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**Best Practices in Prevention of Skiing Accidents in Europe:
The New Challenge
(Be.Pra.S.A.)**

REPORT

Recommendations for Good Practice

Grant Agreement n. 2004132

European Commission
Health and Consumer Protection Directorate General
Directorate C – Public Health and Risk Assessment
Unit C2 – Health Information





Contents

Executive Summary

Introduction
Methodology
Conclusions and Recommendations

1. Aim and Purpose of the Manual

2. Target Groups

3. Methodology

- 3.1 Literature Review
- 3.2 Legislative Review
- 3.3 Data Collection and Analysis
- 3.4 Discussion and Consensus

4. Results

- 4.1 Norms and Legislation
- 4.2 Products and Services
- 4.3 Individual Characteristics and behaviour

5. Conclusions and Recommendations

- 5.1 Norms and Legislation
- 5.2 Products and Services
- 5.3 Individual Characteristics and behaviour

Glossary

References

Acknowledgments



EXECUTIVE SUMMARY

Introduction

This report represents the final deliverable of the European Commission co-financed project “Be.Prasa” (Best Practice in the prevention of skiing accidents in Europe: The New Challenge) as required by the Grant Agreement Contract n. 2004132.

The purpose of the report is to make recommendations for good practice in the prevention of injury due to skiing and snowboarding accidents.

It is intended to be of use not only to skiers and snowboarders but to a vast array of stakeholders directly and indirectly involved in skiing and snowboarding management, among which rescuers, lift managers and staff, medical staff, academics, juridical and legal professions, policy and decision makers.

Methodology

The methodology adopted for the identification of good practice was discussed and agreed by all Be.Pra.Sa project partners. An extensive literature and legislative review was carried out, in addition to a data collection and analysis activity. The findings and recommendations have been discussed with key stakeholders throughout the project duration and in particular through the endorsement process of the Turin Charter which has allowed for the possibility for a continuous debate on this subject at an international level.

Conclusions and Recommendations

The research activities revealed gaps in international data on skiing injuries and structural problems in doing comparative analysis at the European level regarding skiing injuries and prevention measures. Furthermore, the research underlines how the issue of ski injuries cannot be tackled without a multi-disciplinary approach to skiing safety. Indeed, the conclusions and recommendations in this report are



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centralised on three key areas as priority domains for intervention: norms/legislation, product and services and individual characteristics and behaviour.



1. AIM AND PURPOSE OF THE REPORT

Exercise and sport activities make an important contribution to health and a healthy lifestyle, as well as to physical, emotional and social well-being. In particular, young people are highly represented in sports and can benefit both in terms of physical and mental health by practising safe sport. However, according to numerous studies a significant proportion of these health gains are lost due to sport injuries.

Indeed, the toll of sport injuries is high, with about 300,000 injuries in snow sport detected each year in the EU (alpine countries). The social impact of injuries is also high in terms of number, severity and consequences such as loss of productive years, disability and human sufferings.

Despite this increasing relevance of the phenomenon of skiing and snowboarding accidents, there is a general lack of coordination regarding prevention measures within and between the European countries.

Moreover, the availability of micro data which allows for a comparison of both injury data and data regarding prevention measures between countries is unsatisfactory. It has therefore been difficult to establish best prevention practices and consequently promote their harmonization across European Countries to date.

This report aims, therefore, to fill the information gaps pertaining to effective injury prevention measures in this sector in order to provide the European Community with a reliable report with recommendations for good practice in the prevention of skiing and snowboarding accidents for dissemination throughout Europe. Ultimately, it is hoped that such recommendations will positively affect the safety and health of those people practicing skiing activities in a trans-national skiing environment.

2. TARGET GROUPS

This report can be useful to a number of different stakeholders as follows:



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- The European Community
- National Governments
- Regional/Local Public Authorities dealing with snow sport activities
- Public/Private Institution/Organization operating in the field of snow sport activities
- Ski Resort Managers
- Experts in the field of skiing/snowboarding injuries and prevention measures
- Skiers and Snowboarders
- Ski and Snowboard Products Companies
- Any Person/Institution/Organization/Company with a stake in the field

3. METHODOLOGY

3.1 Literature Review

Conducting a national/regional and international literature review update on skiing injuries and injury prevention measures was an essential step to support the data retrieval and analysis work in the context of the Be.Pra.S.A. project.

