Pre-Participation Athletic Screening Forms

Introduction

The purpose of my study was to determine whether pre-participation athletic screening forms used in college athletics in the Northeast meet content and administration recommendations made by the American Heart Association. In order to determine whether college athletes are adequately being screened for possible underlying cardiovascular conditions before medical clearance to participate in a sport, information about the pre-participation athletic screening process was requested from the head athletic trainer at six colleges across New England and other Northeastern States. While there are criteria recommendations made by the American Heart Association regarding the content of the forms, there is no standard form or process used for college athletics. An open ended survey investigates how pre-participation forms are filled out and followed up on. A questionnaire assessed whether the forms meet 12 specific guiding recommendations released by the American Heart Association. The answers were compared to national American Heart Association and American College of Cardiology standards.

The study protocol was approved by the Institutional Review Board for the Protection of Human Subjects at the University of New Hampshire.

About Pre-participation Athletic Screening

Pre-participation athletic screening is a way to identify athletes with underlying cardiovascular disease that may need further attention before medical clearance to participate in a sport. Every year, 550,000 athletes compete at the collegiate level. A 15-year study determined that the incidence of cardiac related death in athletes is one in 260,000 (Shave). The increased strain on the heart associated with high intensity sports makes cardiovascular disease dangerous for athletes (Figueras). While incidence and prevalence rates seem to have a small impact on the large amount of athletes who participate in sports, there is reason for medical concern when a member of the healthiest segment of the population dies.

Prior to athletic participation, specialty cardiovascular testing of every athlete would be ideal but would pose a disproportionate cost/benefit ratio. Because pre-participation screening forms are cost-effective in potentially identifying athletes at risk, more attention has been focused on them in the past few years. However, it was found that 40 percent of forms omit crucial cardiovascular information like history of chest pain associated with physical exertion, family death or disability, or history of Marfan’s Syndrome. This outcome indicates there may be severe limitations to some of the screening processes in detecting cardiovascular abnormalities which makes this study relevant.

Preliminary Conclusions

Content adequacy of the pre-participation athletic screening form was assessed by the researcher using a questionnaire to determine whether each school asked 12 items recommended by the American Heart Association. From the six schools, the University of New Hampshire was the only school to answer all of the questions. Keene State College only asked one half of the recommended questions on their forms. While data will never be one size fits all in any sport, the questions asked on a pre-participation athletic screening form can be crucial to detect athletes who may need additional screening or have underlying cardiovascular disease.

Content Adequacy

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Results

• Of six schools studied, only one contained all 12 recommendations by the American Heart Association.
• Two schools omitted one of the top three questions that should always be asked before clearance to participate in athletics, and one school omit all three.
• In order to obtain accurate family cardiovascular history, it is recommended the forms be reviewed by a parent, but only two schools require review by a parent.
• Five of the six schools have their forms reviewed by a college physician and all students are required to undergo a pre-participation physical.
• None of the schools studied follow athletes who participate in higher intensity sports like football and basketball more extensively.
• Two of the schools omit family history and whether the athlete has a pre-existing condition.

Conclusions, Recommendations, and Limitations

• While there has been significant improvement in the adequacy of the content and administration of pre-participation athletic screening, Northeastern colleges do not fully comply with medical recommendations.
• A limitation to the study is that information collected in an open-ended survey may be biased, or have selected information.
• A limitation to the study is the size of the schools and the differentiation of athletic programs provided.
• A strength of the study was fast data collection and response times. A follow-up study should monitor the same data collection process.
• As the forms are revised annually, the researcher recommends each school reviews new recommendations by medical professionals and make necessary revisions.
• While administrative processes will always vary by school, the researcher recommends using one standardized pre-participation athletic screening process for every school across the nation.
• As new information and recommendations become available, the forms should be updated accordingly.
• The administration of the form is just as important as the content. It is an opportunity to minimize risk, forms should always be reviewed by the athlete’s physician, the school’s physician, and the athlete’s parent.

Future Work

The researcher hopes to follow up on each of the college’s pre-participation athletic screening forms and their changes in the next year. As most of the college revise their forms on an annual basis, this may pose an opportunity to make individual recommendations for each school or even consider a feasibility study proposing a standardized pre-participation athletic screening form for the schools. A close-ended survey sent to athletic trainers would request follow up information and specific information about potentially changing their school’s pre-participation athletic screening forms and process. The researcher would like to focus on a single division-size of colleges and hopes to expand the study by including separate regions for comparison.

Sources


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John W. Sankey
PhD, M.PH
Emeritus B. Jackman Professor
Health Management and Policy
School of Health and Human Services

Olive L. Karpinski
Health Management and Policy
University of New Hampshire
GIB Box 0943
Durham, NH 03824
ol2@unh.edu
(603) 862-1331

For Further Information