

Safety First



Creating a Safe Environment at School

When parents enroll their children in school, they are entrusting their most precious possessions to other people. They expect each child to be properly supervised and provided with an environment that is both safe and conducive to learning and development. Thus, every Adventist teacher and educational administrator must implement strategies that will enhance their students' safety at school.

Supervision at School

In my experience as a physical education teacher and coach,

many "accidents" and injuries could have been prevented by proper supervision of students. Too often, students are left with little or no supervision during recess, as well as before and after school. In his 2009 article, "Playground Supervision: A Big Responsibility,"¹ Matt Comai wrote that 45 percent of injuries to young children happen at school, and he cited the National Playground Safety Institute estimate that 44 percent of playground injuries occur because of improper use of equipment or lack of supervision.

During the entire time students are on school grounds, they are the responsibility of the institution and must be adequately

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supervised. This means that before school, during activity time and lunch, and after school, a responsible adult trained in first aid and knowledgeable about school policies must be present to monitor what students are doing. If the supervising adult cannot visually monitor all students present, additional supervision should be added. According to Kent P. Hymel and the Committee on Child Abuse and Neglect, “The American Academy of Pediatrics believes that supervisory neglect occurs whenever a caregiver’s supervisory decisions or behaviors place a child in his or her care at significant ongoing risk for physical, emotional, or psychological harm.”² Although accidental injuries cannot always be prevented, their frequency may be significantly reduced by providing adequate supervision.

In the Classroom

Many schools have never been able to afford a full-time physical education teacher, and now during hard economic times, some schools are struggling to find funds to retain the ones they have. This is especially true at the elementary level. In these cases, classroom teachers must provide physical education activities. Unfortunately, because many classroom teachers have had inadequate or limited training in this area, physical education class turns into unstructured free time for students and a chance to do a little grading or prepare for another class for the teacher. The combination of lack of teacher training and no structured planning for physical education results in unnecessary injuries and an unbalanced education for students.

Students must be provided with appropriate age-based activities in a structured setting so they can develop better coordination and learn the necessary skills for fitness or sports activities in which they choose to engage. Allowing students to participate in activities without the necessary background, knowledge, and skills can create the potential for injuries.

In a controlled environment, using age-based and activity-specific drills, young students should be taught the rules and techniques required for each activity. For many activities like team sports, lead-up exercises and games can provide practice in the skills required to safely play the sport, and reduce the incidence and severity of injuries. Instructors should receive formal training in designing activities that require similar movements to those used in the sport, yet without the physical contact between opposing players. These activities should be led by a physical education teacher when available, or by the regular class teacher or a community volunteer who has had formal classwork in physical education and holds first-aid certification.

Having worked with high school-age and college students for more than a decade as a teacher and coach, I’m often amazed at the lack of physical skills possessed by many students enrolled in physical education classes. When students haven’t acquired the proper skills to actively and safely engage in required activities, injuries can occur.

As attested to in physical education standards, skill development is gradual and progressive. Students learn a physical skill and gradually build on it to the point of mastery. If students fail to acquire necessary skills at an early age, mastery of physical education skills and concepts becomes more and more difficult to achieve. It is important for the instructor to identify students who lack such skills by assessing their prior knowledge and abilities, and providing activities that enable them to acquire the skills to engage in age-appropriate activities.

Many resources are available to help teachers assess students’ physical skills and create lesson plans. National and state standards as well as physical education frameworks have been developed in the United States, and with a variety of resources, can be found online at <http://www.aahperd.org>.

Benefits of a Physical Fitness-Based Curriculum

In recent years, in order to give students more opportunities to achieve higher standards in physical fitness, I have changed from a sports-based to a physical fitness-based curriculum. A positive side-effect of this change has been a decrease in injuries.

In the physical fitness-based curriculum, students engage in mostly non-contact activities, which reduce the incidence of injuries that would likely occur during contact sports. The new policies have also enhanced student participation and significantly diminished off-task behavior. Students can perform most of these activities indoors when the gymnasium is available, so the program is not affected by weather.

Environment and Weather

The environment and weather play a significant role in determining the outdoor activities in which students can engage safely during recess or physical education classes. Where I live, in southern California, the two biggest environmental hazards that adversely affect our program’s daily activities are pollution and heat. In other parts of the world, cold weather, wind, dust, ice, precipitation, and thunderstorms can also create a variety of safety problems.

When pollution levels are high enough to be considered unhealthy or other factors make it dangerous or impractical to exercise outdoors, it is wise to move recess and physical education classes indoors to the gymnasium/multi-purpose room. If indoor space is not available, the school may be able to work out an arrangement to use a nearby health club or exercise center.

