

# Mansfield Ski Club

## Strength Training – Starting Points



The first phase of strength training is **endurance strength**. This aims at developing the ability to do tasks requiring strength over an extended period of time. For example, for skiers to be able to ski 40 – 50 turns without their legs and back muscles giving out, and being able to do this 20+ times a day, day after day when you are training on snow requires a lot of endurance.

Endurance strength training can be done with (1) your **body weight**, (2) **resistance machines** which use stabilized weights and cable or levers to create resistance (3) or **free weights**. Free weights are the most advanced form of strength training and should not be used without the direction of a certified strength trainer.

Body weight and resistance machines are generally very safe to use – when using resistance machines resist the urge to load them up with a lot of weight.

**Body weight training** is the safest, simplest and most convenient form of weight training – it is always with you. This is **the only weight training that those under 15 years of age should be doing**. Body weight training can follow the same principles as resistance machines and free weights in terms of how much to lift. You just have to find out your maximum number of reps for each exercise. For instance to find out your maximum number of any exercise (pushups) do them until you cannot do any more. For training do 60% to 70% of that number.

Endurance strength training uses loads of **60% to 70% of your maximum** capacity for **12 to 15 repetitions per set** of exercises. For example if you could chest press 150 lbs only once as your maximum amount (you could not do any more) then for endurance training you would do 12 - 15 reps at 90-100 lbs. You will find that as your base line endurance strength improves so will your maximum strength – soon you would be able to chest press 175 lbs which would move your endurance training weight up to 110 lbs.

Generally you should do **3 sets of 15 reps per exercise** ensuring **you rest between each set** to get the best endurance results. For example, if you are doing 100 lbs for chest press you should do 15 reps then wait 2 minutes before doing your second set of 15 and another 2 min before doing for final set of 15 reps.

The **rest to work ratio should be 3 or 4 to one** – if your set of 15 reps takes 45 seconds to do you should rest at least 2.5 min between sets. This lets your muscles recover a bit before you work them again.

During each set you should find that it is difficult to do the last few reps as you are pushing your muscles to their endurance limit.

The muscle groups we should be training for alpine skiing are divided into three zones: (1) the **lower body** are those of the legs, (2) the **core** area around the hips, bum, stomach and lower back, and (3) the **upper body** including chest, upper back, shoulders and arms.

The **core is the most important zone to train**. The twisting and turning forces in skiing are experienced more in the core than anywhere else in the body. A strong core is necessary for good, strong technique and to prevent injury.

### **Core Key Exercises** - do these every day:

- (1) **Trunk Rotations** – twisting the shoulders above the hips and around the around the backbone
- (2) **Crunchers** – I recommend you do separate upper and lower abdominal crunchers and not one cruncher which forces you through the full range of motion as this can put stress on the bottom of your spine.
- (3) **Back Extensions** – pretty much the opposite of crunchers as your movement is backward not forward
- (4) **Planks** – balanced on your toes with your legs and back straight while resting on your forearms – start at 60 seconds and build to 120 seconds
- (5) **Burpees & Garhammers** – research these and add to your workout for additional challenge and fun

Most gyms/fitness centers have lots of resistance machines specifically designed to do these key exercises – they are safe and have the advantage of being able to add increments weight to increase resistance and the effect of the exercise. However you can easily do them at home and hold something heavy in your arms to add resistance.

### **Lower Body Key Exercises** – do these every other day:

- (1) **Two Leg Squats** – this is the fundamental lower body (leg) exercise  
Stand tall with hands and arms extended in front and level to floor  
Keep your weight on your heels  
Feet shoulder width apart and slightly turned out 10-15%  
Bend mostly at the knees until your thighs are parallel to the floor  
Keep your head and chest up and back slightly arched - do not bend over at your waist  
As you squat keep shoulders and knees over your toes

- (2) **Lunges** – touch back knee to ground with front knee over your toes
- (3) **Calf Raises** – any set of stairs will do  
Extend up on your toes as high as possible – keep body erect
- (4) **Step Ups** – box height should be just below you knee to start  
Hands on hips and keep the body erect
- (5) **Wall Sits** – back against a wall and knees thighs parallel to ground  
Hold for 60 seconds to start and build up time
- (6) **Leg Press and Curls** – use resistance machines  
Never full extend the knee joint – keep a minimum amount of flex

### **Upper Body Key Exercises** – do these every other day:

- (1) **Push Ups** – balance on toes – legs and back straight  
Hands slightly wider than shoulder width  
Push up to fully extend arms – elbows straight  
All the way down until your nose touches the ground  
Keep an even pace up and down
- (2) **Chin Ups** – palms facing you  
Hands slightly wider than shoulder width apart  
Pull up until your chin can go over the bar  
Lower your self until your elbows are in front of your shoulder or eyes
- (3) **Tricep Dips** – use a stable bench or ledge  
Arms behind you – legs straight and balance on your heels  
Keep your head and chest up  
Lift your body up until your arms are fully extended  
Lower your body until your waist is below your hands (bench)
- (4) **Chest Press** – you need a resistance machine or weights for this exercise  
Stablize your back – seated or lying on a bench  
If using free weights have a spotter at all times
- (5) **Lat Pulls** – start with horizontal pulls  
You can use a machine or resistance tubing  
Keep your arms and hands at shoulder height throughout each pull  
Pull from behind your slightly behind your back to directly in front

