

Lightning Safety Guideline

At any level of Rugby, from grassroots all the way up to the professional game, understanding the dangers of lightning and the proper precautions to take will assist in minimising incidents from lightning strikes. The actions that should be taken, when there is a threat of a lightning strike, will depend on the level of information available to event/competition organisers or match officials.

The following action steps should be incorporated into any policy/guideline:

1. Live data: in circumstances, where live data is available from local meteorological services along with advice from an expert, this data should be used to assist in the decision about whether to allow the event/match to commence, continue or be abandoned.
2. Determination of a chain of command which clearly identifies the person with ultimate responsibility to stop the event, either temporarily or indefinitely or to evacuate the venue is vital. It should be ensured that this person is familiar with local protocols and is provided with accurate and up to date information.
3. Communication with local weather services or tracking of weather alerts should be established in advance of any event.



When the lightning strike is within 6 miles of the venue, it is recommended that players are removed from the pitch. The speed of sound through air is approximately 0.2 miles per second, so for every 5 seconds of time between the lightning flash and the associated thunder clap, the strike is 1 mile away. The approximate distance (in miles) can be calculated by counting the time (in seconds) between the two events and dividing it by 5. Recommended safe distances from the lightning event is 6 miles.

For events/venues where live data direct from local weather services is not available, the 30/30 rule should be used to ensure participant and spectator safety:

- **Shelter should be sought when there is 30 seconds or less between the flash and the associated thunder clap.**
- Thunderstorms have a tendency to reverse course and come back over an area that they have just passed. Recommendations on best practice also state that **it should only be considered safe to return to the field of play a minimum of 30 minutes after the final flash of lightning or clap of thunder has been seen/heard.**

For example, a lightning strike is seen at 12.03pm and the associated thunder clap heard 28 seconds later. This means that the strike was 5.6 miles (28 seconds/0.2 miles per second) away. Action should now be taken to immediately move players to a safe location. The storm continues and the last strike is observed or heard at 12.18pm, return to the field of play should not be permitted until at least 12.48pm.



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The 6 mile recommendation may be altered depending on the topography of the area. For example, to increase this distance in flat open areas such as deserts or decrease it if the storm is located on the other side of a mountain range.

Safe locations include:

- Large substantial buildings (with permanent wiring and plumbing to provide safe pathways for current from strikes to go to ground);
- Fully enclosed metal vehicles which are earthed (such as buses) to guide the current around the occupants.

Unsafe areas and situations include:

- Open spaces, especially where large numbers of people are assembled together;
- Close vicinity to large structures or trees;
- Small permanent and temporary structures and shelters especially metal structures;
- Under a single tree or a small group of trees;
- Close to a large body of water;
- In open areas;
- Close to antenna towers;
- Anything that increases a person's height (umbrellas etc.);
- Use of any type of telephone.

For spectators, individual stadium safety protocols should be followed in the event of a strike risk. For events which are not taking place in a stadium, the same protocols as those for players should be followed.

References

- Makdissi, M & Bruckner, P Recommendations for lightning protection in sport. Medical Journal of Australia Volume 177, 1 July 2002
- NCAA Guideline 1d – Lightning Safety (http://www.lightningsafety.com/nlsi_pls/Sports_Medicine_Handbook_lightning.pdf)
- <http://www.rospa.com/leisuresafety/adviceandinformation/leisuresafety/lightning.aspx>

World Rugby Guidelines have been developed to provide guidance to Member Unions when developing a Policy for an identified medical risk. These Guidelines are not mandatory but provide guidance that should be considered when developing a Union specific Policy. World Rugby Guidelines may include background or research information and may identify core features required in a Policy.
