



Australian Government
Repatriation Medical Authority

**Statement of Principles
concerning
NON-HODGKIN LYMPHOMA
(Reasonable Hypothesis)
(No. 90 of 2018)**

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

Dated 26 October 2018

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

A handwritten signature in black ink, appearing to read 'Nicholas Saunders'.

Professor Nicholas Saunders AO
Chairperson

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1 Name

This is the Statement of Principles concerning *non-Hodgkin lymphoma (Reasonable Hypothesis)* (No. 90 of 2018).

2 Commencement

This instrument commences on 26 November 2018.

3 Authority

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

4 Repeal

The Statement of Principles concerning non-Hodgkin's lymphoma No. 28 of 2010 (Federal Register of Legislation No. F2017C00834) made under subsections 196B(2) and (8) of the VEA is repealed.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 non-Hodgkin lymphoma and death from non-Hodgkin lymphoma.

Meaning of non-Hodgkin lymphoma

- (2) For the purposes of this Statement of Principles, non-Hodgkin lymphoma:
- (a) means a heterogeneous group of malignant lymphoproliferative diseases that originate from T and B lymphocytes, and present as solid tumours of the immune system that lack Reed-Sternberg cells; and
 - (b) includes Burkitt lymphoma, mycosis fungoides, adult T cell lymphoma/leukaemia and non-Hodgkin lymphoma arising within parenchymal organs; and
 - (c) excludes myeloma, hairy cell leukaemia, Waldenström macroglobulinaemia, acute lymphoblastic leukaemia and chronic lymphocytic leukaemia/small lymphocytic lymphoma.

Death from non-Hodgkin lymphoma

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

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 non-Hodgkin lymphoma and death from non-Hodgkin lymphoma 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 non-Hodgkin lymphoma or death from non-Hodgkin lymphoma with the circumstances of a person's relevant service:

- (1) having infection with human immunodeficiency virus at the time of the clinical onset of non-Hodgkin lymphoma;
- (2) undergoing solid organ, stem cell or bone marrow transplantation before the clinical onset of non-Hodgkin lymphoma;
- (3) having an autoimmune disease from the specified list of autoimmune diseases before the clinical onset of non-Hodgkin lymphoma;

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

- (4) being treated with a drug or a drug from a class of drugs from the specified list of systemic immunosuppressive drugs for a continuous period of at least three months before the clinical onset of non-Hodgkin lymphoma, and where that exposure has ceased, the clinical onset of non-Hodgkin lymphoma has occurred within ten years of cessation;

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

- (5) for Richter syndrome only, having chronic lymphoid leukaemia/small lymphocytic lymphoma at the time of the clinical onset of non-Hodgkin lymphoma;

Note: *Richter syndrome* is defined in the Schedule 1 - Dictionary.

- (6) for adult T-cell leukaemia-lymphoma only, having infection with human T-cell lymphotropic virus type-1 at the time of the clinical onset of non-Hodgkin lymphoma;
 - (7) for gastric lymphoma and splenic marginal zone lymphoma only, having infection with *Helicobacter pylori* at the time of the clinical onset of non-Hodgkin lymphoma;
 - (8) having infection with Epstein-Barr virus at the time of the clinical onset of non-Hodgkin lymphoma;
 - (9) for primary effusion lymphoma and Kaposi's sarcoma herpesvirus-positive diffuse large B-cell lymphoma not otherwise specified only, having infection with Kaposi's sarcoma herpesvirus at the time of the clinical onset of non-Hodgkin lymphoma;
 - (10) for small intestinal mucosa-associated lymphoid tissue lymphoma only, having infection with *Campylobacter jejuni* at the time of the clinical onset of non-Hodgkin lymphoma;
 - (11) for ocular adnexal mucosa-associated lymphoid tissue lymphoma only, having infection with *Chlamydia psittaci* at the time of the clinical onset of non-Hodgkin lymphoma;
 - (12) for cutaneous mucosa-associated lymphoid tissue lymphoma only, having infection with specified bacteria belonging to the *Borrelia burgdorferi* sensu lato complex at the time of the clinical onset of non-Hodgkin lymphoma;
- Note: *specified bacteria belonging to the Borrelia burgdorferi sensu lato complex* is defined in the Schedule 1 - Dictionary.
- (13) having infection with hepatitis C virus at the time of the clinical onset of non-Hodgkin lymphoma;
 - (14) having infection with hepatitis B virus at the time of the clinical onset of non-Hodgkin lymphoma;
 - (15) for Burkitt lymphoma only, having infection with *Plasmodium falciparum* at the time of the clinical onset of non-Hodgkin lymphoma;
 - (16) having Hodgkin's lymphoma before the clinical onset of non-Hodgkin lymphoma;
 - (17) inhaling, ingesting or having cutaneous contact with a phenoxy acid herbicide from the specified list:
 - (a) for a cumulative period of at least 1 000 hours, within a consecutive period of ten years, before the clinical onset of non-Hodgkin lymphoma; and

- (b) where the first exposure occurred at least five years before the clinical onset of non-Hodgkin lymphoma;

Note: *phenoxy acid herbicide from the specified list* is defined in the Schedule 1 – Dictionary.

