hip rotators) and the inner thigh muscles (abductors) work together to stabilize the pelvis and keep it level while standing on one foot.

TRAINING GOALS

These exercises use body weight instead of resistance equipment and emphasize correct body alignment that directly translates to on-ice skills such as in air-spin-to-land and stroking.

The specific exercises presented here can be completed 3–5 times per week as part of the strength training program. The flexibility series can be practiced daily. Exercises for the core are known by many names: lumbar stabilization, pelvic stabilization, abdominal exercises and Pilates.

Each exercise system has the same goal:

- Coordinate the abdominal/deep abdominal and back muscles to ultimately hold the spine in safe alignment during life and sport activities
- Achieve a balance between the strength and flexibility of the core muscles to allow an optimal range of motion and control in various positions

CORE EXERCISES

HIP HIKE (strengthens the buttocks)

See the December issue of SKATING page 72 for details on this exercise.

Prone Bridge • (strengthens lower abs and shoulders and teaches neutral pelvis position)



1 Start prone (face down) on the floor propped up on the elbows.

2 Press down through the forearms and toes and contract the abdominal muscles to lift the torso and thighs off the floor. Do not let your hips sag or raise up.

3 Hold 20 seconds, repeat 3 times.

Side Bridge and Star • (strengthens side waist and outer hip muscles)



1 Start in prone bridge and rotate to balance on the edge of one foot and one forearm.

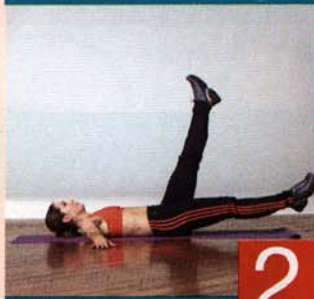
2 Keep shoulders and hips in straight line by holding core muscles tight for up to 30 seconds, then relax.



3 When able to hold side bridge, lift the top arm and leg straight up.

4 Work on both positions up against a wall keeping both shoulders, hips and feet in contact with the wall.

Alternate leg lowering • (strengthens lower and deep abdominals)



1 Start on back with both legs over the hips and the low back pressed into the floor.

The low back and belly button dictate how far the legs lower. If the back leaves the floor or the belly button pops up, the leg extended too far over toward the ground.

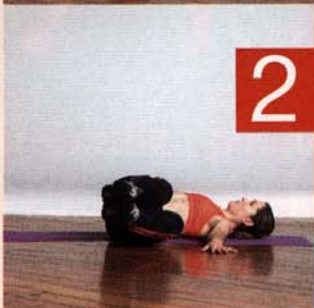
2 Slowly lower one leg toward the floor while holding the back flat. Return to the starting position and alternate lowering the left and right legs.

4 Complete 2–3 sets of 8 reps.

Hip Rolls • (strengthens abdominal obliques)



1 Start on back with arms out to side at shoulder level. Knees are slightly bent.



2 Slowly lower both knees to the left then up and over to the right. To increase difficulty, straighten the knees.

3 Complete 2–3 sets of 8 reps.

Swimmer • (strengthens the back of the shoulders, mid back, low back, buttocks and hamstrings) — This exercise is also good for working on strength for your spiral.



1 Lie prone on floor with arms resting over head. Rest chin on floor.

2 Lift the opposite arm and leg up.

3 Hold 5 seconds, lower, then repeat on the opposite side.

4 Complete 5–8 reps per side.

Push-ups • (strengthens chest, shoulders, lower abdominals and teaches neutral pelvis position)



1 Start in plank position.

Lower body to ground and push back up while holding body erect and stomach tight.



3 Advanced Variation: Lift one leg one inch off the floor then out to side. Maintain level pelvis and shoulders, and a straight line from shoulders to feet.



4 Complete 3 sets of 10 reps.

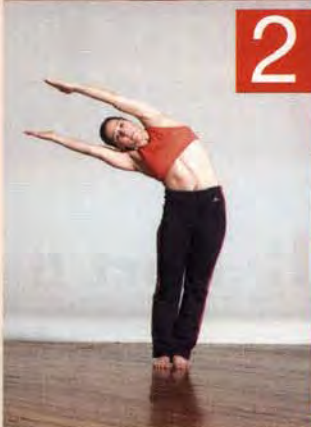
FLEXIBILITY

Hold each stretch 20–30 seconds and repeat 2 times per side, unless otherwise stated. Practice stretches daily.

