

AN AUDIT OF ROUTINE PRELIMINARY MEDICAL EVALUATION IN ATHLETES ATTENDING FOR LABORATORY BASED MAXIMAL EXERCISE TESTING

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Introduction

Athletes attend the exercise laboratory to gauge fitness, individualise training prescription and monitor training effectiveness. Pre-exercise medical scrutiny based on standard guidelines (ACSM, 2002) is routinely performed in our laboratory despite uncertainty in the literature with regard to effectiveness and benefits of the process and outcomes (Wingfield et al., 2004). The aim of this study was to review medical findings, exclusions, restrictions, and recommendations made in preliminary medical evaluation procedures, in order to assess the value of the process and fulfil Irish Medical Council (IMC, 2011) requirement for audit of clinical practice

Methods

Preliminary medical questionnaire and examination results of athletes who attended the exercise laboratory between June 2010 and June 2011 are currently being reviewed. Questionnaire consisted of; training, family, past medical, medications, menstrual, and immunisation history sections and systems review checklist. Examination consisted of resting pulse and blood pressure (Omron, Japan), head, neck, cardio-respiratory examination, and problems highlighted in the questionnaire. Further ancillary tests; pulmonary function (Micro-medical, UK) and full blood count (Coulter Electronics, UK) were performed to out-rule; airway limitation; and sub-clinical anaemia, dehydration, and infection. Anonymous medical findings and ancillary test data were recorded on a spread sheet for qualitative analysis.

Results

To date 132/210 records, (19F/113M) have undergone preliminary scrutiny and 20/210 records detailed analysis of ancillary pulmonary function and haematological data. Sports represented were; cycling, triathlon, running, rowing, sailing, and Gaelic games. Athletes were excluded from testing due to minor illness (4), athletic fatigue (2) and history of exercise related syncope (1); a further 6 athletes were restricted to sub-maximal testing due to age (>45yr), elevated DBP (102mmHg), family history of SADS and a previously undiscovered heart murmur. Main recommendations included; urgent cardiology opinion (1), routine ECG/Echocardiogram (8), iron studies (3), dietary analysis and iron supplementation (3), GP follow-up for minor illnesses (6), further rehabilitation of minor injuries (2), and DXA scan (1). No abnormal findings were found in menstrual history, physical examination and no previously unknown respiratory limitations were detected. In analysis of full blood count data 7 athletes had borderline low WCC, one athlete had iron deficiency anaemia and several had low MCH values.

Discussion

This study has shown that an abbreviated 10 minute pre-participation medical procedure can detect significant medical conditions relevant to both performance and health of the athlete; and in one case revealed episodes of exercise related syncope in a young tri-athlete that led to diagnosis of a serious cardiac conduction defect.

References

Wingfield et al. (2004) Clin J Sport Med 14, 109-122.
Pre-participation Physical Examination, American College of Sports Medicine. 2002

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