



Appendix 2

This appendix was part of the submitted manuscript and has been peer reviewed. It is posted as supplied by the authors.

Appendix to: McLeay SC,* Harvey WM,* Romaniuk MNM, et al. Physical comorbidities of post-traumatic stress disorder in Australian Vietnam War veterans. *Med J Aust* 2017; 206: 251-257. doi: 10.5694/mja16.00935.

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Appendix 2. Clinical outcomes by post-traumatic stress disorder (PTSD) diagnosis

A. Binary variables: all expressed as number of participants (percentage of group)

Outcome	No PTSD	PTSD	Odds ratio (95% CI)	<i>P</i>	False discovery rate
Number of participants	106	108			
Self-reported history					
Cardiovascular					
Myocardial infarction	4 (4%)	16 (15%)	4.43 (1.43–13.7)	0.006	0.12
Coronary artery intervention	14 (13%)	16 (15%)	1.14 (0.53–2.48)	0.74	0.88
Heart valve surgery	0	3 (3%)	NA	0.085	0.35
Pacemaker or defibrillator implanted	2 (2%)	2 (2%)	0.98 (0.14–7.1)	0.98	0.99
Diagnosed heart failure	1 (1%)	3 (3%)	3.00 (0.31–29.3)	0.32	0.63
Irregular heart rhythm	17 (16%)	20 (18%)	1.19 (0.58–2.42)	0.63	0.84
Hypertension	57 (54%)	53 (49%)	0.83 (0.48–1.42)	0.49	0.73
High cholesterol or dyslipidaemia	57 (54%)	67 (62%)	1.40 (0.81–2.42)	0.22	0.54
Angina or chest pain during exercise	11 (10%)	10 (9%)	0.88 (0.36–2.17)	0.78	0.90
Stroke or transient ischaemic attack	6 (6%)	11 (10%)	1.89 (0.67–5.31)	0.22	0.54
Known abdominal aortic aneurysm	4 (4%)	1 (1%)	0.24 (0.03–2.17)	0.17	0.48
Diagnosed heart valve problems or heart murmur	5 (5%)	10 (9%)	2.04 (0.67–6.19)	0.20	0.52
Peripheral vascular disease	6 (6%)	9 (8%)	1.52 (0.52–4.42)	0.44	0.70
Past deep vein thrombosis or pulmonary embolus	8 (8%)	12 (11%)	1.53 (0.60–3.91)	0.37	0.67
Leg swelling	18 (17%)	21 (19%)	1.18 (0.59–2.37)	0.64	0.84
Respiratory					
Diagnosed asthma	21 (20%)	23 (21%)	1.10 (0.56–2.13)	0.79	0.90
Diagnosed chronic obstructive pulmonary disease	6 (6%)	12 (11%)	2.08 (0.75–5.77)	0.15	0.46
History of pneumonia	17 (16%)	26 (24%)	1.66 (0.84–3.28)	0.14	0.46
Pneumothorax	2 (2%)	5 (5%)	2.52 (0.48–13.3)	0.26	0.57
Diagnosed fibrotic lung disease	0	3 (3%)	NA	0.085	0.35