Standing Side Bend • (stretches the whole side of the body from the fingertips to the foot)



1 Inhale: Lift the rib cage up off the pelvis by elongating the lower (lumbar) spine.



2 Exhale: Lean directly to the right, bringing arms, head, and torso to the left.

3 Feel a strong stretch on left side of torso while maintaining lift in lumbar spine.

4 Hold for 3–5 breaths then, on the inhale, return to standing.

Pretzel • (stretches the waist and outer hip muscles)



1 Place the right foot on the outside of the left knee and the left elbow to the outside of the right knee, press back on the thigh.



2 Reach for the shin to increase the stretch.

KNEELING LUNGE STRETCH (Stretches the hip flexors of the back leg)

See the December issue of SKATING page 72 for information on this stretch.

PRONE FIGURE 4 STRETCH (stretches the front of the hip joint and works on turn-out)

See the December issue of SKATING page 72 for information on this stretch.

Skater's Stretch • (stretches the deep hip rotator muscles)



1 Bend the right knee and place the right ankle on the left thigh.

2 Bend the left hip and hold the left thigh in both hands. Feel stretch in right hip.

3 Repeat on the opposite side.

Straddle-Sit • (stretches inner thighs and hamstrings)



1 Sit on the floor with legs in front of body in a "V."



2 Press the back of the knees to the floor and the toes to the ceiling.

3 Hold for 60 seconds, shake out the legs, then repeat once.

Hamstrings • (stretches hamstrings on top leg)

1 Lie on back with both legs straight.



2 Lift one leg up and hold calf or foot or use a belt around the arch of the foot to complete the stretch.

3 Draw the top leg over the head while keeping both legs straight.

Cobra • (stretches the abdominal muscles and opens the chest)

1 Lie on stomach with forearms and hands flat on the floor next to the chest.

2 Extend the chin forward and up, extend the elbows and lift the head up and back.

3 Keep pelvis in contact with ground.

Conquering the Spiral: Part II

Exercises for Flexibility and Strength

In the December issue of SKATING, I discussed a number of exercises to help increase flexibility for the spiral. Here are more exercises to help you have the best spiral around! Use these in conjunction with the exercises in the December issue. They are all part of the same set.

Strengthening Exercises

Complete these exercises 4–5 days per week to strengthen the back, buttocks and hamstrings. See the December issue for more strengthening exercises.

Flexibility Exercises

Complete these flexibility exercises daily to stretch the hip flexors and hamstrings. Hold each stretch 20–60 seconds and repeat 2–3 times. See the December issue for more flexibility exercises.

SITTING HALF STRADDLE

(stretches the hamstrings)

1. Bend one knee and place the sole of the foot on the inner thigh.
2. Stretch the spine up and rotate over the extended leg by holding the knee with opposite hand.
3. As flexibility increases, walk the hands farther down the right leg toward the outside of the foot to continue the stretch. ©©

Kat Arbour is the author of "Strength Conditioning and Injury Prevention – A Training Manual for Skaters." Visit www.icedynamics.net.

Hip Hike on Stability Ball

(strengthens the buttocks)



1 Lie on ground with back flat on floor and heels resting on top of the ball. Knees stay bent throughout exercise.

2 Push heels into ball and lift hips and torso off the floor by squeezing the buttocks.

3 Make a straight line from the shoulders to the knees.

4 Hold 5 seconds then release to the floor, repeat 2 sets of 10 reps.

Foot In Front • (stretches the hamstrings on the lifted leg)



1 Balance with foot cradled in both hands.



2 Extend free leg out in front and elongate spine.

3 Stand up while holding foot in both hands.

Spiral Exercises

Wall Splits: Face Away From Wall, Foot Up



1 Stand facing away from wall, put hands on the ground and one foot up on the wall or have a partner help you.

Balance by holding the ankle with both hands instead of the ground.



2



3

Continue to balance and attempt to lift the lifted leg off the wall by a few inches.