

## Sleep Clinical Recommendation Acknowledgements and References

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## References

1. Huang TY, Ma HP, Tsai SH, Chiang YH, Hu CJ, Ou J. Sleep duration and sleep quality following acute mild traumatic brain injury: a propensity score analysis. *Behavioural neurology*. 2015;2015:378726.
2. Theadom A, Cropley M, Parmar P. Sleep difficulties one year following mild traumatic brain injury in a population-based study. *Sleep Med*. 2015;16:926-932.
3. Mathias JL, Alvaro PK. Prevalence of sleep disturbances, disorders, and problems following traumatic brain injury: a meta-analysis. *Sleep Med*. Aug 2012;13(7):898-905.
4. Walker JM, James NT, Campbell H, Wilson SH, Churchill S, Weaver LK. Sleep assessments for a mild traumatic brain injury trial in a military population. *Undersea & hyperbaric medicine: journal of the Undersea and Hyperbaric Medical Society, Inc*. Aug-Sept 2016;43(5):549-566.
5. O'Hara R, Luzon A, Hubbard J, Zeitzer JM. Sleep apnea, apolipoprotein epsilon 4 allele, and TBI: mechanism for cognitive dysfunction and development of dementia. *J Rehabil Res Dev*. 2009;46(6):837-850.
6. Xie L, Kang H, Xu Q, et al. Sleep drives metabolite clearance from the adult brain. *Science*. Oct 18 2013;342(6156):373-377.
7. Watson NF, Badr MS, Belenky G, et al. Recommended Amount of Sleep for a Healthy Adult: A Joint Consensus Statement of the American Academy of Sleep Medicine and Sleep Research Society. *Sleep*. Jun 1 2015;38(6):843-844.
8. Zhou Y, Greenwald BD. Update on Insomnia after Mild Traumatic Brain Injury. *Brain Sci*. Dec 13 2018;8(12):1-19.
9. American Academy of Sleep Medicine. International Classification of Sleep Disorders. 3rd ed. Darien, IL; American Academy of Sleep Medicine, 2014.
10. Bastien CH, Vallieres A, Morin CM. Validation of the Insomnia Severity Index as an outcome measure for insomnia research. *Sleep Med*. Jul 2001;2(4):297-307.
11. Morin CM, Belleville G, Belanger L, Ivers H. The Insomnia Severity Index: psychometric indicators to detect insomnia cases and evaluate treatment response. *Sleep*. May 1 2011;34(5):601-608.
12. Kaufmann CN, Orff HJ, Moore RC, Delano-Wood L, Depp CA, Schiehser DM. Psychometric Characteristics of the Insomnia Severity Index in Veterans With History of Traumatic Brain Injury. *Behav Sleep Med*. Jan-Feb 2019;17(1):12-18.
13. Marshall S, Bayley M, McCullagh S, et al. Updated clinical practice guidelines for concussion/mild traumatic brain injury and persistent symptoms. *Brain Inj*. 2015;29(6):688-700.
14. Mitchell MD, Gehrman P, Perlis M, Umscheid CA. Comparative effectiveness of cognitive behavioral therapy for insomnia: a systematic review. *BMC Fam Pract*. May 25 2012;13(40):40.
15. Sullivan KA, Blaine H, Kaye SA, Theadom A, Haden C, Smith SS. A Systematic Review of Psychological Interventions for Sleep and Fatigue after Mild Traumatic Brain Injury. *J Neurotrauma*. Jan 15 2018;35(2):195-209.
16. Lan Y, Wu X, Tan HJ, et al. Auricular acupuncture with seed or pellet attachments for primary insomnia: a systematic review and meta-analysis. *BMC Complement Altern Med*. Apr 2 2015;15(103):103.
17. Sateia MJ, Buysse DJ, Krystal AD, Neubauer DN, Heald JL. Clinical Practice Guideline for the Pharmacologic Treatment of Chronic Insomnia in Adults: An American Academy of Sleep Medicine Clinical Practice Guideline. *J Clin Sleep Med*. Feb 15 2017;13(2):307-349.

18. Chung KF, Lee CT, Yeung WF, Chan MS, Chung EW, Lin WL. Sleep hygiene education as a treatment of insomnia: a systematic review and meta-analysis. *Fam Pract.* Jul 23 2018;35(4):365-375.
