



Australian Government
Repatriation Medical Authority

Statement of Principles
concerning
CAROTID ARTERIAL DISEASE
No. 37 of 2012

for the purposes of the
Veterans' Entitlements Act 1986
and
Military Rehabilitation and Compensation Act 2004

Title

1. This Instrument may be cited as Statement of Principles concerning carotid arterial disease No. 37 of 2012.

Determination

2. The Repatriation Medical Authority under subsection **196B(2)** and **(8)** of the *Veterans' Entitlements Act 1986* (the VEA):
 - (a) revokes Instrument No. 9 of 2003, as amended by Instrument No. 29 of 2003, concerning carotid arterial disease; and
 - (b) determines in their place this Statement of Principles.

Kind of injury, disease or death

3.
 - (a) This Statement of Principles is about **carotid arterial disease** and **death from carotid arterial disease**.
 - (b) For the purposes of this Statement of Principles, "**carotid arterial disease**" means:
 - (i) occlusion or stenosis of the common, internal or external carotid artery due to atherosclerosis, dissection or other pathological process involving that artery, and that requires treatment; or
 - (ii) aneurysm of the common, internal or external carotid artery.
 - (c) Carotid arterial disease attracts ICD-10-AM code I65.2, I70.8 or I72.0.

- (d) In the application of this Statement of Principles, the definition of "**carotid arterial disease**" is that given at paragraph 3(b) above.

Basis for determining the factors

4. The Repatriation Medical Authority is of the view that there is sound medical-scientific evidence that indicates that **carotid arterial disease** and **death from carotid arterial disease** can be related to relevant service rendered by veterans, members of Peacekeeping Forces, or members of the Forces under the VEA, or members under the *Military Rehabilitation and Compensation Act 2004* (the MRCA).

Factors that must be related to service

5. Subject to clause 7, at least one of the factors set out in clause 6 must be related to the relevant service rendered by the person.

Factors

6. The factor that must as a minimum exist before it can be said that a reasonable hypothesis has been raised connecting **carotid arterial disease** or **death from carotid arterial disease** with the circumstances of a person's relevant service is:
- (a) having hypertension before the clinical onset of carotid arterial disease; or
 - (b) having dyslipidaemia before the clinical onset of carotid arterial disease; or
 - (c) having diabetes mellitus before the clinical onset of carotid arterial disease; or
 - (d) smoking at least 15 pack-years of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of carotid arterial disease, and where smoking has ceased, the clinical onset of carotid arterial disease has occurred within 30 years of cessation; or
 - (e) being in an atmosphere with a visible tobacco smoke haze in an enclosed space for at least 5000 hours before the clinical onset of carotid arterial disease, where the last exposure to that atmosphere occurred within the five years before the clinical onset of carotid arterial disease; or
 - (f) for dissection of the common, internal or external carotid artery only, having trauma to the neck or the base of the skull within the six months before the clinical onset of carotid arterial disease; or
 - (g) for aneurysm of the common, internal or external carotid artery only:
 - (i) having trauma to the affected segment of the artery before the clinical onset of carotid arterial disease; or
 - (ii) undergoing therapy with BCG vaccine, where this therapy has been administered within the five years before the clinical onset of carotid arterial disease; or

- (h) undergoing a course of therapeutic radiation for cancer, where the affected artery was in the field of radiation, before the clinical onset of carotid arterial disease; or
- (i) having received a cumulative equivalent dose of at least 0.5 sievert of ionising radiation to the affected artery before the clinical onset of carotid arterial disease; or
- (j) having hyperhomocysteinaemia before the clinical onset of carotid arterial disease; or
- (k) having infective or noninfective vasculitis of the affected segment of the artery at the time of the clinical onset of carotid arterial disease; or
- (l) having a disorder from the specified list, involving the affected segment of the artery at the time of the clinical onset of carotid arterial disease; or
- (m) having chronic renal disease before the clinical onset of carotid arterial disease; or
- (n) having periodontitis for at least the two years before the clinical onset of carotid arterial disease; or
- (o) being exposed to arsenic as specified before the clinical onset of carotid arterial disease; or
- (p) having a neoplasm infiltrating the affected segment of the artery at the time of the clinical onset of carotid arterial disease; or
- (q) for aneurysm or dissection of the common or internal carotid artery only, using a drug from the specified list within the four days before the clinical onset of carotid arterial disease; or
- (r) for dissection of the internal carotid artery only, being within the one month postpartum at the time of the clinical onset of carotid arterial disease; or
- (s) having hypertension before the clinical worsening of carotid arterial disease; or
- (t) having dyslipidaemia before the clinical worsening of carotid arterial disease; or
- (u) having diabetes mellitus before the clinical worsening of carotid arterial disease; or
- (v) smoking at least 15 pack-years of cigarettes, or the equivalent thereof in other tobacco products, before the clinical worsening of carotid arterial disease, and where smoking has ceased, the clinical worsening of carotid arterial disease has occurred within 30 years of cessation; or
- (w) being in an atmosphere with a visible tobacco smoke haze in an enclosed space for at least 5000 hours before the clinical worsening of carotid arterial disease, where the last exposure to that atmosphere occurred within the five years before the clinical worsening of carotid arterial disease; or