- (18) being:

- (a) on land in Vietnam; or
- (b) at sea in Vietnamese waters; or
- (c) on board a vessel and consuming potable water supplied on that vessel, when the water supply had been produced by evaporative distillation of estuarine Vietnamese waters,

for a cumulative period of at least 30 days, at least five years before the clinical onset of non-Hodgkin lymphoma;

Note: *being: (a) on land in Vietnam; or (b) at sea in Vietnamese waters, estuarine Vietnamese waters and potable water* are defined in the Schedule 1 – Dictionary.

- (19) inhaling, ingesting or having cutaneous contact with a chemical agent contaminated by 2,3,7,8-tetrachlorodibenzo-para-dioxin (TCDD):

- (a) for a cumulative period of at least 1 000 hours, within a consecutive period of ten years, before the clinical onset of non-Hodgkin lymphoma; and
- (b) where the first exposure occurred at least five years before the clinical onset of non-Hodgkin lymphoma;

Note: *inhaling, ingesting or having cutaneous contact with a chemical agent contaminated by 2,3,7,8-tetrachlorodibenzo-para-dioxin (TCDD)* is defined in the Schedule 1 – Dictionary.

- (20) being exposed to benzene as specified:

- (a) for a cumulative total of at least 2 500 hours within a continuous period of five years before the clinical onset of non-Hodgkin lymphoma; and
- (b) where the first exposure in that period occurred at least five years before the clinical onset of non-Hodgkin lymphoma;

Note: *being exposed to benzene as specified* is defined in the Schedule 1 – Dictionary.

- (21) receiving greater than ten ppm-years of cumulative exposure to benzene before the clinical onset of non-Hodgkin lymphoma, and where the first exposure occurred at least five years before the clinical onset of non-Hodgkin lymphoma;

Note: *ppm-years* is defined in the Schedule 1 – Dictionary.

- (22) inhaling ethylene oxide vapour:

- (a) for a cumulative total of at least 2 500 hours within a consecutive period of ten years before the clinical onset of non-Hodgkin lymphoma; and

(b) where the first exposure in that period occurred at least five years before the clinical onset of non-Hodgkin lymphoma;

(23) being obese for at least five years within the 20 years before the clinical onset of non-Hodgkin lymphoma;

Note: *being obese* is defined in the Schedule 1 – Dictionary.

(24) having received a cumulative equivalent dose of at least 0.1 sievert of ionising radiation to the bone marrow at least five years before the clinical onset of non-Hodgkin lymphoma;

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

(25) for diffuse large B-cell lymphoma only, having chronic inflammation as specified at the affected site for at least five years before the clinical onset of non-Hodgkin lymphoma;

Note: *chronic inflammation as specified* is defined in the Schedule 1 – Dictionary.

(26) for anaplastic large cell lymphoma of the breast only, having a breast implant at the time of the clinical onset of non-Hodgkin lymphoma;

(27) inhaling, ingesting or having cutaneous contact with lindane on more days than not for a cumulative period of at least six months, at least five years before the clinical onset of non-Hodgkin lymphoma;

Note: *lindane* is defined in the Schedule 1 – Dictionary.

(28) inhaling, ingesting or having cutaneous contact with pentachlorophenol:

- (a) for a cumulative period of at least 1 000 hours, within a consecutive period of ten years, before the clinical onset of non-Hodgkin lymphoma; and
- (b) where the first exposure occurred at least five years before the clinical onset of non-Hodgkin lymphoma;

(29) inhaling, ingesting or having cutaneous contact with a chemical from the specified list:

- (a) for a cumulative period of at least 1 000 hours, within a consecutive period of ten years, before the clinical onset of non-Hodgkin lymphoma; and
- (b) where the first exposure occurred at least five years before the clinical onset of non-Hodgkin lymphoma;

Note: *chemical from the specified list* is defined in the Schedule 1 - Dictionary.

(30) for T-cell lymphoma only, smoking at least ten pack-years of cigarettes, or the equivalent thereof in other tobacco products, before the clinical onset of non-Hodgkin lymphoma, and where smoking has ceased, the clinical onset of non-Hodgkin lymphoma has occurred within 20 years of cessation;

Note: *pack-years of cigarettes, or the equivalent thereof in other tobacco products* is defined in the Schedule 1 – Dictionary.

- (31) having atopic dermatitis for at least two years before the clinical onset of non-Hodgkin lymphoma;
- (32) for mycosis fungoides or Sezary syndrome only, being treated with hydrochlorothiazide for a continuous period of at least three months before the clinical onset of non-Hodgkin lymphoma, and where that exposure has ceased, the clinical onset of non-Hodgkin lymphoma has occurred within ten years of cessation;
- (33) inability to obtain appropriate clinical management for non-Hodgkin lymphoma.

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 factor set out in subsection 9(33) applies only to material contribution to, or aggravation of, non-Hodgkin lymphoma where the person's non-Hodgkin lymphoma 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:

being:

- (a) ***on land in Vietnam; or***
- (b) ***at sea in Vietnamese waters*** means service in at least one of the areas and at the times described in Items 4 and 8 of Schedule 2 of the VEA.

