



Australian Government
Repatriation Medical Authority

Statement of Principles
concerning
HYPOTHYROIDISM
(Balance of Probabilities)
(No. 4 of 2022)

The Repatriation Medical Authority determines the following Statement of Principles under subsection 196B(3) 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 *hypothyroidism (Balance of Probabilities)* (No. 4 of 2022).

2 Commencement

This instrument commences on 31 January 2022.

3 Authority

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

4 Repeal

The Statement of Principles concerning hypothyroidism No. 30 of 2013 (Federal Register of Legislation No. F2013L00730) made under subsections 196B(3) and (8) of the VEA is repealed.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 hypothyroidism and death from hypothyroidism.

Meaning of hypothyroidism

- (2) For the purposes of this Statement of Principles, hypothyroidism:
- (a) means a functional disorder in which there is deficiency of thyroid hormone that produces clinical symptoms and signs or warrants medical treatment; and
 - (b) includes:
 - (i) primary hypothyroidism due to dysfunction of the thyroid gland; and
 - (ii) central hypothyroidism due to decreased secretion of thyroid hormone from a functionally normal thyroid gland as a result of hypothalamic or pituitary disease; and

- (iii) peripheral hypothyroidism due to inactivation of thyroid hormone; and
- (c) excludes:
 - (i) congenital hypothyroidism;
 - (ii) congenital iodine-deficiency syndrome;
 - (iii) Hashimoto thyroiditis;
 - (iv) sick euthyroid syndrome;
 - (v) subclinical hypothyroidism; and
 - (vi) transient hypothyroidism during recovery from non-thyroidal illness.

Note 1: Hypothyroidism typically presents with low serum concentrations of the thyroid hormones thyroxine (T4) and/or triiodothyronine (T3), and with an increased concentration of thyroid-stimulating hormone. However, in central hypothyroidism, the thyroid-stimulating hormone concentration may be low to normal.

Note 2: Clinical symptoms and signs of hypothyroidism are nonspecific and typically include fatigue, lethargy, cold intolerance, weight gain, constipation, change in voice and dry skin.

Note 3: In the circumstance where hypothyroidism is a clinical manifestation of Hashimoto thyroiditis, it is covered by the Statements of Principles concerning Hashimoto thyroiditis.

Note 4: Hypothyroidism may be acute or chronic. The acute form may present as myxoedema coma.

Note 5: *myxoedema coma* is defined in the Schedule 1 - Dictionary.

Death from hypothyroidism

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

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 hypothyroidism and death from hypothyroidism 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, hypothyroidism or death from hypothyroidism is connected with the circumstances of a person's relevant service:

- (1) having iodine deficiency within the 3 months before the clinical onset of hypothyroidism;

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

- (2) having iodine excess within the 3 months before the clinical onset of hypothyroidism;

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) being administered an iodine-containing radiographic contrast agent within the 3 months before the clinical onset of hypothyroidism;

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

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

- (5) taking a drug containing at least 10 milligrams of iodine daily for a continuous period of at least 4 weeks within the 3 months before the clinical onset of hypothyroidism;

- (6) taking amiodarone for a continuous period of at least 2 weeks within the 1 year before the clinical onset of hypothyroidism;

- (7) being pregnant or within the 12 months postpartum at the time of the clinical onset of hypothyroidism;

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

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

- (9) undergoing a course of therapeutic radiation for cancer, where the thyroid gland was in the field of radiation, before the clinical onset of hypothyroidism;

- (10) having received iodine-131 (radioactive iodine) treatment before the clinical onset of hypothyroidism;

- (11) having subtotal or total thyroidectomy, or neck surgery involving the thyroid gland, before the clinical onset of hypothyroidism;

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

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

- (13) having a primary or secondary malignant neoplasm of the thyroid gland at the time of the clinical onset of hypothyroidism;

- (14) having a type 3 deiodinase-overexpressing neoplasm before the clinical onset of hypothyroidism;

- (15) having hypopituitarism involving deficiency of thyroid-stimulating hormone at the time of the clinical onset of hypothyroidism;

