



Sports Shorts

GUIDELINES FOR PHYSICIANS

Pre-Participation Evaluation (PPE)

The sports pre-participation evaluation (PPE) has evolved over the years to promote the health and safety of athletes at multiple levels. It consists of a history and a physical exam to screen for life-threatening conditions, particularly causes of Sudden Cardiac Death (SCD), as well as injuries or illnesses that may affect an athlete's health and performance.

What are the goals of the PPE?

Primary Objectives

- Screen for conditions that may be life-threatening or disabling
- Screen for conditions that may predispose to injury or illness

Secondary Objectives

- Determine good health
- Serve as an entry point to the health-care system for adolescents
- Provide an opportunity to initiate discussion on health-related issues

When and where should the PPE be performed?

- 6 Weeks prior to season's start to allow for additional treatment/testing
- PCP or Station-Based Screening

The Ohio High School Athletic Association (OHSAA) requires a physical exam (PE) and a signed medical form within the past year, prior to the season's first practice. The PE is valid for one year.

Who can perform the PPE?

Any MD, DO, NP, or PA who is licensed to practice medicine and is comfortable performing the exam.

Sudden Cardiac Death (SCD)

- The leading cause of non-traumatic death in young athletes
- Many conditions have a strong genetic component
- In the U.S., the most common cause of SCD is Hypertrophic Cardiomyopathy
- The incidence of SCD in U.S. athletes is estimated to be 1:200,000
- The current recommendations for H and P are based on the idea that physiologic demands of competitive athletics increases the risk for SCD.

Importance of History

A large percentage of medical and musculoskeletal conditions can be identified through the medical history alone.

- Heart disease or SCD in family members
- Screen for previous concussions and head injuries.
- Screen for previous or ongoing musculoskeletal injuries

Additional Testing

- Consider testing for iron deficiency
- Universal screening with ECG or ECHO is not recommended

Clearance of the Athlete

- The goal is to safely clear athletes
- Less than 2% of athletes are excluded yearly
- 3-13% require additional evaluation

Considerations:

1. Does a problem put the athlete or others at increased risk?
2. Can the athlete participate safely without treatment?

The 12-element AHA Recommendations for Pre-Participation Cardiovascular Screening of Competitive Athletes

Past Medical History*

- Exertional chest pain/discomfort
- Unexplained syncope/near-syncope †
- Excessive exertional and unexplained dyspnea/fatigue, associated with exercise
- Prior recognition of a heart murmur
- Elevated systemic blood pressure

Family History

- Premature death before age 50 years due to heart disease, in ≥ relative
- Disability from heart disease in a close relative <50 years of age
- Family members with: hypertrophic or dilated cardiomyopathy, long-QT syndrome or other ion channelopathies, Marfan syndrome, or clinically important arrhythmias

Physical examination

- Heart murmur ‡
- Femoral pulses to exclude aortic coarctation
- Physical stigmata of Marfan syndrome
- Brachial artery blood pressure (sitting position)§

* Parental verification is recommended for athletes

+ Judged not to be neurocardiogenic (vasovagal); of particular concern when related to exertion.

‡ Auscultation should be performed in both supine and standing positions (or with Valsalva maneuver), specifically to identify murmurs of dynamic left ventricular outflow tract obstruction

§ Preferably taken in both arms
Circulation. 2007;115:1643-1655

3. Can the athlete participate while treatment is being initiated?
4. Are there other activities that could be substituted?

Clues for further workup:

Symptoms of exertional syncope, chest pain, or palpitations, or excessive exertional dyspnea. Athletic participation should be restricted until this workup is completed.

Additional Resources:

- Medical Conditions Affecting Sports Participation: Committee on Sports Medicine and Fitness. Pediatrics 2008;121 No.4 2008: 841-848;
- 36th Bethesda Conference Eligibility Recommendations for Competitive Athletes With Cardiovascular Abnormalities; Journal of the American College of Cardiology Vol. 45, No. 8, 2005:1313-1375
- American Academy of Family Physicians, American Academy of Pediatrics, American College of Sports Medicine, et al. Preparticipation Physical Evaluation. In: Roberts W, Bernhardt D, editors. 4th edition. Elk Grove (IL): American Academy of Pediatrics; 2010.

