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SKI IS ADVENTURE TO GLIDE ON SNOW AT SUB-ZERO TEMPERATURE

[*1]Dushyant P. Chaudhary, [2]Dr. Dhrubo Jyoti Sen and [3]Dr. Pruthviraj K. Chaudhary

[*1]The University of Texas at Arlington, 701 S Nedderman Drive, Arlington, Texas-76019, USA.
[2]School of Pharmacy, Techno India University, Salt Lake City, Sector-V, EM: 4/1, Kolkata-700091, West Bengal, India.
[3]Shri Sarvajanik Pharmacy College, Gujarat Technological University, Arvind Baug, Mehsana-384001, Gujarat, India.

***Corresponding Author: Dushyant P. Chaudhary**

The University of Texas at Arlington, 701 S Nedderman Drive, Arlington, Texas-76019, USA

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ABSTRACT

Ski is each of a pair of long, narrow pieces of hard, flexible material, typically pointed and turned up at the front, fastened under the feet for travelling over snow. Snow forms when the atmospheric temperature is at or below freezing (0°C or 32°F). If the ground temperature is at or below freezing, the snow will reach the ground. However, the snow can still reach the ground when the ground temperature is above freezing if the conditions are just right.

KEYWORDS: snow, ski, sub-zero temperature, AMS, HAPE, HACE.

INTRODUCTION

Skiing is the use of skis to glide on snow for basic transport, a recreational activity, or a competitive winter sport. Many types of competitive skiing events are recognized by the International Olympic Committee (IOC), and the International Ski and Snowboard Federation (FIS). Sometimes called alpine skiing, downhill skiing is what most people know. It's done at lift-assisted ski resorts with groomed runs that are marked and patrolled. Downhill skiers wear stiff plastic boots that click into fixed-heel bindings mounted to shaped skis. Some of the most popular skiing locations in **India** are **Gulmarg** in **Jammu and Kashmir, Drass** in **Ladakh Union Territory** and **Solang** in **Himachal Pradesh** and **Auli** in **Uttarakhand**. The skiing season in India is from January to March. It the art or sport of sliding and jumping on skis.

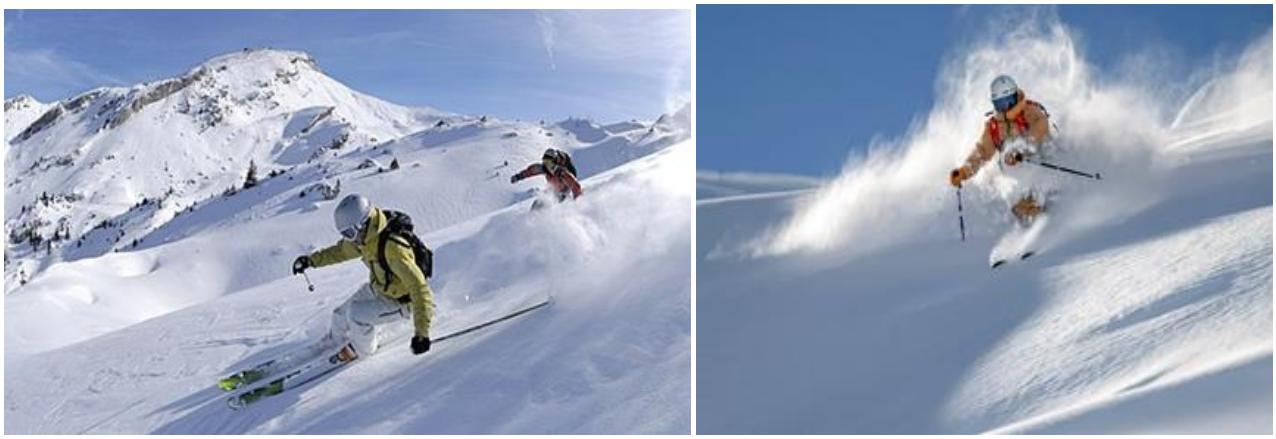

Figure-1: Skiing

What to Wear Skiing and Snowboarding

- **Base layer (or long underwear):** This layer wicks sweat off your skin and keeps you warm. Choose wool, synthetic or silk (not cotton). You'll want lightweight or midweight depending on the outside temperature and whether you run hot or cold.

