Each year, millions of high school and college age athletes participate in competitive sports. The vast majority are healthy individuals. Unfortunately each year, the sudden death of a young athlete during activity typically receives high local media attention, and certainly receives national attention when it occurs to an elite or professional athlete. Questions are immediately raised. How can something like this happen? Why was the cause not detected earlier?

Preparticipation physical examinations have been an integral prerequisite of competitive athletics for a long time. The purpose of the preparticipation physical exam is to screen for conditions that may predispose an individual to the risk of injury, illness, or possibly death.

This paper reflects upon the lack of continuity in the components and delivery of a preparticipation physical examination. It also focuses special attention on certain components of the examination that disclose specific risk factors associated with sport. It is estimated that more than 5 million athletes compete at the high school, college, and professional levels of sport (American Heart Assoc. [AHA], 1996). Although less than 2% of athletes are denied clearance following a preparticipation exam, and only approximately 3 to 13% require some type of further evaluation, there is still a valid rationale for performing the examination.

There is a general consensus among the medical community as to the importance of screening athletes prior to sport participation. However, a review of the literature discloses a lack of any consensus as to the scope and nature of the preparticipation examination, while arguments are raised regarding issues of standardized protocols, personnel, and guidelines for clearance. Beyond this point, these disparities, both philosophical and medical, debate the range and make-up of the preparticipation exam and whether medical exams in general sufficiently promote safe participation (AHA, 1996; Linder et al., 1981; McKeag, 1985).

The monograph “Preparticipation Physical Evaluation,” published in 1992 and revised in 1997, has been endorsed by five medical societies. This publication is dedicated to physical evaluation for sports participation. It is widely accepted that the preparticipation exam should meet the following goals and objectives (Mellion, 1994; Smith, 1994; Smith et al., 1997):

- Determine the general state of health of an athlete.
- Detect conditions that may be life-threatening or place an athlete at risk.
- Detect conditions that may predispose an athlete to injury or illness.

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Determine conditions that might limit or disqualify an athlete from certain activities.

Provide counseling to athletes on health related issues.

Assess the fitness levels of athletes for specific activities.

Satisfy legal and insurance requirements for participation.

The purpose of the examination is not to disqualify an athlete but to give examining physicians the opportunity to identify factors that may lead to an unsafe environment for an athlete who may be at risk (Magnes et al., 1992; Smith et al., 1997).

Currently there do not appear to be any commonly accepted standards for the screening of athletes. The American Heart Association recently pointed out that besides this general lack of standards, there is no universal format for participation clearance. They also contend that in many situations, nonphysician healthcare personnel are conducting physical exams. This latter issue is not so much a question of expertise but rather one of standardization of personnel. The AHA supports the development of a standardized examination designed to consistently detect and disclose risk factors associated with sport participation.

Organizing and Implementing the PPE

When considering the organization and implementation of a preparticipation physical examination (PPE), the healthcare provider must consider certain administrative issues.

Smith et al. (1997) and McKeag (1985) have suggested that the following elements be considered that will ensure a comprehensive and consistent medical examination: (a) qualifications of the examiner; (b) timing of the examination; (c) method of the examination; (d) frequency of the examination; and (e) routine laboratory screening.

Typically when the examination is being conducted by a school district or college/university, you must take into account what is involved in processing a large group of athletes in short periods of time.

The debate has been raised as to who is qualified to perform the preparticipation physical examination, but it is suggested that all personnel have requisite training and skills in conducting a medical examination. It is also suggested that the ultimate responsibility to qualify or disqualify an athlete should rest with a physician (AHA, 1996).

Ideally, a preparticipation examination should be performed early enough to allow for any subsequent follow-up referral, treatment, or rehabilitation. It is suggested that examinations be given at least 3 to 6 weeks prior to participation.

The two typical settings for PPEs are an office-based or station-based environment. Both have their advantages and disadvantages. Station-based settings tend to be more efficient in that more athletes can be evaluated at one time. Individual examinations by family physicians may be more comprehensive but are not as congruous as the group exam by one physician/group. This type of setting can utilize a variety of healthcare personnel with different expertise. In any event, the focus of the PPE should still be concentrated on those essential areas and potential risk factors directly associated with a particular group or sport (Kibler et al., 1989; Linder et al., 1981).

There is some difference of opinion as to how often a preparticipation exam should be given. However, most medical societies agree that these examinations should be conducted at the beginning of a new school level. It is also supported that a yearly follow-up interim examination be given that would include a medical history review and possibly a limited physical exam as deemed necessary by the history (Smith et al., 1997).

These medical societies have also concurred that routine laboratory screening in an asymptomatic athlete need not be a required component of a preparticipation exam. Current and past research has not supported the use of such tests as urinalysis, blood and chemistry profiles, EKG, etc. It is believed that the findings from the history and physical exam should direct the need for specific screening. However, McKeag (1985) believes the dipstick urinalysis test should be conducted on all young athletes. This screening test is relatively common and typically included in most station-based exams.

With the increased use of illegal and performance enhancing drugs, the use of urinalyses and blood profiles has raised issues about the constitutional rights of student-athletes. Legal cases have raised concern