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Sports Shorts

GUIDELINES FOR PARENTS AND ATHLETES

Pre-Participation Evaluation (PPE)

The sports pre-participation evaluation (PPE) has evolved over the years to promote the health and safety of athletes at multiple levels. It consists of a history and a physical exam to screen for life-threatening conditions, particularly causes of Sudden Cardiac Death (SCD), as well as injuries or illnesses that may affect an athlete's health and performance.

WHAT ARE THE GOALS OF THE PPE?

- Screen for conditions that may be life-threatening or disabling
- Screen for conditions that may predispose to injury or illness
- Determine good health
- Provide an opportunity to discuss health-related issues

WHEN SHOULD THE PPE BE PERFORMED?

- Within the past year, prior to the season's first practice. The exam is valid for one year.
- The best time to get a PPE is at least 6 weeks prior to the start of the athletic season to address any issues that may come up in the evaluation.

WHERE CAN IT BE PERFORMED?

- It can be performed at your doctor's office, some urgent care centers, or in a group screening at your school.
- Your primary doctor usually has access to your previous medical history and may be able to spend more time with you discussing health issues that are important to you. Typically an appointment is required, and the usual fees for seeing your doctor will apply.
- A group screening is typically less expensive, does not require an appointment, and may include specialists in the screening process. The disadvantages are less privacy, less opportunity to discuss relevant health issues, and if additional testing or treatment is required, may require an additional visit to your doctor to coordinate care.

WHO CAN PERFORM THE PPE?

Any MD, DO, NP, or PA who is licensed to practice medicine and is comfortable with performing a PPE.

THE PHYSICAL EXAM

The examination part of the PPE will include things that you would experience during a typical well-child check. A blood pressure measurement, weight, heart rate, and vision screen should also be performed. The medical provider will examine your muscles, joints, and bones, focusing on areas that have been injured in the past or that will get more use, depending on the sport that will be played.

ADDITIONAL TESTING

No lab tests are routinely recommended, but your doctor may order some if needed. Tests for the heart, such as an electrocardiogram or echocardiogram, are usually only ordered if indicated based on the athlete's symptoms, personal history, or parts of the family history concerning heart problems.

This information is available on the Ohio AAP website www.ohioaap.org

THE HISTORY SECTION

Most PPE forms include a long list of questions that are designed to identify previous health problems or potential health problems. There will also be questions about health problems in family members since some diseases run in families. Many of the questions focus on the heart and symptoms experienced during exercise that may suggest an underlying heart problem. Other questions will ask about previous head injuries, musculoskeletal injuries, asthma and breathing problems, skin infections, diet and weight issues, and menstrual history for the females.

The history is an important part of the evaluation and should be filled out by the parent prior to arrival for the PPE. Many medical conditions can be identified through the questions so answer them as honestly as possible and give explanations as needed to give the medical provider as much information as you can.

Clearance of Athlete

Once the history and physical exam are completed, the medical provider uses the collected information to advise whether the athlete is "cleared" for sports participation.

- Cleared for all sports without restriction
- Cleared for all sports with recommendations for further evaluation or treatment
- Not cleared (Pending further evaluation; for any sports; for certain sports)

The goal is to exclude as few athletes as possible while still keeping the athlete and others safe. Physical activity is advocated as part of a healthy lifestyle and beneficial to children both physically and psychologically. Each year, less than 2% of athletes are not cleared for sports participation with 3-13% requiring additional evaluation for reasons ranging from heart problems, musculoskeletal injuries that need treatment or rehabilitation, skin infections, concussions, and other medical problems. After additional evaluation or treatment, the athlete may be cleared or advised in what capacity it would be safe for them to participate.

Summary

The sports PPE is recommended or required for most organized sports participation. Make sure the question part of the evaluation is filled out fully in advance to help the medical provider make an informed decision. The goal is to keep the athlete safe, not to exclude the athlete from participation.

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