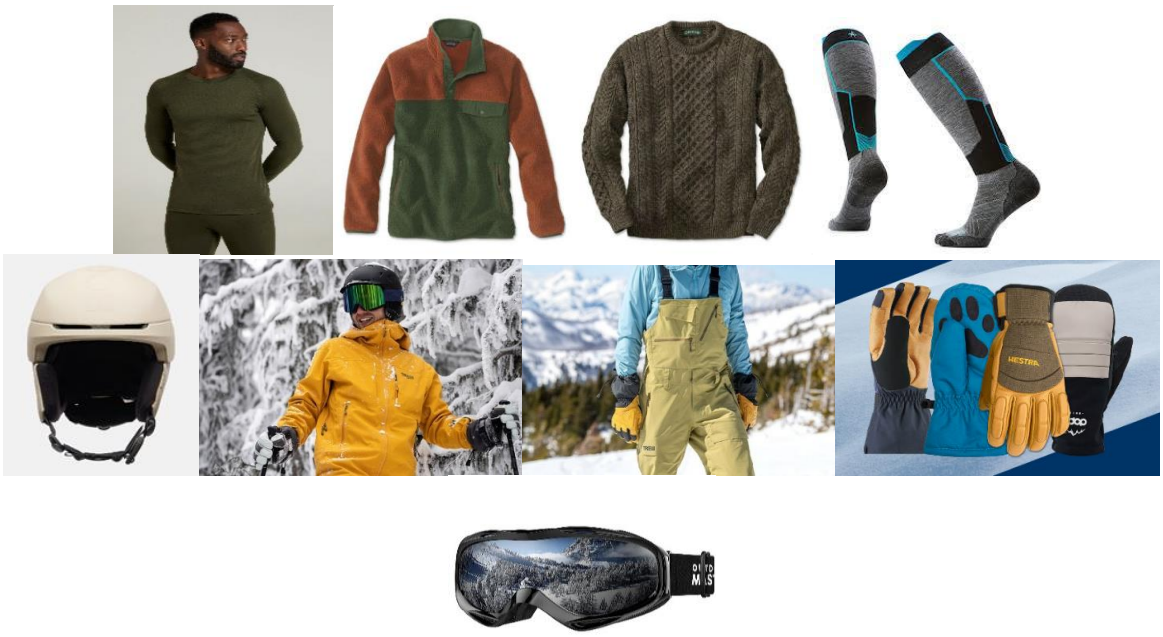

Figure-2: Dress of ski.

- **Light fleece or wool top:** Wear it over your long underwear top in the car and the lodge; wear it under your jacket to add warmth on the slopes.
- **Ski or snowboard socks:** Ski and snowboard socks are taller than your boots and not overly thick (thick socks can actually make your feet colder if they make your boots too tight and restrict your blood circulation). Some have padding at the shins. Go with wool or synthetic socks and avoid wearing cotton socks because, when cotton socks get wet from snow or sweat, they take forever to dry out.
- **Ski or snowboard jacket:** These are usually waterproof or water resistant, and insulated, with convenient pockets and other snow-specific features. A waterproof/breathable rain jacket over your fleece or wool top would be sufficient as well, though its slickness might lengthen any slides you make after a fall.
- **Ski or snowboard pants (or bibs):** Waterproof or water resistant, and insulated, these sometimes have convenient pockets, vents and features to prevent snow entering your boots. Waterproof/breathable rain pants would be sufficient as well. You can add fleece pants underneath for greater insulation.
- **Gloves or mittens:** Choose waterproof or water resistant and insulated. Generally, greater thickness equals greater warmth, and mittens tend to be warmer than gloves, but you sacrifice some dexterity (though inner liner gloves offer versatility). You don't need ski- or snowboard-specific gloves or mittens, but they do have some nice features, like built-in goggle wipes and long cuffs that go up to mid-forearm to keep snow out.
- **Helmet:** Not mandatory, but highly recommended, a ski helmet helps protect your head, and it keeps your head and ears warm and dry. (Wear a warm hat if you're not using a helmet.) Most ski resorts rent these, so you don't have to buy one right away.

