



Australian Government

Repatriation Medical Authority

REPATRIATION MEDICAL AUTHORITY

STATEMENT OF REASONS

**RE: DECISION NOT TO MAKE STATEMENTS OF PRINCIPLES FOR
POSTCONCUSSION SYNDROME**

Part I	Introduction.....	3
Part II	Background to the Investigation.....	3
Part III	Submissions received by the Authority pursuant to section 196F.....	4
Part IV	Evidence/Information Available to the Repatriation Medical Authority.....	4
Part V	Disease and injury.....	5
Part VI	Reasons for the decision.....	6
	Traumatic Brain Injury.....	6
	Definition of mild traumatic brain injury.....	6
	Short term effects of MTBI.....	7
	Findings of studies of longer term health outcomes following MTBI.....	8
	Symptoms following MTBI.....	8
	Use of the term "postconcussion syndrome".....	9
	Research using the term "postconcussion syndrome".....	9
	Other methodological issues in studying long term effects of MTBI.....	10
	Symptoms may persist for other reasons.....	11
	Postconcussion symptoms overlap with PTSD.....	11
	Conclusions.....	12
	Current relevant Statements of Principles.....	12
Part VII	Decision.....	12
Part VIII	Bibliography.....	14

PART I INTRODUCTION

1. The Repatriation Medical Authority (the Authority) has decided to revoke and reissue Statements of Principles in respect of physical injury due to munitions discharge under subsections 196B (2) and (8) or (3) and (8) of the *Veterans' Entitlements Act 1986* (the Act), following notice of an investigation into physical injury due to munitions discharge gazetted on 30 June 2010 in the *Commonwealth of Australia Gazette*.
2. The Authority has decided to make Statements of Principles under subsections 196B (2) or (3) of the Act in respect of concussion and moderate to severe traumatic brain injury, following notice of an investigation into traumatic brain injury gazetted on 14 December 2011 in the *Commonwealth of Australia Gazette*.
3. The Authority has decided not to make Statements of Principles under subsections 196B (2) or (3) of the Act in respect of postconcussion syndrome, following notice of an investigation into postconcussion syndrome gazetted on 9 May 2012 in the *Commonwealth of Australia Gazette*.
4. The Authority declares that postconcussion syndrome is not a disease or injury for the purposes of the Act and hence is not a condition for which a Statement of Principles could be determined.

PART II BACKGROUND TO THE INVESTIGATION

5. In June 2010 the Authority, acting on its own initiative, notified its intention to carry out an investigation concerning physical injury due to munitions discharge, in accordance with s.196G(1) of the Act. An investigation notice was placed in the *Commonwealth of Australia Gazette* on 30 June 2010.
6. In December 2011 the Authority, acting on its own initiative, notified an investigation to ascertain if Statements of Principles concerning traumatic brain injury (TBI) could be determined, in accordance with s.196G(1) of the Act. An investigation notice was placed in the *Commonwealth of Australia Gazette* on 14 December 2011.
7. In April 2012 the Authority, acting on its own initiative, notified an investigation to ascertain if Statements of Principles concerning postconcussion syndrome could be determined, in accordance with s.196G(1) of the Act. This investigation was conducted in conjunction with the investigation in respect of TBI. An investigation notice was placed in the *Commonwealth of Australia Gazette* on 9 May 2012.
8. These investigations were undertaken as part of a comprehensive review of matters relating to TBI.

PART III SUBMISSIONS RECEIVED BY THE AUTHORITY PURSUANT TO SECTION 196F

9. Following notification of its investigation, the Authority received five submissions from persons or organisations eligible to make submissions pursuant to s.196F of the Act as follows:
- (a) A submission dated 14 March 2012 from a senior representative of an ex-service organisation. The submission consisted of a range of documents, including reports, fact sheets, book titles, published articles and lists of references. The material was reviewed and information that appeared likely to be relevant sound medical-scientific evidence was obtained for the purposes of the investigation.
 - (b) A letter dated March 2012 from the Surgeon General Australian Defence Force, providing statistics on numbers of cases of TBI in the Defence Forces.
 - (c) A letter dated 30 March 2012 from the President of the Repatriation Commission. The letter stated that there would be an examination of current practices for claims relating to TBI and mild traumatic brain injury (MTBI).
 - (d) A letter dated 25 June 2012 from the President of the Repatriation Commission, providing the information promised in the letter of 30 March.
 - (e) A letter dated 25 July 2012 from a veteran concerning symptoms experienced after exposure to artillery fire.

PART IV EVIDENCE/INFORMATION AVAILABLE TO THE REPATRIATION MEDICAL AUTHORITY

10. The following information was available to the Authority.
- (a) Submissions and correspondence as detailed in Part III above.
 - (b) A literature search conducted on PubMed in December 2011 using the search terms "mild traumatic brain injury" and "traumatic brain injury": mild[All Fields] AND ("brain injuries"[MeSH Terms] OR ("brain"[All Fields] AND "injuries"[All Fields]) OR "brain injuries"[All Fields] OR ("traumatic"[All Fields] AND "brain"[All Fields] AND "injury"[All Fields]) OR "traumatic brain injury"[All Fields]. The search was updated in March 2012 to identify any further recent relevant articles. A further search using the term "postconcussion syndrome" identified similar articles to those identified in the search above. Articles were selected based on relevance, study quality, reliability and journal authority. In particular, recent reviews and meta-analyses were sought. The above search was supplemented by specific searches for "traumatic brain injury" or "postconcussion syndrome" and various factors of interest, internet searches, manual searches of reference lists and extracts from relevant sections of textbooks or reports.
 - (c) Medical or scientific publications as set out in the bibliography attached hereto.

- (d) A briefing paper prepared for presentation to the Authority by a research officer of the Secretariat.

PART V DISEASE AND INJURY

11. The Authority determines Statements of Principles where there is sound medical scientific evidence that, "a particular kind of injury, disease or death" is relevantly related to service¹.

12. Section 5D of the Act defines disease and injury relevantly as follows:

disease means:

- (a) any physical or mental ailment, disorder, defect or morbid condition (whether of sudden onset or gradual development); or
- (b) the recurrence of such an ailment, disorder, defect or morbid condition;

but does not include:

- (c) the aggravation of such an ailment, disorder, defect or morbid condition; or
- (d) a temporary departure from:
 - (i) the normal physiological state; or
 - (ii) the accepted ranges of physiological or biochemical measures;

that results from normal physiological stress (for example, the effect of exercise on blood pressure) or the temporary effect of extraneous agents (for example, alcohol on blood cholesterol levels);

[and]

injury means any physical or mental injury (including the recurrence of a physical or mental injury) but does not include:

- (a) a disease; or
- (b) the aggravation of a physical or mental injury.

13. The proper meaning of what constitutes a disease or injury for the purposes of determining a Statement of Principles under the Act is to be determined by the Authority. In considering these terms, the Authority had regard to ordinary dictionary definitions, medical dictionaries, and its expert knowledge. In determining whether a condition is a disease as defined, the Authority is entitled to have regard to the connotations of the word 'disease' as used and understood in its ordinary meaning.²

¹ See s196B(2) & (3) of the Act.

² *Comcare v Mooi* (1996) 42 ALD 495.

14. Being familiar with the ordinary English meanings of the terms that are used in section 5D, the Authority considered whether postconcussion syndrome was "a particular kind of injury, disease or death" within the ordinary meaning of those terms.
15. In particular the Authority applied the ordinary meaning of those terms to its consideration of whether postconcussion syndrome is a disease. It also relied upon its expert medical knowledge and had regard to internationally agreed concepts in considering whether postconcussion syndrome may represent a disease state.

PART VI REASONS FOR THE DECISION

16. The sound medical-scientific evidence available to the Authority led to the following considerations.

Traumatic Brain Injury

17. TBI can be classified as mild, moderate or severe and also as closed or penetrating. Most (70-90%) brain injuries are mild.³ The terms "mild traumatic brain injury" and "concussion" are generally used interchangeably. Like moderate and severe traumatic brain injury, concussion is an acute injury. Causes of TBI include falls, motor vehicle collisions, assault and blast exposure.

Definition of mild traumatic brain injury

18. The literature uses a wide range of definitions for MTBI, commonly involving a combination of the following: Glasgow Coma Scale score of varying cut-off levels, loss of consciousness (unspecified or varying length), post-traumatic amnesia (unspecified or varying length), absence or presence of neurological findings or seizures or skull fractures, and normal imaging.
19. Standardised definitions of MTBI have recently been developed and are being used in newer research. Two common definitions are as follows.

Australian Defence Force - MTBI

20. The Australian Defence Force⁴ defines MTBI as normal structural imaging, with at least one of the following:
 - (a) loss of consciousness from 0 to 30 minutes;
 - (b) alteration of consciousness from a moment up to 24 hours;
 - (c) post-traumatic amnesia up to 24 hours; or
 - (d) a Glasgow Coma Scale score of 13 to 15.

