

Promoting Safety in Sport: how to put actions in place

Why we should be concerned?

Physical exercise is an essential part of a healthy lifestyle. It has been proved that lack of physical activity is a major risk factor for the development of a number of chronic illnesses. Sport helps also to support important values such as team spirit and solidarity.

But certainly sporting also holds a risk. Although the net health gains from regular physical activity exceed the risk of injury, the burden of injuries related to sport and physical activities is substantial. About one in five injuries treated at emergency departments in hospitals is related to sporting activities. For the EU-27 region alone, the total number of sport-related injuries that need to be treated in hospitals, is estimated at around 6 million cases a year, of which almost half of the injuries are related to team sport.

Fortunately, there are many possibilities to prevent these injuries, for instance by making sport infrastructures and equipment safer, prescribing the use of protective equipment such as helmets, adapting rules of the game, and by making injury prevention a core component in training methods and in educating coaches and trainers.

Thus, injury prevention in sport has great benefits for individuals engaged in sports and physical activities, such as even greater health in individuals and enhanced sport performance. It also helps to prevent people giving up their sport activities due to injuries that were avoidable and to make active lifestyles in populations to last. There seems to be the wrong expectation that, if sport advocates were to talk about safety issues, people would not become active. In fact, the contrary is true as unsafe activity is one of the major barriers towards ongoing physical activity.

This policy briefing is about how to put actions in place that are working towards higher levels of safety in organised sport activities. It is a companion guide to the EuroSafe Policy briefing "Safety in Sport: Why it is time to act!" which demonstrates the impact of sport related injuries and the importance of using available data on injuries for awareness raising.

This policy briefing aims to assist sports organisations in developing their safety programmes at club level as well as at national association level and to promote continuous improvement of those programmes. In view of that, the policy briefing will present a couple of basic frameworks for addressing the issue of sports injuries and some examples of how to apply such a systematic approach in practice. The latter is based in experience gained through the EU-funded project on Safety in Sport (later in the text referred to as "SiS-project") and pilot intervention programmes developed in collaboration with the European Handball Federation (EHF) and the European section of the International Basketball Federation (FIBA-Europe).

The policy briefing will conclude with a couple of rules of thumb for those who want to develop and implement more focused safety management programmes within their sport organisation. As the risk of serious injury is relative higher in organised team sport, this policy briefing has been prepared with in particular this category of sportive activity in mind.

Safety management

The organised sports sector is being characterised by a hierarchical structure from grassroots amateur level of playing to elite level competition, with strong vertical coordination mechanisms. There are, however, huge variations in professionalism between sports organisations and at amateur and elite level of play, and in their appreciation of the importance of the safety issues and their responsibility to act.

Most sport organisations have dedicated business strategies and management tools in place. Solid financial management, human resources policies, proper marketing and sponsoring policies are essential for them as non-profit organisations and public or private service providers. The challenge today is to complement these strategies with a focused safety management programme that ensures continuous improvement of measures to optimise safety of players. Governing bodies of sports organisations have a major responsibility for identifying and managing the risks associated with their sports and for implementing the latest state

19 Policy briefing





of art in measures to control them. A sound safety management policy should be part and parcel of overall business strategy, as it is the duty of all operators in the field to control and minimise the risk of injuries during sportive activities.

Safety management can be described as the planning, organizing, staffing, leading and controlling of activities of an organisation, i.e. of a sport club or sport federation, with a view to control injury risks of active members in such a way that the profit/ loss balance, in terms of success and health gain or maintenance, is maximised. In most cases this means activities targeting on the reduction of the number and the severity of injuries. A prerequisite is an accurate assessment of the characteristics of the injuries and risk factors relevant for that specific setting and a realistic estimate as to how far the situation can be improved in a certain period of time with given resources.

In the real world of sport many volunteers are involved as coaches, trainers and role models who have their own personal background, training and motivation. Directing these human resources towards common safety objectives and targets requires an interactive process with all actors involved, rather than top down management directives. However it needs a clear ambition in terms of x percent less injuries within y number of years.