Exposure to unhealthy levels of air pollution during participation in vigorous activity can lead to injury or disease. According to the study “Asthma in Exercising Children Exposed to Ozone: A Cohort Study” published by Rob McConnell, et al., the “incidence of new diagnoses of asthma is associated with heavy exercise in communities with high concentrations of ozone, thus, air pollution and outdoor exercise could contribute to the development of asthma in children.”³ The study

Protective Gear for Sports⁶

- *Correct shoes* for each sport
- *Helmets* that are appropriate to the sport for bicycling, football, hockey, baseball and softball, skating, skiing, and snowboarding
 - *Eye protection*: facemasks or shields for football, ice hockey, and for catchers and batters in softball and baseball; goggles for soccer, basketball, racquet sports, snowboarding, and baseball and softball while fielding
 - *Pads/guards* (shin, knee, elbow, wrist, chest, shoulder, hip, thigh) as needed for many types of sports but particularly ones involving contact, such as hockey, inline skating, skateboarding, etc.
 - *Mouth guards* for contact sports or where head injury is a risk, such as football, basketball, hockey, and volleyball
 - *Athletic supporter/cup* for males engaged in contact sports and running

led to a warning about participation in sports in smoggy areas.

Other factors that can adversely affect physical activities are heat and cold. Possible extremes in temperature must be considered when planning daily activities. When temperatures rise above 90 degrees Fahrenheit (32 degrees Celsius), students should abstain from outdoor activities that would make it difficult for them to maintain proper body core temperature. Hyperthermia and loss of hydration through sweat can lead to heat exhaustion.

Cold weather and conditions such as rain, ice, snow, and wind can also adversely affect students' ability to exercise safely. In the article

"Know How to Keep Safe, Healthy in Cold Weather," Teddi Dineley Johnson wrote that "About 600 people die each year in the United States from hypothermia, or abnormally low body temperature. Symptoms include shivering, confusion, memory loss, drowsiness and slurred speech."⁴

Based on figures gathered by the National Safety Council, frostbite is the most common injury caused by exposure to extreme cold.⁵ Because children lose heat from their skin at a faster rate than adults, they are at greater risk for frostbite, especially when cold temperatures are exacerbated by high winds. Wearing a hat, gloves, and appropriate footwear will reduce the incidence of frostbite.

Even when temperatures are less extreme but factors such as high humidity and wind gusts exist, it is better to err on the side of caution and abstain from outdoor activity. If a gymnasium or classroom is available, the lesson plan can be modified for that environment. Bad weather days can provide a great time to review rules and techniques, or to schedule quizzes.

Facilities and Equipment

The school's facilities and equipment will determine, in large part, the activities in which students can participate. Buildings, playgrounds, and playing fields should be inspected and updated systematically to ensure a safe environment for users. Meagan Francis wrote, "According to the US Consumer Product Safety Commission (CPSC), each year more than 200,000 children visit hospital emergency rooms with injuries sustained

while playing on playground equipment."⁷ In light of these horrifying statistics, schools should make every effort to provide students with a safe and age-appropriate playing area. Information about safe surfaces for play areas can be found at <http://AAHPERD.com>. Young children need an area or structure whose surface will adequately absorb the impact of falls that occur, thereby preventing many fractures and sprains.

When indoor facilities are used for recess, sports, and physical education activities, the safety of the area and the equipment being used must be constantly monitored. Gymnasium floors can pose many risks

for students because the facilities are often used for multiple purposes, and the floors can get quite dirty. It is essential that the surface be cleaned at least daily and checked for moisture prior to each use. Whether the floor is wood, tile, concrete, or carpet, it should be inspected periodically to ensure that it is free of hazards. If hazards are discovered that cannot be immediately repaired, they must be clearly marked and the immediate area blocked off.

When students engage in high-impact activities such as gymnastics and acrobatics, mats should be used to provide proper padding and to absorb the impact of falls. Each mat should be a minimum of 1½ inches or thicker for tumbling and high-impact activities, with additional landing cushions strategically placed.

In addition, any obstacle that students might run into without being able to quickly slow down or stop should be padded. Examples include equipment poles, walls, and areas directly below goals and baskets. By not assigning running activities where a child is required to stop close to a wall or an unpadded object, teachers can reduce the occurrence of injuries.

Many schools lack the funds to build a gymnasium and must rely on outdoor areas for play, physical education, and sports activities. Thorough inspection of facilities and equipment should be a priority and should be performed regularly prior to use, and a report should be filed for future reference. After inspecting the playing fields, track, and concrete areas for a variety of potential hazards such as debris, damage caused by vandalism, and holes created by rodents and weather, make

sure that repairs and clean-up are done promptly.

In addition, during equipment inspection, attention must be given to structural integrity and to metal corrosion that could render the equipment unsafe to use. Wood structures, such as bleacher seats, benches, tables, poles, and posts, should be inspected for rot, termite damage, and loose parts. Damaged equipment should be replaced or removed to avoid possible injury.

Sports and Extracurricular Activities

Having coached team sports from elementary through college level, I cannot stress enough the need for proper training and equipment in schools. So often I see student athletes suffering from injuries caused from burnout, improper training techniques, and lack of protective equipment.

Because of the competitive nature of various sports, many students choose to sign up for multiple seasons during the school year. They may play for one or more teams at the school and community, or in multiple sports. This raises the question: "How much is too much?" When our school concluded its most recent volleyball season, many seniors who had been a part of the program for four years immediately dropped from the sport.

