



Australian Government
Repatriation Medical Authority

Statement of Principles
concerning
PATHOLOGICAL FRACTURE
(Reasonable Hypothesis)
(No. 64 of 2024)

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

Dated 20 August 2024.

Professor Terence Campbell AM
Chairperson
by and on behalf of
The Repatriation Medical Authority

Contents

1	Name.....	3
2	Commencement	3
3	Authority	3
4	Repeal	3
5	Application.....	3
6	Definitions	3
7	Kind of injury, disease or death to which this Statement of Principles relates	3
8	Basis for determining the factors	4
9	Factors that must exist.....	4
10	Relationship to service.....	5
11	Factors referring to an injury or disease covered by another Statement of Principles	5
Schedule 1 - Dictionary		6
1	Definitions	6

1 Name

This is the Statement of Principles concerning *pathological fracture (Reasonable Hypothesis)* (No. 64 of 2024).

2 Commencement

This instrument commences on 24 September 2024.

3 Authority

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

4 Repeal

The Statement of Principles concerning fracture No. 94 of 2015 (Federal Register of Legislation No. F2015L01340) made under subsection 196B(2) of the VEA is repealed.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 pathological fracture and death from pathological fracture.

Meaning of pathological fracture

- (2) For the purposes of this Statement of Principles, pathological fracture:
- (a) means an acquired break of bone as a result of an applied force that ordinarily would not cause bone breakage in a healthy bone; and
 - (b) includes:
 - (i) acute vascular shock, acute compartment syndrome, or fat embolism resulting from the fractured bone;
 - (ii) pathological fracture or insufficiency stress fracture due to focal bone weakness;
 - (iii) pathological fracture or insufficiency stress fracture due to global bone weakness;

- (iv) periosteal, muscular, fascial, skin, nerve or vascular damage directly caused by the displaced fractured bone; and
- (v) wound infection as a result of penetration of the skin by bony fracture fragments (compound fracture).

Note 1: Pathological fractures are also known as secondary fractures, spontaneous fractures, fragility fractures, and minimal trauma fractures.

Note 2: Bone weakness includes decreased bone mineral density (osteoporosis), disarrangement of bone structure, and the presence of additional bone pathology.

Note 3: Clinical worsening could include fracture non-union but not an additional fracture. An additional fracture would require further invocation of the fracture SoPs.

Death from pathological fracture

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

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 pathological fracture and death from pathological fracture 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 pathological fracture or death from pathological fracture with the circumstances of a person's relevant service:

- (1) having one of the following medical conditions involving the affected region of bone at the time of clinical onset:
 - (a) benign neoplasm;
 - (b) malignant primary or secondary neoplasm;
 - (c) osteomalacia;
 - (d) osteomyelitis;
 - (e) osteonecrosis;
 - (f) osteoporosis; or
 - (g) Paget disease of bone;

Note: osteomalacia and osteonecrosis are defined in the Schedule 1 - Dictionary.

- (2) having ankylosing spondylitis at the time of clinical onset of vertebral pathological fracture;

- (3) smoking at least 5 cigarettes per day, or the equivalent thereof in other tobacco products, during treatment for fracture prior to fracture non-union;

Note 1: One gram of tobacco is considered to be equivalent to one cigarette.

Note 2: Fracture non-union is considered to be a clinical worsening of the pathological fracture.

- (4) having diabetes mellitus at the time of the fracture non-union;

Note: Fracture non-union is considered to be a clinical worsening of the pathological fracture.

- (5) having osteoporosis at the time of the fracture non-union;

Note: Fracture non-union is considered to be a clinical worsening of the pathological fracture.

- (6) having vitamin D deficiency, with a serum 25(OH)D level of less than 50 nanomoles per litre at the time of the fracture non-union;

Note: Fracture non-union is considered to be a clinical worsening of the pathological fracture.

- (7) having a Body Mass Index (BMI) of 40 or greater at the time of the fracture non-union;

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

Note 2: Fracture non-union is considered to be a clinical worsening of the pathological fracture.

- (8) inability to obtain appropriate clinical management for pathological fracture before clinical worsening.

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 clinical worsening aspects of factors set out in section 9 apply only to material contribution to, or aggravation of, pathological fracture where the person's pathological fracture 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:

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.

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

osteomalacia means a disease of bone in which there is a reduction in the mineralisation of its organic matrix and bone softening, due to a deficiency of vitamin D or problems with the metabolism of vitamin D.

osteonecrosis means a disease of bone where death of bone tissue occurs as a result of the temporary or permanent loss of blood supply to bone. Osteonecrosis is also known as avascular necrosis, aseptic necrosis or ischaemic necrosis.

pathological fracture—see subsection 7(2).

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 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*.