19. Schutte-Rodin S, Broch L, Buysse D, Dorsey C, Sateia M. Clinical guideline for the evaluation and management of chronic insomnia in adults. *J Clin Sleep Med.* Oct 15 2008;4(5):487-504.
20. Richardson GS, Roth T, Kramer JA. Management of Insomnia-the role of zaleplon. *MedGenMed: Medscape general medicine.* 2002;4(1).
21. Zammit GK, Corser B, Doghramji K, et al. Sleep and residual sedation after administration of zaleplon, zolpidem, and placebo during experimental middle-of-the-night awakening. *J Clin Sleep Med.* Oct 15 2006;2(4):417-423.
22. Lee HB, Lyketsos CG, Rao V. Pharmacological management of the psychiatric aspects of traumatic brain injury. *Int Rev Psychiatry.* Nov 2003;15(4):359-370.
23. Harbourt K, Nevo ON, Zhang R, Chan V, Croteau D. Association of eszopiclone, zaleplon, or zolpidem with complex sleep behaviors resulting in serious injuries, including death. *Pharmacoepidemiology and drug safety.* Jun 2020;29(6):684-691.
24. Seibt J, Aton SJ, Jha SK, Coleman T, Dumoulin MC, Frank MG. The non-benzodiazepine hypnotic zolpidem impairs sleep-dependent cortical plasticity. *Sleep.* Oct 2008;31(10):1381-1391.
25. Erman MK, Zammit G, Rubens R, et al. A polysomnographic placebo-controlled evaluation of the efficacy and safety of eszopiclone relative to placebo and zolpidem in the treatment of primary insomnia. *J Clin Sleep Med.* Jun 15 2008;4(3):229-234.
26. Hampton LM, Daubresse M, Hsein-Yen C, Alexander GC, Budnitz DS. Emergency Department Visits by Adults for Psychiatric Medication Adverse Events. *JAMA Psychiatry.* 2014;71(9):1006-1014.
27. Yeung WF, Chung KF, Yung KP, Ng TH. Doxepin for insomnia: a systematic review of randomized placebo-controlled trials. *Sleep Med Rev.* Feb 2015;19:75-83.
28. Collen J, Orr N, Lettieri CJ, Carter K, Holley AB. Sleep disturbances among soldiers with combat-related traumatic brain injury. *Chest.* Sep 2012;142(3):622-630.
29. Capaldi VF, 2nd, Guerrero ML, Killgore WD. Sleep disruptions among returning combat veterans from Iraq and Afghanistan. *Mil Med.* Aug 2011;176(8):879-888.
30. Holcomb EM, Schwartz DJ, McCarthy M, Thomas B, Barnett SD, Nakase-Richardson R. Incidence, Characterization, and Predictors of Sleep Apnea in Consecutive Brain Injury Rehabilitation Admissions. *The Journal of head trauma rehabilitation.* Mar-Apr 2016;31(2):82-100.
31. Mysliwicz V, Gill J, Lee H, et al. Sleep disorders in US military personnel: a high rate of comorbid insomnia and obstructive sleep apnea. *Chest.* Aug 2013;144(2):549-557.
32. Mysliwicz V, Matsangas P, Baxter T, McGraw L, Bothwell NE, Roth BJ. Comorbid insomnia and obstructive sleep apnea in military personnel: correlation with polysomnographic variables. *Mil Med.* Mar 2014;179(3):294-300.
33. Jaoude P, Vermont LN, Porhomayon J, El-Solh AA. Sleep-disordered breathing in patients with post-traumatic stress disorder. *Ann Am Thorac Soc.* Feb 2015;12(2):259-268.
34. Chung F, Abdullah HR, Liao P. STOP-Bang Questionnaire: A Practical Approach to Screen for Obstructive Sleep Apnea. *Chest.* Mar 2016;149(3):631-638.
35. Lettieri CJ, Eliasson AH, Andrada T, Khramtsov A, Raphaelson M, Kristo DA. Obstructive sleep apnea syndrome: are we missing an at-risk population? *J Clin Sleep Med.* Oct 15 2005;1(4):381-385.

