

# Screening of Athletes

## Australian Experience

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**Objective:** To present an overview of medical screening of athletes in Australia

**Data Sources:** Data was obtained from Australian sports physicians involved in elite national and professional programs.

**Data Synthesis/Methods:** The status in Australia of medical screening and in particular the Pre-participation Examination (PPE) was reviewed.

**Results:** The PPE as practised in North America is not performed in Australia. However medical screening of elite national level and professional athletes is widely practised. A variety of screening methods is used. The medical screening protocol recently developed on behalf of the Australasian College of Sports Physicians (ACSP) is presented.

**Conclusions:** Medical screening of high performance athletes takes place regularly in Australia. Valuable information may be obtained from this process. The extent of the screening is limited by financial and time constraints. The proposed protocol is a basis for a comprehensive medical screening, but can be adapted depending on the individual and the sport played.

**Key Words:** screening, pre-participation examination, elite sport

(*Clin J Sport Med* 2004;14:169–177)

Unlike the situation in the United States and in Italy, there is no mandatory examination of high school age athletes, the so-called *preparticipation examination* (PPE), in Australia. There is no particular reason for this, but the relatively unstructured nature of high school sport and concerns regarding the cost-effectiveness of PPE are probably factors.

Accepted March 2004.

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### SCREENING OF ATHLETES

Although the standard PPE is not performed, elite athletes (those who are playing professional sport, are state or national representatives, or are participants in a government-sponsored support program at the Australian Institute of Sport or one of the State Institutes of Sport) undergo a medical screening on admission to the program and on a regular basis thereafter. There is no uniform screening protocol among the various sports and institutes, but there is a large amount of consistency among them.

In an attempt to bring some uniformity to these protocols, the Australasian College of Sports Physicians commissioned 2 of the authors (S. W. and A. S.) to examine the current protocols and draw up a national protocol to be used by all national sporting organizations and Institutes of Sport.

The proposed protocol is shown in Table 1. Page 1 contains the athlete's personal details and consent form, along with the outcome summary to be filled in by the examining physician. Page 2 is completed by the physician with recommendations and suggested follow-up. Pages 1 and 2 can then be used as a summary to be distributed to the appropriate personnel following the screening. Pages 3 and 4 are to be filled in by the athlete, preferably prior to coming in for screening, or in the waiting room. We recommend that younger athletes in particular fill in the form with the help of a parent or guardian if possible. The final page is a summary of the examination findings and is filled in by the examining physician.

### AIMS OF MEDICAL SCREENING

The primary aim of the PPE as performed in other countries would appear to be the detection of cardiovascular abnormalities to prevent sudden death among young athletes. The Australian medical screening program has a broader perspective and is aimed at improving the health of the athlete.

The medical screening of these high performance athletes has a number of aims:

- (1) Prevent sudden death
- (2) Ensure optimal medical health (asthma, diabetes, menstrual, depression)
- (3) Ensure optimal musculoskeletal health

- (4) Optimize performance (nutrition, psychology, biomechanics)
- (5) Prevent injury
- (6) Review medications and vaccinations
- (7) Collect baseline data (blood tests, neuropsychological testing in contact sports)
- (8) Develop professional relationship with athlete
- (9) Educate

### CARDIOVASCULAR SCREENING

Statistics regarding the incidence of sudden death in sport in Australia are not available, but episodes of sudden unexplained death during exercise occur and are often reported in the media. We assume that the rate of sudden death is similar to that in other countries (approximately 1 in 200,000). Anecdotal evidence indicates that, similar to the experience in other countries, cardiac causes comprise most of sudden death in athletes. The most common cardiac abnormalities associated with sudden death in young (<35 years old) athletes are hypertrophic cardiomyopathy (HCM), coronary artery abnormalities, myocarditis, arrhythmias, valve abnormalities, and aortic rupture.

Basic screening to detect those at risk for sudden cardiac death include a careful history and physical examination. A family history of sudden death under the age of 60 or a history of episodes of unexplained syncope or palpitations warrants further investigation.

Seto<sup>1</sup> claims that personal and family history can reveal 64% to 78% of conditions that would prohibit or alter sports participation. However, the American Heart Association found that the combination of history and physical examination was unable to detect serious cardiovascular diseases.<sup>2</sup> According to Maron et al,<sup>3</sup> detection of HCM by standard screening is unreliable because most patients have the nonobstructive form of this disease, characteristically expressed by only a soft heart murmur or none at all. Furthermore, most athletes with HCM do not experience syncope or have a family history of premature sudden death due to the disease.

