



Australian Government
Repatriation Medical Authority

Statement of Principles
concerning
MALIGNANT NEOPLASM OF THE LUNG
(Balance of Probabilities)
(No. 87 of 2023)

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

Dated 25 August 2023.

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 *malignant neoplasm of the lung (Balance of Probabilities)* (No. 87 of 2023).

2 Commencement

This instrument commences on 26 September 2023.

3 Authority

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

4 Repeal

The Statement of Principles concerning malignant neoplasm of the lung No. 93 of 2014 (Federal Register of Legislation No. F2014L01384) made under subsections 196B(3) and (8) of the VEA is repealed.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 malignant neoplasm of the lung and death from malignant neoplasm of the lung.

Meaning of malignant neoplasm of the lung

- (2) For the purposes of this Statement of Principles, malignant neoplasm of the lung:
- (a) means a primary malignant neoplasm arising from the epithelial cells of the trachea, bronchus, bronchioles or alveoli; and
 - (b) includes:
 - (i) adenocarcinoma of the lung;
 - (ii) carcinoma in situ of the lung;
 - (iii) large cell carcinoma of the lung;
 - (iv) lymphoepithelial carcinoma of the lung;
 - (v) non-small cell carcinoma of the lung;
 - (vi) small cell carcinoma of the lung; and

- (vii) squamous cell carcinoma of the lung; and
- (c) excludes:
 - (i) carcinoid tumours;
 - (ii) haematolymphoid tumours including non-Hodgkin lymphoma and Hodgkin lymphoma;
 - (iii) malignant melanoma;
 - (iv) mesenchymal tumours including soft tissue sarcoma;
 - (v) mesothelioma; and
 - (vi) metastatic cancer from other primary sites.
- (3) While malignant neoplasm of the lung attracts ICD-10-AM codes C33, C44, D02.1 and D02.2, in applying this Statement of Principles the meaning of malignant neoplasm of the lung 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 **malignant neoplasm of the lung***

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

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

- (1) having smoked tobacco products:

- (a) in an amount of at least 0.5 pack-year before the clinical onset of malignant neoplasm of the lung; and
- (b) commencing at least 10 years before the clinical onset of malignant neoplasm of the lung;

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

- (2) having been exposed to second-hand smoke:

- (a) for at least 5,000 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) commencing at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: *having been exposed to second-hand smoke* is defined in the Schedule 1 – Dictionary.

- (3) inhaling respirable asbestos fibres in an enclosed space, at the time material containing asbestos was being applied, removed, cut, drilled, dislodged or disturbed, where the first inhalation of asbestos fibres commenced at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: Disturbance of debris or dust contaminated with asbestos fibres already present in an enclosed space may result in exposure to respirable asbestos fibres.

- (4) inhaling respirable asbestos fibres in an open environment, at the time material containing asbestos was being applied, removed, cut, drilled, dislodged or disturbed:

- (a) for a cumulative period of at least 1,000 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) where the first inhalation of asbestos fibres commenced at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: Disturbance of debris or dust contaminated with asbestos fibres already present in an open environment may result in exposure to respirable asbestos fibres.

- (5) inhaling high concentrations of polycyclic aromatic hydrocarbons, through work involving a specified industry, manufacturing process or substance:

- (a) for a cumulative period of at least 3,500 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) where the first inhalation of polycyclic aromatic hydrocarbons occurred at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: *polycyclic aromatic hydrocarbons* and *specified industry, manufacturing process or substance* are defined in the Schedule 1 – Dictionary.

- (6) being heavily exposed to diesel engine exhaust for a cumulative period of at least 15,000 hours, at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: *being heavily exposed to diesel engine exhaust* is defined in the Schedule 1 dictionary.

- (7) being exposed to mustard gas at least 10 years before the clinical onset of malignant neoplasm of the lung;
- (8) having received a cumulative equivalent dose of at least 0.5 sievert of ionising radiation to the lung at least 10 years before the clinical onset of malignant neoplasm of the lung;

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

- (9) inhaling radon gas in an enclosed space for at least 40 Working Level Months, before the clinical onset of malignant neoplasm of the lung, where the first exposure to radon occurred at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: *Working Level Month* is defined in the Schedule 1 – Dictionary.

