

Statement of Principles
concerning

**PARKINSON'S DISEASE AND
PARKINSONISM**

No. 65 of 2007

for the purposes of the

Veterans' Entitlements Act 1986
and
Military Rehabilitation and Compensation Act 2004

Title

1. This Instrument may be cited as Statement of Principles concerning Parkinson's disease and parkinsonism No. 65 of 2007.

Determination

2. The Repatriation Medical Authority under subsection **196B(2)** and **(8)** of the *Veterans' Entitlements Act 1986* (the VEA):
 - (a) revokes Instrument No. 36 of 2002 concerning Parkinson's disease and Instrument No. 38 of 2002 concerning secondary parkinsonism; and
 - (b) determines in their place this Statement of Principles.

Kind of injury, disease or death

3.
 - (a) This Statement of Principles is about **Parkinson's disease and parkinsonism** and **death from Parkinson's disease and parkinsonism**.
 - (b) For the purposes of this Statement of Principles:
"Parkinson's disease" means a primary neurodegenerative disease characterised by the progressive failure of dopaminergic transmission in the nigrostriatal system of the basal ganglia, and

which is defined clinically by the presence of bradykinesia, and at least one of muscular rigidity or a 4-6 Hz resting tremor or postural instability not caused by primary visual, vestibular, cerebellar or proprioceptive dysfunction; and which is defined pathologically by the presence of Lewy bodies at widespread locations in the central and peripheral nervous system; and

"parkinsonism" means a neurological condition involving impaired functioning of dopaminergic transmission in the nigrostriatal system of the basal ganglia, and which is defined clinically by the presence of bradykinesia, and at least one of muscular rigidity or a 4-6 Hz resting tremor or postural instability not caused by primary visual, vestibular, cerebellar or proprioceptive dysfunction. This definition excludes Parkinson's disease, benign essential tremor and motor symptoms of depressive disorder.

Basis for determining the factors

4. The Repatriation Medical Authority is of the view that there is sound medical-scientific evidence that indicates that **Parkinson's disease or parkinsonism** and **death from Parkinson's disease or parkinsonism** 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 *Military Rehabilitation and Compensation Act 2004* (the MRCA).

Factors that must be related to service

5. Subject to clause 7, at least one of the factors set out in clause 6 must be related to the relevant service rendered by the person.

Factors

6. The factor that must as a minimum exist before it can be said that a reasonable hypothesis has been raised connecting **Parkinson's disease or parkinsonism** or **death from Parkinson's disease or parkinsonism** with the circumstances of a person's relevant service is:
 - (a) for Parkinson's disease only:
 - (i) inhaling, ingesting or having cutaneous contact with an organochlorine insecticide, a dithiocarbamate-based fungicide or the herbicide paraquat, on at least 500 occasions within a continuous period of five years, before the clinical onset of Parkinson's disease ; or

- (ii) having cerebral trauma more than five years before the clinical onset of Parkinson's disease; or
- (b) for parkinsonism only:
 - (i) inhaling, ingesting or having cutaneous contact with an organochlorine insecticide, a dithiocarbamate-based fungicide or the herbicide paraquat, on at least 500 occasions within a continuous period of five years, within the ten years before the clinical onset of parkinsonism; or
 - (ii) having cerebral trauma within the 90 days before the clinical onset of parkinsonism; or
 - (iii) having a direct penetrating injury to the brainstem within the 90 days before the clinical onset of parkinsonism; or
 - (iv) having an episode of acute cholinergic poisoning from exposure to an organophosphorus ester within the 90 days before the clinical onset of parkinsonism; or
 - (v) having a space occupying lesion that impinges on the brainstem, or which causes signs or symptoms of brainstem dysfunction, within the 90 days before the clinical onset of parkinsonism; or
 - (vi) having hydrocephalus within the 90 days before the clinical onset of parkinsonism; or
 - (vii) having a cerebrovascular accident that directly impinges on the brainstem within the 90 days before the clinical onset of parkinsonism; or
 - (viii) having dementia pugilistica at the time of the clinical onset of parkinsonism; or
 - (ix) having acute cerebral hypoxia within the 90 days before the clinical onset of parkinsonism; or
 - (x) having encephalitis lethargica before the clinical onset of parkinsonism; or

