

# Clothing

I have had a problem with one older pupil in the past regarding appropriate clothing on the mountain. Most pupils are excellent & my most advanced skiers are model pupils on the mountain. But to spell out the dangers I have extended my normal letter to give you a better understanding of where your son/daughter is going & what the conditions may be like.

Mountains are killers & if you don't accept this, you are a danger to yourself and anyone you ski with. Treat the mountain with the respect it demands & you should enjoy one of the most beautiful environments on earth & live to repeat this year on year.

How cold will it be up in the mountain?

Air cools by 1°C per 100m altitude rise.

There is a scientific principal to calculate this called the 'Lapse rate'

So in Alpe D'Heuz you can climb from:

1860m to 3330m a rise of 1470m & a drop in temp. of 15°C

Air speed rises

This is not a scientific model, but research has shown wind speed can be 3x that of the valley bottom in Scotland, due to air being squeezed over the mountain range, obviously the effect is far more dramatic in the Alps where the mountains are triple the height of those in the Cairngorms.

Wind Chill

The wind has a cooling effect, known as wind chill.

This is a scientific model. If the resort is -5°C with a light 5 km/h breeze, on the mountain it would be at least 3x this, which gives us a 15km/h wind speed, reducing the temperature to -15°C.

Therefore we can expect the temperature to fall from -5°C in the resort to -30°C on the mountain. Exposed flesh will freeze between -30°C & -40°C



What happens if we get wet?

Water conducts heat away from your body 30x more efficiently than air.

So if your clothes get wet you are going to be in serious problems, instantly.

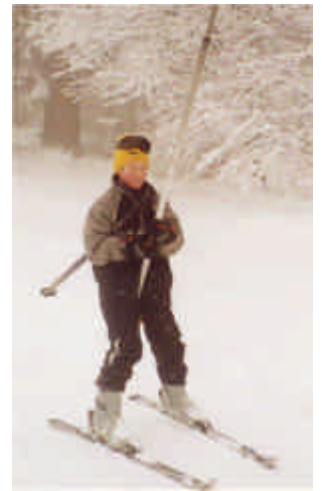
Outer clothing which is not designed for wet or snow conditions, will pick-up-snow in the fabric, with the snow & ice freezing to the fabric. Then the person's heat will melt this when they work hard or sit in the sun & consequently parts of their body will get wet.

On ski runs facing South, early in the morning the run is lovely with the sun melting the ice, but by lunch time you have a wet snow slush, fall over in this & you will get really wet if your clothing is not designed to prevent this. Also your lower legs will get sprayed with this wet slush as you ski through it, fine if your leggings are waterproof.

Restaurants

The mountain has a scattering of restaurants on the piste, which give the option of getting out of the elements & getting a hot drink. This is a great bonus for safety, but can give the pupils a false sense of security. You can easily be 45 minutes to an hour from one of these shelters.

An appropriately dressed person does not need to use these for shelter, but we all still enjoy the break. Out of the wind & in the sun, on the deck chairs people frequently peel off their ski wear to sun bathe in their swim wear. The temperature gradient between the shade/wind & the sun/shelter can be that great.



## Lifts

Some lifts carry the person 5-10m above the snow on an open seat, very safe, but also very exposed, you can spend 10 minutes sat on a lift inactive, open to the full brunt of the elements, appropriate clothing really pays now.



## Hypothermia

Is the name given to the condition which arises when there is a progressive fall in core temperature.

The core consists of the brain, lungs, heart & other vital organs.

The Shell; legs, skin, fat, muscle is 3°-5°C cooler than the core.

? Normal Body Core	37°C
? Early Warnings	35°C
o Feeling Cold	
o Numbness of hands or feet	
o Blue lips	
o Intermittent shivering	
? Serious hypothermia	34°C
o Continuous shivering	
o Uncharacteristic behaviour	
o Physical & mental lethargy	
o Slurring of speech	
o Violent outbursts	
o Lack of muscular coordination	
o Failure of vision	
? Deep hypothermia	33°C
o Shivering stops	
? Limbs often stiffen up	32°C
? Drifts into deep unconsciousness	31°C
? Coma	30°C
? Death	28°C

Even in its mildest form, hypothermia can drastically affect a person's judgment.

Not all of these symptoms will be evident in every case.

Teenagers often won't tell you their cold until they are already becoming seriously hypothermic.

## Dehydration

Water is an essential element of our diet, a dehydration person is far more susceptible to hypothermia & exhaustion, another factor increasing a persons susceptible to hypothermia.

Normal consumption is about 2.5lt a day, but in a dry environment & with hard physical work this can increase 5 fold. The mountain air is very dry & skiing is very, very hard physical activity. Always carry a small water bottle, drink little & often, & before you feel thirsty.

**Fizzy drinks can make matters worse, not better, avoid them.**

## Ski Helmets (Advice from Devon LEA)

It is not current normal and accepted practice for recreational skiers, including school groups within ski school, to wear helmets. However, helmets are normally used with very young children (e.g. under the age of 8), within competitive speed or slalom events or where advanced skiers go off-piste into wooded or rocky terrain.

Whilst helmets may appear to give additional protection they can hinder effective communication and may develop a false sense of security and invulnerability. Statistics and research in this area do not give a clear lead. Therefore, following discussion with representatives of the English Ski Council, advice for Devon school ski groups remains unchanged. For normal ski courses helmets are not a required item of equipment unless recommended within the local resort. Italy now insist on all children wearing ski helmets.