- (10) having a pulmonary disease at least 5 years before the clinical onset of malignant neoplasm of the lung;

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

- (11) working as a painter for a cumulative period of at least 10,000 hours before the clinical onset of malignant neoplasm of the lung, where that work began at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: *working as a painter* is defined in the Schedule 1 – Dictionary.

- (12) inhaling respirable crystalline silica dust at the time material containing respirable crystalline silica dust was being produced, excavated, drilled, cut, ground or polished, or used in construction, manufacturing, cleaning or blasting:

- (a) for a cumulative period of at least 3,000 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) where the first inhalation of respirable crystalline silica dust commenced at least 10 years before the clinical onset of malignant neoplasm of the lung;

- (13) having acute silicosis before the clinical onset of malignant neoplasm of the lung;

Note: *acute silicosis* is defined in the Schedule 1 - Dictionary.

- (14) inhaling fumes, vapours or dusts of a metal or metalloid from the specified list:

- (a) for a cumulative period of at least 3,500 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) where the first inhalation of fumes, vapours or dusts occurred at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: *metal or metalloid from the specified list* is defined in the Schedule 1 – Dictionary.

- (15) inhaling fumes of bis(chloromethyl)ether or chloromethyl methyl ether:
- (a) for a cumulative period of at least 3,500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (b) where the first inhalation of fumes occurred at least 10 years before the clinical onset of malignant neoplasm of the lung;

- (16) having berylliosis before the clinical onset of malignant neoplasm of the lung;

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

- (17) being exposed to arsenic as specified before the clinical onset of malignant neoplasm of the lung, where the first exposure to arsenic occurred at least 10 years before the clinical onset of malignant neoplasm of the lung;

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

- (18) inhaling smoke from the combustion of coal, wood, charcoal, or another solid biomass fuel, in an enclosed space:

- (a) for a cumulative period of at least 15,000 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) commencing at least 10 years before the clinical onset of malignant neoplasm of the lung;

- (19) inhaling ambient, chronically polluted air as specified:

- (a) for a cumulative period of at least 70,000 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) where the first inhalation of ambient chronically polluted air occurred at least 10 years before the clinical onset of malignant neoplasm of the lung;

Note: *ambient, chronically polluted air as specified* is defined in the Schedule 1 – Dictionary.

- (20) inhaling mist from sulphuric, nitric or hydrochloric acid:

- (a) for a cumulative period of at least 3,500 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) where inhalation of the mist commenced at least 10 years before the clinical onset of malignant neoplasm of the lung;

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

- (21) inhaling fumes generated in rubber production, while in an enclosed space in immediate proximity to production facilities:

- (a) for a cumulative period of at least 3,500 hours before the clinical onset of malignant neoplasm of the lung; and
- (b) where the first inhalation of fumes occurred at least 10 years before the clinical onset of malignant neoplasm of the lung;

- (22) taking a chemotherapy regimen with procarbazine or mechlorethamine (nitrogen mustard) at least 5 years before the clinical onset of malignant neoplasm of the lung;

Note: a chemotherapy regimen with procarbazine or mechlorethamine includes MOPP (a combination of mechlorethamine, oncovin (vincristine), procarbazine and prednisone).

- (23) having systemic sclerosis at least 3 years before the clinical onset of malignant neoplasm of the lung;
- (24) inhaling opium smoke or ingesting opium on average at least weekly for at least 10 years before the clinical onset of malignant neoplasm of the lung;
- Note: *opium* is defined in the Schedule 1 – Dictionary.
- (25) using manual welding equipment for welding metal:
- (a) for a cumulative period of at least 3,500 hours before the clinical onset of malignant neoplasm of the lung; and
 - (b) where that use began at least 10 years before the clinical onset of malignant neoplasm of the lung;
- (26) inability to obtain appropriate clinical management for malignant neoplasm of the lung before the clinical worsening of malignant neoplasm of the lung.

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(26) applies only to material contribution to, or aggravation of, malignant neoplasm of the lung where the person's malignant neoplasm of the lung 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 silicosis means a pulmonary disease characterised by basilar filling of alveoli with lipid and proteinaceous exudative material, following exposure to high levels of respirable crystalline silica dust over a short time span.

ambient, chronically polluted air as specified means air with average annual concentrations of:

- (a) particulate matter with an aerodynamic diameter of $< 2.5 \mu\text{m}$ (PM2.5) exceeding $15 \mu\text{g}/\text{m}^3$; or
- (b) particulate matter with an aerodynamic diameter of $< 10 \mu\text{m}$ (PM10) exceeding $25 \mu\text{g}/\text{m}^3$.