- (xi) having viral encephalitis within the 90 days before the clinical onset of parkinsonism; or
- (xii) having HIV infection at the time of the clinical onset of parkinsonism; or
- (xiii) having neurosyphilis at the time of the clinical onset of parkinsonism; or
- (xiv) inhaling or ingesting methanol or ethylene glycol, and having clinical, haematological or biochemical evidence of methanol or ethylene glycol intoxication, within the 90 days before the clinical onset of parkinsonism; or
- (xv) being exposed to manganese at least once per week for a continuous period of at least six months, within the ten years before the clinical onset of parkinsonism; or
- (xvi) inhaling, ingesting or having cutaneous contact with cyanide, and having clinical, haematological or biochemical evidence of cyanide intoxication, within the 90 days before the clinical onset of parkinsonism; or
- (xvii) receiving an injection containing 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) within the 90 days before the clinical onset of parkinsonism; or
- (xviii) inhaling, ingesting or having cutaneous contact with carbon disulphide on at least 250 occasions within a continuous period of five years, within the ten years before the clinical onset of parkinsonism; or
- (xix) being treated with a drug belonging to the phenothiazine class of drugs within the 90 days before the clinical onset of parkinsonism, or;
- (xx) being treated with a drug from the specified list within the 90 days before the clinical onset of parkinsonism; or
- (xxi) having hypoparathyroidism at the time of the clinical onset of parkinsonism; or
- (xxii) having decompensated cirrhosis of the liver at the time of the clinical onset of parkinsonism; or

- (xxiii) having multiple system atrophy at the time of the clinical onset of parkinsonism; or
 - (xxiv) having a disorder associated with primary tau pathology at the time of the clinical onset of parkinsonism; or
 - (xxv) having dementia with Lewy bodies at the time of the clinical onset of parkinsonism; or
 - (xxvi) having Alzheimer's disease at the time of the clinical onset of parkinsonism; or
 - (xxvii) having a disease from the specified list at the time of the clinical onset of parkinsonism; or
- (c) inhaling, ingesting or having cutaneous contact with an organochlorine insecticide, a dithiocarbamate-based fungicide or the herbicide paraquat, on at least 500 occasions within a continuous period of five years, within the ten years before the clinical worsening of Parkinson's disease or parkinsonism; or
 - (d) having cerebral trauma within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
 - (e) having a direct penetrating injury to the brainstem within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
 - (f) having an episode of acute cholinergic poisoning from exposure to an organophosphorus ester within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
 - (g) having a space occupying lesion that impinges on the brainstem, or which causes signs or symptoms of brainstem dysfunction, within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
 - (h) having hydrocephalus within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
 - (i) having a cerebrovascular accident that directly impinges on the brainstem within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or

- (j) having dementia pugilistica at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (k) having acute cerebral hypoxia within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
- (l) having encephalitis lethargica before the clinical worsening of Parkinson's disease or parkinsonism; or
- (m) having viral encephalitis within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
- (n) having HIV infection at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (o) having neurosyphilis at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (p) inhaling or ingesting methanol or ethylene glycol, and having clinical, haematological or biochemical evidence of methanol or ethylene glycol intoxication, within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
- (q) being exposed to manganese at least once per week for a continuous period of at least six months, within the ten years before the clinical worsening of Parkinson's disease or parkinsonism; or
- (r) inhaling, ingesting or having cutaneous contact with cyanide, and having clinical, haematological or biochemical evidence of cyanide intoxication, within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
- (s) receiving an injection containing 1-methyl-4-phenyl-1,2,3,6-tetrahydropyridine (MPTP) within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
- (t) inhaling, ingesting or having cutaneous contact with carbon disulphide on at least 250 occasions within a continuous period of five years, within the ten years before the clinical worsening of Parkinson's disease or parkinsonism; or
- (u) being treated with a drug belonging to the phenothiazine class of drugs within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or

- (v) being treated with a drug from the specified list within the 90 days before the clinical worsening of Parkinson's disease or parkinsonism; or
- (w) having hypoparathyroidism at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (x) having decompensated cirrhosis of the liver at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (y) having multiple system atrophy at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (z) having a disorder associated with primary tau pathology at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (aa) having dementia with Lewy bodies at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (bb) having Alzheimer's disease at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (cc) having a disease from the specified list at the time of the clinical worsening of Parkinson's disease or parkinsonism; or
- (dd) inability to obtain appropriate clinical management for Parkinson's disease or parkinsonism.