Stepwise approach

For all action planning a kind of 'plan-do-check-act cycle' applies. Just as a circle has no end, the PDCA cycle should be repeated again and again for continuous improvement

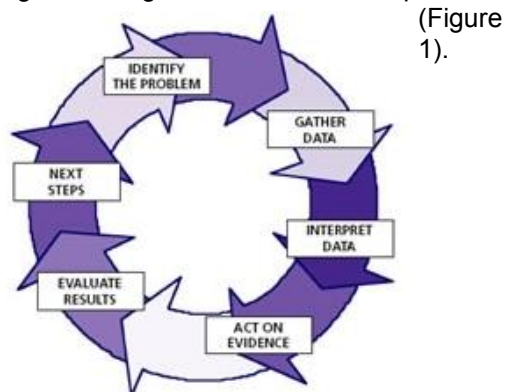


Figure 1: Circle of Action

With regard to safety management this basic approach can be deployed into four distinct steps:

1. Risk assessment and risk factor analysis, i.e. identifying the magnitude of the problem in terms of 'incidence' and 'severity', the intrinsic (athletic dependent) and extrinsic (event/ situation dependent) risk factors and the relationship that exist between these factors and observed incidence.
2. Risk control analysis, i.e. identifying potential solutions to control risk factors and appropriate preventive measures.
3. Programme development, i.e. developing and preparing to implement a 'tailor made' intervention programme adjusted to the needs and demands of the main actors involved.
4. Pilot testing, evaluation and continuous improvement, i.e. testing implementation of a tailored programme into a smaller pilot community, assessing the impact of the programme and analysis of motivators and barriers to uptake and developing measures to ensure compliance to the programme and a wider implementation in relevant settings.

Risk assessment and risk factor analysis (step 1)

The purpose of risk assessment is to describe the extent of sport-related injuries in a given group or population, to compare the incidence between type of injuries or different sports, and to identify high risk groups, injury types or injury factors within a specific team, league or sports organisation. "Sports injuries" are commonly being defined as any physical complaint sustained by a player that results from a match or training. Furthermore, if a player receives medical attention, injuries are referred to as "medical attention injury", whereas an injury that causes a player to miss at least a full part in future training or match play is described as "time-loss injury".

The *injury risk* is being defined as the product of the probability that an adverse event occurs within a specified period of time, i.e. injury incidence, and the average conse-



quence of such adverse events, i.e. the severity of injury.

Incidence can be defined as the number of new injuries within a given time in a given population and is best suited for describing the rate of acute injuries. It is usually expressed as the number of injuries per 1,000 hours of participation. Incidence can also be expressed in other ways, such as the number of injuries per number of matches or training sessions.

The *severity* of an injury can be described in terms of the type and location of the injury, the type and duration of treatment (e.g. hospital bed days), absence from sport or work, pain, impaired athletic performance and permanent disability, or in direct and indirect costs. Injury control measures aim both at reducing the frequency of occurrence of specific events that might lead to injury and at reducing the proportion of these events that result in a serious injury.

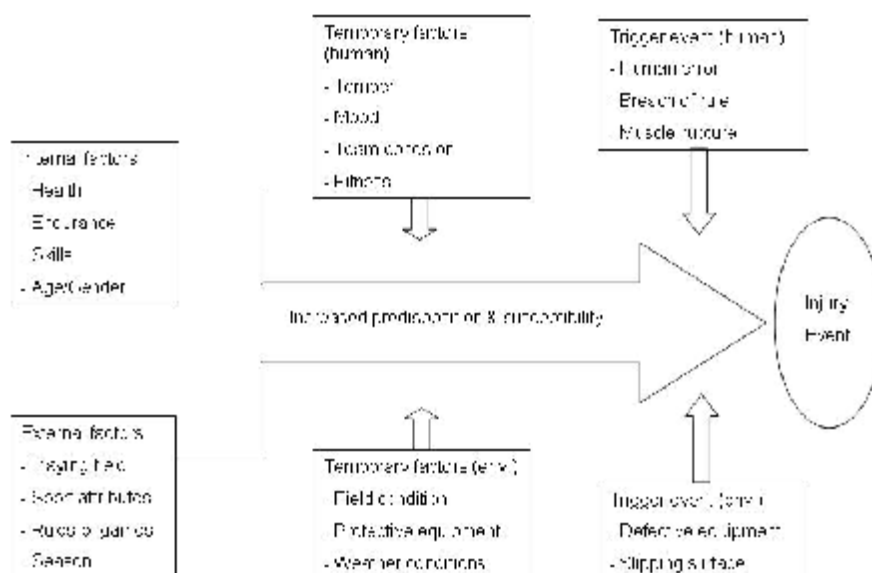
To prevent sport injuries, it is absolutely essential to have a good *understanding of the causes* of injuries. There are many factors that impact on the potential occurrence of an injury. There are internal, or intrinsic, risk factors that are part of an athlete's characteristics, such as age, gender, general level of fitness and playing skills, that make him/her predisposed to injury. And there are external factors related to the environment and equip-