The literature review work has been performed in a harmonised way in the different European MSs where the project's partners are located. An international literature review exercise has also been conducted following specific guidelines provided by the project leader.

Specific characteristics and parameters (keywords) have been identified to facilitate the project's Partners research review work. In particular the following indications have been provided:

1. The review should be conducted over reports/documents/research work/studies/literature produced at regional and national level in the partner's own national language, regarding data of the partner's own country .



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2. The review should be conducted over reports/documents/research work/studies/literature profiling, where possible, skiing/snowboarding injuries and accidents according to the following aggregated data:

- Personal data (age group, gender, nationality, etc.);
- Equipment (helmet, use of other protections);
- Type of Sport/equipment (Alpine skiing, Snowboarding, Telemark, Nordic skiing);
- Type of injury;
- Body part injured;
- Weather conditions;
- Snow conditions;
- Type of Slope (difficult, easy, off-pist);
- Type of Accident (collision, obstacles, etc.);
- Contributing factors;
- Average daily presence on the slopes;
- Ability of sport person (beginner, intermediate, advanced, expert, etc.).

3. The review should be conducted on research work/studies/literature:

- Which identify and analyse existing safety/prevention measures (i.e. legislation, infrastructure, campaigns, etc.) in the partner's own country, for skiing/snowboarding accidents;
- Which analyse the effectiveness of existing safety/prevention measures (i.e. legislation, infrastructure, campaigns, etc.), in the partner's own country, for skiing/snowboarding accidents.

The same parameters have been set and duly adapted to cover the international literature review work.

3.2 Legislative Review

Although most of the information was obtained through the internet access to legislative public administration archives and specialised libraries, currently updated information was also accessed through contacting key informers in the partner's regional or local network.



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The findings were analysed in order to draw some general conclusions about the situation in Europe.

The review does not mean to present an exhaustive and definitive overview of the European situation as the study was carried as pilot study in the 4 project partners countries (Austria, France, Italy and Slovenia) of the Alpine region. However, the four countries can provide a good picture of how the issue of ski injuries and prevention measures is addressed, considering that they are among the most popular countries for ski and winter sports activities.

Types of documents that each partner researched and examined in their own countries included legislation at both a National and a European Level. They are: laws, acts, recommendations, recommendations, directives, regulations, reports, communications and conventions.

3.3 Data collection and analysis

The main objective of this activity was to identify and analyse data on skiing and snowboarding related injuries as well as on existing prevention measures.

With regard to the identification of existing data on skiing and snowboarding injury, the following steps were undertaken:

- a. Collection of existing data and research
- b. Identification of a minimum data set for future data collection and test of its submission feasibility
- c. Implementation of a pilot surveillance system in Italy (The Simon System)

With regard to the data on prevention measures, a pilot research was carried out on injury prevention measures adopted in ski resorts by means of the following steps:

- a. Collection of pre-existing questionnaire on injury prevention measures in ski resorts
- b. Elaboration of a new, exhaustive questionnaire
- c. Submission and collection of 3 questionnaires per each partner country



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d. Identification of recommendations to be included in the 'good practices report' as final output of Be.Pra.S.A. project.

3.4 Discussion and Consensus

The formulation of recommendations on good practice in the prevention of injury due to skiing and snowboarding accidents has been the subject of a continuous consultation process with key experts in the field throughout project duration. The formulation and reaching of consensus on the Turin Charter has been a key step in this process.

The Turin Charter on Skiing Safety is a document that has been prepared by a panel of international experts and specialists containing guidelines and recommendations for the prevention of skiing accidents. Consensus on the Charter was reached at the Consensus conference that was held in the context of the XX Winter Olympic Games in Turin on February 5, 2006, under the patronage and coordination of the Olympic Games Committee.

The Charter has already been endorsed by numerous international institutions and a final version is expected to be presented and endorsed in occasion of the 2010 Winter Olympic Games in Canada.

Indeed, the philosophy behind the Charter is based on encouraging dialogue and stimulating debate on this subject and many of the recommendations contained in this report are derived from articles in the Charter that have been further discussed or elaborated throughout the project lifetime.

