



**Australian Government**  
**Repatriation Medical Authority**

**Statement of Principles**  
**concerning**  
**SICK SINUS SYNDROME**  
**(Balance of Probabilities)**  
**(No. 67 of 2022)**

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The Repatriation Medical Authority determines the following Statement of Principles under subsection 196B(3) of the *Veterans' Entitlements Act 1986*.

Dated 24 June 2022

The Common Seal of the  
Repatriation Medical Authority  
was affixed to this instrument  
at the direction of:

Professor Terence Campbell AM  
Chairperson

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## **1 Name**

This is the Statement of Principles concerning *sick sinus syndrome (Balance of Probabilities)* (No. 67 of 2022).

## **2 Commencement**

This instrument commences on 25 July 2022.

## **3 Authority**

This instrument is made under subsection 196B(3) of the *Veterans' Entitlements Act 1986*.

## **4 Repeal**

The Statement of Principles concerning sick sinus syndrome No. 16 of 2014 (Federal Register of Legislation No. F2014L00024) made under subsection 196B(3) of the VEA is repealed.

## **5 Application**

This instrument applies to a claim to which section 120B of the VEA or section 339 of the *Military Rehabilitation and Compensation Act 2004* applies.

## **6 Definitions**

The terms defined in the Schedule 1 - Dictionary have the meaning given when used in this instrument.

## **7 Kind of injury, disease or death to which this Statement of Principles relates**

- (1) This Statement of Principles is about sick sinus syndrome and death from sick sinus syndrome.

### *Meaning of sick sinus syndrome*

- (2) For the purposes of this Statement of Principles, sick sinus syndrome:
  - (a) means a group of cardiac arrhythmias caused by dysfunction of the sinus node, in which persistent or intermittent abnormalities of cardiac impulse formation and propagation cause an atrial rate inappropriate for physiological requirements, resulting in clinical symptoms; and
  - (b) excludes congenital sick sinus syndrome.

Note 1: Sick sinus syndrome can manifest as persistent or intermittent sinus bradycardia, sinus pause or sinus arrest, bradycardia-tachycardia syndrome, and other arrhythmias.

Note 2: Symptoms of sick sinus syndrome typically include fatigue, lightheadedness, palpitations, presyncope, syncope, dyspnoea on exertion, and chest discomfort.

Documented sinus node dysfunction correlates with symptoms. Symptoms are frequently intermittent with gradual progression in frequency and severity.

- (3) While sick sinus syndrome attracts ICD-10-AM code I49.5, in applying this Statement of Principles the meaning of sick sinus syndrome is that given in subsection (2).
- (4) For subsection (3), a reference to an ICD-10-AM code is a reference to the code assigned to a particular kind of injury or disease in *The International Statistical Classification of Diseases and Related Health Problems, Tenth Revision, Australian Modification* (ICD-10-AM), Tenth Edition, effective date of 1 July 2017, copyrighted by the Independent Hospital Pricing Authority, ISBN 978-1-76007-296-4.

#### *Death from sick sinus syndrome*

- (5) For the purposes of this Statement of Principles, sick sinus syndrome, in relation to a person, includes death from a terminal event or condition that was contributed to by the person's sick sinus syndrome.

Note: *terminal event* is defined in the Schedule 1 - Dictionary.

### **8 Basis for determining the factors**

On the sound medical-scientific evidence available, the Repatriation Medical Authority is of the view that it is more probable than not that sick sinus syndrome and death from sick sinus syndrome can be related to relevant service rendered by veterans or members of the Forces under the VEA, or members under the MRCA.

Note: *MRCA*, *relevant service* and *VEA* are defined in the Schedule 1 - Dictionary.

### **9 Factors that must exist**

At least one of the following factors must exist before it can be said that, on the balance of probabilities, sick sinus syndrome or death from sick sinus syndrome is connected with the circumstances of a person's relevant service:

- (1) having atrial fibrillation or atrial flutter at the time of the clinical onset of sick sinus syndrome;
- (2) having hypertension at the time of the clinical onset of sick sinus syndrome;
- (3) having ischaemic heart disease at the time of the clinical onset of sick sinus syndrome;
- (4) having heart failure at the time of the clinical onset of sick sinus syndrome;
- (5) having rheumatic fever at the time of the clinical onset of sick sinus syndrome;

- (6) having pericarditis at the time of the clinical onset of sick sinus syndrome;
- (7) having cardiomyopathy at the time of the clinical onset of sick sinus syndrome;
- (8) having non-infectious myocarditis at the time of the clinical onset of sick sinus syndrome;

Note 1: Non-infectious myocarditis can be acute or chronic.