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 10 years; or
- (b) consuming drinking water resulting in a cumulative total arsenic exposure equivalent to having consumed drinking water containing at least 50 micrograms per litre for at least 10 years; or
- (c) having clinical evidence of chronic arsenic toxicity.

being heavily exposed to diesel engine exhaust means:

- (a) being an occupant in an enclosed diesel powered vehicle cabin contaminated with diesel fumes; or
- (b) working in an enclosed space where diesel powered engines or motors are being operated.

berylliosis means acute or chronic beryllium disease involving the lungs. Acute beryllium disease is a rapid onset form of chemical pneumonitis (severe inflammation of the lung) that results from breathing high airborne concentrations of beryllium. Chronic beryllium disease is induced by a delayed hypersensitivity reaction to beryllium fumes and is characterised by the formation of granulomas within the lung, and may progress to fibrosis of the lungs.

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.

having been exposed to second-hand smoke means having been in an enclosed space and inhaling smoke from burning tobacco products or smoke that has been exhaled by another person who is smoking.

malignant neoplasm of the lung - see subsection 7(2).

metal or metalloid from the specified list means:

- (a) arsenic and inorganic arsenic compounds;
- (b) beryllium and beryllium compounds;
- (c) cadmium and cadmium compounds;
- (d) hexavalent chromium (chromium VI) compounds;
- (e) mixtures that include nickel metal and nickel compounds; or

Note: Examples of industrial processes or workplace practices where exposure to trivalent antimony and antimony compounds can occur include the smelting or refining of metals, production of antimony compounds, manufacture of glass, textiles, and batteries, electronic processing and electrical waste processing, the incineration of waste, fuel combustion, and shooting activities (present in ammunition).

mist means a liquid aerosol formed by condensation of a vapour or by atomisation of a liquid.

MRC 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.

opium means the dried or boiled juice (latex) obtained from the seedpod of the poppy plant (*Papaver somniferum*).

polycyclic aromatic hydrocarbons means hydrocarbons with three or more condensed aromatic rings in which certain carbon atoms are common to two or three rings. Polycyclic aromatic hydrocarbons occur in crude oil, shale oil and coal tars, and can be formed during the combustion of organic material or during high temperature processing of crude oil, coal, coke or other industrial carbon compounds.

pulmonary disease means:

- (a) bacterial pneumonia;
- (b) chronic obstructive pulmonary disease;
- (c) fibrosing interstitial lung disease; or
- (d) tuberculosis of the lung.

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 defined in the Schedule 1 - Dictionary.

soot means a carbonaceous by-product material produced from the incomplete combustion of fossil fuel or other carbon-containing material, including airborne residual pyrolysed fuel particles such as coal, cenospheres, charred wood or petroleum coke.

specified industry, manufacturing process or substance means:

- (a) aluminium production;
- (b) coal gasification;
- (c) coal tar pitch or concentrated coal tar distillates;
- (d) coke production or within 100 metres of a coke oven;
- (e) iron and steel founding; and
- (f) soot during the cleaning of chimneys, flues, or boilers.

Note 1: Mastic asphalt is a mixture of straight-run bitumens, coarse aggregate, and/or sand, and/or limestone fine aggregate, and/or filler. Its application temperature is high, usually 200-250 °C. It forms a waterproof and durable surface and is used in bridge decks, as flooring in houses and industrial buildings, in heavy traffic motorways, rooftop car parks, hydraulic constructions (canal slopes, riverbanks) and in flat-roof waterproofing.

Note 2: **soot** is defined in the Schedule 1 – Dictionary.

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*.

working as a painter means applying paint, including solvent-based or water-based conventional paint, spray paint, varnish, enamel, lacquer, water-emulsion and solution finish, non-aqueous dispersion or organosol, plastisol, and powder coating, during the course of activities such as building, maintenance and construction, interior and exterior decoration, artistic painting, and wood and metal painting. This definition includes mixed activities in which application of paint occurs with other tasks, such as wallpapering and plastering, and activities that are preparatory to painting, such as mixing paints, maintaining painting equipment, and background preparation of surfaces for application of paint.

Working Level Month means exposure to one Working Level for 170 hours where Working Level is any combination of radon progeny in one litre of air that ultimately releases 1.3×10^5 million electron volts of alpha energy during decay.