³ Holm L, Cassidy JD, Carroll LJ, Borg J (2005). Summary of the WHO Collaborating Centre for Neurotrauma Task Force on mild traumatic brain injury. *J Rehabil Med*, 37: 137-41.

⁴ Department of Defence (2012) Health Directive 293, Management of Mild Traumatic Brain Injury in Australian Defence Force Members, 7 February 2012.

21. The WHO Task force definition⁵ states that:

"MTBI is an acute brain injury resulting from mechanical energy to the head from external physical forces.

Operational criteria for clinical identification include:

(i) 1 or more of the following: confusion or disorientation, loss of consciousness for 30 minutes or less, post-traumatic amnesia for less than 24 hours, and/or other transient neurological abnormalities such as focal signs, seizure, and intracranial lesion not requiring surgery; and

(ii) Glasgow Coma Scale score of 13–15 after 30 minutes post-injury or later upon presentation for health care.

These manifestations of MTBI must not be due to drugs, alcohol, medications, caused by other injuries or treatment for other injuries (e.g. systemic injuries, facial injuries or intubation), caused by other problems (e.g. psychological trauma, language barrier or coexisting medical conditions) or caused by penetrating craniocerebral injury."

Short term effects of MTBI

22. Symptoms experienced immediately after a MTBI can include confusion, disorientation, slowed thinking, difficulty concentrating, loss of memory, weakness, dizziness, loss of balance, blurred vision, drowsiness, feeling foggy, sensitivity to noise, irritability, headache and nausea.^{6 7}

Reversible cognitive deficits

23. Paper-based and computer-based neuropsychological tests have been used to assess the effects of concussion in military and civilian populations.
24. A meta-analysis revealed no residual neuropsychological impairment on the basis of such tests by 3 months after a non-sports related concussion using data from unselected or prospective samples.⁸ A meta-analysis on concussion in sport demonstrated recovery after a concussion within 7 days.⁹ Reversibility of cognitive

⁵ Carroll LJ, Cassidy JD, Holm L, Kraus J, Coronado VG (2004). Methodological issues and research recommendations for mild traumatic brain injury: the WHO Collaborating Centre Task Force on mild traumatic brain injury. *J Rehabil Med, Suppl* 43: 113-25.

⁶ Ponsford J, Cameron P, Fitzgerald M, Grant M, Mikocka-Walus A. (2011) Long-term outcomes after uncomplicated mild traumatic brain injury: a comparison with trauma controls. *J Neurotrauma*. 2011 Jun;28(6):937-46.

⁷ Department of Defense and Department of Veterans Affairs (2008). "Traumatic Brain Injury Task Force". Available at: <http://www.cdc.gov/nchs/data/icd9/Sep08TBI.pdf>. Accessed 12-12-11.

⁸ Belanger HG, Curtiss G, Demery JA, Lebowitz BK, Vanderploeg RD. (2005) Factors moderating neuropsychological outcomes following mild traumatic brain injury: a meta-analysis. *J Int Neuropsychol Soc. May*;11(3):215-27.

⁹ Belanger HG, Vanderploeg RD. (2005) The neuropsychological impact of sports-related concussion: a meta-analysis. *J Int Neuropsychol Soc. Jul*;11(4):345-57.

deficits was demonstrated in a US military group within the first 5 to 10 days post injury.¹⁰

25. Although the mechanism of primary blast injury may be distinct from other mechanisms of injury, those with blast injury do not differ from those with other causes of MTBI in results of neuropsychological testing.¹¹

Recovery from symptoms

26. A WHO review concluded that, "there is consistent and methodologically sound evidence that children's prognosis after MTBI is good, with resolution of MTBI-specific symptoms within 2 or 3 months after MTBI and little evidence of residual cognitive, behavioural or academic deficits...For adults, cognitive deficits and symptoms after MTBI are common in the acute stage, and the majority of studies report recovery for most within 3 to 12 months."¹²

Multiple concussions

27. There have been concerns about greater effects from multiple concussions, but studies of athletes have found no difference in neuropsychological test results in those with multiple concussions compared to single concussions.^{13 14}

Findings of studies of longer term health outcomes following MTBI

Symptoms following MTBI

28. A number of studies have examined the possibility that there may be health consequences of MTBI beyond the immediate period of the injury, including a range of symptoms.
29. Commonly reported symptoms overlap with those of acute MTBI and include headache, dizziness, fatigue, irritability, difficulty in concentration and performing mental tasks, impairment of memory, insomnia, anxiety, depression, apathy and change in personality.
30. In a review of the long term consequences of traumatic brain injury, the Institute of Medicine (2009) concluded that there is evidence of an association between sustaining a TBI and the development of the above types of symptoms.¹⁵

¹⁰ Coldren RL, Russell ML, Parish RV, Dretsch M, Kelly MP. (2012) The ANAM lacks utility as a diagnostic or screening tool for concussion more than 10 days following injury. *Mil Med.* Feb;177(2):179-83

¹¹ Belanger HG, Kretzmer T, Yoash-Gantz R, Pickett T, Tupler LA. (2009) Cognitive sequelae of blast-related versus other mechanisms of brain trauma. *J Int Neuropsychol Soc.* Jan;15(1):1-8.

¹² Holm L, Cassidy JD, Carroll LJ, Borg J (2005). Summary of the WHO Collaborating Centre for Neurotrauma Task Force on mild traumatic brain injury. *J Rehabil Med*, 37: 137-41.

¹³ Belanger HG, Spiegel E, Vanderploeg RD. (2010) Neuropsychological performance following a history of multiple self-reported concussions: a meta-analysis. *J Int Neuropsychol Soc.* Mar;16(2):262-7.

¹⁴ Casson IR, Pellman EJ, Viano DC (2008). Concussion in the national football league: an overview for neurologists. *Neurol Clin*, 26: 217-41.

¹⁵ Institute of Medicine (2009). *Gulf War and Health. Long-Term Consequences of Traumatic Brain Injury, Volume 7.* National Academy Press, Washington, D.C.

Use of the term "postconcussion syndrome"

31. A group of symptoms occurring after an MTBI has been collectively termed "postconcussion syndrome".
32. There is inconsistency in the definition and use of this term, with some clinicians and researchers using it to describe any combination of one or more symptoms experienced at any time point after an MTBI, while others use it to describe persistent complaints after an MTBI that individuals attribute to that injury event.¹⁶

ICD-10 and DSM-IV definitions

33. The authoritative manual on mental disorders, DSM-IV, has proposed a definition of "postconcussional disorder", for research purposes only. This means that there is not yet a consensus amongst experts that an actual disorder exists.
34. ICD-10, the international system for disease classification, has included a definition of "postconcussional syndrome", although the accompanying guidelines indicate that this syndrome is not well defined as a disease.
35. A review by the WHO Collaborating Centre Task Force on MTBI¹⁷ concluded that the proposed injury severity thresholds in DSM-IV and ICD-10 are not generally supported by the available research.

Research using the term "postconcussion syndrome"

36. Despite these methodological issues, researchers have investigated whether or not there are long term effects of MTBI using the ICD-10 or DSM-IV working definitions of "postconcussion syndrome".
37. In two studies of healthy populations who had not experienced a traumatic brain injury, 59%¹⁸ and 80%¹⁹ of subjects respectively met symptom criteria for postconcussion syndrome.
38. In studies without comparison groups, a proportion of patients classified as having MTBI report that they experience somatic and cognitive symptoms (as opposed to objectively measured cognitive deficits) beyond the immediate period of the injury. Estimates of prevalence vary, but about 15 to 30% of people with MTBI report symptoms persisting beyond 3 months.²⁰

¹⁶ Silver J, McAllister T, Yudofsky S (eds) (2011) Textbook of Traumatic Brain Injury, 2nd Edition, Chapter 15 Mild Brain injury, American Psychiatric Publishing Inc, Washington DC.

¹⁷ Carroll LJ, Cassidy JD, Peloso PM, Borg J, et al (2004). Prognosis for mild traumatic brain injury: results of the WHO Collaborating Centre Task Force on mild traumatic brain injury. J Rehabil Med, Suppl 43: 84-105.

¹⁸ Garden N, Sullivan KA, Lange RT. (2010) The relationship between personality characteristics and post-concussion symptoms in a nonclinical sample. Neuropsychology. Mar;24(2):168-75.

¹⁹ Iverson GL, Lange RT. (2003) Examination of "post-concussion-like" symptoms in a healthy sample. Appl Neuropsychol.;10(3):137-44.

²⁰ Hou R, Moss-Morris R, Peveler R, Mogg K, Bradley BP, Belli A. (2011) When a minor head injury results in enduring symptoms: a prospective investigation of risk factors for postconcussional syndrome after mild traumatic brain injury. J Neurol Neurosurg Psychiatry. Oct 25.

