



Netball Australia CARDIAC SCREENING GUIDELINES

1 February 2025

NETBALL AUSTRALIA CARDIAC SCREENING GUIDELINES

In the spirit of Reconciliation, Netball Australia acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of this ancient unceded land where we live, work and play netball on.

We honour the continuing cultures, languages, and heritage of Aboriginal and Torres Strait Islander peoples whose cultural, spiritual, and ancestral connections to the lands, sky, and waters has endured since time immemorial.

We pay our respects to Elders past and present, and we acknowledge and value the significant and continuing contributions Aboriginal and Torres Strait Islander peoples make within our community.

Netball Australia is committed to Reconciliation. We acknowledge the need to reflect on our shared history in order to build a vision for a reconciled and prosperous future for all within our sport. One built on mutual respect, equity, authentic collaboration, and genuine truth-telling.

Where relevant, in these Guidelines – reference to Netball Australia includes Suncorp Super Netball.

A. Purpose

NA recommends that all Athletes undergo a cardiac Pre-Participation Evaluation (PPE) including a thorough history, physical examination and 12 lead electrocardiogram (ECG) as part of their club medical screening (see scope and exclusions for further information). Cardiac PPE is an evidenced-based strategy for identifying athletes with manageable cardiac conditions (e.g. Long QT Syndrome or ablation amenable cardiac arrhythmias), which are often asymptomatic but may increase the risk of a cardiac event such as Sudden Cardiac Death (SCD). Cardiac PPE does not identify all athletes at risk of cardiac events and treatment approaches, which may include the exclusion of an athlete from professional sport, nor does it prevent all cases of SCD. However, cardiac PPE is recognised to be a simple and low-cost risk mitigation strategy, and it is felt to be a pragmatic and effective intervention.

SCD is the leading cause of death in athletes participating in sport. SCD occurs at an estimated rate of 1 in 50,000 young professional male players, with the rate for women being 3- to 5-fold lower^{1,2}. Causes of SCD in players include Hypertrophic Cardiomyopathy (HCM), Arrhythmogenic and Dilated Cardiomyopathies (ACM, DCM), congenital coronary artery anomalies, ion channelopathies and Marfan's Syndrome. There are a number of inherited cardiac disorders and therefore taking a thorough family history is critical.

Athletes may also present with non-pathological cardiac changes related to high training loads. Repeated haemodynamic challenges associated with training result in the enlargement of all cardiac chambers (greater volumes) and a mild associated increase in wall thickness. There are also electrophysiological changes, such as tendency to bradycardia, and improvements in function whereby the heart is able to fill and empty greater stroke volumes with every beat. In combination, these features are often termed 'athlete's heart' and it is important to stress that these are healthy physiological changes rather than a pathological 'condition'. Due to overlap between ECG changes due to athletic conditioning and features that would be considered abnormal in a non-athletic population, athlete ECGs should be interpreted using the latest 2017 International Consensus Statement for the ECG interpretation in athletes (found in the British Journal of Sports Medicine [here](#)). If the significance of the ECG changes remains unclear, the ECG should be referred for Sports Cardiologist review.

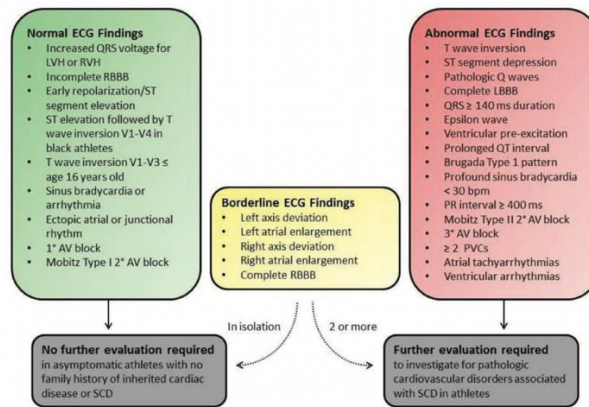


Figure 1: International criteria for ECG interpretation in athletes³

If a cardiac condition is confirmed with further testing, this may lead to the recommendation that the athlete should be excluded from participating in competitive sport; however this is a rare occurrence. Whilst this can be devastating, it can also be life saving for the athlete and potentially for other family members if there is an underlying genetic condition present. There are several conditions that were once considered contraindications to continued training and competition but are no longer considered absolute contraindications. These changes highlight the importance of shared decision making between the medical practitioner, specialist sports cardiologist and athlete.

NA recognises that there are two categories of Elite Programs (the traditional high performance pathway programs (that include the National Netball Championships, SSN, Australian Representative Squads) and other programs supported or endorsed by NA (such as the participation of the Australian Kelpies Men’s Netball Team in International Test Series, the PacificAus program, Marie Little Shield and other Sub-Elite Programs, the *Sub-Elite Programs*)).

