

## **Stirling University Snowsports Safety Regulations**



### **1. General**

- a) There are two types of situation to consider: a) on the hills, and
- b) on the dry ski-slopes.

### **2. On the Hills**

- a) With an increase in ski-ing there has been an increase of ski-ing accidents. Many who break limbs are beginners yet ski-ing is a safe sport when the correct safety precautions are taken. There are also accidents when the mountain safety code has not been observed. The following points are important:

#### **For Individuals**

- (i) Inexperienced students should receive instruction.
- (ii) No one should ski alone, except perhaps at the bottom of the nursery slope, close to amenities and in full view of the 'public'. This is for two reasons, namely:
  - a) if there is an accident help is close at hand, and
  - b) the student is not alone if caught in a mist or 'white-out'.
- (iii) Stay on the main runs, even on the nursery slopes, for the same reasons as in (ii). Also, the piste is safer to ski on - many accidents occur when inexperienced skiers find themselves in soft snow. Let the experts form the piste if conditions are tricky. If students stop on the piste for any reason, they should move to one side leaving a clear route for skiers and look uphill before setting off again, thereby avoiding collisions.
- (iv) Keep clear of classes when 'free-skiing'.
- (v) Before going on the slopes, ensure that all equipment is in good condition and that bindings will release in the event of an accident. Club members must know how to adjust their skis. A large number of accidents occur because skis do not release at the correct moment. Bindings can freeze up and therefore anti-freeze can be a valuable asset. Many of the bindings have moving points (e.g., sideways release from toe-piece) which should be inspected for corrosion and wear, and which should be cleaned and properly greased or oiled, periodically. A check should be made that the wrist-straps of the ski-sticks are secure and that the baskets are firmly fixed.

(vi) Skiers should be equipped with adequate clothing and have a change of clothing if the ski-slopes are some way from their accommodation. Clothing should be warm and wind-proof. Skiers who have become lost on the hills have died of exposure due to inadequate clothing, and therefore one should carry an extra sweater, spare socks, and gloves, a hat and a scarf. Also emergency food rations should be carried in case one becomes stranded, e.g., cheese, raisins, chocolate, etc.

(vii) Skiers should carry first aid equipment. Recommendations are:

3 triangular bandages;

1 crepe bandage (at least 10cms wide)

1 tin elastoplast (e.g., strip dressing and/or elastic adhesive bandage)

1 pair scissors

½ dozen safety pins

These, plus emergency food and minor repair equipment can be carried all of the time in a small waist bag, whilst extra clothing could be left in a rucksack near the piste.

(viii) Carry minor repair equipment, e.g., pliers and screwdriver.

(ix) Observe all the 'mountain safety' rules.

(x) Always carry a compass, especially in the British hills and ensure that you know how to use it before ski-ing.

(xi) Be aware of deteriorating weather conditions, and do not leave it too late to reach safety and shelter.

(xii) Make certain before you set off for the ski-slopes that somebody knows where you are going and what time you expect to return, so that help can be sent to that area if you fail to return.

### **For Group Leaders and Groups**

(i) Observe all above points and make sure that your group is aware of them.

(ii) One person should be in complete charge of each large party and should be at least an experienced skier, and if possible experienced in that ski area.

- (iii) There should be a reasonable leader-party ratio:

1- 8 is satisfactory;  
1-10 is poor;  
1-12+ is very unsatisfactory

One cannot keep check on a large group and tailenders easily lose themselves; also there is too much standing around during the instruction period which results in pupils becoming cold and possibly becoming more accident prone.

- (iv) Designate times and places of meetings, and keep to them, so that if the party is divided into sub-groups then regular contact is kept between them. A lunch-time meeting is particularly useful in case of weather deterioration, accident or change of plan.

- (v) Each group should have easy access to first aid equipment. Suggestions for the contents of a group rucksack are:

1 set splint full zipped arm  
1 set splint full zipped leg  
1 sleeping bag zipped down side  
3 packed sterile dressings  
1 roll cotton wool  
1 roll lint  
1 roll elastoplast, e.g., strip  
dressing and/or elastic adhesive  
bandage)  
6 triangular bandages  
2 crepe bandages  
1 pair scissors  
½ dozen safety pins.

- (vi) The group leader should have knowledge of the local 'Ski-rescue' services, but valuable time can be saved if the patient is made ready for the stretcher when it arrives.

- (vii) Each club member must check with the group leader that he/she is competent to participate. The group leader must decide whether members have sufficient experience to participate.

- (viii) Club members who, in the opinion of the group leader, are

unable to cope with a particular ski trip to such an extent that they would be a hazard to either themselves or the rest of the group, will not be allowed to participate in that day's ski-ing.

**NOTE:** Most accidents occur towards the end of the day because of fatigue and over-confidence (that extra last run can be fatal) or early in the day due to lack of warming-up. Also they may be due to poor snow and weather conditions. Pre-ski exercises and training are therefore invaluable.