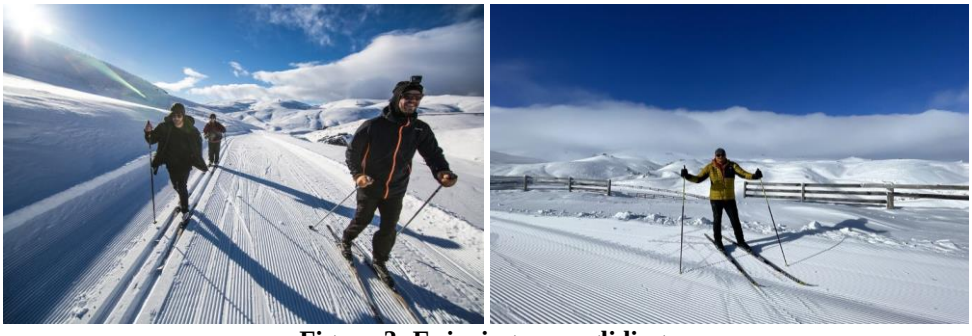

Figure-3: Enjoying snow gliding.

- **Goggles:** These protect your eyes from wind, snow and glare. Check that they work with your helmet, your face shape and fit over glasses if you wear them. You want them to fit without gaps. If you don't own a pair, see if you can borrow some from a friend for a day. If it's not actively snowing, sunglasses are a fine substitute.
- **Neck gaiter or balaclava:** You can pull a neck gaiter up over your nose in icy temps; a balaclava offers even greater coverage.

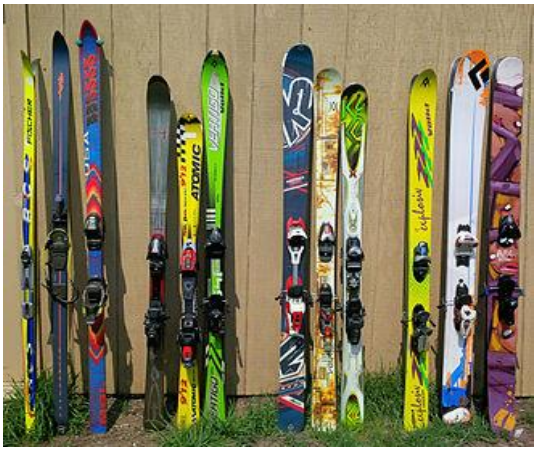

Figure-4: Types of ski.

Four groups of different ski types, from left to right
1. Non-sidecut: cross-country, telemark and mountaineering
2. Parabolic
3. Twin-tip
4. Powder

Ski temperature: While personal preferences may vary, most skiers agree that the ideal temperature range for skiing lies between -5°C and -15°C (23°F and 5°F). Within this range, the snow remains dry and light, providing the perfect consistency for carving turns and enjoying the slopes. The ideal temperature for skiing is typically between -5°C and (-15°C (23°F) and (5°F) for the best snow consistency, though a comfortable range is often cited as -8°C to +3°C (-18° F) to (37°F). Temperatures above 0°C can lead to slushy, sticky conditions, while temperatures much below -15°C can become uncomfortably cold. **Ideal temperature -5°C to -15°C (23°F) to (5°F):** This range provides the best combination of dry, light snow for skiing. **-8°C to +3°C (-18°F) to (37°F):** Many skiers find this wider range to be comfortable, especially when properly dressed. **Less ideal temperatures warmer than -5°C (23°F):** Snow can become slushy and sticky, making it harder to control skis. **Colder than -15°C (5°F):** Conditions can become uncomfortably cold. **Other factors: Spring skiing:** Temperatures in the range of 30°F to 40°F (around (-1°C) to (4°C) are ideal for "corn snow," which softens during the day and freezes overnight. **Wind:** Wind can make cold temperatures feel much colder, so a still day is often preferred for comfort.