The addition of a 12-lead electrocardiogram (ECG) to the screening process enhances the detection of certain cardiovascular abnormalities. The ECG is abnormal in about 95% of patients with HCM. The major drawback of the use of ECGs in screening, aside from the expense, is the high frequency of abnormal findings associated with normal physiological adaptations of an athlete's heart to training.<sup>3</sup>

A 2-dimensional echocardiogram is the principal diagnostic tool for the detection of HCM and will also detect most, but not all, important cardiac lesions. However, the considerable expense of the echocardiogram means that it would cost hundreds of thousands of dollars to detect 1 previously undiagnosed case.

In Italy, approximately 5 million sports participants undergo a preparticipation screening including an ECG each

year. Its efficacy for detecting cardiac abnormalities that may result in sudden cardiac death has not been investigated. A recent review of the program by Pigozzi et al<sup>4</sup> stated that the usefulness of 12-lead ECG for identifying cardiovascular disease in highly trained athletes is limited. Based on the large proportion of false-positive abnormal ECGs found in the athletic population (40%) in Italy, the diagnostic power of the ECG was low (sensitivity 50%, positive predictive value 7%).

We do not perform routine ECGs as part of our medical screening, but if there is any symptom or sign suggestive of cardiovascular disease, an ECG and frequently an echocardiogram will be ordered. In sports such as basketball and volleyball, we look closely for the presence of clinical features of Marfan syndrome.

The questions relating to cardiovascular problems in our questionnaire are adapted from those recommended by the American Heart Association.<sup>3</sup>

Have you ever passed out, become dizzy or had chest pain during or after exercise?

Has anyone in the family died suddenly and unexpectedly before the age of 50?

Have you ever had a heart abnormality or murmur diagnosed by a doctor?

Have you ever had an abnormal heart rate, palpitations or irregular heart beats?

Have you had high blood pressure or high cholesterol?

Has a physician ever denied or restricted your participation in sport for heart problems?

Have any of your relatives ever had cardiomyopathy, Marfan syndrome, long QT syndrome or significant heart arrhythmia?

### MEDICAL HEALTH

Generally fit, young athletes have very little occasion to visit a doctor. Some of the athletes will not have been to see a doctor for many years and may not have a regular general practitioner, especially if their sporting prowess has resulted in them moving from their home town. The examining physician should not assume that basic medical procedures such as auscultation of the heart and blood pressure measurement have ever been performed on the athlete. The screening questionnaire necessarily focuses on the more common conditions affecting young athletes.

Australia has one of the highest prevalence of asthma and exercise-induced asthma (EIA) in the world.<sup>5</sup> Asthma and EIA have a significant prevalence of underdiagnosis and overdiagnosis, as well as undertreatment and overtreatment. As a result, and especially recently with the IOC and WADA restrictions on the use of beta-2 agonists, the detection of asthma is a high priority. The efficacy of different methods of screening for the presence of asthma and EIA are described in the accompanying article from our group. The standard questions in our protocol are as follows:

Do you have asthma, chest tightness, wheezing, or coughing spells during or after exercise?

Have you been tested in an accredited laboratory?

Obviously, there is an almost unlimited number of questions that could be included in a health questionnaire in an attempt to detect some abnormality. Apart from the cardiovascular and respiratory questions, we include the following questions in our questionnaire:

Do you have a history of concussion or loss of consciousness?

Have you ever suffered a heat-related illness? (e.g. dizziness, cramps, blurred vision, disorientation, collapse)

Do you have any problems with your skin? (e.g. rashes, moles, acne)

Do you have a chronic illness or see a physician regularly for any particular problem? (e.g. diabetes, epilepsy, thyroid problems, bowel disorder) Please list:

Have you ever had surgery or required hospitalization? Please list, including approximate dates:

In addition, urinalysis is a simple screening tool for the presence of diabetes.

Menstrual abnormalities are commonly associated with intense athletic activity in females and may lead to significant bone loss, resulting in stress fractures and osteoporosis. Therefore, it is important to include questions designed to detect abnormal menstruation in the questionnaire.

Have you started your periods? If so, what age?

Date of your last gynecologic examination/PAP smear

Have you ever missed your period for more than 6 months?

Does your menstruation affect your performance?

In our clinical experience, the incidence of mild depression among high-level athletes is quite significant. The medical screening presents an opportunity for athletes to discuss their depression. If the athlete complains of excessive fatigue, depression should be considered among other possible causes of fatigue.

Have you, or a close relative, ever suffered from depression?

Have you ever suffered from excessive fatigue or overtraining?