ment/attributes used while playing, that make athletes susceptible to injury.

These factors, often in combination, will determine whether a specific event will occur and result in an injury. Even in cases in which the cause of an injury appears to be very straightforward, such as a direct kick to another player's leg, in reality the causation can be more complex. In this example, contributing factors could be leg pads that were inadequate in absorbing impact, previous injuries sustained to the leg, or lack of attention due to fatigue in the final part of the game.

Figure 2 presents a simple model that outlines a few of the different factors that may contribute to injury. It starts with the intrinsic factors such as health, fitness level, skills and 'previously sustained injury' being a significant predictor of new injuries. These intrinsic factors may predispose athletes to injury or may protect them from injury. Extrinsic factors relate to e.g. equipment and field conditions, weather circumstances, footwear and the wearing of protective equipment. The final link in the chain of risk and protective factors is the 'trigger event', i.e. the inciting event that results into an injury, often called 'injury mechanism'. Each sport has its typical injury patterns and it is essential for team medical and coaching staff to fully understand these patterns.

Figure 2: Model describing the role of stable background factors, temporarily factors and trigger events in generating a sport-related injury event





It is important to note that risks will change over time, not only because of external changes such as weather and field conditions may change within a short period of time, but also due changes as a result of previous training and playing. As muscle strength may increase and technique may improve over time, susceptibility to injury may reduce, but repeated minor injuries may weaken tissue and increase susceptibility to serious injury. According to this model the best way to prevent injury is to change or remove one or more risk factors. In case a risk factor, such as age, cannot be modified, it is important to use this factor for segmenting categories of athletes that are at increased risk.

How it worked in the SiS-project

The stepwise methodology has been applied and tested in the course of the "Safety in Sports" project. The very first step to start with was the selection of high risk sports to focus on, i.e. categories of sport that report a high absolute number of participants and a high incidence of injuries. In general, team sport where physical contact during frequent one-on-one situations is common includes football, handball, basketball, ice-hockey, hockey, rugby and volleyball. All these categories of sport are quite popular in Europe and report an above average injury incidences. Due to the limited resources in the SiS-project, handball and basketball were chosen as role models for the elaboration, testing and evaluation of sport-specific safety programmes.

Available injury data were analysed, as well as recently published scientific literature to detect the specific injury risk in handball and basketball, to describe the epidemiology and to identify potential risk factors. There is an abundance of studies into the incidence and aetiology of sports injuries. These studies gave proper information on the magnitude and severity handball- and basketball-related injuries, major injury mechanisms, risk factors and risk groups to address.

See f.i <http://www.safetyinsports.eu>: P. Luig & T. Henke, *Inventory of the burden of handball injuries, existing prevention measures and safety promotion strategies*, Ruhr University, Bochum, March 2010

Risk control analysis (step 2)

The next step is to identify possible strategies for preventing injuries among groups that are

at increased risk. Similar to other health threats such as infectious diseases, the occurrence of an injury can also be described as the result of interplay between "human factors" (internal factors related to the player), "equipment" (the characteristics of the activity itself and equipment involved) and the "environment" in which the activity takes place (i.e. the physical and socio-cultural external factors).

Three different types of strategies are linked with each of these three categories of causative factors (the horizontal axis in figure 3) in the so-called Haddon-Intervention matrix, called after one of the founding fathers of the science of injury control in the US. Educational and behaviour-change strategies primarily aim to change individual ("human") risk behaviours, while policy and control strategies try to improve safety aspects in the sports physical and socio-cultural "environment" through rules, regulations and compliance measures. Engineering strategies aim at improving the quality of equipment and attributes ("equipment") in such a manner that they provide maximum safety during the activity and protection in case an adverse event occurs.