Ski precautions: This include controlling your speed, staying in control, and knowing the right-of-way rules, which state that skiers ahead have the right-of-way. Always wear a helmet and appropriate gear, warm up before skiing, and stick to marked trails that match your skill level. Before starting downhill or merging, look uphill to check for other skiers. Ski poles, also referred to as poles (in North America), sticks (UK), or stocks (Australia), are used by skiers for balance and propulsion. Modern ski poles are most commonly made from aluminum and carbon fiber, though materials such as bamboo are still used. Poles are used in alpine skiing, freestyle skiing (with the exception of aerials), and cross-country skiing. Ski jumpers do not use poles. While ski resorts do not have a universal list of prohibited medical conditions, individuals with certain health issues should seek medical advice before skiing or avoid the activity entirely due to the inherent risks.

Heart and Circulatory Problems: People with existing heart conditions, high blood pressure, or circulation issues should undergo an exercise stress test and consult a cardiologist to create a management plan. Physical exertion, cold weather, and altitude can pose a risk.

Back and Spine Injuries: Skiing is considered a high-risk activity for those with conditions like a herniated disc, especially during periods of acute pain. The sport's high impact, rapid compression, and sudden twisting movements can worsen the injury or cause nerve damage.

Recent Injuries/Surgeries: It is best to avoid skiing during recovery from a significant injury or surgery (e.g., hip or knee replacement) until a doctor has cleared you for such activities.

Severe or Persistent Pain: If you are experiencing severe or persistent pain, numbness, or weakness in any part of your body, you should not ski as this can impair your balance, coordination, and ability to react, increasing the risk of further injury.

Impaired Physical or Mental Ability: Anyone whose ability to use lifts or terrain safely is impaired by alcohol, drugs, or extreme fatigue should not ski.

Lack of Physical Fitness: Skiing requires a basic level of physical fitness, strength, and endurance. If a person is severely overweight or not physically prepared, they increase their risk of injury.

General Rules for All Skiers: All skiers are expected to follow basic safety guidelines, regardless of their health status:
Stay in Control: Maintain the ability to stop or avoid other people/objects at all times.
Never Ski Alone if Unwell: Those with pre-existing medical conditions should avoid skiing alone.
Avoid Alcohol and Drugs: Do not use lifts or terrain while impaired by alcohol or drugs.
Stay Hydrated and Rest: Take regular breaks and do not ski if you are tired or lacking sleep.

On the slopes

- Stay in control: You must be able to stop or avoid other people and objects.
- Know right-of-way: People downhill from you have the right-of-way, so you must avoid them.
- Be visible: Do not stop in the middle of a trail or anywhere you can't be seen from above.
- Look before you start: Before starting downhill or merging into a trail, look uphill and yield to others.
- Respect signs: Obey all posted signs and warnings, including slow zones and closed areas.
- Prevent runaway equipment: Use devices to ensure your skis or snowboard don't run away from you.

Preparation and gear

- Wear a helmet: A helmet is essential protective gear.
- Dress in layers: Wear multiple layers, including waterproof outer layers and warm, moisture-wicking base layers.
- Protect your eyes: Wear goggles or sunglasses.
- Warm up: Stretch and warm up your muscles before you ski.
- Use proper equipment: Make sure your gear is in good condition and suited to your skill level.

Safety and lessons

- Don't ski alone: Ski with a partner and stay within visual contact.
- Stay on marked paths: Only ski on marked trails and stay within the ski area boundaries.
- Take lessons: Consider taking lessons from a certified instructor to learn proper techniques and safety.
- Know how to fall: Learn to fall properly to avoid injury. Try to relax and roll rather than putting your hands out.
- Avoid closed areas: Never go into closed areas or past rope lines.
  Medication: When skiing, primary medication precautions involve consulting a doctor about existing conditions and high-altitude effects, adjusting dosages (e.g., for diabetes), carrying essential personal medications, and avoiding anything that impairs judgment or physical ability.