### MUSCULOSKELETAL SCREENING

Time constraints do not allow a full comprehensive assessment of all joints and muscles. Therefore, the aim of musculoskeletal screening is to assess recovery from any previous injury and to assess the presence of proven (very few) or suspected risk factors for future injury. Athletes involved in sports associated with high risk of specific joint or muscle injuries, such as, swimmers' shoulders and pitchers' elbows, should have specific assessments performed on these areas.

A full injury history should be taken, and any deficits remaining postinjury should be fully assessed with a view to designing a rehabilitation program to restore full function. Frequently, athletes will have resumed full athletic participation following a significant injury and yet still have considerable

limitations in strength, range of movement, proprioception, and so forth.

The questionnaire asks the athlete to describe the nature and date of any previous injury and to list any residual problems. Athletes are asked to describe the nature, date, and symptoms of any current injury.

### OPTIMIZE PERFORMANCE

The medical screening process is an opportunity to assess areas that may not necessarily impact health but may affect performance. Examples of these are nutrition, psychology, and biomechanics. A brief assessment of these areas may suggest a problem that can then be followed up by the appropriate expert.

Athletes in sports in which competitors have to be under a specified weight (wrestling, boxing) or sports in which being thin is thought to have some aesthetic (gymnastics) or performance (distance running) advantage may be at increased risk of unhealthy eating or the development of an eating disorder. Do you have problems making weight for your sport?

Do you follow any special diet? (e.g. vegetarian, weight loss, Pritikin)

Have you ever had a nutritional deficiency diagnosed (e.g. iron, Vit. B12)

### INJURY PREVENTION

There is very little research evidence showing associations between the presence of certain risk factors and particular injuries. An example would be the presence of menstrual abnormalities or an eating disorder leading to the development of stress fractures.<sup>6</sup> Clinical experience suggests additional possible relationships. The medical screening process is an opportunity to identify potentially correctable risk factors and implement measures designed to reduce that risk. It is also an opportunity to ensure that appropriate equipment such as helmets, mouth guards, and shin pads are used in relevant sports. Do you wear orthotics?

Do you wear any protective equipment when playing your sport?

### MEDICATIONS AND VACCINATIONS

The medical screening is an opportunity to review the use of medications, both prescription and over-the-counter drugs, as well as supplements. The list of banned substances produced by WADA and the IOC is regularly changed, and athletes need to be aware of the most recent changes.

Do you take any prescribed medicine? Please list type and dose: Do you use over the counter supplements / medication / herbal remedies? Please list:

Have you notified your NSO [National Sporting Organization]?

Do you have any allergies to any medication, insects or other agents?

The screening also presents an opportunity to check the vaccination status of the athlete.

**VACCINATIONS:** (please put dates if you have had any of the following)

Tetanus

Rubella (German Measles)

Influenza

Typhoid

Hepatitis A

Hepatitis B

Yellow fever

Chicken Pox

Meningitis C

Polio

(Hepatitis A and B may be in a combination vaccine, usually a series of 3 injections over 6 months)

(Measles, mumps and rubella is a combination vaccine, part of usual childhood series)

### BASELINE DATA COLLECTION

In certain sports, particularly at the elite level, regular monitoring of hematological and biochemical parameters is performed to detect early evidence of deficiencies. An example would be the monitoring of serum ferritin levels in female endurance athletes.

In contact sports such as football, team physicians are increasingly using neuropsychological testing to monitor recovery from concussion. A team doctor may wish to perform baseline testing before the season to use as a comparison in the recovery process.

### DEVELOP PROFESSIONAL RELATIONSHIP WITH ATHLETE

The medical screening process on entry into a professional team or institute program gives an opportunity for the team doctor to commence his or her professional relationship with the athlete. It enables the doctor to become fully aware of the athlete's past history and give them an insight into the athlete. The athletes are given the opportunity to list on the form any issues that they would like to discuss with the doctor.

### EDUCATION

The medical screening presents an opportunity for the physician to educate the athlete on such issues as injury prevention (stretching, warm up), immediate injury management (RICE), nutrition, appropriate equipment, the use of medications and supplements, vaccinations, and so forth.

### PROBLEMS

There are a number of problems inherent in the medical screening program. As mentioned, there is no uniformity of protocols. Some are very long (up to 40 pages of questionnaire, full muscle and joint examinations) and are therefore time-consuming for both athlete and physician, resulting in compliance issues.

In some cases, multiple screenings are performed by different organizations on the same athlete. For example, an elite

18-year-old basketball player in Australia may have screenings as part of his professional team, his state or national institute of sport, the national basketball team, and the Australian Olympic team. All will probably be slightly different and represent a waste of time and resources.