The second dimension of the Haddon-Intervention matrix (the vertical axis in matrix) relates to whether a measure is designed to avoid accidents to occur ('pre-crash' measures), to avoid injury or reduce the immediate severity of injury in case an accident happens ('crash' measures), or whether it aims to minimize the consequences of a sustained injury ('post-crash' measures).

The benefit of applying the Haddon-Intervention matrix is that it helps to get a more comprehensive view of relevant measures to take in preventing accidents to occur and in minimising the severity of the outcome in case an accident occurs. It helps to identify a multi-axial strategy for prevention, thus addressing multiple categories of risk factors at the same time.



Figure 3: Haddon Intervention Matrix with examples of measures relevant for promoting safety in sport

Phase		FACTORS		
		Human	Equipment	Environment
Pre-accident	Accident prevention	Risk awareness Pre-season conditioning Strength training Warm-up	Braces Proper foot-ware Playing field surface	Fair play rules Playing field management Safety rules and regulations
Injury-event	Injury-prevention	Fall techniques Impact coping techniques	Skin guards Mouth protection Face guards	Padded goal posts Shock absorbing surfaces
Post-accident event	Injury treatment and rehabilitation	First aid training Compliance to 'return-to-play' rules	First aid equipment Emergency equipment	Emergency & rescue services Medical care and rehabilitation services

How it worked in the SiS-project

Having described the problem, the next step was to search for potential solutions to control the problem. To illustrate the current knowledge of science and practice for both types of sport, an inventory of existing injury preventive measures and safety promotion strategies was compiled based on a structured database and literature search for relevant publications, not older than 1990.

Major databases such as PubMed, the Cochrane library, SportDiscus, BISP databases and EMIP were browsed, using multiple combinations of the keywords INJUR*, PREVENT* and SPORT. In addition to the database research a multi-lingual web search using the internet search engine Google.com was conducted. Languages of prime interest for the respective sport were used, i.e. representing countries that have the greatest number of participants and/or highest international sport ranking. Following these two initial literature searches, the reference lists of the retrieved articles were browsed for further information. Additionally, available authors and co-authors were contacted for complementing the findings. The retrieved literature was categorised according to the type of prevention strategies addressed in the study.

The following categories of injury prevention were distinguished in line with the Haddon-Intervention matrix:

- Training & Physical Preparation (Haddon: Human factors), e.g. balancing exercises, stabilization, muscle strengthening, agility, coordination, stretching;
- Technical & Political Approaches (Haddon: Environmental factors) . e.g. fair play campaigns, coaches education, behaviour and rules modification, refereeing;
- Equipment & Facilities, e.g. taping, orthoses (Haddon: Equipment), mouth guards, protectors, floor conditions, venues, shoes;
- Medical & Non-medical Support (Haddon: Human factor), e.g. physiotherapy, pre-participation-examinations, medical screenings, massage, psychological support.

See f.i <http://www.safetyinsports.eu>: P. Luig & T. Henke, *Best injury prevention measures and implementation of strategies in handball and basketball*, Ruhr University, Bochum, November 2010



Intervention development and piloting (step 3)

Studies reporting on preventive measures and efficacy are less common than studies on incidence and risk factors. Those investigating implementation in the real world of sport and their effectiveness are even more rare. This is due to the fact that many measures taken today are not being subjected to systematic trial-evaluation and are often being accepted as common practice without formal scientific evaluation. Of course, it makes sense to rely on 'common sense' when evidence is still lacking. But one should not overlook that several effective measures in promoting safety in sport have been identified and are still waiting for their uptake and implementation.

There are three questions to be considered when selecting possible strategies for action planning:

1. *Is there evidence that strategies have been effective elsewhere?* Are there the prevention strategies that have been accepted as evidence-based good practice? If there are not, and a decision is made to proceed with one or more measures that are based on expert opinion or common sense, then from the perspective of responsible use of resources, it should be considered to set up an evaluation of the strategy that will answer the effectiveness question, or at

least will add to the existing information.