39. More interpretable findings come from prospective studies which use comparison groups, especially those with comparison groups made up of subjects with trauma other than brain injuries. This type of study design accounts for background rates of symptoms and controls for the mental health related effects of trauma.
40. In a prospective cohort study of patients with MTBI compared to non-brain injured trauma controls, there was no significant difference between the groups in the proportion classified as having postconcussion syndrome, either acutely (within 14 days) or 3 months post injury.²¹
41. In another similarly designed prospective study, there were no significant differences between MTBI patients and trauma controls in overall reporting of post-concussive symptoms at 3 months post injury, nor in the proportion who met symptom criteria for postconcussion syndrome.²²
42. In other words, the symptoms said to be characteristic of postconcussion syndrome were no more likely in those with MTBI than in those without.

Other methodological issues in studying long term effects of MTBI

43. Apart from definitional issues relating to the terms MTBI and postconcussion syndrome, research into long-term health outcomes following MTBI has faced various other methodological challenges.

Weakness in studies

44. Most studies in this field have major methodological weaknesses, in that they are retrospective rather than prospective in design, do not differentiate outcomes by timing of injury, do not use control groups, or do not adequately account for potential confounding by factors such as medication or psychological distress.

Multiple injuries

45. MTBI occurring in the context of war, and particularly MTBI due to blast, is often associated with multiple injuries to other structures, including sensory impairment due to facial trauma, pain and tinnitus. Multi-trauma patients, even in the absence of brain injury, have high rates of neurobehavioural symptoms (including memory difficulties, irritability, mood swings, amotivation and guilt) and lower rates of return to work.²³ Studies of the effects of MTBI must therefore control for the effects of other injuries.
46. Exposure to blast or other mechanisms of traumatic brain injury can cause both physiological and psychological trauma. These effects are hard to disentangle, both at the time of injury and subsequently.

²¹ Meares S, Shores EA, Taylor AJ, Batchelor J, et al (2011). The prospective course of postconcussion syndrome: the role of mild traumatic brain injury. *Neuropsychology*, 25(4): 454-65.

²² Ponsford J, Cameron P, Fitzgerald M, Grant M, Mikocka-Walus A. (2011) Long-term outcomes after uncomplicated mild traumatic brain injury: a comparison with trauma controls. *J Neurotrauma*. 2011 Jun;28(6):937-46.

²³ French LM. 2010 Military traumatic brain injury: an examination of important differences. *Ann N Y Acad Sci*. Oct;1208:38-45.

No accepted objective measure

47. There is no accepted objective measure for the effects of MTBI. Functional imaging, biomarkers and electroencephalography are under investigation as ways to quantify TBI. Although these diagnostic modalities show some promise for assessment of severe TBI, they have not been validated for the diagnosis or monitoring of MTBI.

Symptoms may persist for other reasons

48. Several lines of evidence suggest that the symptoms associated with MTBI may occur and persist for reasons other than brain injury. Symptoms have been associated with a pre-injury depressive or anxiety disorder, acute post-traumatic stress, pain, female gender, other injuries and other exposures.^{24 25}
49. In a cross-sectional study of UK soldiers deployed to Iraq²⁶, symptoms and symptom severity were associated with self-reported exposure to blast whilst in a combat zone. However, the same symptoms were also associated with other in-theatre exposures such as potential exposure to depleted uranium and aiding the wounded.
50. The expectation that common sensations are signs of permanent brain damage can result in hypervigilance towards somatic symptoms and exaggerated concern about the meaning of sensations.²⁷ Screening may contribute to negative expectations, by bringing to attention a previous concussion and associating concussion with symptoms. In support of this, prospective studies have found that negative expectations can predict postconcussion symptoms.^{28 29}

Postconcussion symptoms overlap with PTSD

51. There is overlap between the symptoms of posttraumatic stress disorder and those of "postconcussion syndrome". Both are defined, in part, by the same events and the same self-reported symptoms. There is evidence from prospective and cross-sectional studies that PTSD accounts for a substantial component of symptom reporting.^{30 31 32}

²⁴ Carroll LJ, Cassidy JD, Peloso PM, Borg J, et al (2004). Prognosis for mild traumatic brain injury: results of the WHO Collaborating Centre Task Force on mild traumatic brain injury. *J Rehabil Med, Suppl* 43: 84-105.

²⁵ Meares S, Shores EA, Taylor AJ, Batchelor J, et al (2008). Mild traumatic brain injury does not predict acute postconcussion syndrome. *J Neurol Neurosurg & Psychiatry*, 79: 300-6.

²⁶ Fear NT, Jones E, Groom M, Greenberg N, et al (2009). Symptoms of post-concussional syndrome are non-specifically related to mild traumatic brain injury in UK Armed Forces personnel on return from deployment in Iraq: an analysis of self-reported data. *Psychol Med*, 39: 1379-87.

²⁷ Bryant R. (2011) Post-traumatic stress disorder vs traumatic brain injury. *Dialogues Clin Neurosci*;13(3):251-62.

²⁸ Hou R, Moss-Morris R, Peveler R, Mogg K, Bradley BP, Belli A. (2011) When a minor head injury results in enduring symptoms: a prospective investigation of risk factors for postconcussional syndrome after mild traumatic brain injury. *J Neurol Neurosurg Psychiatry*. Oct 25.

²⁹ Whittaker R, Kemp S, House A. (2007) Illness perceptions and outcome in mild head injury: a longitudinal study. *J Neurol Neurosurg Psychiatry*. Jun;78(6):644-6.

³⁰ Wilk JE, Herrell RK, Wynn GH, Riviere LA, Hoge CW. (2012) Mild Traumatic Brain Injury (Concussion), Posttraumatic Stress Disorder, and Depression in U.S. Soldiers Involved in Combat Deployments: Association With Postdeployment Symptoms. *Psychosom Med*. Feb 24.

³¹ Hoge CW, McGurk D, Thomas JL, Cox AL, Engel CC, Castro CA. (2008) Mild traumatic brain injury in U.S. Soldiers returning from Iraq. *N Engl J Med*. Jan 31;358(5):453-63.

Conclusions

52. While symptoms may be found long after MTBI in a proportion of cases, the sound medical-scientific evidence does not clearly establish "postconcussion syndrome" as a distinct disease entity.

Current relevant Statements of Principles

53. The Authority also had regard to the role of TBI as a factor in the existing Statements of Principles.
54. TBI is a factor in Statements of Principles for epileptic seizure, epilepsy, subdural haematoma, subarachnoid haemorrhage, deep vein thrombosis, cerebrovascular accident, Meniere's disease, anosmia, hypopituitarism, narcolepsy, Parkinson's disease, Alzheimer-type dementia, panic disorder, schizophrenia, dementia pugilistica, mood disorder due to a general medical condition with depressive features, anxiety disorder due to a general medical condition and mood disorder due to a general medical condition with manic or mixed features.
55. The level of severity of TBI is specified for each of these Statements of Principles.
56. MTBI is a factor in the Statements of Principles for epileptic seizure, epilepsy, subdural haematoma, cerebrovascular accident, hypopituitarism and anosmia. Repeated blows to the head (with or without concussion or loss of consciousness) are a factor in the Statements of Principles for dementia pugilistica.
57. The Statements of Principles that cover the consequences of exposure to a severe traumatic event (a category 1A or 1B stressor) such as might be associated with MTBI are: PTSD, acute stress disorder, depressive disorder, anxiety disorder, alcohol dependence and alcohol abuse, drug dependence and drug abuse, suicide and attempted suicide, schizophrenia, bipolar disorder, adjustment disorder, eating disorder, panic disorder and personality disorder.
58. The Authority concluded that diseases or injuries which arise as a result of a TBI are covered in these existing Statements of Principles.

PART VII DECISION

59. At its meeting on 7th August 2012 the Authority decided to make Statements of Principles in respect of concussion and moderate to severe traumatic brain injury. The Authority also revoked and reissued Statements of Principles concerning physical injury due to munitions discharge.
60. At the same meeting, the Authority decided not to make a Statement of Principles in respect of postconcussion syndrome for the purposes of subsection (2) or (3) of section 196B of the Act as the Authority concluded, for the reasons set out above, that:

³² Polusny MA, Kehle SM, Nelson NW, Erbes CR, Arbisi PA, Thuras P. (2011) Longitudinal effects of mild traumatic brain injury and posttraumatic stress disorder comorbidity on postdeployment outcomes in national guard soldiers deployed to Iraq. Arch Gen Psychiatry. Jan;68(1):79-89.

- (a) it is neither a "disease" within the meaning of section 5D of the Act nor a "particular kind of injury disease or death" such that the Authority could determine relevant Statements of Principles for it; and
- (b) the Authority's current approach in determining TBI, MTBI and exposure to severe trauma as factors in identifiable diseases is consistent with the available sound medical-scientific evidence.