Chronic bronchitis	11 (10%)	13 (12%)	1.18 (0.50–2.77)	0.70	0.88
Bronchiectasis	2 (2%)	1 (1%)	0.49 (0.04–5.44)	0.55	0.79
Tuberculosis	2 (2%)	0	NA	0.15	0.46
Pleural plaques	1 (1%)	1 (1%)	0.98 (0.06–15.9)	0.99	0.99
Vocal cord dysfunction	4 (4%)	5 (5%)	1.24 (0.32–4.74)	0.76	0.89
Cardiorespiratory					
Chronic cough	14 (13%)	20 (18%)	1.49 (0.71–3.14)	0.29	0.61
Symptomatic wheeze	15 (14%)	27 (25%)	2.02 (1.01–4.07)	0.046	0.28
Shortness of breath when exercising	18 (17%)	34 (31%)	2.25 (1.17–4.3)	0.014	0.17
Cancer					
Gastrointestinal cancer	1 (1%)	2 (2%)	1.98 (0.18–22.2)	0.57	0.81
Melanoma	12 (11%)	18 (17%)	1.57 (0.71–3.44)	0.26	0.57
Basal cell carcinoma or squamous cell carcinoma	59 (56%)	45 (42%)	0.57 (0.33–0.98)	0.041	0.27
Prostate cancer	13 (12%)	6 (6%)	0.42 (0.15–1.15)	0.085	0.35
Bladder or kidney cancer	3 (3%)	3 (3%)	0.98 (0.19–4.97)	0.98	0.99
Bowel cancer	2 (2%)	2 (2%)	0.98 (0.14–7.1)	0.98	0.99
Any other cancer	3 (3%)	2 (2%)	0.65 (0.11–3.96)	0.64	0.84
Liver					
History of increased liver enzyme tests	15 (14%)	16 (15%)	1.06 (0.49–2.26)	0.89	0.97
History of jaundice	4 (4%)	8 (7%)	2.04 (0.60–6.99)	0.25	0.57
Known fatty liver	4 (4%)	15 (14%)	4.11 (1.32–12.8)	0.01	0.16
Known hemochromatosis	5 (5%)	3 (3%)	0.58 (0.13–2.48)	0.46	0.71
Gastrointestinal					
Diagnosed gastroesophageal reflux	49 (46%)	74 (68%)	2.53 (1.45–4.42)	0.001	0.048
History of peptic ulcers	12 (11%)	31 (29%)	3.15 (1.52–6.55)	0.001	0.048
Pancreatitis	3 (3%)	5 (5%)	1.67 (0.39–7.16)	0.49	0.73
Diverticular disease	18 (17%)	26 (24%)	1.55 (0.79–3.04)	0.2	0.52
Irritable bowel syndrome	12 (11%)	26 (24%)	2.48 (1.18–5.23)	0.015	0.17
Coeliac disease	2 (2%)	0	NA	0.15	0.46
Constipation	1 (1%)	8 (7%)	8.4 (1.03–68.4)	0.019	0.17
Diarrhoea	2 (2%)	6 (6%)	3.06 (0.60–15.5)	0.16	0.46
Endocrine					

History of diagnosed diabetes mellitus	22 (21%)	19 (18%)	0.815 (0.41–1.61)	0.56	0.80
Pituitary conditions	0	1 (1%)	NA	0.32	0.63
Osteoporosis	10 (9%)	7 (6%)	0.66 (0.24–1.82)	0.43	0.68
History of low testosterone	7 (7%)	16 (15%)	2.46 (0.97–6.25)	0.053	0.30
Kidney					
Diagnosed history of kidney disease or poor kidney function	22 (21%)	27 (25%)	1.26 (0.66–2.39)	0.48	0.73
Immune					
Allergies	35 (33%)	42 (39%)	1.29 (0.74–2.26)	0.37	0.67
Hay fever	31 (29%)	33 (31%)	1.06 (0.59–1.91)	0.83	0.95
Psoriasis	9 (8%)	13 (12%)	1.47 (0.60–3.61)	0.39	0.67
Vitiligo	0	3 (3%)	NA	0.085	0.35
Autoimmune disease	8 (8%)	10 (9%)	1.25 (0.47–3.3)	0.65	0.84
Neurological					
History of any seizures (including epilepsy)	0	4 (4%)	NA	0.046	0.28
Headaches (any type)	21 (20%)	35 (32%)	1.94 (1.04–3.63)	0.037	0.27
Migraines	4 (4%)	4 (4%)	0.98 (0.24–4.03)	0.98	0.99
Neuropathy	29 (27%)	37 (34%)	1.38 (0.77–2.48)	0.28	0.59
Other neurological condition	15 (14%)	13 (12%)	0.83 (0.37–1.84)	0.65	0.84
Sleep					
Diagnosed apnoea	22 (21%)	46 (43%)	2.83 (1.55–5.19)	< 0.001	0.048
High risk Berlin category for OSA	44 (41%)	72 (67%)	2.82 (1.62–4.91)	< 0.001	0.035
Restless legs	27 (25%)	50 (46%)	2.52 (1.42–4.50)	0.001	0.048
Pain					
Regular pain	46 (43%)	59 (55%)	1.57 (0.92–2.69)	0.10	0.39
Osteoarthritis	50 (47%)	62 (57%)	1.51 (0.88–2.59)	0.13	0.46
Skin					
Eczema	14 (13%)	15 (14%)	1.07 (0.49–2.35)	0.86	0.95
Urticaria	10 (9%)	21 (19%)	2.32 (1.03–5.19)	0.038	0.27
Skin ulcers	10 (9%)	11 (10%)	1.09 (0.44–2.68)	0.85	0.95
Other skin problems	10 (9%)	14 (13%)	1.43 (0.60–3.38)	0.41	0.68
Eyes					
Known cataracts	33 (31%)	40 (37%)	1.3 (0.74–2.29)	0.36	0.67