2. *Is the current political and organisational environment ready and able to take on the injury prevention strategy?* This involves an assessment of the transferability of a strategy to a new setting. Transferability relates to the conditions that should be present to increase the likelihood of success of a strategy in a new setting. It includes things like adequate political support, strong leadership, stable infrastructure, adequate resources and capacity, social climate in favour of the strategy and time to take on and complete the strategy from planning to evaluation.

3. *Is there a realistic chance that the proposed strategy is acceptable for those concerned, i.e. the teams and players involved?* Actual transfer and implementation of any strategy will only be successful when the teams and athletes are willing to accept these measures and committed to continue to apply the recommended practices and to comply with these practices by routine.

The actual programme should clearly specify its goals and objectives, as well as the specific programme activities and evaluation procedure.

How it worked in the SiS-project

The heterogeneity in scientific designs and publication forms precluded the team from performing a meta-analysis or systematic review. For this reason a consensus building process was developed to finally select the most valuable measures and most promising implementation strategies. Around 20 experts were selected from each of the respective two fields and invited to review all collected publications which were summarised and categorised by the team according to levels of validation, preventive recommendations et cetera.

During the actual consensus building process, which was accomplished with the help of a web-based rating tool, the expert panels reviewed each of the identified final preventive recommendation on the following three criteria:

- potential *effectivity* in terms prospects of reducing injuries, i.e. injuries become less frequent and/ or less severe due to the recommended measures;
- potential *applicability* in terms of required effort for realisation, i.e. no major additional time, financial, material and personnel expenditures needed; and
- potential *acceptability* within the sports community, i.e. expected levels of compliance among athletes, coaches and management.

As a result of this process the preventive recommendations were listed from very promising to not promising at all.

Continued next page



Continued: How it worked in the SiS-project

The next step in systematic consensus building, was to organise multiple meetings with experts and lead persons from the pilot two federations and the local clubs involved in order to tailor the implementation according to respective national demands, capacities and requirements. These persons were involved in critically reviewing the evidence based recommended practices and in assessing the applicability and acceptability of these practices within their federation and clubs.

This adaptation process resulted into a final list of key areas for targeted injury prevention. Both in handball and in basketball, "Training & Physical Preparation" turned out as major promising area for increased injury prevention efforts. As this area is in the explicit remit of trainers and coaches, the respective collaborating federations decided to designate coaches and trainers as key actors in developing and implementing the much needed safety management programme for the respective sports. It was also concluded that the national curriculum for coaches needed to be upgraded accordingly and should include more comprehensively the basic training elements for developing and implementing safety management programmes at local club and federal level.

Based on the results of that review, toolkits of promising injury prevention measures were made for each of the two sports for integration in current programmes offered by the national federations to their coaches and into the training practices of the involved coaches. This process included a couple of consultation meetings with the respective national sport federations, consultations with national experts and the organisation of coaching clinics and training seminars in the respective two countries. Finally the programmes were pilot-tested in the clubs that participated in the SiS-project.

See f.i. <http://www.safetyinsports.eu>: P. Luig & T. Henke, *Best injury prevention measures and implementation of strategies in handball and basketball*, Ruhr University, Bochum, November 2010

Evaluation and wider implementation (step 4)

In testing and evaluating programmes it is important to monitor carefully:

- what worked well in carrying out the set of measures and what did not go as planned;
- where there unanticipated consequences and where they positive to the effect or

negative;

- what elements need revision if a repeat or wider implementation of the programme is being considered;
- what elements are critical for the success of the programme; and
- what challenges can be expected by carrying out the programme in new settings.

How it worked in the SiS-project

This last stage related to evaluating the impact of preventive measures implementations and by this to refine and optimise the programme and thereby foster continuous improvement and sustainability. From the beginning of the project "Safety in Sports" it was obvious that due to the limited resources of the collaborating sports federations and the relatively short implementation phase a comprehensive methodical approach of testing, e.g. by case-control groups, was not fully realizable.