General Medication Precautions for Skiing

- Consult your doctor: Before your trip, have a pre-trip health check. Discuss your planned activities with your doctor, especially if you have pre-existing conditions like diabetes or asthma. They can advise on potential risks and necessary medication adjustments.
- Continue regular medication: It is vital to keep taking your prescribed medication as directed while away, but be aware that high altitude or increased physical exertion might require dose modifications (e.g., a substantial reduction in insulin for diabetics).
- Carry medication securely: Use appropriate, possibly insulated and waterproof, storage to ensure your medication is protected from the cold and moisture, and easily accessible.
- Avoid impairment: Do not ski if your ability is impaired by drugs or alcohol, as this significantly increases the risk of accidents.
- Pack a first-aid kit: Include general pain relievers like ibuprofen or acetaminophen, as well as bandages, antiseptic wipes, and anti-inflammatory gels for minor cuts, muscle aches, and pains. Note that some sources suggest avoiding anti-inflammatory medications immediately after an acute injury as they may impair natural healing, so consult a professional if injured.

Altitude Sickness Medications: Ski resorts are often at high altitudes, which can cause acute mountain sickness (AMS), high-altitude cerebral oedema (HACE), or high-altitude pulmonary oedema (HAPE). Gradual ascent is the best prevention, but medications may be necessary if rapid ascent is unavoidable or if you have a history of altitude illness.

Condition	Prevention Medications (Prescription Required)	Notes
Acute Mountain Sickness (AMS)	Acetazolamide (Diamox), Dexamethasone, Ibuprofen (off-label)	Acetazolamide helps acclimatization; dexamethasone only masks symptoms. Ibuprofen (600mg every 8 hours) has some proven benefit for prevention.
High-Altitude Pulmonary Oedema (HAPE)	Nifedipine, Tadalafil (Cialis)	Reserved for individuals with a history of HAPE. These help reduce pulmonary artery pressure.

Important Considerations for Altitude Medications

- Consult your physician: These are strong medications with potential side effects and interactions; they are not for general use without medical consultation.
- Plan ahead: Medication for prevention usually needs to be started the day before ascent and continued for a few days at altitude or during continued ascent.
- Carry emergency medication: If you are high-risk, carry dexamethasone or nifedipine for emergency treatment of severe symptoms until descent is possible.

Ultimately, the best precautions involve physical conditioning, proper equipment, knowing your limits, following resort safety codes, and consulting a healthcare professional regarding any medical conditions and necessary medications.

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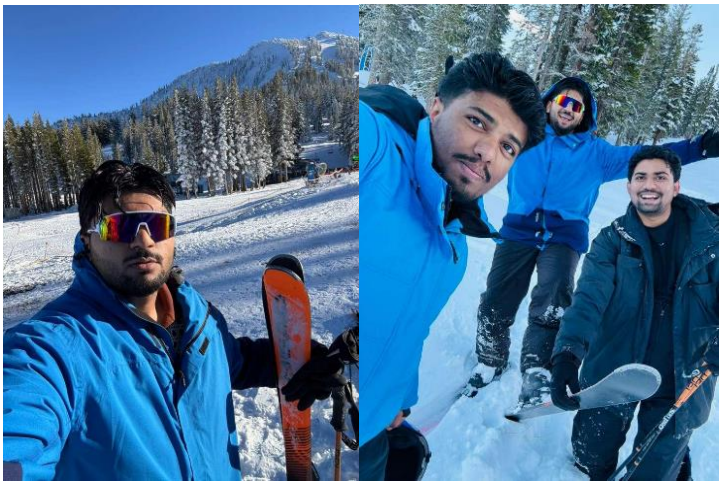

CONCLUSION

A ski adventure involves skiing or snowboarding in locations like Gulmarg, Auli, and Solang Valley, which offer a range of experiences from beginner slopes to advance heli-skiing. A "ski adventure" can mean anything from taking a beginner's course to exploring backcountry terrain.

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