- (16) being obese for at least 5 years before the clinical onset of hypothyroidism;
 Note: *being obese* is defined in the Schedule 1 - Dictionary.
- (17) for hypothyroidism first presenting as myxoedema coma only, having an acute precipitating event within the 48 hours before the clinical onset of hypothyroidism;
 Note: *acute precipitating event* and *myxoedema coma* are defined in the Schedule 1 - Dictionary.
- (18) having iodine deficiency within the 3 months before the clinical worsening of hypothyroidism;
 Note: *iodine deficiency* is defined in the Schedule 1 - Dictionary.
- (19) having iodine excess within the 3 months before the clinical worsening of hypothyroidism;
 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.
- (20) being administered an iodine-containing radiographic contrast agent within the 3 months before the clinical worsening of hypothyroidism;
- (21) taking a drug from the specified list of drugs within the 3 months before the clinical worsening of hypothyroidism;
 Note: *specified list of drugs* is defined in the Schedule 1 - Dictionary.
- (22) taking a drug containing at least 10 milligrams of iodine daily for a continuous period of at least 4 weeks within the 3 months before the clinical worsening of hypothyroidism;
- (23) taking amiodarone for a continuous period of at least 2 weeks within the 1 year before the clinical worsening of hypothyroidism;
- (24) taking a drug that increases the requirement of thyroid hormone replacement therapy at the time of the clinical worsening of hypothyroidism;
 Note: Examples of drugs that may increase the requirement for thyroid hormone replacement therapy include 5-fluorouracil, antiretroviral drugs, clofibrate, raloxifene and tamoxifen.
- (25) being pregnant or within the 12 months postpartum at the time of the clinical worsening of hypothyroidism;
- (26) having a form of thyroiditis from the specified list of forms of thyroiditis at the time of the clinical worsening of hypothyroidism;
 Note: *specified list of forms of thyroiditis* is defined in the Schedule 1 - Dictionary.
- (27) undergoing a course of therapeutic radiation for cancer, where the thyroid gland was in the field of radiation, before the clinical worsening of hypothyroidism;

- (28) having received iodine-131 (radioactive iodine) treatment before the clinical worsening of hypothyroidism;
- (29) having subtotal or total thyroidectomy, or neck surgery involving the thyroid gland, before the clinical worsening of hypothyroidism;
- (30) having a disease involving the thyroid gland from the specified list of diseases at the time of the clinical worsening of hypothyroidism;
 Note: *specified list of diseases* is defined in the Schedule 1 - Dictionary.
- (31) having a primary or secondary malignant neoplasm of the thyroid gland at the time of the clinical worsening of hypothyroidism;
- (32) having a type 3 deiodinase-overexpressing neoplasm before the clinical worsening of hypothyroidism;
- (33) having hypopituitarism involving deficiency of thyroid-stimulating hormone at the time of the clinical worsening of hypothyroidism;
- (34) being obese for at least 5 years before the clinical worsening of hypothyroidism;
 Note: *being obese* is defined in the Schedule 1 - Dictionary.
- (35) for myxoedema coma only, having an acute precipitating event within the 48 hours before that clinical worsening of hypothyroidism;
 Note: *acute precipitating event* and *myxoedema coma* are defined in the Schedule 1 - Dictionary.
- (36) inability to obtain appropriate clinical management for hypothyroidism.

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(18) to 9(36) apply only to material contribution to, or aggravation of, hypothyroidism where the person's hypothyroidism 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:

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

Note: Examples of an acute precipitating event include:

- (a) abrupt cessation of thyroxine therapy;
- (b) acute illness including cerebrovascular accident, gastrointestinal bleed, myocardial infarction and pulmonary embolism;
- (c) acute iodine load including iodine-containing drugs;
- (d) drugs including sedatives, opioids, antipsychotics, selective serotonin reuptake inhibitors, phenytoin, beta blockers, diuretics and chemotherapeutic agents;
- (e) hypothermia;
- (f) infection including pneumonia, urinary tract infections and septicaemia;
- (g) physical trauma including burns; and
- (h) surgery.

being obese means having a Body Mass Index (BMI) of 30 or greater.

Note: ***BMI*** is also defined in the Schedule 1 - Dictionary.

BMI means W/H^2 where:

- (a) W is the person's weight in kilograms; and
- (b) H is the person's height in metres.

hypothyroidism—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*.

myxoedema coma means a constellation of severe and life-threatening symptoms of rapid onset in a patient with biochemical evidence of decreased thyroxine level. Characteristic symptoms and signs are decreased mental status and hypothermia, and hypotension, bradycardia, hyponatremia, hypoglycaemia and hypoventilation are typically present.

Note 1: Myxoedema coma is also known as decompensated hypothyroidism.

Note 2: Myxoedema coma may be the first presentation of undiagnosed hypothyroidism, or may complicate existing hypothyroidism.

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.

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) aminoglutethimide;
- (b) antithyroid drugs;
- (c) antituberculous drugs for multidrug resistant tuberculosis;
- (d) bexarotene;
- (e) carbamazepine;
- (f) ethionamide;
- (g) immune checkpoint inhibitors;
- (h) interferon alpha;
- (i) interleukin-2;
- (j) lenalidomide;
- (k) lithium carbonate;
- (l) mitotane;
- (m) oxcarbazepine;
- (n) phenobarbital;
- (o) phenytoin;
- (p) quetiapine;
- (q) thalidomide;
- (r) tyrosine kinase inhibitors; or
- (s) valproic acid.

specified list of forms of thyroiditis means:

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

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

Pneumocystis jirovecii and fungi belonging to the species *Aspergillus*, *Candida* or *Coccidioides*.

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.

VEA means the *Veterans' Entitlements Act 1986*.