

## Are your knees ready for ski season?

Our knees are vulnerable to injury when we ski because of the dynamics of the sport. Common injuries include ligament strains and tears, cartilage tears and muscle strains.

### Here are a few exercises that can help prevent injury before you ski:

- **Muscle Strength:** Focus on gluteals, quadriceps, hamstrings and core muscles. Examples: single leg squat, wall squats holding for time (45 sec to 2 mins), pilates, yoga, swiss ball exercises (hold belly button to stomach)
- **Explosive Power:** Exercises that create power include plyometrics, sprinting, agility drills and hill/stair running. Plyometrics include lateral hops over cone (20 reps), forward/backward hops over cone (20 reps), single leg hops over cone (20 reps), vertical jumps (20 reps), scissors jump (20 reps).
- **Flexibility:** Hamstring and quadriceps flexibility is important for skiers, while back and shoulder flexibility is important for snowboarders. Hold a stretch for 20 sec and repeat 4x. For example, hamstring: in sitting or standing pivot at hips with back flat and lean forward.
- **Balance Training:** One-legged squats (20 reps), BOSU exercises (stand on 1 leg, toss ball/object in air, try kicking forward, side and backwards 10 reps) or use a balance board.
- **Agility Exercise:** Shuttle run with forward/backward running, Diagonal runs (3 passes), Bounding run (44 yds)

### Here are a few helpful tips while on the slopes:

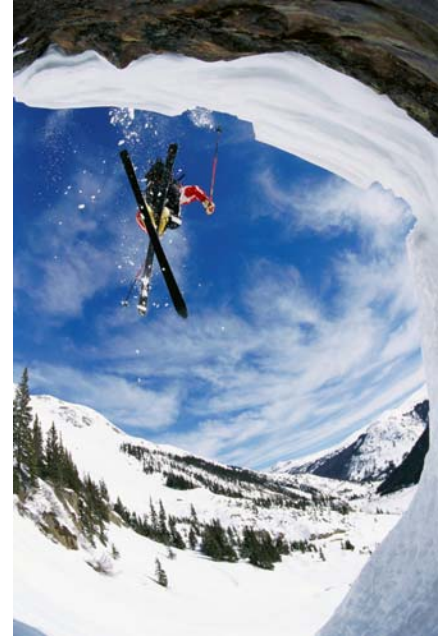
- Keep your knees flexed, and don't try to straighten them during a fall since a straight leg provides a longer lever force against the knee resulting in more injuries.
- When you're down, stay down; don't try to stop the fall. You cannot predict which way your leg is going to twist.
- Fall forward. Don't land on your hands backward. Keep your arms up and forward. Falling backwards places abnormal forces across the knee joint and ACL.
- Don't jump unless you know where and how to land. Land on both skis and keep your knees flexed.

Contact Us!

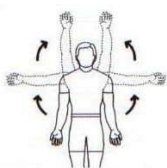
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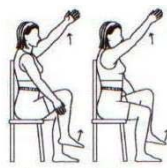
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## Chair Exercises



- Arm Abduction**
- Sit or stand with arms at side, palms forward.
  - Lift arms out and upward above head as shown.
  - Return to start position.



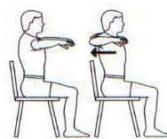
- March with Arm Raise**
- Sit in chair with hips and knees at 90 degrees.
  - Lift up left leg and right arm as shown.
  - Lower arm and leg.
  - Repeat with opposite pattern.



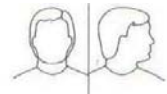
- Knee Extension**
- Sit on a chair, knee bent.
  - Keep a proper curve in low back, as shown.
  - Flex left foot upward, while straightening knee, then lower.
  - Repeat stretch with other leg.



- Hip Rotator Squeeze**
- Sit with knees bent, ankles together.
  - Push ankles together.
  - Do not allow thighs to move, or knees to separate.



- Shoulder Squeeze**
- Sit with proper posture.
  - Raise arms to shoulder height, out to sides elbows bent.
  - Squeeze shoulder blades together, and relax.



- Neck Rotation**
- Sit in chair with good posture, back supported.
  - Turn head to right, then left.



- Spine Stretch**
- Sit in chair with knees apart.
  - Slowly bend forward and reach between legs.
  - Hold stretch for 20 seconds and return to sitting position and repeat 4 times.



- Trunk Rotation**
- Sit in chair
  - Turn toward back of chair.
  - Grasp chair and gently pull trunk further.
  - Hold for 20 seconds, return to start position and repeat 4 times.

As we enter the New Year, many people will set exercise or fitness goals for themselves for 2011. There are many ways of achieving fitness for individuals of all levels of activity. Chair exercise is especially popular among aging adults, people with disabilities or balance challenges, and sedentary workers. The benefits of chair exercise include increased circulation and cardiovascular health, increased strength and range of motion, improved balance, pain relief, cognitive improvement, and improved mental health. Cardiovascular exercise is important for seniors as it can help to decrease fatigue and shortness of breath. Strength training assists in the prevention of loss of bone mass, builds muscle and improves balance. It is important to maintain flexibility to be able to perform normal every day activities without joint strain. Good balance is important for preventing falls, sustaining upright posture and maintaining the quality of walking.

Chair based exercise is particularly appealing because it does not require expensive equipment and can be done at any time of the day. All exercises should be performed seated in a sturdy chair, wearing loose fitting clothing and wearing supportive shoes. Below are a few suggestions for seated exercise. All exercises should be performed gradually, progressing repetitions with a goal of 2 sets of 15 reps each. Another option is to perform exercise with a video or with the Sit and Be Fit program, aired on PBS. If you are able to attend a class, many of the recreation and community centers in the area offer classes specifically designed with seniors in mind. The Silver Sneakers program offers many classes with seated options. If you have questions or concerns about