4. RESULTS

On the basis of the research activities as described in the previous section, a variety of causes of accidents have been identified, many of which could be eliminated without prohibiting the practice of off-piste skiing, but by orienting proposals towards information and prevention measures rather than tougher regulations.



Furthermore, it has been established that epidemiological research on traumas related to skiing/snowboarding activities has developed very slowly, often because the acquiring of medical data on accidents is quite difficult, as is the precise quantification of the effective exposure to risk of the individuals involved.

Consequently, in order to improve safety and the knowledge of the phenomenon in terms of a reduction of the number and seriousness of accidents, it is fundamental to acquire knowledge about the accident rate, define and measure the 'injury' phenomenon and try to analyse the relations of cause and effect present in the injury dynamics. This will allow to define the type and priority of intervention and to achieve a realistic quantification and evaluation of the results obtained through such interventions.

On the basis of the above considerations, the conclusions and recommendations of this report have been elaborated according to the following three thematic areas: Norms/Legislation; Products and Services; Individual Characteristics and behaviour

4.1 Norms/legislation

According to the Be.Prasa Project experience, legislation could support a large portion of the ski injuries prevention measures in order to decrease the number of ski injuries and promote ski safety with adoption of rights and obligations for all the users categories.

The desirable result should be the presence of a standard snow law which applies to all countries in which skiing is practised, guaranteeing not only the skiers' safety, but also people's freedom to move around and furthermore facilitating the flow of tourists.

With regards to particular legislative measures, there is no doubt that the helmet and safety bindings are very efficient preventive means, to reduce both the risk of brain concussion as of knee sprains (but also lesions to one's ligaments and leg fractures). The fact remains that such instruments should be correctly used and maintained. A helmet not fitting on well or which has been hit, a binding not adjusted well, can



constitute a source of danger.

The national laws which oblige the use of the helmet for children and young people, if fully applied, will certainly contribute in reducing a phenomenon which, one should underline, is not limited only to children. While fully respecting one's personal habits, it would be, thus, a good practice that the helmet were used by all skiers, increasing this way, the quota of protected individuals.

Nevertheless one should point out an obligation which research must have, that is of trying to improve even the present. From this point of view, the criteria of homologation of the helmet must follow the criteria established by the European norm (UNI EN 1077).

The criteria for the homologation of helmets seems in line with the practice of athletic/competitive skiing; but it is legitimate to ask oneself if the requirements of an amateur skier are the same as those of a competitive skier. In particular, a rather noticeable quota of impact caused lesions, in the case of collisions between skiers, regards the head. Probably it currently does not regard a very large quota of occurrences, nor is it easy to hypothesize precisely how many there will be in the future foreseeing an increase in the use of the helmet (which would make the head more protected for all; but the other parts of the body more at risk); but that does not mean one has already reached the state of the art for what regards passive safety devices.

4.2 Product & services

Ski products should make safer all the ski activities for skiers and users, considering adequate equipment and tools. In fact, the inadequate equipment (non slip-resistant clothing and failure to wear protective headgear) should be considered a risk factor for ski injuries. The ski producers should take into account the prevention measures in designing and providing ski products. Ski services should be designed and organised in a protected and safe way, considering the ski services providers to be responsible for the ski services safety. In fact, natural or artificial obstacles on the slopes, that unfortunately seem poorly protected in the most of the studied cases, are one of the



main injuries causes on the slopes to the skiers. Ski-lifts in some cases are dangerous because of their slopes and their turns, not duly signalled or not safely maintained. One of the main technical problems is due to the insufficient upkeep and maintenance of the slopes. In some cases the slopes themselves are designed in a dangerous way, due to hazardous and unsafe intersections among different slopes and at different level.

4.3 Individual characteristics & behaviour

The main problematic issue on the slopes seems to be the non-observance of skiing and mountaineering regulations and the hazardous intersections between skiers of different levels.

Furthermore, it can also be concluded that one of the main injury causes is the insufficient preventive training for ski slope directors and skiers.

Education is one of the principal pillars on which to base the prevention of incorrect and dangerous behaviour on the slopes, especially oriented to skiers pupils, often beginners and highly risk orientated.