Another issue is that of follow-up. Often, an extensive screening is performed with various recommendations emanating from it. Unfortunately, there is frequently no mechanism for follow-up. We recommend that the examining physician or chief medical officer (CMO) follow up with the athlete either by phone or in person approximately 6 weeks after the screening to ensure that the recommended actions have taken place.

Who has access to the data from the screening? The athlete? The team or organization? The examining physician? The information obtained from medical screening is bound by the same confidentiality restrictions as any medical information.

Certainly, the athlete has the right to the information. How that is presented to the athlete is another area of controversy. The athlete who is traveling constantly (eg, tennis player or golfer on international circuit) should have the screening information in their possession at all times so that the treating practitioner can be made aware of any problems. It has been suggested that the traveling athlete should have a medical passport (hard copy and CD-ROM) containing all relevant information.

The confidential medical information obtained at the screening should not be distributed to the team or institute administration. It should be held by the CMO of the organization and passed on at the CMO's discretion to relevant medical and paramedical practitioners as required for the optimal management of the athlete.

### CONCLUSIONS

Medical screening of high performance athletes takes place regularly in Australia. Valuable information may be obtained from this process. The extent of the screening is limited by financial and time constraints. The proposed protocol is a basis for a comprehensive medical screening but can be adapted depending on the individual and the sport played.

### REFERENCES

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**TABLE 1.** Medical Screening Protocol Developed for the Australasian College of Sports Physicians

**ATHLETE MEDICAL INFORMATION**  
**ATHLETE TO COMPLETE**

**NAME:** \_\_\_\_\_ **D.O.B.:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

**HOME PHONE:** \_\_\_\_\_ **MOBILE:** \_\_\_\_\_

**E-MAIL:** \_\_\_\_\_

**SPORT:** \_\_\_\_\_ **EVENT/POSITION:** \_\_\_\_\_

Next of Kin: \_\_\_\_\_ Relationship to you: \_\_\_\_\_

Phone no.: \_\_\_\_\_

Local doctors name & contact details: \_\_\_\_\_

Physical therapists name & contact details: \_\_\_\_\_

**Consent:**

- I agree to undertake this procedure in order to enable medical staff to ensure I am fit to train and compete
- I am aware that some information may require clarification or follow up with my treating doctor and physical therapists, and agree to the release of relevant information to these people.
- I am aware that medical fitness issues may be discussed with my coach.
- I understand that the information contained in this form is otherwise confidential and can only be released with my consent.

Name: \_\_\_\_\_ Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Parent/guardian signature if athlete is under 18 years of age: \_\_\_\_\_ Date: \_\_\_\_\_

**DOCTORS USE ONLY**

**Outcome of Screening:**

Physician:

**Yes    No**

- Is the athlete medically fit to complete and train in a high performance program?
- Are there any medical issues that warrant further assessment?
- Are any further vaccinations required?

**Copy sent to:**

- GP       Physiotherapist       Coach       Strength Coach       NSO or ASDA

Other \_\_\_\_\_

Physician name _____	Signature _____	Date _____
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TABLE 1. (continued) Medical Screening Protocol Developed for the Australasian College of Sports Physicians

2.

RECOMMENDATIONS: (DOCTOR TO COMPLETE)

**Physician:**

**Relevant Medical Issues:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Referrals made:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Athlete:** (e.g. to get blood tests, make optometry appointment) \_\_\_\_\_

\_\_\_\_\_

**Physiotherapist/Physical Therapist:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Strength and conditioning coach:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Coach:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Any other issues:** \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date of Follow Up: \_\_\_\_/\_\_\_\_/\_\_\_\_