Known macular degeneration	3 (3%)	6 (6%)	2.02 (0.49–8.29)	0.32	0.63
Known glaucoma	9 (8%)	11 (10%)	1.22 (0.48–3.08)	0.67	0.85
Deteriorating vision	17 (16%)	23 (21%)	1.42 (0.71–2.84)	0.32	0.63
Other eye problems	18 (17%)	21 (19%)	1.18 (0.59–2.37)	0.64	0.84
Ears/hearing					
Hearing loss	64 (60%)	82 (76%)	2.07 (1.15–3.73)	0.015	0.17
Tinnitus	52 (49%)	55 (51%)	1.08 (0.63–1.84)	0.79	0.90
Measured parameters					
Electrocardiography					
Abnormal electrocardiogram	70 (66%)	75 (69%)	1.17 (0.66–2.07)	0.59	0.83
Abdominal ultrasound					
Abnormal liver texture	17 (16%)	34 (31%)	2.38 (1.23–4.60)	0.009	0.16
Splenomegaly	7 (7%)	10 (9%)	1.43 (0.52–3.91)	0.49	0.73
Abnormal liver echogenicity	57 (54%)	71 (66%)	1.62 (0.93–2.81)	0.089	0.35
Liver lesions (cyst, haemangioma, other)	22 (21%)	16 (15%)	0.66 (0.32–1.33)	0.24	0.57
Ascites	2 (2%)	2 (2%)	0.97 (0.13–7.03)	0.98	0.99
Varices	4 (4%)	2 (2%)	0.48 (0.08–2.66)	0.39	0.67
Pathology					
Anti-nuclear antibodies (ANA) \geq 80	16 (15%)	23 (21%)	1.52 (0.75–3.08)	0.24	0.57
Smooth muscle antibodies (SMA-V)	0	1 (1%)	NA	0.32	0.63
Smooth muscle antibodies (SMA-T)	1 (1%)	1 (1%)	0.98 (0.06–15.9)	0.99	0.99

B. Continuous variables: all expressed as mean (SD)

Outcome	No PTSD	PTSD	Difference of means (95% CI)	P	False discovery rate
Number of participants	106	108			
Cardiovascular					
Systolic blood pressure (mmHg), mean (SD)	143 (17.8)	141 (17.4)	-2.02* (-6.65 to 2.60)	0.39	0.67
Diastolic blood pressure (mmHg), mean (SD)	80 (8.9)	80 (8.5)	-0.03* (-2.36 to 2.30)	0.98	0.99
Respiratory system					
FEV1% predicted, mean (SD)	87.1% (16.8)	81.8% (16.8)	-5.35 (-9.89 to -0.80)	0.021	0.18
FVC% predicted, mean (SD)	94.5% (14.3)	89.6% (15.8)	-4.93 (-8.99 to -0.87)	0.018	0.17
FEV1/FVC, mean (SD)	0.722 (0.086)	0.716 (0.091)	-0.005 (-0.029 to 0.019)	0.67	0.85
Liver					
Transient elastography (kPa), mean (SD)	4.91 (1.48)	5.11 (1.69)	0.20 (-0.29 to 0.68)	0.42	0.68
Abdominal ultrasound					
Liver size (mm), mean (SD)	136 (28.5)	139 (25.3)	3.58 (-3.71 to 10.9)	0.33	0.63
Spleen size (mm), mean (SD)	102 (19.2)	102 (18.1)	0.47 (-4.59 to 5.53)	0.85	0.95
Pathology					
Sodium (mmol/L), mean (SD)	140 (2.25)	140 (2.47)	-0.28 (-0.91 to 0.36)	0.39	0.67
Potassium (mmol/L), mean (SD)	4.70 (3.67)	4.35 (0.33)	-0.35 (-1.06 to 0.36)	0.33	0.63
Chloride (mmol/L), mean (SD)	105 (2.31)	105 (2.82)	-0.46 (-1.16 to 0.23)	0.19	0.51
Bicarbonate (mmol/L), mean (SD)	26.5 (2.03)	26.0 (2.4)	-0.46 (-1.06 to 0.14)	0.13	0.46
Anion gap (mmol/L), mean (SD)	7.96 (1.78)	8.64 (2.33)	0.68 (0.12-1.24)	0.018	0.17
Calcium, corrected (mmol/L), mean (SD)	2.38 (0.08)	2.38 (0.07)	-0.00 (-0.02 to 0.02)	0.98	0.99
Phosphate (mmol/L), mean (SD)	1.05 (0.15)	1.01 (0.14)	-0.03 (-0.07 to 0.00)	0.078	0.35
Urea (mmol/L)	6.19 (2.46)	6.28 (2.03)	0.09 (-0.52 to -0.70)	0.76	0.89
Uric acid (mmol/L)	0.383 (0.0779)	0.386 (0.087)	0.003 (-0.019 to 0.026)	0.76	0.89
Creatinine (μmol/L)	88.8 (37.8)	92.9 (27)	4.96 [†] (1.00-1.12 [†])	0.68 [†]	0.33
Estimated glomerular filtration rate (mL/min/1.73m ²)	78.3 (13.7)	75.0 (14.5)	-3.27 (-7.08 to 0.53)	0.027 [†]	0.21
Fasting glucose (mmol/L)	5.92 (1.12)	6.14 (1.88)	0.27* (-0.09 to 0.63 [†])	0.14 [†]	0.46

