

Sports Medicine Monthly

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FOCUS ISSUE:

LIGHTNING SAFETY IN ATHLETICS:

As anyone who has been in athletics for any period of time has experienced, the weather is just another part of the game. Many of us are quite used to standing in 30-40 degree temperatures at a football



or baseball game, or sitting in a driving rain waiting for a thunderstorm to pass. This is nothing new. We simply add layers of clothing and turn on those battery powered socks that keep your toes just slightly above freezing. Coaches, administrators, spectators, and athletes alike all know that weather is just another part of the game,



and, as long as athletics are outdoors, weather will always play a factor.

Now while many of us are accustomed to making adjustments in clothing or schedules, research and

experience continues to show us that many individuals, are very inexperienced when it comes to dealing with lightning. In the United States alone, lightning casualties surpasses hurricane and tornado related deaths combined. In addition, 45% of all lightning casualties occur in open areas such as fields, ballparks, and playgrounds. Although it is easy to become accustomed to variances in the weather, we must always pay very close attention to the severity that weather can bring.



Lightning Strikes: What Constitutes a Risk?

Lightning Physics:

Lightning can strike up to 10-15 miles away from its parent thunderstorm, well outside the rain area, and even beyond a visible thundercloud.

Lightning strikes can transmit electricity through the ground for up to 40m (131ft) from the strike point.



Lightning often strikes the same location repeatedly. The Empire State Building is hit approximately 25 times per year.

Time of Year and Time of Day:

Lightning, although prevalent throughout the year, shows a broad increase in frequency in the summer, specifically focused on July, with an abrupt increase in May and an abrupt decrease in September.

Lightning strikes are most prevalent between the hours of 12:00pm and 6:00pm with peak volumes around 4:00pm.

The 30/30 Rule: The Flash-to-Bang

When to Seek Shelter?

Count the seconds that elapse between seeing the flash and hearing the bang. Divide this number by 5 to determine your distance, in miles, away from the storm. When the count is less than 30 seconds, or 6 miles, all participants should have relocated to a safe structure.



When to Return to Play?

When 30 minutes have elapsed after the last lightning flash and thunder bang, play may be resumed.



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The Lighting-Safety Policy

For administrators and coaches alike, having a Lightning-Safety Policy should be standard for each outdoor venue where organized athletics take place.



Specifically, a Lightning-Safety Policy should outline the following information:

- *Who is to monitor weather conditions at events?
- *What are the criteria used to determine the threat of lightning?
- *Who has the authority to make the decision to postpone and/or resume activity?
- *How will weather related decisions be communicated to coaches, athletes, spectators, etc...?
- *How are weather conditions to be monitored?
- *A list of safe structures that reflects:

- Locations and Travel Distances
- Building Requirements:
 - A large, fully enclosed, substantially constructed building with wiring and plumbing is always preferred
- Quantity of persons able to seek refuge per shelter
 - Safe estimates require at least 1 square foot per person
- Restricted Activity
 - Persons seeking shelter should always avoid any item that provides for the electrical grounding of the structure.

For example:

Desktop computer, electrical appliances, constant-flow plumbing fixtures (i.e. sinks, showers, etc...), and full-structure metallic objects (i.e. beams, columns, etc..)

Likewise, persons seeking shelter should remain away from windows and doors to reduce the likelihood of a lightning side strike.



Sports Medicine Monthly:

A Year in Review



Since our first issue in August of 2009, *Sports Medicine Monthly* has been distributed via email to a broad network of schools, corporations, and communities. Ranging from public schools in Wagoner and Collinsville, to a Post Office in Idaho

and a Bass Pro in Tennessee, more than 500 people receive this newsletter directly to their email each month.

As the first year of publication comes to an end, we would like to hear from you. Please take a moment to provide us with your comments, suggestions, and ideas for future issues by contacting the editor at dhlunow@csosortho.com.

From all of us at Central States



Orthopedic Specialists, we hope that you and your family have a very safe, relaxing, and restful summer.

We will see you in August!



A Note to the Reader.....

Central States Orthopedic Specialists does not endorse any of the organizations or research groups whose information has been published herein. Furthermore, information in this publication is provided for informational purposes only and not as medical advice, or as a substitute for the advice provided by your physician or other healthcare professional, or for diagnosing or treating a health problem or disease. This publication is designed to provide you, the reader with information only. It is your choice in how you apply the information given herein, and not a directive from Central States Orthopedic Specialist. It is simply an informative resource for you, the reader. As always, if you have specific questions regarding specific injuries, illnesses, policies, procedures, etc... speak with your Certified Athletic Trainer, or contact your physician.



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