Another important topic involves the physical preparation for skiing. The type of accidents and lesions observed shed light on the importance of an adequate physical preparation in facing a day on skis. The efforts the body undergoes requires, besides a great sense of responsibility, also a deep respect of one's own body. To ignore the messages it sends (tiredness, aching muscles, feeling cold, hunger, etc.) exposes one to useless risks, often avoidable with a pause or with adequate protection.

5. CONCLUSIONS AND RECCOMENDATIONS

5.1 Norms and legislation

1.1 Legal harmonization - (art.8 Turin Charter)

The adoption of measures towards a legal harmonization across countries in the field of snow sport safety should be promoted.



A major effort toward legal harmonization is the basis for an effective and efficient good-practice sharing system.

Nevertheless, this process can only be successful if it keeps the substantial differences in the economical, social, cultural and environmental situation of the different states in high consideration.

1.2 Legal provisions

Common standards of signposting, products, services and quality certification should be recommended.

1.3 Collection system of the injury information

In order to monitor the situation, a harmonised European data collection system should be created, creating a common accidents & injury surveillance system and a common use of accident information, strengthening the European Injury Database (IDB).

It should be drawn a distinction in all the statistic systems between slightly and seriously injured people.

1.4 Sanctions

A decision on giving fines and ski-pass withdrawn to the disrespectful skiers should be considered a significant prevention safety measure.

1.5 Ski injury Insurance

The ski injury insurance for skiers in the running contract should be strongly suggested. However it should be taken into account the fact that, due to the insurance, the ski pass could be more expensive for the skiers.

1.6 Governmental Responsibility - (art. 12 Turin Charter)

Since skiing safety is a multi-sector issue, governments have the responsibility to develop, implement, enforce and evaluate overarching research, policies and programmes. Such policies and programmes should cover all fields of action in accordance with Turin Charter Art.6 (supportive environments, safe products and services, continuous information and education). Such policies and



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programmes need to be led by one designated sector (ie: health, sport or consumer sector).

1.7 Collaboration of stakeholders - (art. 15 Turin Charter)

There is no successful injury prevention policies without a functioning collaboration of researchers, practitioners and policy makers. It is important to promote a permanent and constant collaboration and partnership of stakeholders from public and private sectors, as both sectors will find common interest from an improvement of safety in skiing activities.

1.8 Regional, National and International collaboration - (art. 15 Turin Charter)

In order to ensure an effective exchange of experiences and knowledge of good practices, a stable international network is needed. International benchmarking is also desired. This international network will be more effective if based on consolidated regional and national networks in each State.

1.9 Good practices - (art. 16 Turin Charter)

Of paramount importance is the adoption of evidence-based practices that, through a continuous process of monitoring, evaluating and experience-sharing, shall become the adoption of shared good practices. The concept and identification of good practices are tightly linked with social, economical and technological changes. This means that what is a good practice today will not necessarily be the same tomorrow.



2. Product & services

2.1 Operational areas - (art. 6 Turin Charter)

To achieve a high level of safety, a global approach is necessary in the following 3 main areas of intervention:

- a. Education and Information
- b. Equipment and equipment-related services
- c. Ski Infrastructure and infrastructure-related services.

a. Education and Information

a.1 Information of slope users by other service providers (hotels, sport shops)

Each person has the right to be provided with information regarding risks and available preventive measures, adopted preventive measures, available services and materials and appliance norms and injunction to use them, adoptable rules of conduct and all other types of information, including emergency numbers.

The emergency numbers is considered useful for decreasing the risk of injury and eventually for receiving treatment. (more evident - on the lifts, ski pass .)

a.2 Provide mobile phone coverage on the slopes

Provide mobile phone coverage on the slopes is recommended in order to increase the safety on the slopes in case of injury and accident.

a. 3 Information diffusion - (art. 7 Turin Charter)

All the stakeholders involved in ski injury prevention should have the responsibility to contribute to having well-informed and safety-oriented customers or citizens, members, guests, or readers. The responsibility for information does not lie solely within one sector. The information given should be appropriate to the specific situations. The effectiveness of information should be managed.

Updated Information on Slopes conditions (e.g. related to time, weather, people) trough electronic devices should be suggested.



Information campaigns to rise awareness on ski safety should be strongly recommended.

