

9 ENVIRONMENT

Providing a safe environment involves providing protection from hazards in the physical environment, as well as promoting a “safety culture”. A variety of hazards in the physical environment can place players at an increased risk of injury. These can be related to the weather conditions (temperature and humidity), the facilities (playing surfaces and surrounding barriers) and equipment. There are also a number of risks associated with a club or sports group or organisation not having a good safety culture. Developing a good safety culture involves adopting formal injury prevention policies and practices and ensuring that safety is given priority among everyone involved in the sport or activity.

The Aims and Benefits of Assessing the Environment

The aim of assessing the environment is to decide whether activities can proceed or whether they should be restricted, altered, postponed or cancelled to reduce the risk of injury to players if the environmental factors cannot be modified. For example, if not all flood-lights are working for an evening training session or there is no padding around goal posts, activity may have to be restricted or cancelled altogether.

Best Practice for Assessing the Environment

FACILITIES

Facilities must be of an adequate size, configuration and quality for the activity for which they were designed.^[1] They should have regular maintenance and be checked before use for potential hazards such as water, rubbish, holes and poles. For example, is there any broken glass on the netball court or any water on the basketball floor? Are there suitable “run-off” areas? Are spectators and sports bags kept well clear of the playing area? Supervision during facility use is also required to ensure players use the facilities appropriately and do not put themselves or others at risk. Facilities and playing areas, including changing rooms, should be kept clean and hygienic. Unhygienic practices,

such as spitting, should be actively discouraged, especially in areas where the team sits on the sideline, where equipment or drink bottles are placed, or in the changing rooms. Well maintained first aid facilities should be available and need to be clearly sign-posted.

PLAYING SURFACES

All playing surfaces should be well maintained and checked before use to ensure they are free from hazards such as stones, broken glass and sticks. Grass surfaces should be periodically checked to ensure they are level and free from hazards such as puddles, potholes and protruding sprinkler heads. Excessively muddy and boggy areas should be avoided in training so that they have the best opportunity to recover for competition. Outdoor artificial surfaces should be free from surface water and debris such as sand, gravel and leaves. Indoor courts need to be dry and clean to avoid players slipping on the surface.

A club/facility policy should be developed that enables the training sessions or competitions to be cancelled, postponed or relocated when surface conditions are hazardous. Field markings need to be clear and distinctive. To avoid collisions, the perimeter fencing and advertising hoardings of the spectator areas should not be too close to the playing area. All playing surfaces need to have adequate lighting.

PLAYING EQUIPMENT

All equipment used in a sporting situation needs to be designed and maintained to meet an appropriate level of safety. Equipment such as goal posts, nets and corner flags can become dangerous if it is in bad condition or not assembled correctly. The integrity of equipment needs to be checked before use. For example, goal posts need to be assessed to ensure they are stable, secure and well anchored to the ground. Nets on goals and hoops need to be checked to prevent them from coming free and being caught on fingers. Securely attached padding around posts should be used to prevent collision injuries.^[2] Corner posts and marker flags should be made of materials that flex on impact and there should be no sharp tips.

WEATHER CONDITIONS

Weather conditions need to be assessed before activities commence, then continually monitored throughout the competition, training or event. Players need to be adequately prepared for the conditions in which they are training or competing. Events should be cancelled where extreme weather conditions (extremely hot or extremely cold) or unsafe environments would put players at high risk of injury. Coaches need to encourage players to have appropriate clothing for the sport. In hot environments clothing should be light coloured, loose fitting and lightweight with an open weave,^[3-7] and sufficient fluids should be consumed. Sunscreen, and if appropriate hats, should be worn when exercising in areas exposed to the sun. In cold conditions players need to wear appropriate clothing for the warm-up, training or competition and cool-down. Excessively heavy and bulky clothing is not appropriate as it restricts movement and consumes valuable energy.^[8] Wearing thermal clothing such as polypropylene under team uniforms during competition can maintain body heat while still complying with the rules of the game. Waterproof and windproof tracksuits are valuable before and after competition and during training sessions.^[9] Providing shelter from the wind and rain in the form of club rooms or marquees is important, as is providing shade on hot days.^[10] Coaches should be able to recognise the symptoms of players experiencing difficulty from environmental conditions (e.g. heat stress, hypothermia) and take appropriate action to eliminate or reduce any undue stress.