PART VIII BIBLIOGRAPHY

RMA ID Number	Article Reference
63060	Abu-Judeh HH, Parker R, Singh M, El-Zeftawy H, et al (1999). SPET brain perfusion imaging in mild traumatic brain injury without loss of consciousness and normal computed tomography. <i>Nuclear Medicine Communications</i> , 20: 505-10.
62952	Access Medicine (2011). Epidemiology of war-related psychological and neurologic conditions. . Retrieved 14 December 2011, from http://accessmedicine.com/popup.aspx?Aid=9151271&print=yes
62953	Access Medicine (2011). Types of head injuries. . Retrieved 14 December 2011, from http://accessmedicine.com/popup.aspx?Aid=9147451&print=43
63314	Adams J, MacKenzie A, McLaughlin R, Burke N, et al (2009). Australian military primary care practitioners do not believe clinical practice guidelines are needed for postdeployment medically unexplained symptoms. <i>Mil Med</i> , 174(4): 392-7.
63054	Afari N, Harder LH, Madra NJ, Heppner PS et al (2009). PTSD, combat injury and headache in veterans returning from Iraq/Afghanistan. <i>Headache</i> , 49(9): 1267-76.
63221	Alhola P, Polo-Kantola P (2007). Sleep deprivation: Impact on cognitive performance. <i>Neuropsychiatric Dis Treat</i> , 3(5): 553-67.
63295	American Psychiatric Association (2000). Postconcussional Disorder. DSM-IV-TR, : 760-2. American Psychiatric Association, Washington DC.
63296	American Psychiatric Association (2012). DSM-5: The future of psychiatric diagnosis. . Retrieved 3 February 2012, from http://www.dsm5.org/pages/default.aspx
63051	Anderson V, Godfrey C, Rosenfeld JV, Catroppa C (2011). 10 year outcome from childhood traumatic brain injury. <i>Int J Devl Neuroscience</i> , Epub ahead of print.
62946	Andersson EE, Bedics BK, Falkmer T (2011). Mild traumatic brain injuries: a 10-year follow up. <i>J Rehabil Med</i> , 43: 323-9.
63067	Andrews CJ (2006). Further documentation of remote effects of electrical injuries, with comments on the place of neuropsychological testing and functional scanning. <i>IEEE Transactions on Biomedical Engineering</i> , 53(10): 2102-13.
63191	Baguley IJ, Nott M, Howle AA, Simpson GK, et al (2012). Late mortality after severe traumatic brain injury in New South Wales: a multicentre study. <i>MJA</i> , 196(1): 40-5.
63045	Begaz T, Kyriacou DN, Segal J, Bazarian (2006). Serum biochemical markers for post-concussion syndrome in patients with mild traumatic brain injury. <i>J Neurotrauma</i> , 23(8): 1201-10.
63049	Belanger HG, Curtiss G, Demery JA, Lebowitz BK, Vanderploeg (2005). Factors moderating neuropsychological outcomes following mild traumatic brain injury: a meta-analysis. <i>Journal of the International Society</i> , 11: 215-27.
63229	Belanger HG, Kretzmer T, Vanderploeg RD, French LM (2010). Symptom complaints following combat-related traumatic brain injury: Relationship to traumatic brain injury severity and posttraumatic stress disorder. <i>J Int Neuropsychol Soc</i> , 16: 194-9.

63228	Belanger HG, Kretzmer T, Yoash-Gantz R, Pickett T, Tupler LA (2009). Cognitive sequelae of blast-related versus other mechanisms of brain trauma. <i>J Int Neuropsychol Soc</i> , 15: 1-8.
63050	Belanger HG, Spiegel E, Vanderploeg (2010). Neuropsychological performance following a history of multiple self-reported concussion: a meta-analysis. <i>J of the International Neuropsychological Society</i> , 16: 262-7.
63097	Belanger HG, Vanderploeg RD (2005). The neuropsychological impact of sports-related concussion: a meta analysis. <i>J of the International Neuropsychological Society</i> , 11: 345-57.
63077	Blume HK, Vavilala MS, Jaffe KM, Koepsell TD, et al (2012). Headache after pediatric traumatic brain injury: A cohort study. <i>Pediatrics</i> , 129: 1-9.
63307	Bogaerts K, Van Eylen L, Li W, Bresseleers J, et al (2010). Distorted symptom perception in patients with medically unexplained symptoms. <i>J Abnorm Psychol</i> , 119(1): 226-34.
63055	Brenner LA, Ivins BJ, Schwab K, Warden D, et al (2010). Traumatic brain injury, posttraumatic stress disorder, and postconcussive symptom reporting among troops returning from Iraq. <i>J Head Trauma Rehabil</i> , 25(5): 307-12.
63070	Brenner LA, Vanderploeg, Terrio H (2009). Assessment and diagnosis of mild traumatic brain injury, posttraumatic stress disorder, and other polytrauma conditions: Burden of adversity hypothesis. <i>Rehabilitation Psychology</i> , 54(3): 239-46.
54359	Brewer NT, Hallman WK, Kipen HM (2008). The symmetry rule: a seven-year study of symptoms and explanatory labels among Gulf War veterans. <i>Risk Analysis</i> , 28(6): 1737-48.
63188	Brown AW, Malec JF, McClelland RL, Diehl NN, Englander J, Cifu DX (2005). Clinical elements that predict outcome after traumatic brain injury: A prospective multicenter recursive partitioning (decision-tree) analysis. <i>J Neurotrauma</i> , 22(10): 1040-51.
63320	Bryan C, Hernandez AM (2012). Magnitudes of decline on automated neuropsychological assessment metrics subtest scores relative to predeployment baseline performance among service members evaluated for traumatic brain injury in Iraq. <i>J Head Trauma Rehabil</i> , 27(1): 45-54.
62943	Bryant R (2011). Post-traumatic stress disorder vs traumatic brain injury. <i>Dialogues Clin Neurosci</i> , 13(3): 251-62.
51678	Bryant RA (2008). [Comment] Disentangling mild traumatic brain injury and stress reactions. <i>NEJM</i> , 358(5): 525-7.
63782	Bryant RA (2011). The cutting edge: Mental disorders and traumatic injury. <i>Depression and Anxiety</i> , 28: 99-102.
63781	Bryant RA, Creamer M, O'Donnell M, Silove D, Clark CR, McFarlane AC (2009). Post-traumatic amnesia and the nature of post-traumatic stress disorder after mild traumatic brain injury. <i>J Int Neuropsychol Soc</i> , 15: 862-7.
63310	Burton C, McGorm K, Weller D, Sharpe M (2011). Depression and anxiety in patients repeatedly referred to secondary care with medically unexplained symptoms: a case-control study. <i>Psychological Med</i> , 41: 555-63.
63100	Caldrony RD, Radike J (2010). Experience with mild traumatic brain injuries and postconcussion syndrome at Kandahar, Afghanistan. <i>US Army Med Dep J</i> : 22-30.
63723	Cameron KL, Marshall SW, Sturdivant RX, Lincoln AE (2012). Trends in the incidence of physician-diagnosed mild traumatic brain injury among active duty US military personnel between 1997 and 2007. <i>J Neurotrauma</i> : Epub ahead of print.
53406	Carroll LJ, Cassidy JD, Holm L, Kraus J, Coronado VG (2004). Methodological issues and research recommendations for mild traumatic brain injury: the WHO Collaborating Centre Task Force on mild traumatic brain injury. <i>J Rehabil Med, Suppl</i> 43: 113-25.