Considering that it would be desirable that it should be created a common campaign on ski safety, disseminated in the most common European languages it should be addressed to the most vulnerable people, including the youngest people.

Make more visible and understandable the slopes level of complexity and the level of skiers to contend with the slopes, make aware on the slope condition in the afternoons and on skiers tiredness could be strongly suggested.

a. 4 Weather information

Natural snow slopes conditions are very weather dependant. Therefore, the weather information broadcast should be highly accurate. It should be broadcasted by local radio stations in resorts and displayed in tourist offices, hotels and on the slopes.

a.5 Right of safety -_(art. 8 Turin Charter)

Each individual has the right to be free from harm caused by unsafe services, unsafe structures or materials, incorrect behaviour of other snow sport participants and each individual has the right to access materials, services, structures, training and treatments that meet high safety standards.

a.6 Right of choice -_(art. 10 Turin Charter)

All individuals should be given the possibility to choose among a range of products and services of high quality and safety standards and to choose what is clearly recognizable as good practice with respect to the environmental, physical, social, cultural, legal, economical and technological conditions

a.7 Knowledge development -_(art. 13 Turin Charter)

All decisions made regarding injury prevention measures should be based on evidence. Reliable and comprehensive injury surveillance as a matter of routine, according to international standards, is crucial for quantifying the problems, identifying risk factors and monitoring the effectiveness of interventions. Sustainable networks and information systems are needed for sharing



experiences and knowledge of good practices. Dedicated institutions ensure the need for research, expert advice, advocacy and information dissemination which are of paramount importance in increasing a correct understanding of the matter at all levels.

a.8 Rescue services

There should be suggested to have an organised permanent rescue service in operation from the opening to the closing of the pists, based in Ski Resorts, able to provide quick first aid and well connected with health services. Furthermore it should be sufficient according to ski areas attendances.

b. Equipment and equipment-related services

b.1 Ski products

It should be suggested to introduce a European certification on products quality obligatory the producers of sport equipment (skis, boards, boots, bindings, PPE etc.). It should be also recommended to inform the skiers on products: i.e. target groups, products lifetime, maintenance and set up (seasonally bindings regulation).

b.2 Safety elements on wearing cloths

It is recommended to wear protective helmet, non-slip clothing and other protective equipment, especially for children.

c. Ski Infrastructure and infrastructure-related services.

c.1 General organisation of the Ski Resorts - (B Rule for Safety in Winter Sports Centres)

It should be recommended that the Ski Resorts should be responsible for:

1. laying out, maintaining, signing and protecting the marked runs like pistes and itineraries (unpatrolled runs);
2. providing information for skiers regarding the layout and the degree of difficulty



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of pistes and itineraries. They should also provide weather forecasts and in particular warnings of potential avalanche danger.

3. Dissemination of the rules of conducts

c.2 Accident investigation

Video surveillance systems on the slopes could help in slope supervision and accident investigation.

d. Ski transports

d.1 Ski Transports - Mechanical lifts - (D Rule for Safety in Winter Sports Centres)

Whenever possible, the construction of chair lifts will be recommended as a replacement for ski-lifts. For new ski-lifts, intersections of mechanical lifts and downhill slopes should be avoided.

For existing ski-lifts, the regulations set should be applied more strictly with regard to prior authorization for, arrangement of and marking of intersections.

All these measures should be taken into account in order to decrease the maximum authorized gradient.

Standardization should be pursued as regards the dimensions, composition and attachment of protective structures on natural obstacles (rocks, tree trunks, ravines, etc.) and artificial obstacles.

Moreover, simple and accurate information should be displayed at lift departure points regarding the configuration of the lift: length and altitude differential, maximum gradient, turns, minimum height of children, side of exit from the lift. The information should be updated during the day depending on the condition of the snow, visibility, and the temperature at the summit of the slope.