Note 2: Non-infectious myocarditis can be of autoimmune, infiltrative or immunological origin. Examples of causes of non-infectious myocarditis include immune checkpoint inhibitor therapy and giant cell myocarditis.

- (9) having viral myocarditis at the time of the clinical onset of sick sinus syndrome;

Note 1: Viral myocarditis can be acute or chronic.

Note 2: Examples of viral causes of myocarditis include severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), human immunodeficiency virus, group B coxsackieviruses and dengue virus.

- (10) having a non-viral infection of the myocardium at the time of the clinical onset of sick sinus syndrome;

Note 1: A non-viral infection of the myocardium can be caused by bacteria, protozoa, fungi or parasites.

Note 2: Examples of non-viral infections of the myocardium include:

- (a) *Borrelia burgdorferi* (Lyme disease);
- (b) *Cysticercus* species (cysticercosis);
- (c) *Echinococcus* species (hydatid disease);
- (d) *Toxoplasma gondii* (toxoplasmosis); and
- (e) *Trypanosoma cruzi* (Chagas disease).

- (11) having a benign or malignant neoplasm involving the sinoatrial node before the clinical onset of sick sinus syndrome;

Note: A neoplasm involving the sinoatrial node can be primary or metastatic. An example of a primary neoplasm involving the sinoatrial node is cardiac lymphoma.

- (12) having a non-neoplastic lesion which compresses the sinoatrial node at the time of the clinical onset of sick sinus syndrome;

Note: Examples of non-neoplastic lesions which compress the sinoatrial node include cardiac tamponade and coronary artery aneurysm.

- (13) having hypothyroidism, including Hashimoto thyroiditis that has resulted in hypothyroidism, at the time of the clinical onset of sick sinus syndrome;

- (14) having a thoracic surgical procedure or an invasive cardiac procedure within the 1 year before the clinical onset of sick sinus syndrome;

Note 1: Examples of thoracic surgical procedures include vascular, mediastinal, pulmonary and chest wall surgery.

Note 2: Examples of invasive cardiac procedures include:

- (a) catheter ablation of arrhythmias;
- (b) open heart surgery; and
- (c) transcatheter aortic valve implantation.

- (15) having a heart transplant before the clinical onset of sick sinus syndrome;
- (16) having a surgical procedure involving general or regional anaesthesia within the 30 days before the clinical onset of sick sinus syndrome;
- (17) experiencing penetrating trauma to the heart within the 3 months before the clinical onset of sick sinus syndrome;
- (18) taking a drug from the specified list of drugs within the 30 days before the clinical onset of sick sinus syndrome;

Note: *specified list of drugs* is defined in the Schedule 1 - Dictionary.

- (19) having atrial fibrillation or atrial flutter at the time of the clinical worsening of sick sinus syndrome;
- (20) having hypertension at the time of the clinical worsening of sick sinus syndrome;
- (21) having ischaemic heart disease at the time of the clinical worsening of sick sinus syndrome;
- (22) having heart failure at the time of the clinical worsening of sick sinus syndrome;
- (23) having rheumatic fever at the time of the clinical worsening of sick sinus syndrome;
- (24) having pericarditis at the time of the clinical worsening of sick sinus syndrome;
- (25) having cardiomyopathy at the time of the clinical worsening of sick sinus syndrome;
- (26) having non-infectious myocarditis at the time of the clinical worsening of sick sinus syndrome;

Note 1: Non-infectious myocarditis can be acute or chronic.

Note 2: Non-infectious myocarditis can be of autoimmune, infiltrative or immunological origin. Examples of causes of non-infectious myocarditis include immune checkpoint inhibitor therapy and giant cell myocarditis.

- (27) having viral myocarditis at the time of the clinical worsening of sick sinus syndrome;

Note 1: Viral myocarditis can be acute or chronic.

Note 2: Examples of viral causes of myocarditis include severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), human immunodeficiency virus, group B coxsackieviruses and dengue virus.

- (28) having a non-viral infection of the myocardium at the time of the clinical worsening of sick sinus syndrome;

Note 1: A non-viral infection of the myocardium can be caused by bacteria, protozoa, fungi or parasites.