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

being exposed to benzene as specified means:

- (a) having cutaneous contact with liquids containing benzene greater than 1% by volume; or
- (b) ingesting liquids containing benzene greater than 1% by volume; or
- (c) inhaling benzene vapour where such exposure occurs at an ambient 8-hour time-weighted average benzene concentration exceeding five parts per million.

Note: ***8-hour time-weighted average*** is defined in the Schedule 1 – Dictionary.

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:

W is the person's weight in kilograms; and
H is the person's height in metres.

chemical from the specified list means:

- (a) diazinon;
- (b) glyphosate;
- (c) malathion; or
- (d) trichloroethylene.

chronic inflammation as specified means chronic suppuration or inflammation arising in settings such as pyothorax resulting from artificial pneumothorax for treatment of pulmonary or pleural tuberculosis, chronic osteomyelitis, metallic implant insertion, surgical mesh implantation and chronic skin venous ulcer.

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.

8-hour time-weighted average means the averaging of different exposure levels to benzene during an average exposure period equivalent to eight hours.

estuarine Vietnamese waters means at least one of the waterways or harbours in the relevant areas described in Items 4 and 8 of Schedule 2 of the VEA.

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

inhaling, ingesting or having cutaneous contact with a chemical agent contaminated by 2,3,7,8-tetrachlorodibenzo-para-dioxin (TCDD) means:

- (a) decanting or spraying;
- (b) cleaning or maintaining equipment used to apply;
- (c) being sprayed with;
- (d) handling or sawing timber treated with;
- (e) being in an environment shrouded in dust from timber treated with; or
- (f) using cutting oils contaminated with;

one of the following chemicals:

- (i) 2,4,5-trichlorophenoxyacetic acid;
- (ii) 2,4,5-trichlorophenoxypropionic acid;
- (iii) 2,4,5-trichlorophenol;
- (iv) 2-(2,4,5-trichlorophenoxy)-ethyl 2,2-dichloropropionate;
- (v) o,o-dimethyl-o-(2,4,5-trichlorophenyl)-phosphorothioate;
- (vi) pentachlorophenol;
- (vii) 2,3,4,6-tetrachlorophenol;
- (viii) 2,4,6-trichlorophenol;
- (ix) 1,3,4-trichloro-2-(4-nitrophenoxy)benzene;
- (x) 2,4-dichloro-1-(4-nitrophenoxy)benzene; or
- (xi) 2,4-dichloro-1-(3-methoxy-4-nitrophenoxy)-benzene.

lindane means a complex synthetic mixture in which the gamma-isomer of hexachlorocyclohexane is present.

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

non-Hodgkin lymphoma—see subsection 7(2).

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 7 300 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 mean cigarettes, pipe tobacco or cigars, smoked alone or in any combination.

phenoxy acid herbicide from the specified list means:

- (a) 2,4-dichlorophenoxyacetic acid (2,4-D);
- (b) 2,4,5-trichlorophenoxyacetic acid (2,4,5-T); or
- (c) 2-methyl-4-chlorophenoxyacetic acid (MCPA).

potable water means water used for drinking water, food preparation and beverage production.

ppm-years means parts per million multiplied by years of exposure.

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.

Richter syndrome means a form of high-grade large cell lymphoma, characterised by systemic symptoms, rapid tumour growth and extra-nodal involvement, which develops in patients with chronic lymphocytic leukaemia.

specified bacteria belonging to the *Borrelia burgdorferi sensu lato* complex means *Borrelia burgdorferi sensu stricto*, *Borrelia afzelii*, *Borrelia garinii*, *Borrelia spielmanii*, *Borrelia bavariensis*, *Borrelia bissettii*, *Borrelia lusitaniae*, *Borrelia valaisiana* or *Borrelia mayonii*.

specified list of autoimmune diseases means:

- (a) ankylosing spondylitis;
- (b) autoimmune haemolytic anaemia;
- (c) Behcet disease;
- (d) biliary cirrhosis;
- (e) coeliac disease;
- (f) dermatitis herpetiformis;
- (g) dermatomyositis;
- (h) Hashimoto's thyroiditis or chronic lymphocytic thyroiditis;
- (i) immune thrombocytopaenia;
- (j) inflammatory bowel disease;
- (k) myasthenia gravis;
- (l) polyarteritis nodosa;
- (m) polymyalgia rheumatica;
- (n) polymyositis;
- (o) psoriasis;
- (p) rheumatoid arthritis;
- (q) rheumatic heart disease or acute rheumatic fever;
- (r) sarcoidosis;
- (s) Sjogren syndrome;
- (t) systemic lupus erythematosus; or
- (u) systemic sclerosis or localised sclerosis.

specified list of systemic immunosuppressive drugs means:

- (a) azathioprine;
- (b) cyclosporine;
- (c) methotrexate;
- (d) pimecrolimus;
- (e) 6-mercaptopurine;
- (f) tacrolimus; or
- (g) tumour necrosis factor- α inhibitors.

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*.