The impact of the project "Safety in Sports" has been evaluated through a baseline survey among coaches at the beginning of the implementation, a follow-up survey among coaches at the end of the implementation and structured interviews with persons in charge of the respective federations during the implementation phase. These surveys gave insight into the attitudes of coaches towards injuries and their prevention as well as their compliance to preventive programs. The results of these surveys are encouraging:

- Through the development process and the pilots carried out, coaches became more aware of the necessity to invest in injury prevention;
- Owing to the pilots, coaches became more willing and able to direct their training practices towards training contents that are more effective in reducing injuries;
- Through the programme, coaches seem to have found better opportunities to motivate their team members in appreciating and accepting the training practices offered; and
- Both federations are confident that the pilots will help to anchor injury prevention more strongly into their education and training curricula.

See f.i. <http://www.safetyinsports.eu>: P. Luig & T. Henke. *Safety management scheme in handball, Implementation and testing*, Ruhr University, Bochum, August 2011



Additional rules of thumb

In this last section, additional suggestions are provided for successfully developing and implementing safety management programmes. These reflect the experiences that have been gained during the course of the pilot project "Safety in Sports" and other projects aiming at enhancing safety in sport.

Selecting the right priority

Priorities should be chosen carefully and in a systematic manner. Firstly, the epidemiology, the aetiology and the sport-specific characteristics have to be taken into account. Then, the available evidence-base as to injury prevention measures and safety promotion strategies should be carefully considered.

- Start with the end: 'What do you want to achieve (mission statement)?'
- List the major types of injuries and/or risk groups that need to be addressed (taking into account size and severity of injuries in these categories).
- Assess the negative side effects of injuries on well being of players but also on the overall team performance and its (lack of) success in competitions.
- Assess what actions can make a difference (effectiveness): what safety measures and/or safety programmes are already in place and what improvements do you want to achieve by additional efforts in safety management.
- Assess where you expect the maximum gains to be achieved under given circumstances.
- Involve and listen to partners, e.g. internal and external stakeholders and experts, other sports organisations, and adjust your ideas to the needs of the target groups and/or the main stakeholders.
- Be aware of your own know-how and experiences.
- Analyse recent trends in the media and of public concern and – if necessary – adjust your topic in order to benefit from 'surfing on the media waves'.
- Make a decision as to how many resources you want to/ can invest into planning of a new safety management initiative.

- Conclude on a priority list of issues, i.e. your programme for possibly 3-5 years.
- Appoint a person or team who should prepare the next steps.

Define the resources and produce a realistic short term plan

As soon as the decision is made on a longer term programme, carefully plan how to ensure the funding for development of a safety management programme and related communications, implementation, evaluation, and updating activities. Funding sources may be diverse. The source of support must be transparent. The initiative may target multiple audiences (athletes, coaches, officials, politicians) and should be made available in suitable formats for these different groups. The wider dissemination after the project's successful implementation should be planned well in advance as well as measures to guarantee long-lasting uptake and compliance:

- Set objectives and means which are realistic under the given circumstances.
- List major internal & external stakeholders involved in addressing the issue (who should be involved/ what influence they have?).
- Identify internal resource availability in terms of expertise, manpower, budgets.
- Identify external support and resources e.g. from foundations, government, universities, insurers or other sponsors, research fund.
- Define realistic targets as to what realistically can be achieved through available means.
- Apply a step-wise approach, e.g. pilot phase, evaluation phase, roll-out phase
- Provide an adequate system to manage the project and use this system consistently.
- Ensure a common understanding with partners concerning management issues like time and task management, handling of monetary resources, how to carry out communications internally and externally, etc.
- Appoint a person or team who should prepare the next steps.



Develop the programme

A safety management programme should be produced by a multi-professional and interdisciplinary group and in a systematic, independent and transparent fashion, using appropriate quality criteria. End users should be involved in reviewing and/or testing of the pilot version. If safety management programme is adopted from another country or region, it must be re-edited, reviewed and tested for applicability in the new environment:

- Update your problem analysis by means of statistical data, literature studies and expert opinions.
- Search for publications that identify evidence or good practices in addressing the issue and select the most promising ones.
- Analyse the issue as to the relevant risk factors involved and feasible strategies for prevention.
- Discuss the problem in an expert panel in view of identifying additional good practice examples.
- Elaborate preventive measures together with sport scientists, physiotherapists, sports physicians, biomechanics and experts in the relevant type of sport or sport category.
- Consult a sufficient number of relevant experts and practitioners for assessing the acceptability and feasibility of implementing a potential set of measures.
- Consult stakeholders as to the activities that are required for reaching the targets you want to achieve (or result areas) and the necessary inputs in terms of budget, staff and expertise.
- Design a logical action plan including clear indicators for testing effectiveness, feasibility and acceptability.
- Analyse the aims and interests of the stakeholders and explain to them why and how the safety management programme will support them to achieve their own goals.
- Try to convince stakeholders to join by providing them rational reasons, e.g. better team performance, but also moral reasons to jump in, i.e. from the value-driven perspective that health and safety of sportsmen and women should be safeguarded.

