

## Case Studies and Articles

## Lightning Safety for Schools – Be Prepared for Game Day and Every Day

By Frank McCathran

As a parent and volunteer coach, I get a taste of what high school athletic directors and coaches have to manage every day—including the responsibility for making life safety choices for others. And as someone who works with coaches, athletic directors and school districts on severe weather and lightning safety, I'm acutely aware of lightning danger.

A bolt of lightning can change—or even destroy—a life in an instant. On average, 50 people are killed by lightning in the U.S. every year, and about 10 times more are injured. Many will never fully recover.

After a student athlete is tragically struck, it's understandable that the child's parents will want to determine if there was fault. In the latest in a series of lightning-related litigation, parents of a nine-year-old boy struck while on the field during soccer practice in Bee Cave, Texas, recently filed a \$10 million lawsuit, asserting that the facility failed to provide adequate safety measures. According to the lawsuit, the facility had no lightning system or policy. No matter how this lawsuit is resolved, a nine-year-old boy's life may be impacted forever.

While you may be doing everything to prepare your team to win the next big game, are you prepared for the next big storm? Now is the time to review your technology and policies, and close any gaps that may leave you, your organization, athletes, employees, and spectators vulnerable.

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### What Should I Do to Help Keep My Athletes Safe?

Some facilities use small handheld devices to determine if lightning is nearby. While it's tempting to believe that these inexpensive devices are accurate, the National Athletic Trainers' Association (NATA), in its 2013 Lightning Safety Position Statement, noted that the "performance of these handheld devices has not been independently verified, and they should not be used as the sole source for determining when to move to a safe location."

Lightning "prediction" systems claim to determine when conditions are conducive for lightning. Noting that it is impossible to predict lightning, organizations such as the National Lightning Safety Institute (NLSI) have cast doubts on this approach, stating that "vendors who claim to 'predict' lightning in advance...should be rejected."

Total lightning detection is the most robust technology available. These solutions detect cloud-to-ground and, importantly, in-cloud lightning, which makes up the vast majority of lightning and often precedes cloud-to-ground lightning. They also take a network approach. If one sensor goes offline, other sensors continue to detect and keep you updated—unlike single-node

systems that operate with no back up. This approach is also better suited for determining lightning's distance—something handhelds or single-node systems cannot. These solutions can also send alerts to multiple devices—including outdoor warning sirens and mobile phones.

In fact, NATA states that schools and organizations should "consider subscribing to a commercial, real-time lightning detection service that has been independently and objectively verified."

### Recommendations

The following are the most recent recommendations from the NWS. These should serve as the baseline for your organization:

- **Information Reception:** Install a commercial lightning detection system or subscribe to a commercial lightning detection network and notification system. Ensure access to NWS warnings.
- **Decision Support Standards:** Have a written lightning safety plan for daily operations and special events that includes instructions for contacting local emergency management.
- **Public Notification Plan:** Use several methods to notify patrons that a lightning threat exists. Options include outdoor warning siren(s), streaming television broadcasts, text/email message alerts, social media and announcements.
- **Protection Program:** Provide substantial lightning-safe structures to shelter patrons when lightning threatens, or instruct patrons to get into their vehicles with their windows up and doors closed.
- **Education:** Inform patrons of the lightning precautions your facility has taken and what to do if notified of a lightning threat.

It is critical for high schools and youth sports organizations to seriously and quickly consider all current best practices recommended by lightning safety experts to help ensure safety. To implement a technology or policy that conflicts with, or is below, industry recommendations and standards puts your school, district, or athletic organization at risk. To mitigate risk, it is recommended to avoid certain technologies and exceed the recommendations from the lightning safety community.



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