Note 2: Examples of non-viral infections of the myocardium include:

- (a) *Borrelia burgdorferi* (Lyme disease);
- (b) *Cysticercus* species (cysticercosis);
- (c) *Echinococcus* species (hydatid disease);
- (d) *Toxoplasma gondii* (toxoplasmosis); and
- (e) *Trypanosoma cruzi* (Chagas disease).

- (29) having a benign or malignant neoplasm involving the sinoatrial node before the clinical worsening of sick sinus syndrome;

Note: A neoplasm involving the sinoatrial node can be primary or metastatic. An example of a primary neoplasm involving the sinoatrial node is cardiac lymphoma.

- (30) having a non-neoplastic lesion which compresses the sinoatrial node at the time of the clinical worsening of sick sinus syndrome;

Note: Examples of non-neoplastic lesions which compress the sinoatrial node include cardiac tamponade and coronary artery aneurysm.

- (31) having hypothyroidism, including Hashimoto thyroiditis that has resulted in hypothyroidism, at the time of the clinical worsening of sick sinus syndrome;

- (32) having a thoracic surgical procedure or an invasive cardiac procedure within the 1 year before the clinical worsening of sick sinus syndrome;

Note 1: Examples of thoracic surgical procedures include vascular, mediastinal, pulmonary and chest wall surgery.

Note 2: Examples of invasive cardiac procedures include:

- (a) catheter ablation of arrhythmias;
- (b) open heart surgery; and
- (c) transcatheter aortic valve implantation.

- (33) having a heart transplant before the clinical worsening of sick sinus syndrome;

- (34) having a surgical procedure involving general or regional anaesthesia within the 30 days before the clinical worsening of sick sinus syndrome;

- (35) experiencing penetrating trauma to the heart within the 3 months before the clinical worsening of sick sinus syndrome;

- (36) taking a drug from the specified list of drugs within the 30 days before the clinical worsening of sick sinus syndrome;

Note: *specified list of drugs* is defined in the Schedule 1 - Dictionary.

- (37) inability to obtain appropriate clinical management for sick sinus syndrome.

## **10 Relationship to service**

- (1) The existence in a person of any factor referred to in section 9, must be related to the relevant service rendered by the person.
- (2) The factors set out in subsections 9(19) to 9(37) apply only to material contribution to, or aggravation of, sick sinus syndrome where the person's sick sinus syndrome was suffered or contracted before or during (but did not arise out of) the person's relevant service.

## **11 Factors referring to an injury or disease covered by another Statement of Principles**

In this Statement of Principles:

- (1) if a factor referred to in section 9 applies in relation to a person; and
- (2) that factor refers to an injury or disease in respect of which a Statement of Principles has been determined under subsection 196B(3) of the VEA;

then the factors in that Statement of Principles apply in accordance with the terms of that Statement of Principles as in force from time to time.



# Schedule 1 - Dictionary

Note: See Section 6

## 1 Definitions

In this instrument:

**MRCA** means the *Military Rehabilitation and Compensation Act 2004*.

**relevant service** means:

- (a) eligible war service (other than operational service) under the VEA;
- (b) defence service (other than hazardous service and British nuclear test defence service) under the VEA; or
- (c) peacetime service under the MRCA.

Note: **MRCA** and **VEA** are also defined in the Schedule 1 - Dictionary.

**sick sinus syndrome**—see subsection 7(2).

**specified list of drugs** means:

- (a) a general or regional anaesthetic;
- (b) acetylcholinesterase inhibitors including donepezil, galantamine, neostigmine and rivastigmine;
- (c) antidepressants including amitriptyline;
- (d) antihypertensives including clonidine and methyldopa;
- (e) antipsychotic phenothiazines;
- (f) beta blockers;
- (g) cardiac glycosides including digoxin;
- (h) class 1A, class 1C or class III anti-arrhythmic agents;
- (i) lacosamide;
- (j) lidocaine;
- (k) lithium; or
- (l) non-dihydropyridine calcium channel blockers including diltiazem and verapamil.

**terminal event** means the proximate or ultimate cause of death and includes the following:

- (a) pneumonia;
- (b) respiratory failure;
- (c) cardiac arrest;
- (d) circulatory failure; or
- (e) cessation of brain function.

**VEA** means the *Veterans' Entitlements Act 1986*.