Lift operators should be made responsible for the quality of the information.

d.2 Cable cars and mountain railways - (D Rule for Safety in Winter Sports Centres)

As the user takes no active part in this transportation, the operator should have the obligation of transporting the user safely from the point of departure to the



point of arrival at the operators risk. There should be instructions on appropriate behaviour during the use of cable cars and mountain railways in visible space.

d.3 Drag lifts, chair lifts and other machines in continuous movement - (D Rule for Safety in Winter Sports Centres)

Subject to national, legal and administrative measures, the operator should ensure:

1. that the machines are maintained in good working order by sufficient number of competent staff;
2. adequate management and maintenance of the areas for picking up and departure from the lift together with warning signs pointing out difficulties in the terrain;
3. the management, and, as necessary, protection of the queues of waiting people;
4. maintenance of the uphill transport track;
5. protection of the dangerous parts of the track, and provide a user in difficulty with the means of arresting his fall and descending safely;
6. to ensure that by overseeing the track immediate action can be taken to warn, avoid or limit any danger;
7. the staff of the operator has a general duty to assist users, especially children, and in the case of obvious difficulty, or at the request of the user;
8. provide notice boards describing how users should behave on the lift.
9. a user should have sufficient physical and technical skill to use machines in continuous movement so that he can be pulled up the track normally.
10. In addition to the elementary rules of care the user should pay attention to the directions, written or oral, of the operator.

e. Slopes safety

e.1 Deceleration area and run-out

There should be an adequate deceleration area and run-out at the base of the slope which may incorporate a counter slope.

e.2 Safety Design & Maintenance of slopes



It should be recommended to take into account to the different kind of snow (natural and artificial) in order to design and maintain the slopes.

e.3 Moving and Fixed objects on ski slopes and close to the pists (e.g. tree nerby the pists)

All the moving and fixed objects should be well protected and immediately visible.

Barriers and other fixed objects which skiers may impact against should be avoided, wherever practicable, during slope design. If they cannot be moved, adequate protection (by the use of nets, padding or other methods) is essential. Barriers at the ends of slopes are typically made of wooden corral-style fencing, faced with plywood and protected by foam. The site operator's risk assessment should cater for the worst-case scenario of a skier losing control at or near the top of the slope and 'straight-lining' down the slope.

e.4 Accomodation-Transports after slopes closing

Slope huts open after slopes closing should provide accommodation/transports for skiers.

e.5 Delimitation of ski areas

Considering that it is essential that skiers know where they are at all times, that the delimitation of trails (marked, compacted, maintained) should be very clear, that the separation of slopes from off-piste sectors should be totally unambiguous, that markings should be particularly explicit and visible in high risk sectors such as slope intersections and arrival points, Considering that a systematic harmonization of markings should be pursued so that, regardless of the resort, skiers can recognise markings without hesitation and that, given the number of foreign visitors, this harmonization should be pursued on a Europe-wide level.

It should be initiated a procedure to develop ski slope safety standards and give priority to zoning, marking, obstacle protection, and avalanche indicators.

It should be arranged areas reserved for beginners, areas reserved for new forms of "sliding" (snowboarding, etc.), neutral areas to avoid the simultaneous



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presence in the same areas of skiers on slopes for the preparation or organization of competitions, and "general public" skiers.

Sites should be encouraged to have perimeter security to deter trespassers.

e.6 Skiing areas: pists, itineraries (un-patroller runs), off pists - (C Rule for Safety in Winter Sports Centres)

The concept of skiing areas in Europe has developed around the marked runs/pists.

e. 7 Rescue services

Common and precise coercive powers should be given to the rescue services on the slopes, creating concrete and precise obligations of the slope safety managers in maintaining and making safer slopes.

A regulation of the flow of skiers on the slope in order to avoid the highly dangerous crowded slopes could be suggested.

e.8 Designing pists and infrastructures accounting avalanche risk

When designing pists and ski infrastructures the avalanche risk should be taken into account.



3. Individual characteristics & behaviour

3.1 Responsibility - (art. 2 Turin Charter)

Safety in skiing activities is the responsibility of practicing individuals, as well as of legislation and governments at all levels, businesses and non-profit organizations related to these sports (e.g.: cable car operators, snow sports schools, sports retailers and rental service providers, accommodation providers in skiing resorts, producers and retailers of sporting goods, marketing organizations at all levels, sports associations, media, insurers, standardization organizations), and organizations in the field of health and safety promotion and any other subject related to skiing sports.

It is the duty of service suppliers to the sport to make participating individuals aware of relevant safety information and regulations.

All individuals have the duty to follow existing codes of conduct aimed at minimizing the risk of accidents. Standardized rules of conduct for safety in skiing sports should be known and followed.

