The Preparticipation Evaluation

An Opportunity For Change and Consensus

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The importance of the preparticipation evaluation (PPE) was recognized by the American Medical Association’s Committee on Medical Aspects of Sports almost 30 years ago. Some time later, Dr. John Lombardo suggested 6 purposes for the PPE: (1) to detect additional risk, (2) to detect medical contraindications, (3) to conclude which sports were safe for the individual, (4) to serve as a limited general health screening, (5) to fulfill legal and insurance requirements, and (6) to evaluate physical maturation. Although most physicians seem to agree that the focus of the PPE should be the health and safety of the athlete, there is no consensus on how this should ideally be achieved in the face of current and ever-changing standards of care and evolving legal systems. Moreover, as pointed out by several authors in this issue of the journal, our current PPE is not standardized or capable of detecting the few conditions that are lethal to athletes during exercise. Few athletes are actually denied participation after undergoing a PPE, regardless of the complexity of the examination.

While research continues to demonstrate that the PPE appears to have a minimal effect on the overall morbidity and mortality of athletes, other objectives may be fulfilled by these examinations. Some studies suggest that a proper medical history alone may identify up to 75% of problems that affect athletes. With this in mind, increasing attention is being paid to the medical history for athletes and identification of the optimal way of obtaining and recording information. Recent work points to the electronic medical record as an effective tool for obtaining history and screening athletes for conditions needing physician attention. Only time will tell if a Web-based questionnaire will provide the opportunity to improve screening methods and strategies to optimize preventative care for athletes.

Evidence-based medicine involves the conscientious, explicit, and judicious use of current best knowledge for making decisions about the care of individual patients. The development of clinical practice guidelines has been a major emphasis of the evidence-based-medicine movement toward standardizing care, optimizing outcomes, and enhancing efficiency. However, a guideline is only as useful as the evidence on which it is based, coupled with the clinical experience and wisdom of the practitioners implementing the guideline. Dr. Matheson and colleagues critically review the current literature and determine if any real evidence for current guidelines and recommendations for the PPE exists. For quite some time, the cornerstone of the PPE was the musculoskeletal examination. In the absence of any symptoms or history of trauma, however, the contribution of joint laxity or tightness to athletic injury is still unproven. It seems apparent that large-scale, controlled trials are needed to clarify the usefulness of the orthopedic component of the PPE, according to James Garrick, MD. Perhaps the area of highest visibility and difficulty in establishing guidelines for the PPE and screening is sudden cardiac death. Despite the assertion that the PPE aims to identify individuals at risk for cardiovascular morbidity and mortality, our current history and physical examination requirements do not achieve these goals from a CV...
perspective. Most cases of sudden cardiac death in (young) athletes are clinically silent congenital abnormalities. Difficulty in diagnosing a life-threatening condition is compounded by the poor correlation between physical fitness of the athlete and the underlying condition of the heart. Dr. Mark Hlatky and colleagues review current guidelines for dealing with athletes and cardiovascular screening and point to future possibilities for cost-effective and efficient detection of silent and fatal conditions. Other systems topics including exercise-induced asthma, head injury, and hematological recommendations for screening of elite athletes are also reviewed.

Perhaps the PPE should be tailored to specific populations? Dr. Connie LeBrun and Jane Rumball provide an up-to-date review of issues related to the female athlete such as disordered eating and amenorrhea and how the PPE can be tailored to identify and address these problems. It may be argued that health care of the female athlete and the adolescent population are both largely crisis-oriented. Most adolescents in the United States will undergo a limited, sports-oriented PPE. Countries such as Australia and the UK do not mandate a similar precedent. What, then, should be the purpose of the PPE for adolescents? Dr. Roy Shephard addresses the specific issue of childhood obesity and a possible role for the team physician in preventing obesity in this population.

A unique feature of this thematics issue is an international perspective on the PPE. Dr. Peter Brukner and associates present a different approach to the PPE and screening of high school and elite athletes in Australia. Dr. Mark Batt and colleagues share their perspectives on the PPE and its implementation in the UK. Both approaches seem rational and validated for their respective countries, yet very different from the traditional North American approach. Dr. Liz Joy and colleagues discuss the current NCAA-mandated PPE and propose suggestions that would move the PPE in the direction of being an overall assessment of an athlete’s health status.

Several general principles should be considered before deciding on the ideal screening test. First, the disease or condition must have a sufficiently high prevalence and significant morbidity and mortality. A good screening test should be accurate and practical to apply to a large number of subjects. Testing procedures must be safe and acceptable to most individuals. Finally, screening programs should identify conditions that are treatable. The fundamental principles for screening should be no different in sport from other clinical settings, but clearly, powerful factors dictate certain implications for sport and the care of athletes. It should be remembered, however, that based on available evidence, few athletes are actually denied participation after completing a PPE. Clearly, we still have a way to go to perfect the PPE, both in content and in who should screen and evaluate individuals competing in sport. An even more important question under intense scrutiny is how often these examinations should be performed. The current thematics issue may leave the reader with more questions than answers. Having a good question is one of the first steps to a worthwhile research study! Please enjoy this collection of articles and, as always, we welcome your feedback.

REFERENCES