36. Reyes-Guzman CM, Bray RM, Forman-Hoffman VL, Williams J. Overweight and obesity trends among active duty military personnel: a 13-year perspective. *Am J Prev Med.* Feb 2015;48(2):145-153.
37. Nuckton TJ, Glidden DV, Browner WS, Claman DM. Physical examination: Mallampati score as an independent predictor of obstructive sleep apnea. *Sleep.* Jul 2006;29(7):903-908.
38. Epstein LJ, Kristo D, Strollo PJ, Jr., et al. Clinical guideline for the evaluation, management and long-term care of obstructive sleep apnea in adults. *J Clin Sleep Med.* Jun 15 2009;5(3):263-276.
39. Charakorn N, Hirunwiwatkul P, Chirakalwasan N, Chaitusaney B, Prakassajjatham M. The effects of topical nasal steroids on continuous positive airway pressure compliance in patients with obstructive sleep apnea: a systematic review and meta-analysis. *Sleep Breath.* Mar 2017;21(1):3-8.
40. Olsen S, Smith SS, Oei TP, Douglas J. Motivational interviewing (MINT) improves continuous positive airway pressure (CPAP) acceptance and adherence: a randomized controlled trial. *J Consult Clin Psychol.* Feb 2012;80(1):151-163.
41. Wozniak DR, Lasserson TJ, Smith I. Educational, supportive and behavioural interventions to improve usage of continuous positive airway pressure machines in adults with obstructive sleep apnoea. *Cochrane Database Syst Rev.* Jan 8 2014(1):CD007736.
42. Barnes H, Edwards BA, Joosten SA, Naughton MT, Hamilton GS, Dabscheck E. Positional modification techniques for supine obstructive sleep apnea: A systematic review and meta-analysis. *Sleep Med Rev.* Dec 2017;36:107-115.
43. Morgenthaler TI, Kapen S, Lee-Chiong T, et al. Practice parameters for the medical therapy of obstructive sleep apnea. *Sleep.* Aug 2006;29(8):1031-1035.
44. Capaldi VF, Balkin TJ, Mysliwiec V. Optimizing Sleep in the Military: Challenges and Opportunities. *Chest.* Jan 2019;155(1):215-226.
45. Carney CE, Buysse DJ, Ancoli-Israel S, et al. The consensus sleep diary: standardizing prospective sleep self-monitoring. *Sleep.* Feb 1 2012;35(2):287-302.
46. Allen RP, Picchietti DL, Garcia-Borreguero D, et al. Restless legs syndrome/Willis-Ekbom disease diagnostic criteria: updated International Restless Legs Syndrome Study Group (IRLSSG) consensus criteria--history, rationale, description, and significance. *Sleep Med.* Aug 2014;15(8):860-873.
47. Allen RP, Picchietti DL, Auerbach M, et al. Evidence-based and consensus clinical practice guidelines for the iron treatment of restless legs syndrome/Willis-Ekbom disease in adults and children: an IRLSSG task force report. *Sleep Med.* Jan 2018;41:27-44.
48. Garcia-Borreguero D, Larrosa O, de la Llave Y, Verger K, Masramon X, Hernandez G. Treatment of restless legs syndrome with gabapentin: a double-blind, cross-over study. *Neurology.* Nov 26 2002;59(10):1573-1579.
49. Happe S, Klosch G, Saletu B, Zeitlhofer J. Treatment of idiopathic restless legs syndrome (RLS) with gabapentin. *Neurology.* Nov 13 2001;57(9):1717-1719.
50. Happe S, Sauter C, Klosch G, Saletu B, Zeitlhofer J. Gabapentin versus ropinirole in the treatment of idiopathic restless legs syndrome. *Neuropsychobiology.* 2003;48(2):82-86.
51. Ayalon L, Borodkin K, Dishon L, Kanety H, Dagan Y. Circadian rhythm sleep disorders following mild traumatic brain injury. *Neurology.* Apr 3 2007;68(14):1136-1140.
52. Orff HJ, Ayalon L, Drummond SP. Traumatic brain injury and sleep disturbance: a review of current research. *The Journal of head trauma rehabilitation.* May-Jun 2009;24(3):155-165.