- (x) for dissection of the common, internal or external carotid artery only, having trauma to the neck or the base of the skull within the six months before the clinical worsening of carotid arterial disease; or
- (y) for aneurysm of the common, internal or external carotid artery only:
 - (i) having trauma to the affected segment of the artery before the clinical worsening of carotid arterial disease; or
 - (ii) undergoing therapy with BCG vaccine, where this therapy has been administered within the five years before the clinical worsening of carotid arterial disease; or
- (z) undergoing a course of therapeutic radiation for cancer, where the affected artery was in the field of radiation, before the clinical worsening of carotid arterial disease; or
- (aa) having received a cumulative equivalent dose of at least 0.5 sievert of ionising radiation to the affected artery before the clinical worsening of carotid arterial disease; or
- (bb) having hyperhomocysteinaemia before the clinical worsening of carotid arterial disease; or
- (cc) having infective or noninfective vasculitis of the affected segment of the artery at the time of the clinical worsening of carotid arterial disease; or
- (dd) having a disorder from the specified list, involving the affected segment of the artery at the time of the clinical worsening of carotid arterial disease; or
- (ee) having chronic renal disease before the clinical worsening of carotid arterial disease; or
- (ff) having periodontitis for at least the two years before the clinical worsening of carotid arterial disease; or
- (gg) being exposed to arsenic as specified before the clinical worsening of carotid arterial disease; or
- (hh) having a neoplasm infiltrating the affected segment of the artery at the time of the clinical worsening of carotid arterial disease; or
- (ii) for aneurysm or dissection of the common or internal carotid artery only, using a drug from the specified list within the four days before the clinical worsening of carotid arterial disease; or
- (jj) for dissection of the internal carotid artery only, being within the one month postpartum at the time of the clinical worsening of carotid arterial disease; or
- (kk) an inability to undertake any physical activity greater than three METs for at least the five years before the clinical worsening of carotid arterial disease; or
- (ll) inability to obtain appropriate clinical management for carotid arterial disease.

Factors that apply only to material contribution or aggravation

7. Paragraphs **6(s) to 6(II)** apply only to material contribution to, or aggravation of, carotid arterial disease where the person's carotid arterial disease was suffered or contracted before or during (but not arising out of) the person's relevant service.

Inclusion of Statements of Principles

8. In this Statement of Principles if a relevant factor applies and that factor includes an injury or disease in respect of which there is a Statement of Principles then the factors in that last mentioned Statement of Principles apply in accordance with the terms of that Statement of Principles as in force from time to time.

Other definitions

9. For the purposes of this Statement of Principles:

"a disorder from the specified list" means:

- (a) autosomal dominant polycystic kidney disease;
- (b) cystic medial necrosis;
- (c) Ehlers-Danlos type IV syndrome;
- (d) fibromuscular dysplasia;
- (e) Marfan's syndrome;
- (f) Moyamoya disease/syndrome;
- (g) osteogenesis imperfecta; or
- (h) sickle-cell disorder;

"a drug from the specified list" means:

- (a) amphetamine;
- (b) cocaine;
- (c) D-lysergic acid diethylamide (LSD);
- (d) ergot compounds including ergometrine and ergotamine; or
- (e) methamphetamine;

"being exposed to arsenic as specified" means:

- (a) consuming drinking water with an average arsenic concentration of at least 50 micrograms per litre for a cumulative period of at least ten years; or
- (b) having clinical evidence of chronic arsenic toxicity;

"chronic renal disease" means irreversible kidney damage which leads to impaired renal function;

"cumulative equivalent dose" means the total dose of ionising radiation received by the particular organ or tissue. The formula used to calculate the cumulative equivalent dose allows doses from multiple types of ionising radiation to be combined, by accounting for their differing biological effect. The unit of equivalent dose is the sievert. For the purposes of this Statement of Principles, the calculation of cumulative equivalent dose excludes doses received from normal background radiation, but includes therapeutic radiation,

diagnostic radiation, cosmic radiation at high altitude, radiation from occupation-related sources and radiation from nuclear explosions or accidents;

"cystic medial necrosis" means changes in the medial layer of the affected artery, consisting of degeneration and loss of elastic and muscle fibres and formation of multiple clefts of mucoid material;

"death from carotid arterial disease" in relation to a person includes death from a terminal event or condition that was contributed to by the person's carotid arterial disease;

"dyslipidaemia" generally means evidence of a persistently abnormal lipid profile after the accurate evaluation of serum lipids following a 12 hour overnight fast, and estimated on a minimum of two occasions as:

- (a) a total cholesterol level greater than or equal to 5.5 millimoles per litre (mmol/L);
- (b) a triglyceride level greater than or equal to 2.0 mmol/L; or
- (c) a high density lipoprotein cholesterol level less than 1.0 mmol/L;

"Ehlers-Danlos type IV syndrome" means a disorder of connective tissue involving defects in the structure, synthesis or secretion of one type of procollagen and has prominent vascular manifestations;

"hyperhomocysteinaemia" means a condition characterised by an excess of homocysteine in the blood;

"ICD-10-AM code" means a number assigned to a particular kind of injury or disease in The International Statistical Classification of Diseases and Related Health Problems, 10th Revision, Australian Modification (ICD-10-AM), Seventh Edition, effective date of 1 July 2010, copyrighted by the National Centre for Classification in Health, Sydney, NSW, and having ISBN 978 1 74210 154 5;

"MET" means a unit of measurement of the level of physical exertion. 1 MET = 3.5 ml of oxygen/kg of body weight per minute, 1.0 kcal/kg of body weight per hour or resting metabolic rate;

"pack-years of cigarettes, or the equivalent thereof in other tobacco products" means a calculation of consumption where one pack-year of cigarettes equals twenty tailor-made cigarettes per day for a period of one calendar year, or 7300 cigarettes. One tailor-made cigarette approximates one gram of tobacco or one gram of cigar or pipe tobacco by weight. One pack-year of tailor-made cigarettes equates to 7.3 kilograms of smoking tobacco by weight. Tobacco products means either cigarettes, pipe tobacco or cigars smoked, alone or in any combination;

"relevant service" means:

- (a) operational service under the VEA;
- (b) peacekeeping service under the VEA;
- (c) hazardous service under the VEA;
- (d) British nuclear test defence service under the VEA;
- (e) warlike service under the MRCA; or
- (f) non-warlike service under the MRCA;

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

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

"trauma to the affected segment of the artery" means:

- (a) a blunt injury resulting in soft tissue injury adjacent to the affected segment of the artery; or
- (b) a penetrating injury, including surgery, to the affected segment of the artery;

"trauma to the neck or the base of the skull" means:

- (a) a non-penetrating injury, involving extension, rotation, hyperflexion or compression of the neck;
- (b) a penetrating injury, including surgery, to the affected segment of the artery; or
- (c) an injury resulting in fracture or dislocation of the cervical spine;

"undergoing therapy with BCG vaccine" means treatment with the Bacille Calmette-Guerin vaccine for cancer. The Bacille Calmette-Guerin vaccine is made from a strain of *Mycobacterium bovis*.

Application

- 10.** This Instrument applies to all matters to which section 120A of the VEA or section 338 of the MRCA applies.

Date of effect

- 11.** This Instrument takes effect from 2 May 2012.

Dated this *twentieth* day of *April* 2012

The Common Seal of the)
Repatriation Medical Authority)
was affixed to this instrument)
in the presence of:)

KEN DONALD
CHAIRPERSON