Factors that apply only to material contribution or aggravation

7. Paragraphs **6(c) to 6(dd)** apply only to material contribution to, or aggravation of, Parkinson's disease or parkinsonism where the person's Parkinson's disease or parkinsonism was suffered or contracted before or during (but not arising out of) the person's relevant service.

Inclusion of Statements of Principles

8. In this Statement of Principles if a relevant factor applies and that factor includes an injury or disease in respect of which there is a Statement of Principles then the factors in that last mentioned Statement of Principles apply in accordance with the terms of that Statement of Principles as in force from time to time.

Other definitions

9. For the purposes of this Statement of Principles:

"a disease from the specified list " means:

- (a) Chédiak-Higashi disease;
- (b) Creutzfeldt-Jakob disease;
- (c) Fragile X premutation associated ataxia-tremor-parkinsonism syndrome;
- (d) Hallervorden-Spatz disease;
- (e) SCA-3 spinocerebellar ataxia;
- (f) Westphal variant of Huntington's chorea;
- (g) Wilson's disease; or
- (h) X-linked dystonia-parkinsonism;

"a disorder associated with primary tau pathology" means:

- (a) corticobasal degeneration;
- (b) frontotemporal dementia; or
- (c) progressive supranuclear palsy;

"a drug from the specified list" means:

- (a) 5-fluorouracil;
- (b) alizapride;
- (c) alpha-methyldopa;
- (d) amiodarone;
- (e) amlodipine;
- (f) amoxapine;
- (g) amphotericin B;
- (h) aprindine;
- (i) aripiprazole;
- (j) bethanechol;
- (k) buphormine;
- (l) bupropion;
- (m) buspirone;
- (n) captopril;
- (o) cephaloridine;
- (p) chlorpheniramine;
- (q) chlorprothixene;
- (r) cimetidine;
- (s) cinnarizine;
- (t) cisapride;
- (u) citalopram;
- (v) clebopride;
- (w) clopamide-pindolol combination;
- (x) cyclosporine;

(y) cytosine arabinoside;
(z) diazepam;
(aa) diltiazem;
(bb) distigmine;
(cc) disulfiram;
(dd) domperidone;
(ee) donepezil;
(ff) droperidol;
(gg) flunarizine;
(hh) fluoxetine;
(ii) fluphenazine;
(jj) flurbiprofen;
(kk) fluvoxamine;
(ll) haloperidol;
(mm) hexamethylmelamine;
(nn) indeloxazine;
(oo) interferon-alpha;
(pp) levetiracetam;
(qq) lithium;
(rr) lorazepam;
(ss) lovastatin;
(tt) loxapine;
(uu) mandipine;
(vv) metoclopramide;
(ww) metopimazine;
(xx) mexiletine procainamide;
(yy) milnacipran;
(zz) molindone;
(aaa) naproxen;
(bbb) nifedipine;
(ccc) paroxetine;
(ddd) penfluridol;
(eee) perhexiline;
(fff) pethidine;
(ggg) phenelzine;
(hhh) phenylamine;
(iii) phenytoin;
(jjj) pimozone;
(kkk) pirlindone;
(lll) procaine;
(mmm) propiverine;
(nnn) pyridostigmine
(ooo) remoxipride;
(ppp) rivastigmine;
(qqq) sertraline;

- (rrr) sodium valproate (valproic acid);
- (sss) sulpiride;
- (ttt) tacrine;
- (uuu) tetrabenazine;
- (vvv) thiethylperazine;
- (www) thiothixine;
- (xxx) tiapride;
- (yyy) trazodone;
- (zzz) triperidol;
- (aaaa) veralipride;
- (bbbb) verapamil; or
- (cccc) vincristine plus adriamycin;