53. Sinclair KL, Ponsford JL, Taffe J, Lockley SW, Rajaratnam SM. Randomized controlled trial of light therapy for fatigue following traumatic brain injury. *Neurorehabilitation and neural repair*. May 2014;28(4):303-313.
54. Bogdanov S, Naismith S, Lah S. Sleep outcomes following sleep-hygiene-related interventions for individuals with traumatic brain injury: A systematic review. *Brain Inj*. 2017;31(4):422-433.
55. Auger RR, Burgess HJ, Emens JS, Deriy LV, Thomas SM, Sharkey KM. Clinical Practice Guideline for the Treatment of Intrinsic Circadian Rhythm Sleep-Wake Disorders: Advanced Sleep-Wake Phase Disorder, Delayed Sleep-Wake Phase Disorder, Non-24-Hour Sleep-Wake Rhythm Disorder, and Irregular Sleep-Wake Rhythm Disorder. An Update for 2015: An American Academy of Sleep Medicine Clinical Practice Guideline. *J Clin Sleep Med*. Oct 15 2015;11(10):1199-1236.
56. Morgenthaler TI, Lee-Chiong T, Alessi C, et al. Practice parameters for the clinical evaluation and treatment of circadian rhythm sleep disorders. An American Academy of Sleep Medicine report. *Sleep*. Nov 2007;30(11):1445-1459.
57. Creamer JL, Brock MS, Matsangas P, Motamedi V, Mysliwiec V. Nightmares in United States Military Personnel With Sleep Disturbances. *J Clin Sleep Med*. Mar 15 2018;14(3):419-426.
58. Collen JF, Williams SG, Lettieri CJ. Doomed to Repeat History: The Burden of Trauma-Related Nightmares in Military Personnel. *J Clin Sleep Med*. Mar 15 2018;14(3):303-305.
59. Ross RJ, Ball WA, Sullivan KA, Caroff SN. Sleep disturbance as the hallmark of posttraumatic stress disorder. *Am J Psychiatry*. Jun 1989;146(6):697-707.
60. Kilpatrick D RH, Freedy J, et al. *Posttraumatic stress disorder field trial: evaluation of PTSD construct criteria A through E*. Vol 4. Washington, DC: American Psychiatric Press; 1994.
61. Mysliwiec V, O'Reilly B, Polchinski J, Kwon HP, Germain A, Roth BJ. Trauma associated sleep disorder: a proposed parasomnia encompassing disruptive nocturnal behaviors, nightmares, and REM without atonia in trauma survivors. *J Clin Sleep Med*. Oct 15 2014;10(10):1143-1148.
62. Mysliwiec V, Brock MS, Creamer JL, O'Reilly BM, Germain A, Roth BJ. Trauma associated sleep disorder: A parasomnia induced by trauma. *Sleep Med Rev*. Feb 2018;37:94-104.
63. Raskind MA, Peskind ER, Kanter ED, et al. Reduction of nightmares and other PTSD symptoms in combat veterans by prazosin: a placebo-controlled study. *Am J Psychiatry*. Feb 2003;160(2):371-373.
64. Raskind MA, Peskind ER, Hoff DJ, et al. A parallel group placebo controlled study of prazosin for trauma nightmares and sleep disturbance in combat veterans with post-traumatic stress disorder. *Biol Psychiatry*. Apr 15 2007;61(8):928-934.
65. Germain A, Richardson R, Moul DE, et al. Placebo-controlled comparison of prazosin and cognitive-behavioral treatments for sleep disturbances in US Military Veterans. *J Psychosom Res*. Feb 2012;72(2):89-96.
66. Raskind MA, Peterson K, Williams T, et al. A trial of prazosin for combat trauma PTSD with nightmares in active-duty soldiers returned from Iraq and Afghanistan. *Am J Psychiatry*. Sep 2013;170(9):1003-1010.
67. Raskind MA, Millard SP, Petrie EC, et al. Higher Pretreatment Blood Pressure Is Associated With Greater Posttraumatic Stress Disorder Symptom Reduction in Soldiers Treated With Prazosin. *Biol Psychiatry*. Nov 15 2016;80(10):736-742.
68. Raskind MA, Peskind ER, Chow B, et al. Trial of Prazosin for Post-Traumatic Stress Disorder in Military Veterans. *N Engl J Med*. Feb 8 2018;378(6):507-517.