For the Sub-Elite Programs, NA recognises that NA has limited oversight of these programs, servicing, delivery and personnel and that the sports science and sports medicine servicing will vary from program to program (including funding available).

Accordingly, this Cardiac Screening Guideline does not apply to Participants in the Sub-Elite Programs.

B. Scope and Exclusions

This Guideline applies to Participants in the SSN and National Program, NA and Netball Organisations.

In addition, this Guideline provides a guideline for Pathway Athletes.

This Guideline does not apply to the Sub-Elite Programs or community netball.

C. Definitions

Defined terms not otherwise defined in this Guideline have been defined in, and have the meaning given to them in the Sports Medicine Policy for Elite Programs and the Netball Integrity Policy Framework, Conduct & Disciplinary Policy.

In this Guideline, the following definitions apply:

AMS	means the Athlete Management System.
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<i>CMO</i>	means the Chief Medical Officer appointed by NA from time to time.
<i>Pathway Athlete</i>	means any Athlete participating in the NNC.
<i>Team Doctor</i>	means the Australian Netball Diamonds doctor or the SSN Club doctor or the MO doctor as the case may be.

1. Screening

- 1.1. This Guideline strongly recommends that all SSN Athletes with a Player Contract (including Permanent Replacement Players, Temporary Replacement Players and Training Partners) undergo PPE including a thorough annual history and physical examination and biennial (i.e., every second year) 12 lead ECG as part of their SSN Club medical screening. Many heart disorders are hereditary and therefore taking a thorough family history is important.
- 1.2. NA strongly recommends that Pathway Athletes undergo PPE including a thorough annual history, physical examination and 12 lead ECG every 2 years.
- 1.3. Any Athlete who does not wish to undertake cardiac screening:
 - 1.3.1. should seek appropriate medical advice in connection with cardiac screening and the associated risks and benefits; and
 - 1.3.2. must complete and sign an opt-out waiver in the form attached to this Guideline, to be returned to the Team Doctor at the time of declining the screening. This opt-out waiver must be uploaded onto the AMS.
- 1.4. Any Athlete that has previously declined cardiac screening and who has not been screened will be offered cardiac screening annually.
- 1.5. NA supports the [ACSEP Position Statement of Preparticipation Cardiac Evaluation in Young Athletes](#) which recommends that annual cardiac history and examination and biennial ECGs should be performed on Athletes between the ages of 16 and 25 years of age.
- 1.6. Athletes entering the SSN after age 25 must be evaluated upon entry to the League by the SSN Team doctor. Any Athletes, including those older than 25 years, are strongly recommended to undergo repeat history, examination (annually) and ECG (every 2 years) or in the event the Athlete develops any symptoms or signs suggestive of a possible cardiac disorder.
- 1.7. ECG testing must be performed pre-training or at least 2 hours after exercise. It is also recommended that SSN Team doctors complete the Australasian College of Sport and Exercise Physician (**ACSEP**) ECG Interpretation for Athlete online module.
- 1.8. While undertaking cardiac screening, SSN Team doctors should utilise this opportunity to educate Athletes on signs and symptoms that could suggest an underlying cardiac disorder. The process should also include appropriate counselling and support as appropriate.

2. Abnormal Findings

- 2.1. Any positive finding in history, examination or ECG should flag a potential need for further investigation. Further investigation includes but is not limited to:

- 2.1.1. Echocardiogram;
 - 2.1.2. Cardiac stress testing;
 - 2.1.3. Holter Monitoring; and
 - 2.1.4. Cardiac MRI.
- 2.2. Determination of appropriate further testing will be based upon the potential cardiac condition identified and referral to a Sports Cardiologist should be considered at this stage.
 - 2.3. All Athletes with a history of SCD in a first degree relative or symptoms suggestive of cardiac disease, must be referred for further investigation by a sports cardiologist regardless of their ECG result.
 - 2.4. In the event that an Athlete is diagnosed with a condition which has the potential to lead to SCD, the opinion of a sports cardiologist must be sought prior to ongoing participation at training or Matches. The Athlete must be clearly informed of the potential implications of ongoing participation in high intensity sport. If exclusion from sport is advised, a second opinion from a specialist of the particular condition may be sought.
 - 2.5. If an Athlete wishes to continue to train/play against expert advice, the NA Chief Medical Officer must be notified by the Team Doctor.
 - 2.6. SSN Club Team Doctors should ensure they put in place appropriate general and genetic counselling for an Athlete found to have evidence of a cardiac disorder.