Total protein (g/L)	70.8 (4.02)	71.3 (4.39)	0.57 (-0.57 to 1.70)	0.32	0.63
Albumin (g/L)	44.0 (2.24)	43.9 (2.52)	-0.111 (-0.753-0.53)	0.73	0.88
Globulin (g/L)	26.7 (3.14)	27.4 (3.5)	0.671 (-0.224-1.57)	0.14	0.46
Bilirubin (µmol/L)	15.2 (5.87)	13.9 (7.94)	-1.27 (-3.15 to 0.61)	0.18	0.50
Alkaline phosphatase (U/L)	72.5 (22.2)	76.2 (36.2)	3.63 (-4.45 to 11.7)	0.38	0.67
Aspartate aminotransferase (AST) (U/L)	23.6 (7.66)	25.8 (9)	2.13 (-0.12 to 4.38)	0.064	0.33
Alanine aminotransferase (ALT) (U/L)	26.3 (13)	28.6 (11.8)	2.30 (-1.04 to 5.64)	0.18	0.49
γ-Glutamyl transferase (GT) (U/L)	35.0 (25.9)	42.9 (38.9)	7.83 (-1.06 to 16.7)	0.084	0.35
Lactate dehydrogenase (LDH) (U/L)	187 (34.8)	185 (34.4)	-1.64 (-11.0 to 7.68)	0.73	0.88
Cholesterol (mmol/L)	4.93 (1.14)	4.77 (1.15)	-0.19* (-0.46 to 0.07)	0.16 [†]	0.46
Triglycerides (mmol/L)	1.38 (0.57)	1.66 (1.16)	0.28* (0.03-0.53)	0.026 [†]	0.21
High density lipoprotein (mmol/L)	1.31 (0.34)	1.24 (0.46)	-0.08* (-0.18 to 0.03)	0.18 [†]	0.49
Low density lipoprotein (mmol/L)	2.98 (1.05)	2.82 (1.03)	-0.19* (-0.43 to 0.05)	0.11 [†]	0.43
C-reactive protein (mg/L)	2.81 (4.89)	3.43 (5.27)	0.44 [†] (0.98-1.69 [†])	0.066 [†]	0.33
Free T4 (pmol/L)	12.1 (1.4)	12.4 (1.61)	0.31 (-0.10 to 0.72)	0.13	0.46
Thyroid-stimulating hormone (mIU/L)	1.75 (0.987)	1.69 (1.22)	-0.16 [†] (0.75-1.07 [†])	0.22 [†]	0.54
Oestradiol (pmol/L)	93.4 (33.3)	96.6 (37.7)	2.48 [†] (0.932-1.13 [†])	0.58 [†]	0.81
Prolactin (mIU/L)	153 (66.5)	187 (121)	18.2 [†] (0.997-1.28 [†])	0.056 [†]	0.31
Troponin T	9.57 (6.28)	11.4 (14.8)	1.83 (-1.23-4.89)	0.24	0.57
HbA _{1c} (NGSP) (%)	5.67 (0.783)	5.73 (0.993)	0.09* (-0.12 to 0.30)	0.4 [†]	0.68
Testosterone (nmol/L)	15.7 (6.46)	16.2 (7.6)	0.07* (-1.77 to 1.92)	0.94 [†]	0.99
Sex hormone-binding globulin (SHBG) (nmol/L)	47.4 (20.7)	48.2 (23.3)	-0.04 [†] (0.89-1.13 [†])	0.99 [†]	0.99
Cortisol am (nmol/L)	350 (105)	363 (128)	7.41 [†] (0.93-1.12 [†])	0.64 [†]	0.84
International normalised ratio (INR)	1.09 (0.206)	1.11 (0.285)	0.007 [†] (0.967-1.05 [†])	0.75 [†]	0.89
Activated partial thromboplasmin time (APTT) (s)	29.1 (3.43)	28.7 (3.88)	-0.43 (-1.42-0.56)	0.39	0.67
Fibrinogen (s)	3.05 (0.559)	3.1 (0.649)	0.038 [†] (0.961-1.07 [†])	0.63 [†]	0.84
Iron (µmol/L)	19.9 (13.7)	19.9 (27.8)	-1.41 [†] (0.83-1.03 [†])	0.15 [†]	0.46
Total iron binding capacity (TIBC) (µmol/L)	57.7 (7.28)	57.7 (8.47)	-0.02 (-2.15 to 2.10)	0.98	0.99
Saturation (%)	32.8 (12.3)	31 (11.6)	-1.80 (-5.02 to 1.42)	0.27	0.59
Ferritin (µg/L)	231 (214)	247 (365)	-7.01 [†] (0.75-1.22 [†])	0.72 [†]	0.88
Haemoglobin (g/L)	149 (13.1)	147 (12.5)	-1.2 (-4.7 to 2.2)	0.48	0.73
Haematocrit	0.439 (0.034)	0.433 (0.033)	-0.0055 [†] (0.966-1.01 [†])	0.26 [†]	0.57