Skiers are responsible not only for their own behaviour but also for maintenance in appropriate condition their equipment.

3.2 Skiers behaviour

Respect others should become the should on the ski pists, behave in such a way that you do not endanger or prejudice others.

All individuals have the duty to follow existing codes of conduct aimed at minimizing the risk of accidents. Standardised rules for conduct for safety in skiing sports should be known and followed.

3.3 Non-discrimination - (art. 3 Turin Charter)

No discrimination on the grounds of sex, age, race, colour, language, religion, political or other opinion, national or social origin, shall be permitted in the access to skiing and other snow sport activities and related safety measures.

3.4 Vulnerable groups and Children - (art. 4 e 5 Turin Charter)

Special attention shall be given to the needs of vulnerable groups and, if necessary, additional prevention measures shall be taken, aimed at enabling vulnerable groups and disadvantaged/disabled individuals/groups, to perform skiing activities with a high level of safety.



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Among vulnerable groups, special attention should be devoted to child safety. Children start skiing before they are completely aware of the risks involved, of their ability or of their limits. Particular support needs to be given to children by families, educational institutions and highly specialized personnel. Children need to be taught about behaviours and rules during skiing activities. This will contribute to the improvement of children's approach to mountain activities with positive effects on their physical and mental health.

3.5 Right of information and education -_(art. 9 Turin Charter)

Every individual has the right to be provided with information regarding risks and available preventive measures, adopted preventive measures, available services and materials and appliance norms and injunction to use them, adoptable rules of conduct and every other type of information, such as emergency numbers, considered useful for decreasing the risk of injury and, eventually, for receiving proper treatment. Information should be correct, up to date, easily understandable, positive, encouraging and helpful.

3.6 Human resources capacity building -_(art. 14 Turin Charter)

To enhance safety more capacity and better knowledge are needed. Members of involved sectors need to be informed, trained and motivated to fulfil their responsibilities. This needs professional support of an adequate capacity building process. The contemporary view of building capacity goes much further than the concept of training and includes: managing change, enhancing coordination, fostering communication, and ensuring that data and information are mutually shared, requiring a wide and holistic view of capacity development.

3.7 Skier preparation

Considering the number of accidents due to medical causes in public health terms, it is important to stress, especially to occasional skiers, city dwellers and people unaccustomed to sports, the importance of physical preparation, adaptation to the cold, proper diet and adequate water intake and rest. The leisure aspect of vacation times and the constant technical improvements in equipment should not mask the fact that mountains are a challenging environment and that skiing is a demanding sport that requires suitable equipment, physical and psychological preparedness.



The importance of physical preparation for skiers facing challenging mountain environments, in addition to the prevention campaigns should be emphasized.

3.8 Skier education

Safety awareness raising should be pursued in the appropriate manner at all levels, from beginners, advanced, intermediates and expert skiers. Safety awareness raising should be aimed on a priority basis at children and adolescents in order to inculcate the habits of a responsible adult skier.

Safety awareness raising and training should also be a concern for people, authorities and organizations that organize winter sports holidays supervised by personnel not trained by skiing schools. Risks and safety preventive measures should be taught in ski schools, in order to educate the youngest skiers, by qualified teachers and professionals, certified by curricula or other quality means.

3.9 Ski training

Staff training and supervision are very important. Induction and refresher training should be required for all staff, including ski instructors.

Training of skiing instructors, including safety training, suggesting a common standard procedure or a common certificate should be encouraged.

Ski slope managers / first aid workers also should received this certificate.

With regard to the personnel operating mechanical lifts, certificates of aptitude should be issued and provided by training manuals.

3.10 The ski schools, instructors and guides - (E FIS Rule for Safety in Winter Sports Centres)

The ski schools, instructors and guides should teach pupils how to ski safely, which means teaching the technique of skiing and the rules of conduct for skiers. The ski schools are responsible for placing their pupils into different classes according to their standard of skiing. The ski schools, instructors and guides should never allow their pupils to take any risk beyond their capability especially taking into account the snow and weather conditions. The instructors should remind their pupils that during instruction they have no particular priority on the pists and that they should at all times respect the rules of conduct for skiers.



