



## Medical Trauma Research Brief

### Overview

- ✓ Medical trauma is defined as a set of psychological and physiological responses to pain, injury, serious illness, medical procedures and frightening treatment experiences.
- ✓ For children, the Integrative Trajectory Model of Pediatric Medical Traumatic Stress (PMTS) has been described as a conceptual clinical framework used to understand children's negative responses to medical events rather than a diagnostic entity. This allows for consideration of a wider range of children's experiences to include those not meeting diagnostic criteria for PTSD.
- ✓ The Enduring Somatic Threat (EST) model is a complementary model for adults that includes posttraumatic stress symptoms and extends to include unique psychological responses to surviving a life-threatening illness.
- ✓ See our [Medical Trauma Clinician Fact Sheet](#) for information on prevalence, features of illness/injury and hospitalization that may contribute to a traumatic stress response and clinical features of medical trauma.

On the pages that follow, we have highlighted key articles on medical trauma across the following areas:

- ✓ [Conceptual Frameworks](#)
- ✓ [Assessment](#)
- ✓ [Intervention](#)

If you're interested in learning more about medical trauma, see our [sources for more information](#) page.



## Featured Conceptual Framework Articles

Cordova, M.J., Riba, M.B., & Spiegel, D. (2017). **Post-traumatic stress disorder and cancer.** *The Lancet Psychiatry*, 4(4):330–8. doi: 10.1016/S2215-0366(17)30014-7.

- ✓ Cordova et al. provide a comprehensive review of the cancer-related PTSD literature. The review includes conceptual, methodological and diagnostic considerations as well as clinical implications for treating cancer-related PTSD.

Edmondson, D. (2014) **An Enduring Somatic Threat Model of Posttraumatic Stress Disorder Due to Acute Life-Threatening Medical Events.** *Social and Personality Psychology Compass*, 8(3), 118–34. doi: 10.1111/spc3.12089.

- ✓ Edmondson provides a conceptual model of adults' psychological responses to life-threatening medical events based on existential, social and cognitive theories of PTSD and health behavior. The model provides a clear distinction on how medical traumas conceptually differ from discrete or external traumas and the unique clinical considerations of treating medical trauma related to life-threatening illness.

Price, J., Kassam-Adams, N., Alderfer, M.A., Christofferson, J., & Kazak, A.E. (2016). **A reevaluation and update of the integrative (trajectory) model of pediatric medical traumatic stress.** *Journal of Pediatric Psychology*, 41(1), 86–97. doi: 10.1093/jpepsy/jsv074.

- ✓ Price et al. provide a revised conceptual model for assessing and treating PMTS that includes actionable assessment and intervention recommendations across three phases: 1) during and immediately after the event; 2) early, ongoing and evolving responses; and 3) long-term responses and when posttraumatic stress symptoms are present.

Yagiela, L.M., Carlton, E.F., Meert, K.L., Odetola, F.O., & Cousino, M.K. (2019). **Parent medical traumatic stress and associated family outcomes after pediatric critical illness: A systematic review.**

- ✓ Yagiela et al. provide a review of the literature on parent medical traumatic stress from a child's critical illness and its association with parents' mental and physical health and family functioning. Results suggest outcomes are impacted by pre-existing familial factors, subjective experience during child's hospitalization, and life stressors after discharge. The authors suggest interventions that target modifiable factors such as parents' subjective experience during their children's hospitalization.



## Featured Assessment of Medical Trauma & PTSD Articles

Bosquet Enlow, M., Kassam-Adams, N., & Saxe, G. (2010). **The child stress disorders checklist-short form: A 4-item scale of traumatic stress symptoms in children.** *General Hospital Psychiatry, 32*(3), 321-327. doi: 10.1016/j.genhosppsy.2010.01.009.

- ✓ This article presents a brief measure of PMTS appropriate for children and teenagers that can be administered in the acute phase (i.e., during hospitalization) by a parent, physician or nurse.

Cornelius, T., Agarwal, S., Garcia, O., Chaplin, W., Edmondson, D., & Chang, B. P. (2018). **Development and validation of a measure to assess patients' threat perceptions in the emergency department.** *Academic Emergency Medicine, 25*, 1098-1106. doi: 10.1111/acem.13513.

- ✓ Cornelius et al. describe development of a brief measure of perceived threat during evaluation for acute coronary syndrome that can be used to identify those at risk for cardiac-induced PTSD in the emergency department.