### **Avalanche Protection for All Skiers**

Avalanches are not peculiar to the Alpine countries. They occur with surprising frequency in Scotland and their effect can be, and often is, lethal. Care and judgement must be exercised at all times so that avalanche-prone slopes can be avoided:

- (i) Most avalanche accidents are caused by their victims. Keep high and on the ridges and avoid being the trigger which releases a slide.
- (ii) Keep clear of accumulation areas during and immediately after a snow storm.
- (iii) Lee slopes are particularly prone to soft slab avalanches.
- (iv) Never go alone.
- (v) Never expose more than one of the party to risk at any given moment.
- (vi) Avoid corniced slopes.
- (vii) Fracture commonly takes place on the convex part of a slope.
- (viii) The most dangerous slope angles are between 30° and 45°.
- (ix) Thin frost makes poor protection.
- (x) Consult local expert advice and obey all avalanche warning notices.
- (xi) Carry avalanche cords and trail at all danger spots.
- (xii) Carry a First Aid kit and basic rescue equipment in the party.
- (xiii) Know how to improvise a rope or ski stretcher.
- (xiv) Find out the recent weather history.

- (xv) Be on the lookout for warning signs, such as cracking of snow or heavy sun-balling.
- (xvi) Low temperatures prolong avalanche risk.
- (xvii) A sudden increase in temperature, especially with a dry wind, creates avalanche danger.
- (xviii) Rain on unconsolidated snow gives rise to wet avalanches, especially where the under-layer offers poor attachment.
- (xix) Powder avalanches are rare in Scotland, but occasionally fall after one foot or more of new snow in cold weather. Slopes take 2-3 days to settle, and longer if cold and out of the sun.
- (xx) The attachment of snow layers to each other is of fundamental importance. Assess this by digging a small pit or by probing with axe or ski-stick.

### **Crossing an Avalanche-Prone Slope**

- (i) Loosen ski bindings, take off safety straps and remove hands from ski-stick straps.
- (ii) Loosen rucksack straps.
- (iii) Secure anorak hood over mouth and nose.
- (iv) Trail and avalanche cord.
- (v) Go on foot rather than ski.
- (vi) Go straight down rather than traverse.
- (vii) Cross high rather than low.
- (viii) Go one at a time.
- (ix) Never assume a slope is safe just because others have crossed.
- (x) Take advantage of natural features such as rocks and clumps of trees.

### **If Caught in an Avalanche**

- (i) Throw off skis and rucksack.
- (ii) Estimate your position and best chance of escape.

- (iii) Delay departure with axe or ski-stick.
- (iv) Swim on back if possible.
- (v) Keep your mouth shut and cover nose, if powder snow.
- (vi) Supreme effort in final seconds to (a) get near surface;  
(b) maintain air space.
- (vii) Don't panic.

### **If Witness of an Avalanche Accident**

- (i) Follow movement of victims closely.
- (ii) Mark point of departure and point last seen with ski stick or rucksack.
- (iii) Search likely burial area and whole debris for any sign of the victims or their clothing.
- (iv) Use reversed ski stick as a probe.
- (v) Send for help immediately, or if alone then go yourself after making thorough surface search. Give the following information to the rescue party:
  - (a) Precise locality and time of accident;
  - (b) Number of victims;
  - (c) Type of avalanche and how released.
- (vi) Speed is vital, but take great care not to endanger yourself or others.
- (vii) If a victim is discovered, administer First Aid, including if necessary, mouth to mouth/nose resuscitation.

### **3. Dry Ski Slopes**

- a) The normal 'ski code' applies regarding:
  - (i) stopping in the middle of a run;
  - (ii) giving way to a class if you are 'free' ski-ing;
  - (iii) looking uphill before starting from the edge of the mat to the middle.

- (iv) Climbing uphill needs to be controlled if in a group. Restrict the climbing to one edge of the mat or prohibit it altogether if a lift or tow is available.
- (v) Do not allow spectators on the mat.
- (vi) If in control of a slope, fence it off from animals or ensure they are kept in control.
- (vii) Use sticks with baskets but without sharp points.
- (ix) Do not put hands through the wrist loops as is the normal practice when hill-skiing.
- (x) Have First Aid equipment available as in snow-skiing.

#### **4. Machine Controlled Mats**

- a) Ensure that the machine automatically stops when a fallen skier hits the board at the top of the slope (i.e., a cut-out should work).
- b) Keep people away from the back of the machine or under it, especially when it is switched on (i.e., organise people awaiting their turn, and spectators, to be well away from the slope).
- c) Use ski-sticks with rubber stoppers on the ends, not spikes.
- d) Use common sense, and it should be safe.

**NOTE:** Pre-ski training and exercise are as valuable, before using both types of slopes, as with snow-skiing.

#### **5. Ski-Bindings**

- a) Members should be taught how to set their own ski-bindings.
- b) All reputable ski-hire shops provide safety bindings, which release the ski in a heavy fall. Unless these are properly adjusted, not only for size, but also for tension, skis may become locked to the feet so tightly that even a mild fall pulls a muscle or causes a fracture of a bone.
- c) Safety bindings work on the principle that the toe can twist out sideways and the heel pulls out upwards in a fall, when the leverage of the skis might cause injury. Some bindings even allow the toe to pull out upwards, and the heel to twist out sideways as well as upwards.

- d) Once the skis have been properly set, members should try them by ski-ing. If they release too easily, they should be tightened down just a little. Members should be made aware of the fact that a ski coming off seldom does much harm, but that skis which will not come off could mean a broken leg. Most bindings have some kind of scale to show how they are set - either figures or a colour code. The tensions of bindings are usually set by large and easily visible screws, often made so that a coin will turn them. It is much better, however, to carry a short screwdriver.
  
- e) Skis should also have safety straps, which keep the ski with the skier when they have been released.