



Australian Government
Repatriation Medical Authority

Statement of Principles concerning GOITRE (Reasonable Hypothesis) (No. 9 of 2022)

The Repatriation Medical Authority determines the following Statement of Principles under subsection 196B(2) of the *Veterans' Entitlements Act 1986*.

Dated 24 December 2021

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 *goitre (Reasonable Hypothesis)* (No. 9 of 2022).

2 Commencement

This instrument commences on 31 January 2022.

3 Authority

This instrument is made under subsection 196B(2) of the *Veterans' Entitlements Act 1986*.

4 Repeal

The Statement of Principles concerning goitre No. 23 of 2013 (Federal Register of Legislation No. F2013L00721) made under subsections 196B(2) and (8) of the VEA is repealed.

5 Application

This instrument applies to a claim to which section 120A of the VEA or section 338 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 goitre and death from goitre.

Meaning of goitre

(2) For the purposes of this Statement of Principles, goitre:

- (a) means an enlarged thyroid gland that has persisted for at least 4 weeks; and
- (b) includes:
 - (i) a diffuse enlargement; and
 - (ii) enlargement due to a solitary thyroid nodule (thyroid adenoma) or multiple nodules of the thyroid gland; and
- (c) excludes:
 - (i) congenital goitre;
 - (ii) dyshormogenetic goitre;
 - (iii) Graves disease;

- (iv) Hashimoto thyroiditis;
- (v) haemorrhage or infarction of the thyroid gland; and
- (vi) primary or secondary malignancy, including malignant neoplasm of the thyroid gland.

Note 1: Goitre may be identified by a palpable or visible swelling in the front of the neck, or by imaging assessment.

Note 2: The diagnosis is not dependent on thyroid hormone levels. Thyroid function may be normal (nontoxic goitre), overactive (toxic goitre), or underactive (hypothyroid goitre).

Note 3: Toxic goitre may present as a thyrotoxic crisis.

Note 4: *thyrotoxic crisis* is defined in the Schedule 1 - Dictionary.

Death from goitre

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

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

8 Basis for determining the factors

The Repatriation Medical Authority is of the view that there is sound medical-scientific evidence that indicates that goitre and death from goitre 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 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 as a minimum exist before it can be said that a reasonable hypothesis has been raised connecting goitre or death from goitre with the circumstances of a person's relevant service:

- (1) having iodine deficiency within the 6 months before the clinical onset of goitre;

Note: *iodine deficiency* is defined in the Schedule 1 - Dictionary.

- (2) having iodine excess within the 6 months before the clinical onset of goitre;

Note 1: Iodine excess may be due to consuming foods, dietary supplements or medications with a high content of iodine.

Note 2: *iodine excess* is defined in the Schedule 1 - Dictionary.

- (3) taking a drug from the specified list of drugs within the 6 months before the clinical onset of goitre;

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

- (4) taking a drug containing at least 10 milligrams of iodine daily for a continuous period of at least 4 weeks, within the 6 months before the clinical onset of goitre;
- (5) taking amiodarone for a continuous period of at least 2 weeks, within the 1 year before the clinical onset of goitre;
- (6) being administered an iodine-containing radiographic contrast agent within the 6 months before the clinical onset of goitre;
- (7) having smoked tobacco products:
 - (a) in an amount of at least 3 pack-years before the clinical onset of goitre; and
 - (b) if smoking has ceased before the clinical onset of goitre, then that onset occurred within 5 years of cessation;

Note: **one pack-year** is defined in the Schedule 1 - Dictionary.

- (8) having a form of thyroiditis from the specified list of forms of thyroiditis at the time of the clinical onset of goitre;

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

- (9) having a disease involving the thyroid gland from the specified list of diseases at the time of the clinical onset of goitre;

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

- (10) having chronic renal failure at the time of the clinical onset of goitre;

Note: **chronic renal failure** is defined in the Schedule 1 - Dictionary.

- (11) having a thyroid-stimulating, hormone-secreting pituitary adenoma at the time of the clinical onset of goitre;

- (12) for nodular goitre only:

- (a) having received a cumulative equivalent dose of at least 0.5 sievert of ionising radiation to the thyroid gland at least 1 year before the clinical onset of nodular goitre; or
- (b) undergoing a course of therapeutic radiation for cancer, where the thyroid gland was in the field of radiation, at least 1 year before the clinical onset of nodular goitre;

Note 1: Exposure to ionising radiation does not include radioiodine therapy for goitre or thyroid nodules.