3.11 Control of speed and skiing - (2 FIS Rules of conduct)

A skier should move in control. A skier should adapt his speed and manner of skiing to his personal ability and to the prevailing conditions of terrain, snow and weather as well as to the density of traffic. A skier should be able to stop, turn and move within the ambit of his own vision.

3.12 Choice of route - (3 FIS Rules of conduct)

A skier coming from behind should choose his route in such a way that he does not endanger skiers ahead. The skiers moving behind another in the same direction should keep sufficient distance between himself and the other skier so as to leave the preceding skier enough space to make all his movements freely.

3.13 Overtaking - (4 FIS Rules of conduct)

A skier may overtake another skier above or below and to the right or to the left provided that he leaves enough space for the overtaken skier to make any voluntary or involuntary movement. A skier who overtakes another is wholly responsible for completing that manoeuvre in such way to cause no difficulty to the skier being overtaken.

3.14 Entering, starting and moving upwards - (5 FIS Rules of conduct)

Experience proves that joining a piste or starting after stopping are the sources of accidents. It should be recommend that a skier finding himself in this situation enters the piste safely and without causing an obstruction or danger to himself or others.

A skier entering a marked run, starting again after stopping or moving upwards on the slopes should look up and down the slopes that he can do so without endangering himself or others.

3.15 Stopping on the pists - (6 FIS Rules of conduct)

A skier should avoid stopping on the pists in narrow places or where visibility is restricted. After a fall in such a place, a skier should move clear of the pists as soon as possible. Stops Should be made at the side of the piste.



3.16 Climbing and descending on foot - (7 FIS Rules of conduct)

A skier either climbing or descending on foot should keep to the side of the piste. Footprints damage the piste and can cause danger to skiers.

3.17 Respect for signs and markings - (8 FIS Rules of conduct)

A skier should respect all signs and markings. A skier is free to choose whichever piste he wants, according to the degree of difficulty and his personal ability. The piste is also marked with other signs showing direction or giving warnings of danger or closure.

3.18 Assistance - (9 FIS Rules of conduct)

It is a relevant principle for all skiers that they should render assistance following an accident independent of any legal obligation to do so.

3.19 Identification - (10 FIS Rules of conduct)

Every skier and witness, whether a responsible party or not, should exchange names and addresses following an accident. Reports of rescue service and of the police as well as photographs are of considerable assistance in determining civil and criminal liability. Everybody should consider that it should be the duty as a responsible person to provide information as a witness.



Glossary¹

Recommendations: to suggest or encourage as an appropriate choice in skiing prevention measures to the European Commission.

Best practices: Best practices (better as good practices) could be defined as the most efficient (least amount of effort) and effective (best results) way of accomplishing a task, based on repeatable procedures that have proven themselves over time for large numbers of people.

Skiing: For reasons of simplicity the term skiing always means skiing as well as This charter deals with skiing and snowboarding on prepared slopes or on marked but not prepared routes. The focus is on these sporting activities, which are performed by hobby sportspersons, using tourist facilities and services. The Charter does not deal with racing and does not cover activities in the wilderness like ski trekking or helicopter skiing, where risk taking and safety precautions lay primarily within the responsibility of the adventurers. It also does not give specific advice on the assessment of risk of technical systems or natural dangers like avalanches

Prevention on ski accidents: prevention of skiing accidents is the result of a complex process, whereby humans interact with their environment, including physical, social, cultural, technological, political, economical and organizational environments, in order to set up safer conditions when performing skiing activities and decrease, in this way, the risk of being injured.

Safety: safety is a state in which hazards and conditions leading to physical, psychological or material harm controlled in order to preserve the health and well-being of individuals. Safety is such low level of risk, which can be achieved by a thorough implementation of available, affordable, acceptable effective measures.

Safe product: Safe product shall mean any product which, under normal or reasonably foreseeable conditions of use, including duration and, where applicable,

¹ Turin Charter



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putting into service, installation and maintenance requirements, does not present any risk or only the minimum risks compatible with the product's use, considered to be acceptable and consistent with a high level of protection for the safety and health of persons.

European skiing as Alpine area skiing: The European area concerning the Alps, one of the great mountain range systems of Europe, stretching from Austria and Slovenia in the east, through Italy to France in the west.



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