FEV1 = forced one second; capacity; NA = not * Accounts for medications (see table 2). transformed 95% CI = ratio of means. ‡ Non-(Mann-Whitney); consideration of all (FDR shaded: significant at 10%). reported for group are not table.

Red cell count (10 ¹² /L)	4.87 (0.48)	4.82 (0.48)	-0.05 (-0.18 to 0.08)	0.44	0.7
Mean cell volume (fL)	90.5 (4.63)	90.2 (4.82)	-0.25 (-1.52 to 1.02)	0.7	0.88
White cell count (10 ⁹ /L)	6.38 (1.75)	6.61 (1.97)	0.205 [†] (0.955-1.12 [†])	0.41 [†]	0.68
Neutrophils (10 ⁹ /L)	3.75 (1.43)	3.86 (1.47)	0.12 [†] (0.934-1.15 [†])	0.51 [†]	0.75
Lymphocytes (10 ⁹ /L)	1.81 (0.50)	1.93 (0.72)	0.0633 [†] (0.949-1.13 [†])	0.43 [†]	0.68
Monocytes (10 ⁹ /L)	0.563 (0.197)	0.56 (0.193)	0.00474 [†] (0.912-1.12 [†])	0.86 [†]	0.95
Eosinophils (10 ⁹ /L)	0.21 (0.15)	0.209 (0.14)	0.00601 [†] (0.848-1.27 [†])	0.72 [†]	0.88
Basophils (10 ⁶ /L)	39.7 (25.2)	33.5 (19.8)	-6.09 [†] (0.988-1.00 [†])	0.047 [†]	0.28
Platelets (10 ⁹ /L)	213 (50.4)	213 (57.2)	0.477 (-14.1 to 15.0)	0.95	0.99
α ₁ -Antitrypsin (g/L)	1.24 (0.20)	1.31 (0.22)	0.07 (0.01-0.13)	0.016	0.17
Caeruloplasmin (g/L)	0.233 (0.032)	0.248 (0.041)	0.015 (0.005-0.025)	0.003	0.072
Cognition					
Montreal Cognitive Assessment score	26.6 (2.2)	26.0 (2.6)	-0.61 (-1.27 to 0.04)	0.066	0.33
Sleep					
Epworth sleepiness score	7.6 (4.0)	9.2 (5.7)	1.6 (0.3-2.9)	0.018	0.17
Coronary artery calcium score	(n = 105)	(n = 107)		0.53	0.77
0-10	18 (17.1%)	26 (24.4%)			
> 10-100	25 (23.8%)	21 (19.6%)			
> 100-300	23 (21.9%)	21 (19.6%)			
> 300	26 (24.8%)	21 (19.6%)			
Known coronary artery disease	13 (12.4%)	18 (16.8%)			

expiratory volume in FVC = forced vital applicable. confounding online Appendix 1, † Comparison of log-distributions, with log-transformed parametric test FDR calculated with tests performed statistically Conditions not participants in either included in this