Note 2: **cumulative equivalent dose** is defined in the Schedule 1 - Dictionary.

- (13) for toxic goitre first presenting as thyrotoxic crisis only, having an acute precipitating event within the 48 hours before the clinical onset of toxic goitre;

Note: **acute precipitating event** and **thyrotoxic crisis** are defined in the Schedule 1 - Dictionary.

- (14) having iodine deficiency within the 6 months before the clinical worsening of goitre;
Note: *iodine deficiency* is defined in the Schedule 1 - Dictionary.
- (15) having iodine excess within the 6 months before the clinical worsening of goitre;
Note 1: Iodine excess may be due to consuming foods, dietary supplements or medications with a high content of iodine.
Note 2: *iodine excess* is defined in the Schedule 1 - Dictionary.
- (16) taking a drug from the specified list of drugs within the 6 months before the clinical worsening of goitre;
Note: *specified list of drugs* is defined in the Schedule 1 - Dictionary.
- (17) taking a drug containing at least 10 milligrams of iodine daily for a continuous period of at least 4 weeks, within the 6 months before the clinical worsening of goitre;
- (18) taking amiodarone for a continuous period of at least 2 weeks, within the 1 year before the clinical worsening of goitre;
- (19) being administered an iodine-containing radiographic contrast agent within the 6 months before the clinical worsening of goitre;
- (20) having smoked tobacco products:
(a) in an amount of at least 3 pack-years before the clinical worsening of goitre; and
(b) if smoking has ceased before the clinical worsening of goitre, then that worsening occurred within 5 years of cessation;
Note: *one pack-year* is defined in the Schedule 1 - Dictionary.
- (21) having a form of thyroiditis from the specified list of forms of thyroiditis at the time of the clinical worsening of goitre;
Note: *specified list of forms of thyroiditis* is defined in the Schedule 1 - Dictionary.
- (22) having a disease involving the thyroid gland from the specified list of diseases at the time of the clinical worsening of goitre;
Note: *specified list of diseases* is defined in the Schedule 1 - Dictionary.
- (23) having chronic renal failure at the time of the clinical worsening of goitre;
Note: *chronic renal failure* is defined in the Schedule 1 - Dictionary.
- (24) having a thyroid-stimulating, hormone-secreting pituitary adenoma at the time of the clinical worsening of goitre;

(25) for nodular goitre only:

- (a) having received a cumulative equivalent dose of at least 0.5 sievert of ionising radiation to the thyroid gland at least 1 year before the clinical worsening of nodular goitre; or
- (b) undergoing a course of therapeutic radiation for cancer, where the thyroid gland was in the field of radiation, at least 1 year before the clinical worsening of nodular goitre;

Note 1: Exposure to ionising radiation does not include radioiodine therapy for goitre or thyroid nodules.

Note 2: *cumulative equivalent dose* is defined in the Schedule 1 - Dictionary.

(26) for thyrotoxic crisis only, having an acute precipitating event within the 48 hours before that clinical worsening of toxic goitre;

Note: *acute precipitating event* and *thyrotoxic crisis* are defined in the Schedule 1 - Dictionary.

(27) inability to obtain appropriate clinical management for goitre.

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(14) to 9(27) apply only to material contribution to, or aggravation of, goitre where the person's goitre 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(2) 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:

acute precipitating event means a physical or psychological stimulus or event that causes a sudden, intense psychological or physical response.

Note: Examples of an acute precipitating event include:

- (a) abrupt cessation or lowering of anti-thyroid therapy;
- (b) acute illness such as acute myocardial infarction, stroke and congestive heart failure;
- (c) acute iodine load;
- (d) experiencing an acute, severe, emotional stressor;
- (e) infection;
- (f) parturition;
- (g) physical trauma or injury; and
- (h) surgery.

chronic renal failure means:

- (a) having a glomerular filtration rate of less than 15 mL/min/1.73 m² for a period of at least 3 months; or
- (b) a need for renal replacement therapy (dialysis or transplantation) for treatment of complications of decreased glomerular filtration rate which would otherwise increase the risk of morbidity and mortality; or
- (c) undergoing chronic dialysis.

cumulative equivalent dose means the total dose of ionising radiation received by the particular organ or tissue from external exposure, internal exposure or both, apart from normal background radiation exposure in Australia, calculated in accordance with the methodology set out in *Guide to calculation of 'cumulative equivalent dose' for the purpose of applying ionising radiation factors contained in Statements of Principles determined under Part XIA of the Veterans' Entitlements Act 1986 (Cth)*, Australian Radiation Protection and Nuclear Safety Agency, as in force on 2 August 2017.