At the exit interviews, I heard one common theme from many of the seniors. They were burned out from the demands that sports participation had put on their bodies. A few mentioned they had lost interest in pursuing the sport any further after playing for so many years. As a coach, I'm saddened to see athletes lose their passion for playing a sport they have enjoyed, but in such cases this is understandable. In the same way God created the Sabbath to give us a day of rest, athletes need the off season to give their bodies a chance to recover and to regain their desire to play.

Burnout can also be reduced and even prevented through proper training and coaching during the playing season. It is also important for parents to have an understanding of the physical and psychological strains that young athletes face when participating in sports programs. Participation in sports should be fun and have a positive impact on their overall experience.

As a coach, my ultimate goal is to push student athletes to their physical limits, hoping to help them grow and improve. But I also have a clear understanding of how and when to train, and when to rest. In the article "Avoid Overtraining in Young Athletes," Matt Rearick, John Creasy, and Jim Buriak describe overtraining as a physiological and/or psychological state that may occur in response to insufficient recovery following overload.⁸ When training regimens consistently exceed what athletes can handle, participants begin to experience the physiological and psychological effects of overtraining.

In our school's program, we work on physical conditioning daily, but also attempt to alternate the workouts so as not to stress

the same muscle groups two days in a row. God created our bodies in such a way that they can heal themselves if given the chance, and the workouts should be designed for that to happen.

Equipment—Safety and Proper Use

Acquiring the appropriate equipment and using it correctly and consistently are also extremely important for safe participation in sports. Using proper age-appropriate equipment can reduce injuries and significantly temper their severity when they do occur. I cannot stress enough the importance of using helmets for sports and other high-risk activities. According to statistics from the Insurance Institute for Highway Safety, helmet use has been estimated to reduce head injury risk by 85 percent for bicycle riders.⁹

Erik Brady wrote in *USA Today* that athletes "suffered one concussion for every 10,000 times they got on a playing field in 1997; that number rose to five per 10,000 chances in 2008, according to research published in the *American Journal of Sports Medicine*."¹⁰ These numbers include only sports-related injuries.

Protective equipment should always be used in activities that involve the use of equipment such as, but not limited to, bicycles, skateboards, scooters, skates, and their variations. Schools should purchase and provide students with recommended safety equipment for physical education classes and school-sponsored games and activities. (See Figure 1.) Examples include the use of soccer shin guards, baseball helmets as well as gloves, and appropriate face masks for goalies and catchers.

Also, instructors should constantly take safety into consideration in their planning and teach children how to safely engage in a variety of activities. Keeping fans off playing fields and encouraging children to stand behind backstops to prevent being hit by stray balls or bats when playing baseball are examples of a safety strategy. The use of proper safety equipment and strategies can significantly reduce the frequency and severity of sports-related injuries.

Closing Comments

Children are a gift from God. As Christian educators, our goal should be to keep safe the children God and parents have entrusted to us. Adventist schools must provide a safe and appropriate environment for students to grow and develop into active members of God's church and society. This involves providing proper supervision and making sure teachers are trained to offer lesson plans that take into account all aspects of safety, including facilities and environmental conditions. Schools should also provide safety gear for physical education and sports, and offer extracurricular opportunities with appropriate training and equipment. By stressing "safety first," many injuries can be avoided, and even when they do occur, their severity will be significantly reduced. ✍



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9. Statistics from the Insurance Institute for Highway Safety: <http://www.bhsi.org/stats.htm>.
10. Erik Brady, "Testing Helps Change the Game on Youth Concussions," *USA Today* (May 26, 2011):C1.

Helpful Resources for Physical Education & Health

Websites:

AISFL	Adventists InStep for Life: http://www.adventistsinstepforlife.org
AEF	Adventist Education Forum: http://edforum.adventist.org
AAHPERD	American Alliance for Health, Physical Education, Recreation, and Dance: http://www.aahperd.org
CIRCLE	Curriculum and Instruction Resource Center Linking Educators: http://circle.adventist.org
Healthy People 2020	http://www.healthypeople.gov
NFSHA	National Federation of State High School Associations: http://www.nfhs.org
NIRSA	National Intramural-Recreational Sport Association: http://www.nirsa.org
NSCA	National Strength and Conditioning Association: http://nsca-lift.org
PE Central	http://www.pecentral.org
PE Links 4 U	http://www.pelinks4u.org
SDA-HPERA	Seventh-day Adventist Health, Physical Education, Recreation Association: http://www.lasierra.edu/sdahpera

Safety:

Dougherty, Neil J. *Principles of Safety in Physical Education and Sport* (Reston, Va.: National Association for Sport and Physical Education, 2009). ISBN: 978-0-88314-934-8

Movement and the Brain:

Ratey, John J. *SPARK: The Revolutionary New Science of Exercise and the Brain* (New York: Little, Brown, and Company, 2008). ISBN: 978-0316113502