"acute cholinergic poisoning" means symptoms and signs due to the inhibition of acetylcholinesterase enzyme activity which occur within the twenty-four hours following exposure. These symptoms and signs are acute paralysis, overwhelming bronchial secretions, bradycardia, gastrointestinal distress, miosis, lacrimation or diarrhoea;

"acute cerebral hypoxia" means inadequate oxygenation of the central nervous system, resulting in acute confusional state, clouded consciousness or coma;

"an organophosphorus ester" means an agent used to inhibit acetylcholinesterase, and includes the organophosphate pesticides chlorpyrifos, dichlorvos, EPN, leptophos, methamidophos, mipafox (diisopropyl phosphorofluoridate), omethoate, parathion, TOCP (tri-ortho-cresyl phosphate), trichlorfon and trichloronat;

"being exposed to manganese" means:

- (a) working in the mining or smelting of ores containing manganese;
- (b) welding with rods containing manganese;
- (c) inhaling dust containing manganese; or
- (d) handling fungicides containing manganese;

"cerebral trauma" means:

- (a) a head injury that results in skull fracture;
- (b) a blunt head injury that causes loss of consciousness lasting at least thirty minutes or post-traumatic amnesia lasting at least thirty minutes, or which causes signs or symptoms of brainstem dysfunction; or
- (c) an injury that results in intracranial or brainstem haemorrhage or subdural haematoma;

"death from Parkinson's disease or parkinsonism" in relation to a person includes death from a terminal event or condition that was contributed to by the person's Parkinson's disease or parkinsonism;

"decompensated cirrhosis of the liver" means hepatic cirrhosis with a Child-Pugh score of at least seven or hepatic cirrhosis with end stage liver disease requiring liver transplantation;

"dementia with Lewy bodies" means a clinicopathological entity characterised by progressive dementia with fluctuating cognitive deficits, a parkinsonian syndrome, and visual hallucinations, and evidence of extensive Lewy body formation in the cerebral cortex, substantia nigra and locus coeruleus. It is also known as diffuse Lewy body disease;

"encephalitis lethargica" means a central nervous system disorder, also known as von Economo's disease, that is characterised by sleep disorder, extrapyramidal signs and neuropsychiatric manifestations;

"hydrocephalus" means a condition characterised by dilation of the cerebral ventricles and accompanied by accumulation of excess cerebrospinal fluid within the skull;

"multiple system atrophy" means a primary neurodegenerative disorder associated with alpha-synuclein pathology, and includes:

- (a) motor neuron disease;
- (b) olivopontocerebellar atrophy;
- (c) Shy-Drager syndrome; or
- (d) striatonigral degeneration;

"neurosyphilis" means infection of the central nervous system with *Treponema pallidum*;

"paraquat" is a dipyridilium compound whose dichloride and dimethylsulphate salts are used as contact herbicides;

"relevant service" means:

- (a) operational service under the VEA;
- (b) peacekeeping service under the VEA;
- (c) hazardous service under the VEA;
- (d) warlike service under the MRCA; or
- (e) non-warlike service under the MRCA;

"terminal event" means the proximate or ultimate cause of death and includes:

- (a) pneumonia;
- (b) respiratory failure;
- (c) cardiac arrest;
- (d) circulatory failure; or
- (e) cessation of brain function;

"viral encephalitis" means a viral infection of the brain parenchyma, manifested clinically by acute febrile illness, confusion, behavioural abnormalities, altered level of consciousness, and focal or generalised epileptic seizures, or demonstrated by neuroimaging or laboratory studies.

Application

- 10.** This Instrument applies to all matters to which section 120A of the VEA or section 338 of the MRCA applies.

Date of effect

- 11.** This Instrument takes effect from 9 May 2007.

Dated this **twenty-fourth** day of
April 2007

The Common Seal of the)
Repatriation Medical Authority)
was affixed to this instrument)
in the presence of:)

KEN DONALD
CHAIRPERSON