53401	Carroll LJ, Cassidy JD, Peloso PM, Borg J, et al (2004). Prognosis for mild traumatic brain injury: results of the WHO Collaborating Centre Task Force on mild traumatic brain injury. <i>J Rehabil Med, Suppl 43</i> : 84-105.
62919	Casson IR, Pellman EJ, Viano DC (2008). Concussion in the national football league: an overview for neurologists. <i>Neurol Clin, 26</i> : 217-41.
62949	Centers for disease control and prevention (2011). DoD/VA code proposal final- 508 complaint. . Retrieved 14 December 2011, from www.cdc.gov/nchs/data/icd9/Sep08TBI.pdf
55089	Centre for Military and Veterans' Health and The University of Queensland (2009). East Timor Health Study Project Completion Report. Retrieved 4 November 2009, from http://www.cmvh.org.au/content/Documents/Research/EM_Report.pdf
55140	Cherington M (2003). Neurologic manifestations of lightning strikes. <i>Neurology, 60</i> : 182-5.
63724	Clarke LA, Genat RC, Anderson JI (2012). Long-term cognitive complaint and post-concussive symptoms following mild traumatic brain injury: The role of cognitive and affective factors. <i>Brain Inj, 26(3)</i> : 298-07.
63692	Coldren RL, Russell ML, Parish RV, Detsch M, Kelly MP (2012). The ANAM lacks utility as a diagnostic or screening tool for concussion more than 10 days following injury. <i>Mil Med, 177(2)</i> : 179-83.
63750	Collins MW, Grindel SH, Lovell MR, Dede DE (1999). Relationship between concussion and neuropsychological performance in college football players. <i>JAMA, 282(10)</i> : 964-70.
63207	Committee on Cognitive Rehabilitation Therapy for Traumatic Brain Injury (2011). Cognitive rehabilitation therapy for traumatic brain injury. Evaluating the evidence, . National Academies Press - Washington, DC.
63075	Cooper DB, Kennedy JE, Cullen MA, Critchfield E, Amador RR, Bowles AO (2011). Association between combat stress and post-concussive symptom reporting in OEF/OIF service members with mild traumatic brain injuries. <i>Brain Inj, 25(1)</i> : 1-7.
63350	Couch JR, Bearss C (2001). Chronic daily headache in the posttrauma syndrome: Relation to extend of head injury. <i>Headache, 41</i> : 559-64.
64102	Courtney MW, Courtney AC (2011). Working toward exposure thresholds for blast-induced traumatic brain injury: Thoracic and acceleration mechanisms. <i>Neuroimage, 54</i> : S55-61.
64631	Creed F (2009). The outcome of medically unexplained symptoms - will DSM-V improve on DSM-IV somatoform disorders? <i>J Psychosom Res, 66</i> : 379-81.
63312	Creed P, Fink P, Henningsen P, Rief W, Sharpe M, White P (2010). Is there a better term than "Medically unexplained symptoms"? <i>J Psychosom Res, 68</i> : 5-8.
63222	De Jager CA, Schrijnemaekers AC, Honey TE, Budge MM (2009). Detection of MCI in the clinic: evaluation of the sensitivity and specificity of a computerised test battery, the Hopkins Verbal Learning Test and the MMSE. <i>Age and Ageing, 38</i> : 455-60.
63073	Dean PJ, O'Neill D, Sterr A (2012). Post-concussion syndrome: Prevalence after mild traumatic brain injury in comparison with a sample without head injury. <i>Brain Inj, 26(1)</i> : 14-26.
63088	Demery JA, Larson MJ, Dixit NK, Bauer RM, Perlstein WM (2010). Operating characteristics of executive functioning tests following traumatic brain injury. <i>Clin Neuropsychol, 24</i> : 1292-308.
64633	Department of Defence (2012). Management of mild traumatic brain injury in Australian Defence Force members. Health Directive 293.

63158	Di Stefano G, Bachevalier J, Levin HS, Song JX, Scheibel RS, Fletcher JM (2000). Volume of focal brain lesions and hippocampal formation in relation to memory function after closed head injury in children. <i>J Neurol Neurosurg & Psychiatry</i> , 69: 210-6.
64599	Dikmen S, Machamer J, Fann JR, Temkin NR (2010). Rates of symptom reporting following traumatic brain injury. <i>J Int Neuropsychol Soc</i> , 16: 401-11.
63082	Dimoska-Di Marco A, McDonald S, Kelly M, Tate R, Johnstone S (2011). A meta-analysis of response inhibition and stroop interference control deficits in adults with traumatic brain injury (TBI). <i>J Clin & Experimental Neuropsychology</i> , 33(4): 471-85.
63204	Dobscha SK, Clark ME, Morasco BJ, Freeman M, Campbell R, Helfand M (2009). Systematic review of the literature on pain in patients with polytraumatic brain injury. <i>Pain Medicine</i> , 10(7): 1200-17.
63833	Du Y, Li Y, Lan Q (2011). H-Magnetic resonance spectroscopy correlates with injury severity and can predict coma duration in patients following severe traumatic brain injury. <i>Neurology India</i> , 59(5): 679-84.
63859	Duncan CC, Summers AC, Perla EJ, Coburn KL, Mirsky AF (2011). Evaluation of traumatic brain injury: Brain potentials in diagnosis, function, and prognosis. <i>Int J Psychophysiol</i> , 82: 24-40.
63086	Dutton RP, Prior K, Cohen R, Wade C, et al (2011). Diagnosing mild traumatic brain injury: Where are we now? <i>J Trauma</i> , 70(3): 554-9.
63313	Dwamena FC, Lyles JS, Frankel RM, Smith RC (2009). In their own words: qualitative study of high-utilising primary care patients with medically unexplained symptoms. <i>BMC Family Practice</i> , 10: 67.
63092	Elder GA, Cristian A (2009). Blast-related mild traumatic brain injury: mechanisms of injury and impact of clinical care. <i>Mount Sinai Journal of Medicine</i> , 76: 111-8.
63068	Elleberg D, Henry LC, Macciocchi SN, Guskiewicz KM, Broglio SP (2009). Advances in sport concussion assessment: from behavioural to brain imaging measures. <i>J Neurotrauma</i> , 26(12): 2365-82.
63071	Esselman PC, Uomoto JM (1995). Classification of the spectrum of mild traumatic brain injury. <i>Brain Inj</i> , 9(4): 417-24.
63237	Evans RW (2004). Post-traumatic headaches. <i>Neurol Clin N Am</i> , 22: 237-49.
63780	Evans RW (2008). Posttraumatic headaches among United States soldiers injured in Afghanistan and Iraq. <i>Headache</i> , 48: 1216-25.
63235	Evans RW (2010). Persistent post-traumatic headache, postconcussion syndrome, and whiplash injuries: The evidence for a non-traumatic basis with an Historical Review. <i>Headache</i> , 50(4): 716-24.
62560	Fear NT, Jones E, Groom M, Greenberg N, et al (2009). Symptoms of post-concussional syndrome are non-specifically related to mild traumatic brain injury in UK Armed Forces personnel on return from deployment in Iraq: an analysis of self-reported data. <i>Psychol Med</i> , 39: 1379-87.
64634	Ford NL, Rosenfeld JV (2008). Mild traumatic brain injury and bomb blast: stress, injury or both? <i>ADF Health</i> , 9: 68-73.
53338	Formisano R, Bivona U, Catani S, D'Ippolito M, Buzzi MG (2009). Post-traumatic headache: facts and doubts. <i>J Headache Pain</i> , 10: 145-52.
63098	French LM (2010). Military traumatic brain injury: an examination of important differences. <i>Ann NY Acad Sci</i> , 1208: 38-45.
63064	French LM, Lange RT, Iverson GL, Ivins B, Marshall K, Schwab K (2011). Influence of bodily injuries on symptom reporting following uncomplicated mild traumatic brain injury in US military service members. <i>J Head Trauma Rehabil</i> , Epub ahead of print.
63079	Frencham KA, Fox AM, Mayberry MT (2005). Neuropsychological studies of mild traumatic brain injury: a meta-analytic review of research since 1995. <i>J Clin Exp Neuropsychol</i> , 27: 334-51.