Hunt, J., Chesney, S., Brasel, K., & deRoon-Cassini, T. (2018). **Six-month follow-up of the injured survivor screen: Clinical implications and future directions.** *Journal of Trauma and Acute Care Surgery, 85*(2), 263-270. doi: 10.1097/TA.0000000000001944.

- ✓ Hunt et al. investigate the predictive value of the Injury Trauma Survivor Screen (ITSS) designed to assess risk for PTSD based on pre-, peri- and post-trauma risk factors. The ITSS was found to be a reliable measure of predicting PTSD and depression symptoms six months after admission for a traumatic injury.

Shemesh, E. et al. (2005). **Comparison of parent and child reports of emotional trauma symptoms in pediatric outpatient settings.** *Pediatrics, 115*(5), e582-589. doi: 10.1542/peds.2004-2201.

- ✓ Shemesh et al. evaluated the differences between parent and child reports of the child's response to potentially traumatic medical events. Results suggest clinicians evaluating children and adolescents for PMTS should gather information directly from the child and not rely exclusively on parental reports.



## Featured Intervention for Medical Trauma Articles

Melnyk, B. M. et al. (2004). **Creating opportunities for parent empowerment: Program effects on the mental health/coping outcomes of critically ill young children and their mothers.** *Pediatrics*, 113(6), e597-607. doi: 10.1542/peds.113.6.e597.

- ✓ Melnyk et al. test the effectiveness of a preventative educational-behavioral intervention program, Creating Opportunities for Parent Empowerment (COPE), in improving mental health outcomes of critically ill young children and their mothers.

Giummarra, M., Lennox, A., Dali, G., Costa, B., & Gabbe, B. (2018). **Early psychological interventions for posttraumatic stress, depression and anxiety after traumatic injury: A systematic review and meta-analysis.** *Clinical Psychology Review*, 62, 11-36. doi: 10.1016/j.cpr.2018.05.001.

- ✓ Guimmarra et al. review the effectiveness of several early interventions designed to address post-injury mental health symptoms. Results suggest a collaborative stepped approach to care as a promising model of care for adults who have experienced a traumatic injury and hospitalization. Cognitive behavioral approaches were found to be most effective in addressing mental health symptoms in the weeks following an injury.

Marsac, M.L., Kassam-Adams, N., Hildenbrand, A.K., Nicholls, E., Winston, F. K. Leff, S.S., & Fien, J. (2016). **Implementing a trauma-informed approach in pediatric health care networks.** *JAMA Pediatrics*, 170(1), 70-77. doi: 10.1001/jamapediatrics.2015.2206.

- ✓ Marsac et al. review the role of a trauma-informed approach in pediatric settings in mitigating the risk for PMTS in children and their families as well as work-related traumatic stress for pediatric health care workers. The authors provide a framework for training pediatric health care networks in trauma-informed practices.

Murray, H., Grey, N., Wild, J., Warnock-Parkes, E., Kerr, A., Clark, D.M., et al. (2020). **Cognitive Therapy for Post-Traumatic Stress Disorder following Critical Illness and Intensive Care Unit Admission.** *The Cognitive Behaviour Therapist*, 1–36. doi: 10.1017/S1754470X2000015X.

- ✓ Murray et al. provide tangible clinical recommendations for identifying PTSD following ICU admission, how to conceptualize post-ICU PTSD within a cognitive model of PTSD, and how to apply principles of cognitive therapy for PTSD to patients with post-ICU PTSD. The article reviews unique aspects of an ICU admission that may contribute to PTSD and unique key clinical practice points.



## Sources for More Information

- ✓ **ISTSS Friday Fast Facts** page for all available medical trauma resources including clinician- and public-facing fact sheets.
- ✓ **Pediatric Medical Traumatic Stress Toolkit for Healthcare Providers** developed by the National Child Traumatic Stress Network for assessment tools, literature and comprehensive treatment considerations.
- ✓ **Oxford Centre for Anxiety Disorders and Trauma** Post-ICU PTSD Therapist Guide for treatment considerations unique to the experience of the ICU.
- ✓ **Managing the Psychological Impact of Medical Trauma** by Flaum Hall and Hall for a comprehensive overview of medical trauma and its consequences in adults.
- ✓ Bryant, R. (2014). [Mild Traumatic Brain Injury and PTSD](#) webinar. ISTSS Online Learning Library.
  - In this webinar, Dr. Richard Bryant discusses the interaction of PTSD and mild traumatic brain injury (mTBI), stress and post-concussive symptoms, and means of achieving adjustment following mTBI.

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