3. MANAGEMENT OF CARDIAC EVENTS

- 3.1. SSN Club Team Doctors must ensure they remain upskilled in management of a potential cardiac arrest and that their medical kits are adequately equipped to begin management of a cardiac arrest in SSN Club's facilities, while travelling with the SSN Club or on Match day.
- 3.2. SSN Clubs must ensure relevant Athlete Support Personnel are qualified in Basic Life Support and complete a CPR refresher courses every 2 years.
- 3.3. All SSN Club facilities must have an Automated External Defibrillator (AED) on site and its location easily accessible and known to all Athlete Support Personnel. SSN Clubs must have a portable courtside defibrillator at all trainings and home matches.
- 3.4. Regular checks must be made by NA and each Netball Organisation to ensure the AED pads or battery have not expired.

4. GUIDELINE REVIEW

This Guideline is subject to ongoing monitoring and review by NA at its sole discretion and depending on the needs of the business and medical advice.

5. REFERENCES

1. Piercy KL, Troiano RP, Ballard RM, Carlson SA, Fulton JE, Galuska DA, et al. The physical activity guidelines for Americans. JAMA. 2018; 320(19):2020-8.

2. Harmon KG, Drezner JA, Wilson MG et al. Incidence of sudden cardiac death in athletes: a state-of-the-art review. Br J Sports Med 2014;48:1185-92.
3. Drezner JA. 18 highlights from the International Criteria for ECG interpretation in athletes.Br J Sports Med 2020;54:195-199.

END

VERSION HISTORY

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APPENDIX 1: CARDIAC SCREENING ATHLETE WAIVER

CARDIAC SCREENING (HEART CHECK UP)

Netball Australia, along with many international sporting organisations, strongly recommends that athletes undergo basic heart testing, such as an electrocardiogram (ECG) as part of their regular medical evaluations.

The recommendation is based on the fact that while being an athlete is good for your heart, intense exercise can, in very rare cases, trigger heart rhythm problems or even sudden cardiac death. Surprisingly, this often happens in athletes who have never experienced symptoms before or who may not have recognised the warning signs.

Sometimes an ECG can detect an underlying heart disorder. The most common heart disorders that cause this issue in athletes are genetic and can be passed down in families.

What is involved?

1. Questions about your health history and family history of heart problems (for this part speaking to family members prior to answering the questions is very helpful). It is very important that you answer any questions honestly.
2. A basic heart examination.
3. An electrocardiogram (ECG). An ECG is a painless test that involves putting some sticky dots on the chest and recording the electrical activity of the heart over a 10 second period. A Sports Cardiologist then interprets the results to check for any signs of an abnormally enlarged heart, or any issues with the heart's electrical signals.

Possible follow up tests

The cardiac screening process (like any screening test) cannot guarantee 100% accuracy.

Because the heart is a muscle, it does get bigger and a little bit thicker with athletic training. In most cases it is possible to tell the difference between a healthy athletic heart and a heart that may have an issue with an ECG alone, but the test is not perfect. *As a result, approximately 1 in 20 athletes will have an ECG that looks odd and further testing is required to make sure the heart is OK.* The most common next test required is a heart ultrasound (an echocardiogram), which is also painless and straightforward. It is likely you will also be sent to a specialist sports cardiologist for an expert review and opinion.

What are the possible outcomes of cardiac screening?

If you have this screening, it is most likely that everything will be normal and you won't need any further testing. However, some athletes may require further testing as described above.

If further testing confirms a problem with your heart, you will be referred to a specialist sports cardiologist for an assessment and opinion. Very rarely, athletes may be advised against continuing competitive sport. This recommendation can also be life saving for the athlete and potentially for other family members, as many heart problems run in families.

If you have any queries or concerns about your upcoming ECG, please discuss these with your Team Doctor prior to the test.

Risks if you elect not to participate

Participation in cardiac screening is optional, but strongly recommended by Netball Australia.

If you choose not to participate, there is also the very small possibility that if you have a detectable heart abnormality, it will not have been detected, which could lead to serious medical complications. If you choose not to participate, you will be asked to sign the waiver on the next page. You will also be offered screening again next year.

Cardiac Screening Opt-Out Waiver (annual)

By continuing with the cardiac screening process, you indicate consent to be part of this process.

If you do not wish to continue, you must sign the following declaration:

I, _____, have been informed of the potential positive and negative aspects of cardiac screening and after considering the issue I have elected NOT to undergo cardiac screening. In making this decision, I will not hold Netball Australia, an SSN Club or Member Organisation or any consulting medical practitioners liable for any failure to detect cardiac conditions that may have been discovered during a screening process.

Signed: _____ Dated: ____/____/____

Note relationship to an athlete if a parent or guardian signs or co-signs this waiver for any athlete under the age of 18.

Parental / Guardian Details

Name	
Relationship to Athlete	