63150	Garden N, Sullivan KA, Lange RT (2010). The relationship between personality characteristics and postconcussion symptoms in a nonclinical sample. <i>Neuropsychology</i> , 24(2): 168-78.
61058	Gavett BE, Stern RA, McKee AC (2011). Chronic traumatic encephalopathy: a potential late effect of sport-related concussive and subconcussive head trauma. <i>Clin Sports Med</i> , 30: 179-88.
63157	Geuze E, Vermetten E, Bremner JD (2005). MR-based in vivo hippocampal volumetrics: 2. Findings in neuropsychiatric disorders. <i>Molecular Psychiatry</i> , 10: 160-84.
64104	Gilbert F, Partridge BJ (2012). The need to tackle concussion in Australian football codes. <i>MJAOnline</i> : 1-3.
63089	Gordon SN, Fitzpatrick PJ, Hilsabeck RC (2011). No effects of PTSD and other psychiatric disorders on cognitive functioning in veterans with mild TBI. <i>The Clinical Neuropsychologist</i> , 25(3): 337-47.
63787	Gould KR, Ponsford JL, Johnston L, Schonberger M (2011). Predictive and associated factors of psychiatric disorders after traumatic brain injury: A prospective study. <i>J Neurotrauma</i> , 28: 1155-63.
63099	Grossman E, Ge Y, Jensen JH, Babb JS, et al (2011). Thalamus and cognitive impairment in mild traumatic brain injury: A diffusional Kurtosis imaging study. <i>J Neurotrauma</i> , 28: 1.
63601	Gunstad J, Suhr JA (2004). Cognitive factors in postconcussion syndrome symptom report. <i>Arch Clin Neuropsychol</i> , 19: 391-405.
63728	Guskiewicz KM, Marshall SW, Broglio SP, Cantu RC, Kirkendall DT (2002). No evidence of impaired neurocognitive performance in collegiate soccer players. <i>Am J Sports Med</i> , 30(2): 157-62.
63732	Guskiewicz KM, McCrea M, Marshall SW, Cantu RC et al (2003). Cumulative effects associated with recurrent concussion in collegiate football players: The NCAA concussion study. <i>JAMA</i> , 290(19): 2549-55.
63233	Haas DC (1996). Chronic post-traumatic headaches classified and compared with natural headaches. <i>Cephalalgia</i> , 16: 486-93.
63193	Haas DC (2004). Traumatic-event headaches. <i>BMC Neurol</i> , 4: 17.
63311	Henningsen P, Creed F (2010). The genetic, physiological and psychological mechanisms underlying disabling medically unexplained symptoms and somatisation. <i>J Psychosomatic Res</i> , 68: 395-7.
62559	Hill JJ III, Moberg BHP Jr, Cullen MR (2009). Separating deployment-related traumatic brain injury and posttraumatic stress disorder in veterans. <i>Am J Phys Med Rehabil</i> , 88: 605-14.
63294	IHS (2004). Headache attributed to head and/or neck trauma. . Retrieved 6 February 2012, from http://ihs-classification.org/en/02_klassifikation/03_teil2/05.00.00_necktrauma.html
64635	Hoge CW (2012). Neuropsychiatric illnesses in war veterans. <i>Access Medicine</i> . Chapter e48, . Retrieved 23 July 2012, from http://accessmedicine.com/popup.aspx?aID=9151268
48671	Hoge CW, McGurk D, Thomas JL, Cox AL, et al (2008). Mild traumatic brain injury in U.S. soldiers returning from Iraq. <i>NEJM</i> , 358(5): 453-63.
62541	Holm L, Cassidy JD, Carroll LJ, Borg J (2005). Summary of the WHO Collaborating Centre for Neurotrauma Task Force on mild traumatic brain injury. <i>J Rehabil Med</i> , 37: 137-41.
63078	Hou R, Moss-Morris R, Peveler R, Mogg K, Bradley BP, Belli A (2011). When a minor head injury results in enduring symptoms: a prospective investigation of risk factors for postconcussional syndrome after mild traumatic brain injury. <i>J Neurol Neurosurg Psychiatry</i> , : Epub ahead of print.
51844	Institute of Medicine (2009). Long-Term Consequences of Traumatic Brain Injury. <i>Gulf War and Health</i> , Volume 7. National Academy Press, Washington, D.C.

64636	International Headache Society (2004). Headache attributed to head and/or neck trauma. HIS Classification ICHD-II. . Retrieved 23 July 2012, from http://ihs=classification.org/en/02_klassifikation/03_teil2/05.00.00_necktrauma.html
63149	Iverson GL, Lange RT (2003). Examination of "postconcussion-like" symptoms in a healthy sample. <i>Applied Neuropsychology</i> , 10(3): 137-44.
63779	Ivins BJ, Kane R, Schwab KA (2009). Performance on the automated neuropsychological assessment metrics in a nonclinical sample of soldiers screened for mild TBI after returning from Iraq and Afghanistan: A descriptive analysis. <i>J Head Trauma Rehabil</i> , 24(1): 24-31.
16539	Jordan SE, Green GA, Galanty HL, Mandelbaum BR and Jabour BA (1996). Acute and chronic brain injury in United States national team soccer players. <i>The American Journal of Sports Medicine</i> , 24(2): 205-10.
64103	Kaye AH, McCrory P (2012). Does football cause brain damage? Available evidence suggests anecdotal media reports need to be assessed carefully. <i>MJAOnline</i> : 2-4.
63317	Kemp S, Coughlan AK, Rowbottom C, Wilkinson K, Teggart V, Baker G (2008). The base rate of effort test failure in patients with medically unexplained symptoms. <i>J Psychosom Res</i> , 65: 319-25.
63063	Kennedy JE, Cullen MA, Amador RR, Huey JC, Leal FO (2010). Symptoms in military service members after blast mTBI with and without associated injuries. <i>NeuroRehabilitation</i> , 26: 191-7.
63725	Khurana VG, Kaye AH (2012). An overview of concussion in sport. <i>J Clin Neurosci</i> , 19: 1-11.
64048	King S (2003). Post-concussion syndrome: clarity amid the controversy? <i>Br J Psych</i> , 183: 276-8.
63318	Kovesdi E, Luckl J, Bukovics P, Farkas O, et al (2010). Update on protein biomarkers in traumatic brain injury with emphasis on clinical use in adults and pediatrics. <i>Acta Neurochir</i> , 152: 1-17.
63187	Kumar R, Husain M, Gupta RK, Hasan KM, et al (2009). Serial changes in the white matter diffusion tensor imaging metrics in moderate traumatic brain injury and correlation with neuro-cognitive function. <i>J Neurotrauma</i> , 26: 481-95.
63351	Ladwig KH, Marten-Mittag B, Lacruz ME, Henningsen P, Creed F (2010). Screening for multiple somatic complaints in a population-based survey: Does excessive symptom reporting capture the concept of somatic symptom disorders? Findings from the MONICA-KORA cohort study. <i>J Psychosomatic Res</i> , 68: 427-37.
63337	LaFrance WC (2009). Somatoform disorders. <i>Seminars in Neurology</i> , 29(3): 234-46.
63087	Lange RT, Iverson GL, Brubacher JR, Madler B, Heran MK (2011). Diffusion tensor imaging findings are not strongly associated with postconcussional disorder 2 months following mild traumatic brain injury. <i>J Head Trauma Rehabil</i> , Epub ahead of print.
63225	Lenaerts ME (2008). Post-traumatic headache: from classification to biological underpinnings. <i>Cephalgia</i> , 28(supp 1): 12-15.
63094	Levin HS, Wilde E, Troyanskaya M, Petersen NJ, et al (2010). Diffusion tensor imaging of mild to moderate blast-related traumatic brain injury and its sequelae. <i>J Neurotrauma</i> , 27: 683-94.
63203	Lew HL, Otis JD, Tun C, Kern RD (2009). Prevalence of chronic pain, posttraumatic stress disorder, and persistent postconcussive symptoms in OIF/OEF veterans: Polytrauma clinical triad. <i>JRRD</i> , 46(6): 697-702.
62942	Lew HL, Vanderploeg RD, Moore DF, Schwab K, et al (2008). Overlap of mild TBI and mental health conditions in returning OIF/OEF service members and veterans. <i>Journal of Rehabilitation Research & Development</i> , 45(3): xi-xvi.

63084	Ling GS, Ecklund J (2011). Traumatic brain injury in modern war. <i>Curr Opin Anesthesiol</i> , 24: 124-30.
63047	Lippa SM, Pastorek NJ, Benge JF, Thornton GM (2010). Postconcussive symptoms after blast and nonblast-related mild traumatic brain injuries in Afghanistan and Iraq war veterans. <i>Journal of the International Neuropsychological Society</i> , 16: 856-66.
64101	Lockhart P, Cronin D, Williams K, Ouellet S (2011). Investigation of head response to blast loading. <i>J Trauma</i> , 70(2): E29-36.
63048	Luethcke CA, Bryan CJ, Morrow CE, Isler WC (2011). Comparison of concussive symptoms, cognitive performance, and psychological symptoms between acute blast-versus nonblast-induced mild traumatic brain injury. <i>Journal of International Neuropsychological Society</i> , 17: 36-45.
63729	Maas AI, Menon DK, Lingsma HF, Pineda JA, Sandel ME, Manley GT (2012). Re-Orientation of clinical research in traumatic brain injury: Report of an international workshop on comparative effectiveness research. <i>J Neurotrauma</i> , 29: 32-46.
62274	MacDonald CL, Johnson AM, Cooper D, Nelson EC, et al (2011). Detection of blast-related traumatic brain injury in U.S. military personnel. <i>NEJM</i> , 364(22): 2091-9.
63603	Maguen S, Madden E, Lau KM, Seal K (2012). The impact of head injury mechanism on mental health symptoms in veterans: Do number and type of exposures matter? <i>J Trauma Stress</i> , 25: 3-9.
51998	Malec JF, Brown AW, Leibson CL, Flaada JT, et al (2007). The Mayo classification system for traumatic brain injury severity. <i>J Neurotrauma</i> , 24: 1417-24.
63231	Maruff P, Thomas E, Cysique L, Brew B, Collie A, Snyder P, Pietrzak RH (2009). Validity of the CogState brief battery: Relationship to standardized tests and sensitivity to cognitive impairment in Mild Traumatic Brain Injury, Schizophrenia and AIDS Dementia complex. <i>Arch Clin Neuropsychol</i> , 24: 165-78.
62948	Maruta J, Lee SW, Jacobs EF, Ghajar J (2010). A unified science of concussion. <i>Ann NY Acad Sci</i> , 1208: 58-66.
63776	Matser JT, Kessels AG, Jordan BD, Lezak MD, Troost J (1998). Chronic traumatic brain injury in professional soccer players. <i>Neurology</i> , 51(3): 791-6.
64495	McAllister TW (2011). Mild brain injury. <i>Textbook of Traumatic Brain Injury</i> , 2nd edition, Chapter 15: 239-64. American Psychiatric Association, Washington DC.
63786	McCrorry P, Meeuwisse W, Johnston K, Dvorak J, et al (2009). Consensus statement on concussion in sport- The third international conference on concussion in sport held in Zurich, November 2008. <i>The Physician and Sportsmedicine</i> , 37(2): 141-59.
63230	McCrorry PR, Ariens M, Berkovic SF (2000). The nature and duration of acute concussive symptoms in Australian football. <i>Clin J Sport Med</i> , 10: 235-8.
63232	McCrorry PR, Berkovic SF (1998). Second impact syndrome. <i>Neurology</i> , 50: 677-83.
63733	McFarlane AC, Rosenfeld JV, Clark LS, Saccone EJ (2011). Loss consciousness and IEDs: The issues and challenges in diagnosing mild traumatic brain injury. Centre for Traumatic Stress Studies. The University of Adelaide.
61980	McKee AC, Cantu R, Nowinski CJ, Hedley-Whyte ET, et al (2009). Chronic traumatic encephalopathy in athletes: progressive tauopathy following repetitive head injury. <i>J Neuropathol Exp Neurol</i> , 68(7): 709-35.
63074	McKinlay A, Bishop A, McLellan T (2011). Public knowledge of 'concussion' and the different terminology used to communicate about mild traumatic brain injury (MTBI). <i>Brain Inj</i> , 25(7-8): 761-6.