Visit  Phone  Letter

**TABLE 1.** (continued) Medical Screening Protocol Developed for the Australasian College of Sports Physicians

<u>3.</u>			
<b>RECOMMENDATIONS:</b>			
(ATHLETE TO COMPLETE PRIOR TO SCREENING APPOINTMENT)			
Yes	No	Unsure	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you ever passed out, become dizzy or had chest pain during or after exercise?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has anyone in the family died suddenly and unexpectedly before the age of 50?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you ever had a heart abnormality or murmur diagnosed by a doctor?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you ever had an abnormal heart rate, palpitations or irregular heart beats?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you had high blood pressure or high cholesterol?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Has a physician ever denied or restricted your participation in sport for heart problems?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have any of your relatives ever had cardiomyopathy, Marfan syndrome, long QT syndrome or significant heart arrhythmia?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you have asthma, chest tightness, wheezing, or coughing spells during or after exercise?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you been tested in an accredited laboratory?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you have a history of concussion or loss of consciousness?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you every suffered a heat-related illness? (e.g. dizziness, cramps, blurred vision, disorientation, collapse)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you have any problems with your skin? (e.g. rashes, moles, acne)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you have a chronic illness or see a physician regularly for any particular problem? (e.g. diabetes, epilepsy, thyroid problems, bowel disorder) Please list: _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you ever had surgery or required hospitalization? Please list, including approximate dates: _____ _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you take any prescribed medicine? Please list type and dose: _____ _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you use over the counter supplements/medication/herbal remedies? Please list: _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you notified your NSO?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you have any allergies to any medication, insects or other agents?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you wear corrective lenses or glasses?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you smoke?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you drink alcohol?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you, or a close relative, ever suffered from depression?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you ever suffered from excessive fatigue or overtraining?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you wear orthotics?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you wear any protective equipment when playing your sport?
<b>Nutrition:</b>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you have problems making weight for your sport?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you follow any special diet? (e.g. vegetarian, weight loss, Pritikin)
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you ever had a nutritional deficiency diagnosed (e.g. iron, Vit. B12)
<b>Female:</b>			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you started your periods? If so, what age _____? Date of your last gynecological examination /PAP smear ____/____/____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you every missed your period for more than 6 months?
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Does your menstruation affect your performance?

**TABLE 1.** (continued) Medical Screening Protocol Developed for the Australasian College of Sports Physicians

**4.**

**VACCINATIONS:** (please put dates if you have had any of the following)

Tetanus: \_\_\_\_\_ Rubella (German Measles): \_\_\_\_\_ Influenza: \_\_\_\_\_  
 Typhoid: \_\_\_\_\_ Hepatitis A: \_\_\_\_\_ Hepatitis B: \_\_\_\_\_ Yellow fever: \_\_\_\_\_  
 Chicken Pox: \_\_\_\_\_ Meningitis C: \_\_\_\_\_ Polio: \_\_\_\_\_

(Hepatitis A and B may be in a combination vaccine, usually a series of 3 injections over 6 months) (Measles, mumps and rubella is a combination vaccine, part of usual childhood series)

**FAMILY MEDICAL HISTORY:** Is there a family history of (please circle):

Yes	No	Unsure	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Heart disease:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Cancer:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Arthritis:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Diabetes
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Stroke, high blood pressure
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Marfan Syndrome:
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Glaucoma or other eye disease:

Specify details: \_\_\_\_\_

**Injuries:**

Yes	No	Unsure	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Have you had any injuries/medical conditions that have interfered with your sporting career?

For each injury/condition:

Nature of injury	Date of Injury	Any residual problem?
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Yes	No	Unsure	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Do you have any current injuries?

Nature of injury	Date of Injury
_____	_____
_____	_____
_____	_____
_____	_____

Do you wish to discuss any health or sports medicine issues with the doctor? If yes please detail below:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**TABLE 1.** (continued) Medical Screening Protocol Developed for the Australasian College of Sports Physicians

5.

**EXAMINATION: (TO BE COMPLETED BY DOCTOR)**

**MANDATORY**

CVS	Blood Pressure (sitting) Pulse rate and rhythm Heart size Heart sounds, including murmurs (supine and standing) Femoral artery pulses		
RESP	Auscultation	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal (clarify below)

MUSCULOSKELETAL ASSESSMENT OF ANY INJURED REGION

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**OPTIONAL – as indicated by questionnaire responses**

ANTHROPOMETRY	Height _____ cm	Weight _____ kg	BMI _____	
ENT			NORMAL	ABNORMAL (clarify below)
ABDOMINAL			NORMAL	ABNORMAL (clarify below)
NEUROLOGICAL			NORMAL	ABNORMAL (clarify below)
SKIN (Sun damage, suspicious naevi, acne)			NORMAL	ABNORMAL (clarify below)
MARFAN ASSESSMENT			NORMAL	ABNORMAL (clarify below)
BIOMECHANICS (Pronation/supination or asymmetry)			NORMAL	ABNORMAL (clarify below)
OPTOMETRY (Acuity, color blindness, fundoscopy)			NORMAL	ABNORMAL (clarify below)
BLOODS (Indicated by history)			NORMAL	ABNORMAL (clarify below)
URINALYSIS			NORMAL	ABNORMAL (clarify below)
SPIROMETRY			NORMAL	ABNORMAL (clarify below)

**ADDITIONAL NOTES FROM EXAMINATION:**

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Name of Examiner \_\_\_\_\_ Signature \_\_\_\_\_ Date \_\_\_\_\_