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**An Investigation of AED Access in One Secondary School**

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**OBJECTIVE**
To evaluate the accessibility and time required to retrieve and apply Automated External Defibrillators (AEDs) against established standards.

**STUDY DESIGN AND SETTING**
A simulation to determine the time required to access and apply AEDs located in various venues at a Central Ohio Division 1 high school.

**PARTICIPANTS**
One athletic trainer will simulate the retrieval and application of one outdoor (located in football stadium) and two indoor AEDs (located at front entrance and next to gymnasium) across eight different time trials.

**INTERVENTION**
The time required to retrieve and apply the outdoor football stadium AED will be evaluated in three locations: (1) softball/baseball fields, (2) soccer practice field, and (3) running path. The time required to retrieve and apply the indoor front entrance AED will be evaluated in two locations: (1) band practice field and (2) tennis court. The time required to retrieve and apply the indoor gymnasium AED will be evaluated in three locations: (1) athletic training clinic, (2) weight room, and (3) gymnasium.

**MAIN OUTCOME MEASUREMENTS**
Eight different simulations will be conducted. Each simulation will be compared against two recommendations to determine compliance. The first recommendation, established by the American Heart Association (AHA), proposes that the standard for retrieval and administration of an AED is within 5-minutes. The second standard, established by the Korey Stringer Institute (KSI), requires that AEDs be accessible to all school personnel.

**RESULTS**
The AED located in the football stadium met the time and accessibility standards for the soccer fields but failed to meet the 5-minute standard for the softball / baseball fields and running path. Accessibility is also a barrier when soccer and football are not active. The AED located at the school entrance did not meet the 5-minute or accessibility standard. The AED located outside the gymnasium met the 5-minute and accessibility standard.

**CONCLUSION**
When responding to a patient suffering from cardiac arrest, survival declines by 7-10% for each minute defibrillation is delayed. In this project, only patients who collapse in the athletic training clinic, weight room, gymnasium or soccer-practice field would receive defibrillation by school personnel within 5 minutes. To provide life-saving defibrillation to all patients, the school should consider the purchase of two additional AEDs. One should be placed on the band practice field, close to the tennis court, and another between the softball/baseball fields and running path. An outdoor, weatherproof AED cabinet would need to house these units.

**KEY WORDS:** Cardiac Arrest, Emergency Action Plan, Response Time
REFERENCES