62306	Meares S, Shores EA, Taylor AJ, Batchelor J, et al (2008). Mild traumatic brain injury does not predict acute postconcussion syndrome. <i>J Neurol Neurosurg & Psychiatry</i> , 79: 300-6.
62307	Meares S, Shores EA, Taylor AJ, Batchelor J, et al (2011). The prospective course of postconcussion syndrome: the role of mild traumatic brain injury. <i>Neuropsychology</i> , 25(4): 454-65.
63059	Mena JH, Sanchez AI, Bubiano AM, Peitzman AB, et al (2011). Effects of the modified Glasgow coma scale score criteria for mild traumatic brain injury on mortality prediction: comparing classic and modified Glasgow coma scale score model scores 13. <i>J Trauma</i> , 71(5): 1185-93.
63091	Menon DK, Schwab K, Wright DW, Maas AI (2010). Position statement: Definition of traumatic brain injury. <i>Arch Phys Med Rehabil</i> , 91: 1637-40.
63352	Mickeviciene D, Schrader H, Obelieniene D, Surkiene D, et al (2004). A controlled prospective inception cohort study on the post-concussion syndrome outside the medicolegal context. <i>Euro J Neurol</i> , 11: 411-9.
63602	Mittenberg W, DiGiulio DV, Perrin S, Bass AE (1992). Symptoms following mild head injury: expectations as aetiology. <i>J Neurol, Neurosurg, and Psych</i> , 55: 200-4.
63061	Moran LM, Taylor HG, Rusin J, Bangert B, et al (2011). Do postconcussive symptoms discriminate injury severity in pediatric mild traumatic brain injury. <i>J Head Trauma Rehabil</i> , 26(5): 348-54.
63751	Morganti-Kossmann MC, Satgunaseelan L, Bye N, Kossmann T (2007). Modulation of immune response by head injury. <i>Injury, Int J Care Injured</i> , 38: 1392-400.
52761	Nampiaparampil DE (2008). Prevalence of chronic pain after traumatic brain injury: A systemic review. <i>JAMA</i> , 300(6): 711-9.
63778	Nelson LA, Yoash-Gantz RE, Pickett TC, Campbell TA (2009). Relationship between processing speed and executive functioning performance among OEF/OIF veterans: Implications for postdeployment rehabilitation. <i>J Head Trauma Rehabil</i> , 24(1): 32-40.
63190	Niogi SN, Mukherjee P, Ghajar J, Johnson C et al (2008). Extent of microstructural white matter injury in postconcussive syndrome correlates with impaired cognitive reaction time: A 3T diffusion tensor imaging study of mild traumatic brain injury. <i>Am J Neuroradiol</i> , 29: 967-73.
63315	olde Hartman TC, Borghuis MS, Lucassen PL, van de Laar FA, Speckens AE, van Weel C (2009). Medically unexplained symptoms, somatisation disorder and hypochondriasis: Course and prognosis. A systematic review. <i>J Psychosomatic Res</i> , 66: 363-77.
63236	Packard RC, Ham LP (1997). Pathogenesis of posttraumatic headache and migraine: A common headache pathway? <i>Headache</i> , 37: 142-52.
63080	Panayiotou A, Jackson M, Crowe SF (2010). A meta-analytic review of the emotional symptoms associated with mild traumatic brain injury. <i>J Clin & Experimental Neuropsych</i> , 32(5): 463-73.
63737	Papa L, Akinyi L, Liu MC, Pineda JA et al (2010). Ubiquitin C-terminal hydrolase in a novel biomarker in humans for severe traumatic brain injury. <i>Crit Care Med</i> , 38(1): 138-44.
62918	Pellman EJ, Viano DC (2006). Concussion in professional football. <i>Neurosurg Focus</i> , 24(4): E12.
63057	Pietrzak RH, Johnson DC, Goldstein MB, Malley JC, Southwick SM (2009). Posttraumatic stress disorder mediates the relationship between mild traumatic brain injury and health and psychosocial functioning in veterans of operations enduring freedom and Iraqi freedom. <i>J of Nervous and Mental Disease</i> , 197(10): 748-53.

63693	Polusny MA, Kehle SM, Nelson NW, Erbes CR, Arbisi PA, Thuras P (2011). Longitudinal effects of mild traumatic brain injury and posttraumatic stress disorder comorbidity on postdeployment outcomes in national guard soldiers deployed in Iraq. <i>Arch Gen Psych</i> , 68(1): 79-89.
63044	Ponsford J, Cameron P, Fitzgerald M, Grant M, Mikocka-Walus A (2011). Long-term outcomes after uncomplicated mild traumatic brain injury: a comparison with trauma controls. <i>J Neurotrauma</i> , 28: 937-46.
63832	Puri BK (2011). The role of proton neurospectroscopy in the assessment of brain function, estimation of coma duration, and prediction of outcome in severe traumatic brain injury. <i>Neurology India</i> , 59(5): 657-8.
63066	Ramati A, Rubin LH, Wicklund A, Pliskin NH, et al (2009). Psychiatric morbidity following electrical injury and its effects on cognitive functioning. <i>Gen Hosp Psych</i> , 31: 360-6.
63069	Randolph C (2011). Baseline neuropsychological testing in managing sport-related concussion: does it modify risk? <i>Curr Sports Med Rep</i> , 10(1): 21-6.
63319	Reger ML, Poulos AM, Buen F, Giza CC, Hovda DA, Fanselow MS (2012). Concussive brain injury enhances fear learning and excitatory processes in the amygdala. <i>Biol Psychiatry</i> , 71: 335-43.
63076	Risdall JE, Menon DK (2011). Traumatic brain injury. <i>Phil Trans R Soc B</i> , 3696: 241-50.
63753	Rivara FP (2012). Concussion: Time to start paying attention. <i>Arch Pediatr Adolesc Med</i> , Epub ahead of print.
63053	Rivara FP, Koepsell TD, Wang J, Temkin N, et al (2011). Disability 3, 12 and 24 months after traumatic brain injury among children and adolescents. <i>Pediatrics</i> , 128: e1129-38.
63090	Rohling ML,, Binder LM, Demakis GJ, Larrabee GJ, Ploetz DM, Langhinrichsen-Rohling (2011). A meta-analysis of neuropsychological outcome after mild traumatic brain injury: Re-analyses and reconsiderations of Binder et al. (1997), Frencham et al. (2005), and Pertab et al. (2009). <i>The Clinical Neuropsychologist</i> , 25(4): 608-23.
63321	Rona RJ, Jones M, Fear NT, Hull L, et al (2012). Mild traumatic brain injury in UK military personnel returning from Afghanistan and Iraq: cohort and cross-sectional analyses. <i>J Head Trauma Rehabil</i> , 27(1): 33-44.
63735	Rona RJ, Jones M, Fear NT, Sundine J, Hull L, Wessely S (2012). Frequency of mild traumatic brain injury in Iraq and Afghanistan: Are we measuring incidence or prevalence? <i>J Head Trauma Rehabil</i> , 27(1): 75-82.
63095	Rosenfeld JV, Ford NL (2010). Bomb blast, mild traumatic brain injury and psychiatric morbidity: A review. <i>Injury</i> , 41: 437-43.
63336	Rumage C, Falca-Dodson M, Santos S, Teichman R (2011). Medically unexplained symptoms in the veteran population: Challenges and opportunities. <i>MD Advisor</i> , 4(2): 34-6.
63731	Sbordone RJ, Ruff RM (2010). Re-examination of the controversial coexistence of traumatic brain injury and posttraumatic stress disorder: Misdiagnosis and self-reported measures. <i>Psychol Inj Law</i> , 3: 63-76.
63062	Scheibel RS, Newsome MR, Troyanskaya M, Lin X, et al (2012). Altered brain activation in military personnel with one or more traumatic brain injuries following blast. <i>Journal of the International Society</i> , 18: 1-12.
62941	Schneiderman AI, Braver ER, Kang HK (2008). Understanding sequelae of injury mechanisms and mild traumatic brain injury incurred during the conflicts in Iraq and Afghanistan: persistent postconcussive symptoms and posttraumatic stress disorder. <i>Am J Epidemiol</i> , 167(12): 1446-52.
63052	Schretlen DJ, Shapiro AM (2003). A quantitative review of the effects of traumatic brain injury on cognitive functioning. <i>Int Rev Psychiatry</i> , 15: 341-9.

