

ACSM Information On...

Pre-Participation Physical Examinations

The pre-participation physical examination (PPE) is an important step toward safe participation in organized sports. The purpose of the PPE is not to disqualify or exclude an athlete from competition, but rather to help maintain the health and safety of the athlete in training and competition.

A COMPLETE PHYSICAL ACTIVITY PROGRAM

A well-rounded physical activity program includes aerobic exercise and strength training exercise, but not necessarily in the same session. This blend helps maintain or improve cardiorespiratory and muscular fitness and overall health and function. Regular physical activity will provide more health benefits than sporadic, high intensity workouts, so choose exercises you are likely to enjoy and that you can incorporate into your schedule.

ACSM's physical activity recommendations for healthy adults, updated in 2011, recommend at least 30 minutes of moderate-intensity physical activity (working hard enough to break a sweat, but still able to carry on a conversation) five days per week, or 20 minutes of more vigorous activity three days per week. Combinations of moderate- and vigorous-intensity activity can be performed to meet this recommendation.

Examples of typical aerobic exercises are:

- Walking
- Running
- Stair climbing
- Cycling
- Rowing
- Cross country skiing
- Swimming.

In addition, strength training should be performed a minimum of two days each week, with 8-12 repetitions of 8-10 different exercises that target all major muscle groups. This type of training can be accomplished using body weight, resistance bands, free weights, medicine balls or weight machines.

The pre-participation physical examination (PPE) has the following goals:

- Identify medical and orthopedic problems that may place the athlete at risk for injury or illness;
- Identify correctable problems that may impair the athlete's ability to perform;
- Maintain the health and safety of the athlete;
- Assess fitness level for specific sports;
- Educate athletes and parents concerning sports, exercise, injuries and other health related issues; and
- Meet legal and insurance requirements.

The PPE is generally a formal requirement prior to participation in junior high, high school, college or professional sports, and interim exams are done annually if required or indicated. The qualifications of the health care professionals who perform the PPE are based on practitioner availability, clinical expertise and individual state laws. The PPE is best done in a medical setting to ensure proper equipment and appropriate privacy; however, the large number of athletes involved, limited time for the exam and deadlines for participation often require the PPE to be done in a format of multiple



“stations,” with several health care providers each focusing on their areas of expertise. The PPE comprises several parts: past medical history, sport-specific history, family history and physical exam.

PAST MEDICAL HISTORY

History of any of the following should be made available to the health care provider:

- Allergies
- Asthma
- Birth defects
- Chicken pox
- Diabetes
- Eating disorders
- Glasses/contacts
- Heart murmur
- Heart problems
- Heat problems
- Hepatitis
- Hernia
- High blood pressure
- Kidney disease
- Measles
- Medications
- Menstrual history
- Mental disorders
- Mononucleosis
- Pneumonia
- Rheumatic fever
- Seizures
- Sickle cell trait or disease
- Tuberculosis

SPORTS-SPECIFIC HISTORY

History of any of the following should be made available to the health care provider:

- Orthopedic injuries (sprains, fractures, dislocations) or surgeries
- Back or neck injuries
- Dental trauma
- Chest pain with exercise
- Feeling faint or having passed out with exercise
- Excessive shortness of breath or fatigue with exercise
- “Burners” or “stingers” — caused by contact that produces burning pain that moves into the extremity
- Withholdings from participating in a sport for medical reason

FAMILY HISTORY

History of any of the following should be made available to the health care provider:

- Heart disease or high blood pressure
- Diabetes
- Unexpected death before the age of 50

PHYSICAL EXAM

The following should be checked during the physical exam:

- Pulse rate
- Blood pressure rate

- Height
- Weight
- Vision
- Hearing

EXAM BY HEALTH CARE PROVIDER

- **Head** — eyes, ears, throat, teeth, neck
- **Thorax** — heart, lungs, chest wall
- **Abdomen** — liver, spleen, kidney, intestines
- **Genitalia** — sexual maturity, testicles, hernias
- **Neurological** — reflexes, strength, coordination
- **Orthopedic** — joints, spine, ligaments, tendons, bones (pain, range of motion, strength)
- **Other exams (laboratory, electrocardiogram, x-rays)** may be done at the discretion of the health care provider.

After a thorough history and physical exam, the health care provider will make a participation decision by answering the following questions:

- Is there a problem that places the athlete at increased risk of injury?
- Is any other participant at risk of injury because of this problem?
- Can the athlete safely participate with treatment of the problem?
- Can limited participation be allowed while treatment is indicated?
- If clearance is denied for certain activities, in what activities can they safely participate?
- Is consultation with another healthcare provider necessary to answer the above question?

Restriction from participation must be made based upon the best medically objective evidence on an individual basis, and it is determined with the musculoskeletal, cardiac and aerobic demands of the proposed activity in mind. If clearance is denied, recommendations for correction prior to participation should be communicated and a follow-up evaluation should be scheduled. If acute illnesses or correctable conditions are resolved, clearance should be given. Although the PPE may identify health problems or needs not associated with exercise, it should not be used to replace ongoing medical care or routine check-ups with primary care physicians.

STAYING ACTIVE PAYS OFF!

Those who are physically active tend to live longer, healthier lives. Research shows that moderate physical activity — such as 30 minutes a day of brisk walking — significantly contributes to longevity. Even a person with risk factors like high blood pressure, diabetes or even a smoking habit can gain real benefits from incorporating regular physical activity into their daily life.

As many dieters have found, exercise can help you stay on a diet and lose weight. What's more — regular exercise can help lower blood pressure, control blood sugar, improve cholesterol levels and build stronger, denser bones.

THE FIRST STEP

Before you begin an exercise program, take a fitness test, or substantially increase your level of activity, make sure to answer the following questions. This physical activity readiness questionnaire (PAR-Q) will help determine if you're ready to begin an exercise routine or program.

- Has your doctor ever said that you have a heart condition or that you should participate in physical activity only as recommended by a doctor?
- Do you feel pain in your chest during physical activity?
- In the past month, have you had chest pain when you were not doing physical activity?
- Do you lose your balance from dizziness? Do you ever lose consciousness?
- Do you have a bone or joint problem that could be made worse by a change in your physical activity?
- Is your doctor currently prescribing drugs for your blood pressure or a heart condition?
- Do you know of any reason you should not participate in physical activity?

If you answered yes to one or more questions, if you are over 40 years of age and have recently been inactive, or if you are concerned about your health, consult a physician before taking a fitness test or substantially increasing your physical activity. If you answered no to each question, then it's likely that you can safely begin exercising.

PRIOR TO EXERCISE

Prior to beginning any exercise program, including the activities depicted in this brochure, individuals should seek medical evaluation and clearance to engage in activity. Not all exercise programs are suitable for everyone, and some programs may result in injury. Activities should be carried out at a pace that is comfortable for the user. Users should discontinue participation in any exercise activity that causes pain or discomfort. In such event, medical consultation should be immediately obtained.



**AMERICAN COLLEGE
of SPORTS MEDICINE**
LEADING THE WAY