- Ensure that all partners involved 'speak the same language' (terminology) and adjust the language you use in your communications to the specific target group you are addressing.

Start implementing

For an effective implementation of a safety management programme, organisational, financial, and regulatory incentives need to be considered together with other, e.g. professional, facilitators.

- Develop a communication strategy, as part of the overall project plan (what is the message?/ to whom are you addressing?/ what is the purpose?/ by what method?/ what timing?).
- Present the problem and your plan of actions in the language of your audience
- Take into account that in most cases there is only limited manpower available for implementing preventive measures.
- Measures will likely be accepted if they also help to improve performance.
- Involve stakeholders in marketing the outcomes, e.g. use existing structures like digital and printed publications, education/trainings etc..
- Keep in mind that in order to involve others in marketing, these persons need to have supported the original plan and to be convinced that the results are beneficial to them.

Without evaluation, no lasting results at all

The quality and resulting outcomes of a safety management programme should be carefully monitored. This may be, for example through surveys based on questionnaires or structured interviews. Well-planned monitoring of the effects is essential. Especially the impact on outcomes in form of reduction of injuries needs to be monitored. The original safety management programme should have included a list of essential indicators that can be used for evaluating the results of implementation.

- Identify key evaluation questions.
- Formulate evaluation indicators and targets and the process of evaluation.
- Select an evaluation research design.



- Make sure that needed data can be collected.
- Assign the person who is to analyze data and to report evaluation findings.
- Make sure that all partners understand the importance of evaluation and that they need to support it throughout the project.
- Adjust the amount and depth of the evaluation to the dimensions of the project.
- Start evaluating as early as possible to ensure an adequate process evaluation.
- Make sure that the person(s) who evaluate (s) get all relevant information on time.

Work towards continuous improvement

A safety management programme must include clear policies and responsibilities as to further developmental work and the wider dissemination of the results achieved.

- Communicate the results among in a wide variety of potential audiences and stakeholders and publish the process of developing and implementing the safety management programme in relevant media and journals.
- Have solid agreements concerning when, how and by whom updates will be performed – ensure financing of the updates.
- Find 'champions' who constantly can keep

the topic of safety in sport alive within their organisational structures.

- In order to monitor the development of risks (and the effectiveness of a programme) a continuous injury surveillance will be necessary.

To conclude

Considering the overall positive aspects of sport, people should be encouraged to maintain and, if possible, increase their participation in sport and physical activities. When exercising, injuries may be unavoidable to a certain extent, but, as we have seen, there are plenty of options to reduce the injury risk.

Injuries are to a large extent preventable and by preventing injuries prevention the health benefits resulting from physical activities will only increase. Safety promotion objectives should therefore be incorporated into policy and practices of sports organisations and into national and local government policies related to sports and the promotion of physical activities.

Acknowledgements

This policy briefing has been produced in the framework of the Safety in Sports project, initiated by the consortium Kuratorium für Verkehrssicherheit (KfV), Ruhr University Bochum (RUB), European Association for Injury Prevention and Safety Promotion (EuroSafe) and Consumer Safety Institute (CSI).

All information presented in this Policy briefing are based on studies carried out by the Ruhr University in Bochum and published under the title: T. Henke & P. Luig, Safety in Sports, General guidelines for development and implementation of sustainable safety management schemes in high risk sports in the EU-countries, Ruhr University, Bochum, February 2012.

For references to sources of information presented in this fact sheet and for further references, readers are advised to consult the above mentioned report which are accessible through the dedicated website: www.safetyinsports.eu



Co-sponsored by the European Commission under the Public Health Programme 2003-2008, and by ARAG Sports Insurance Germany.