63189	Sidaros A, Engberg AW, Sidaros K, Liptrot MG et al (2008). Diffusion tensor imaging during recovery from severe traumatic brain injury and relation to clinical outcome: a longitudinal study. <i>Brain</i> , 131: 559-72.
63599	Slobounov S, Sebastianelli W, Hallett M (2012). Residual brain dysfunction observed one year post-mild traumatic brain injury: Combined EEG and balanced study. <i>Clin Neurophysiol</i> , Feb 21: Epub ahead of print.
63186	Slobounov S, Slobounov E, Sebastianelli W, Cao C, Newell K (2007). Differential rate of recovery in athletes after first and second concussion episodes. <i>Neurosurg</i> , 61: 338-44.
63101	Snell DL, Siegert RJ, Hay-Smith JC, Surgenor LJ (2011). Associations between illness perceptions, coping styles and outcome after mild traumatic brain injury: Preliminary results from a cohort study. <i>Brain Inj</i> , 25(11): 1126-8.
62333	Stein SC, Spetell C (1995). The head injury severity scale (HISS): a practical classification of closed-head injury. <i>Brain Injury</i> , 9(5): 437-44.
63309	Steinbrecher N, Koerber S, Frieser D, Hiller W (2011). The prevalence of medically unexplained symptoms in primary care. <i>Psychosomatics</i> , 52: 263-71.
52082	Stovner LJ, Schrader H, Mickeviciene D, Surkiene D, Sand T (2009). Headache after concussion. <i>Eur J Neurol</i> , 16: 112-20.
63353	Straume-Naesheim T, Andersen TE, Jochum M, Dvorak J, Bahr R (2008). Minor head trauma in soccer and serum levels of S100B. <i>Neurosurg</i> , 62: 1297-306.
63308	Swanson LM, Hamilton JC, Feldman MD (2010). Physician-based estimates of medically unexplained symptoms: a comparison of four case definitions. <i>Family Practice</i> , 27: 487-93.
52068	Theeler BJ, Erickson JC (2009). Mild head trauma and chronic headaches in returning US soldiers. <i>Headache</i> , [Epub ahead of print].
63227	Theeler BJ, Flynn FG, Erickson JC (2010). Headaches after concussion in the US soldiers returning from Iraq or Afghanistan. <i>Headache</i> , 50: 1262-72.
41500	Thomas HV, Stimpson NJ, Weightman AL, Dunstan F, Lewis G (2006). Systematic review of multi-symptom conditions in Gulf War veterans. <i>Psychological Medicine</i> , 36: 735-47.
63083	Timmons SD, Bee T, Webb S, Diaz-Arrastia RR, Hesdorffer D (2011). Using the abbreviated injury severity and Glasgow coma scale scores to predict 2-week mortality after traumatic brain injury. <i>J Trauma</i> , 71(5): 1172-8.
63081	Tsanadis J, Montoya E, Hanks RA, Millis SR, Fichtenberg NL, Axelrod BN (2008). Brain injury severity, litigation status and self-report of postconcussive symptoms. <i>The Clinical Neuropsychologist</i> , 22: 1080-92.
63316	van den Berg B, Yzermans CJ, van der Velden PG, Stellato RK, Brunekreef B (2009). Risk factors for unexplained symptoms after a disaster: a five-year longitudinal study in general practice. <i>Psychosomatics</i> , 50(1): 69-77.
62951	van Holst H, Cassidy D (2004). Mandate of the who collaborating centre task force on mild traumatic brain injury. <i>J Rehabil Med</i> , 43: 8-10.
62944	Varas JM, Philippens M, Meijer SR, van den Berg AC, et al (2011). Physics of IED blast shock tube simulations for mTBI research. <i>Front Neurol</i> , 2: 58.
63234	Vargas BB (2009). Posttraumatic headache in combat soldiers and civilians: what factors influence the expression of tension. <i>Curr Pain Headache Rep</i> , 13: 470-3.
63056	Vasterling JJ, Verfaellie M, Sullivan KD (2009). Mild traumatic brain injury and posttraumatic stress disorder in returning veterans: perspectives from cognitive neuroscience. <i>Clinical Psychology Review</i> , 29: 647-84.
63072	Villemure R, Nolin P, Le Sage N (2011). Self-reported symptoms during post-mild traumatic brain injury in acute phase: Influence of interviewing method. <i>Brain Inj</i> , 25(1): 53-64.

63226	Walker WC, Seel RT, Curtiss G, Warden DL (2005). Headache after moderate and severe traumatic brain injury: A longitudinal analysis. <i>Arch Phys Med Rehabil</i> , 86: 1793-800.
63085	West LK, Curtis KL, Greve KW, Bianchini KJ (2011). Memory in traumatic brain injury: the effects of injury severity and the effort on the Wechsler memory scaled- III. <i>J Neuropsychology</i> , 5: 114-25.
63192	Whittaker R, Kemp S, House A (2007). Illness perceptions and outcome in mild head injury: a longitudinal study. <i>J Neurol Neurosurg & Psychiatry</i> , 78(6): 644-6.
63096	Wilde EA, McCauley SR, Hunter JV, Bigler ED, et al (2008). Diffusion tensor imaging of acute mild traumatic brain injury in adolescents. <i>208</i> , 70: 948-55.
63600	Wilk JE, Herrell RK, Wynn GH, Riviere LA, Hoge CW (2012). Mild traumatic brain injury (Concussion), posttraumatic stress disorder, and depression in U.S. Soldiers involved in combat deployments: Association with postdeployment symptoms. , Feb 24: Epub ahead of print.
62558	Wilk JE, Thomas JL, McGurk DM, Riviere LA, et al (2010). Mild traumatic brain injury (concussion) during combat: lack of association of blast mechanism with persistent postconcussive symptoms. <i>J Head Trauma Rehabil</i> , 25(1): 9-14.
64641	World Health Organization (2010). ICD-10 Version:2010. Retrieved 23 July 2012, from http://apps.who.int/classifications/icd10/browse/2010/en
63093	Xu J, Rasmussen IA, Lagopoulos J, Haberg A (2007). Diffuse axonal injury in severe traumatic brain injury visualized using high-resolution diffusion tensor imaging. <i>J Neurotrauma</i> , 24(5): 753-65.
62334	Xydakis MS, et al; Walcott BP, et al; Hoge CW, et al; Brody DL, et al (2011). [Comments] Blast-related traumatic brain injury in U.S. military personnel. <i>NEJM</i> , 365(9): 859-61.
63220	Xydakis MS, Robbins AS, Grant GA (2008). [Comment] Mild traumatic brain injury in U.S. soldiers returning from Iraq. <i>The New England Journal of Medicine</i> , 358(20): 483-6. Comment on ID: 63219.
63752	Yeates KO, Kaizar E, Rusin J, Bangert B, et al (2012). Reliable change in postconcussive symptoms and its functional consequences among children with mild traumatic brain injury. <i>Arch Pediatr Adolesc Med</i> , Epub ahead of print.
63726	Yeates KO, Taylor G, Rusin J, Bangert B et al (2009). Longitudinal trajectories of postconcussive symptoms in children with mild traumatic brain injuries and their relationship to acute clinical status. <i>Pediatrics</i> , 123: 735-43.
63775	Zakzanis KK, McDonald K, Troyer A (2011). Component analysis of verbal fluency in patients with mild traumatic brain injury. <i>J Clin & Experimental Neuropsych</i> , 33(7): 785-92.
62945	Zhang K, Johnson B, Pennell D, Ray W, Sebastianelli W, Slobounov (2010). Are functional deficits in concussed individuals consistent with white matter structural alterations: combined FMRI & DTI study. <i>Exp Brain Res</i> , 204(1): 57-70.
63046	Zhou W, Xu D, Pend X, Zhang Q, Jia J, Crutcher KA (2008). Meta-analysis of APOE4 allele and outcome after traumatic brain injury. <i>J Neurotrauma</i> , 25: 279-90.