Note 1: Examples of circumstances that might lead to exposure to ionising radiation include being present during or subsequent to the testing or use of nuclear weapons, undergoing diagnostic or therapeutic medical procedures involving ionising radiation, and being a member of an aircrew, leading to increased levels of exposure to cosmic radiation.

Note 2: For the purpose of dose reconstruction, dose is calculated as an average over the mass of a specific tissue or organ. If a tissue is exposed to multiple sources of ionising radiation, the various dose estimates for each type of radiation must be combined.

goitre—see subsection 7(2).

iodine deficiency means:

- (a) an average intake of iodine of less than 150 micrograms of iodine per day, or less than 250 micrograms per day for pregnant or lactating women, for a continuous period of at least 30 days; or
- (b) having a urinary iodine concentration of less than 100 micrograms per litre, or less than 150 micrograms per litre for pregnant women.

iodine excess means:

- (a) an average intake of more than 1,100 micrograms of iodine per day for adults, or more than 900 micrograms per day for those aged 18 years and under, for a continuous period of at least 3 months; or
- (b) having a urinary iodine concentration of greater than 300 micrograms per litre, or greater than 500 micrograms per litre for pregnant women.

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

one pack-year means the amount of tobacco consumed in smoking 20 cigarettes per day for a period of 1 year, or an equivalent amount of tobacco products.

Note 1: An equivalent amount of tobacco products is 7,300 grams of smoking tobacco by weight, either in cigarettes, pipe tobacco or cigars, or a combination of same. For pipe tobacco, cigars or combinations of multiple tobacco types, 1 gram of tobacco is considered to be equal to one cigarette.

Note 2: Pack-years are calculated by dividing the number of cigarettes smoked per day by 20 and multiplying this number by the number of years the person has smoked. For example, smoking 10 cigarettes per day for 10 years is equal to 5 pack-years, and smoking 40 cigarettes per day for 10 years is equal to 20 pack-years.

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.

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

specified list of diseases means:

- (a) amyloidosis;
- (b) hereditary haemochromatosis;
- (c) Langerhan cell histiocytosis;
- (d) *Pneumocystis jirovecii* infection;
- (e) sarcoidosis;
- (f) systemic lupus erythematosus;
- (g) systemic sclerosis (scleroderma); or
- (h) tuberculosis.

specified list of drugs means:

- (a) carbamazepine;
- (b) interferon alpha;
- (c) interleukin-2;
- (d) lithium carbonate;
- (e) phenytoin;
- (f) sorafenib;
- (g) sunitinib; or
- (h) valproic acid.

specified list of forms of thyroiditis means:

- (a) infectious thyroiditis;
- (b) Riedel thyroiditis;
- (c) silent thyroiditis, including postpartum thyroiditis; or
- (d) subacute thyroiditis.

Note 1: Infectious thyroiditis may be due to a bacterial, fungal or parasitic infection of the thyroid gland. Organisms that can cause infectious thyroiditis include:

- (a) *Salmonella* species;
- (b) bacteria belonging to the *Mycobacterium tuberculosis* complex;
- (c) *Pneumocystis jirovecii* and fungi belonging to the species *Aspergillus*, *Candida* or *Coccidioides*; and
- (d) parasites belonging to the genera *Echinococcus* and *Strongyloides*.

Note 2: Subacute thyroiditis is also known as de Quervain thyroiditis, granulomatous thyroiditis, giant cell thyroiditis or non-suppurative thyroiditis.

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.

thyrotoxic crisis means a constellation of severe and life-threatening symptoms of rapid onset in a patient with biochemical evidence of elevated thyroid hormones. Characteristic symptoms and signs are fever, marked tachycardia, heart failure, tremor, nausea and vomiting, diarrhoea, dehydration, restlessness, extreme agitation, delirium and coma.

Note 1: Thyrotoxic crisis is also known as thyroid storm.

Note 2: Thyrotoxic crisis may be the first presentation of undiagnosed toxic goitre or may complicate existing toxic goitre.

VEA means the *Veterans' Entitlements Act 1986*.