

## The Limits of Adaptive Coping: Neurobiology of Extreme Stress

## Resources and References

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## Resources

PTSD Checklist for DSM-5 (PCL-5) assesses 20 DSM-5 symptoms using a 20-item self-report tool. Reasons for using the PCL-5 include screening individuals for PTSD, making a provisional PTSD diagnosis and monitoring PTSD symptom change during and after treatment.

The Center for the Study of Traumatic Stress has a mission to improve the psychological health, resilience and post deployment function of service members through identification of biomarkers and other genetic components involved in PTSD and suicide, as well as discovery of novel pharmacologic interventions to prevent and eradicate PTSD symptoms.

The VA/DoD Clinical Practice Guideline for the Management of Post-Traumatic Stress assists clinicians and facilities in implementing processes of care that are evidence-based and designed to achieve maximum functionality and independence, as well as improve patient and family quality of life.

The Department of Veterans Affairs National Center for PTSD, in collaboration with T2, developed the PTSD Coach mobile app to assist individuals in tracking and managing PTSD symptoms.

<u>Breathe2Relax</u> is a portable stress management tool. The app is a hands-on diaphragmatic breathing exercise. Breathing exercises help decrease the body's 'fight-or-flight' (stress) response, and help with mood stabilization, anger control and anxiety management.

## References

- Bari, A., & Robbins, T. W. (2013). Inhibition and impulsivity: Behavioral and neural basis of response control. *Progress in Neurobiology, 108*, 44-79. doi:10.1016/j.pneurobio.2013.06.005
- Bennet, M. R., & Lagopoulos, J. (2014). Stress and trauma: BDNF control of dendritic-spine formation and regression. *Progress in Neurobiology, 112*, 80-99. doi:10.1016/j.pneurobio.2013.10.005
- Bird, C. M., Bisby, J.A., & Burgess, N. (2012). The hippocampus and spatial constraints on mental imagery. *Frontiers in Human Neuroscience*, *6*, 1-12. doi:10.3389/fnhum.2012.00142
- Burton, A. C., Nakamura, K., & Roesch, M. R. (2014). From ventral-medial to dorsal-lateral striatum: Neural correlates of reward-guided decision-making. *Neurobiology of Learning and Memory*. Advance online publication. doi:10.1016/j.nlm.2014.05.003

- Davidson, R. J., & McEwen, B. S. (2012). Social influences on neuroplasticity: Stress and interventions to promote well-being. *Nature Neuroscience*, *15*(5), 689-695. doi:10.1038/nn.3093
- de Quervain, D.J., Aerni, A., Schelling, G., & Roozendaal, B. (2009). Glucocorticoids and the regulation of memory in health and disease. *Frontiers in Neuroendocrinology, 30*(3), 358-370. doi:10.1016/j.yfrne.2009.03.002
- Fernando, A. B.P., Murray, J. E., & Milton, A. L. (2013). The amygdala: Securing pleasure and avoiding pain. *Frontiers in Behavoiral Neuroscience*, *7*, 1-15. doi:10.3389/fnbeh.2013.00190
- Gamo, N. J., & Arnsten, A. F. T. (2011). Molecular modulation of prefrontal cortex: Rational development of treatments for psychiatric disorders. *Behavioral Neuroscience*, *125*(3), 282-296. doi:10.1037/a0023165
- Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. New York: Springer.
- Lemos, J. C., Wanat, M. J., Smith, J. S., Reyes, B. A. S., Hollon, N. G., Van Bockstaele, E. J.,...Phillips, P. E. M. (2012). Severe stress switches CRF action in the nucleus accumbens from appetitive to aversive. *Nature*, *490*(7420), 402-407. doi:10.1038/nature11436
- McEwen, B. S. (2013). Brain on stress: How the social environment gets under the skin. *Proceedings of the National Academy of Sciences, 109*(S2), 17180-17185. doi:10.1073/pnas.1121254109
- Nash, W. P., Boasso, A. M., Steenkamp, M. M., Larson, J. L., Lubin, R. E., & Litz, B. T. Posttraumatic stress in deployed Marines: Prospective trajectories of early adaptation. Manuscript submitted for publication.
- Nash, W. P., Silva, C., & Litz, B. T. (2009). The historical origins of military and veteran mental health stigma and the stress injury model as a means to reduce it. *Psychiatric Annals*, 39(8), 789-794. doi:10.3928/00485713-20090728-05
- National Center for Advancing Translational Sciences. (2014). About NCATS. Retrieved 19 June 2014, from <a href="http://www.ncats.nih.gov/about/about.html">http://www.ncats.nih.gov/about/about.html</a>
- National Institute on Drug Abuse. (Revised 2013). Methamphetamine. Retrieved 18 June 2014 from <a href="http://www.drugabuse.gov/publications/research-reports/methamphetamine">http://www.drugabuse.gov/publications/research-reports/methamphetamine</a>
- Sapolsky, R.M. (2003). Stress and plasticity in the limbic system. *Neurochemical Research*, 28(11), 1735-1742.
- Stahl, S. M. (2009). Crisis in Army psychopharmacology and mental health care at Fort Hood. *CNS Spectrums*, *14*(12), 677-684.
- U.S. Department of the Navy, U.S. Marine Corps. (2010) *Combat and operational stress control* (NTTP 1-15M/MCRP 6-11C). Retrieved from

 $\frac{http://www.med.navy.mil/sites/nmcsd/nccosc/coscConference/Documents/COSC\%20M}{RCP\%20NTTP\%20Doctrine.pdf}$