There are a number of extra considerations where children are involved. Children are less capable of coping with exercise in hot, humid conditions than adults because their sweat glands are immature, they have a relatively large skin surface area and they are slower to acclimatise to exercise in warmer climates. Also, children instinctively drink too little to compensate for sweat loss during physical activity. Conversely children may also become cold more quickly in circumstances where low temperatures are combined with wind chill and wet clothing. Children frequently lack the ability to recognise the potential for developing low body temperature (hypothermia) and adult supervision is critical in any potentially unfavourable conditions, such as when tramping or during water activities.^[11]

POLICY AND REPORT SYSTEM

Clubs need to have systems for reporting and monitoring environmental hazards. Written injury prevention policies that are monitored and reviewed regularly are a useful tool for managing the risks associated with a particular sport or activity. Written policies and procedures ensure situations are dealt with appropriately and consistently. They should cover issues such as cancellations and management of environmental hazards. Policies, procedures and regular monitoring all contribute positively to the club's or organisation's safety culture.^[12]

Practical guidelines on how to manage environmental hazards can be found in the "Environment" section of the *ACC SportSmart Coaches' Kit*.

References

1. Coalition of Americans to Protect Sports. *Sports Injury Risk Management and the Keys to Safety*. Coalition of Americans to Protect Sports: North Palm Beach, 1990.
2. Janda, D., Bir, C., Wild, B., Olson, S. and Hensinger, R. Goal post injuries in soccer. A laboratory and field testing analysis of a preventive intervention. *American Journal of Sports Medicine*, 1995, 23(3): 340-344.
3. Sleivert, G. *Beyond the Comfort Zone. A Guide to Training and Competing in Hot and Cold Climates and at Altitude*. University of Otago: Dunedin, 1997.
4. Stannard, J.P. and Bucknell, A.L. Rupture of the triceps tendon associated with steroid injections. *American Journal of Sports Medicine*, 1993, 21(3): 482-485.
5. Gersoff, W. and Motz, H. Environmental factors in athletic performance. In: Fu, F. and Stone, D. (Eds.) *Sports Injuries. Mechanisms, Prevention, Treatment*. Williams and Wilkins: Sydney, 1994.
6. Ryan, A.J. Heat stress. In: Mueller, F.O. and Ryan, A.J. (Eds.) *Prevention of Athletic Injuries: The Role of the Sports Medicine Team*. F.A. Davis Company: Philadelphia, 1991.
7. Shephard, R.J. Heat. In: Dirix, A., Knuttgen, H. and Tittel, K. (Eds.) *The Olympic Book of Sports Medicine*. Blackwell Scientific Publications: London, 1988.
8. Shephard, R.J. Cold. In: Dirix, A., Knuttgen, H. and Tittel, K. (Eds.) *The Olympic Book of Sports Medicine*. Blackwell Scientific Publications: London, 1988.
9. Zebas, C. and Chapman, M. *Prevention of Sports Injuries: A Biomechanical Approach*. Eddie Bowers Publishing Inc: Dubuque Iowa, 1990, 13.
10. Noakes, T. Exercise and the cold. *Ergonomics*, 2000, 43(10): 1461-1479.
11. Gerrard, D. The young athlete: children and physical activity. *Sports Medicine NZ*, Dunedin, 1999.
12. McGrath, A. and Ozanne-Smith, J. Heading injuries out of soccer: A review of the literature. *Monash University Accident Research Centre – Report No. 125*. 1997.

Further Reading

- Hillary Commission. *Health and Safety Guidelines for Recreational Events, Programmes and Facilities*, 1997.