What You Should Know About Neuroendocrine Dysfunction After mTBI

- Neuroendocrine dysfunction (NED) or post-traumatic hypopituitarism (PTHP) can occur in a small subset of patients following traumatic brain injury (TBI) and may contribute to chronic symptomatology.
- Prevalence of NED after concussion/mTBI alone is not well-defined by the literature.
- Risk factors for NED include: repetitive low-level blast exposure, blast-related TBI, and a history of multiple TBIs.
- Pituitary disorders occurring after TBI include:
  - Growth hormone deficiency (GHD)
  - Adrenal insufficiency (as a result of disrupted adrenocorticotropic hormone secretion)
  - Hypogonadism
  - Hypothyroidism
  - Hyperprolactinemia
  - Diabetes Insipidus (excessive thirst and urination)

Screening and Treatment Considerations

- Screening involves both standard and dynamic laboratory testing that should be ordered and interpreted by a specialty provider (e.g., TBI provider, endocrinologist, neurologist).
- NED screening is usually not indicated within the first 3 months after mTBI.
- Limited evidence exists to support treatment of NED due to mTBI.
- Abuse potential and unknown side effects are risks of using hormone replacement therapies in the chronic mTBI population.

Symptoms of NED

- Fatigue
- Lethargy
- Generalized weakness
- Low mood
- Difficulty concentrating
- Change in appetite
- Unexplained weight loss or gain
- Dizziness (with hypotension, especially postural)
- Males: sexual dysfunction, reduced facial hair
- Females: oligo-/amenorrhea, reduced axillary or pubic hair

Conditions With Overlapping Symptoms

- Sleep Disturbances
- Post-Concussion Syndrome
- Psychological Health Conditions

Patients with chronic symptoms (>3 months), risk factors for NED, and functional limitations, should be referred to a TBI clinic or specialty provider.
References


Acknowledgments
This provider fact sheet was developed on the basis of a thorough literature review by the Traumatic Brain Injury Center of Excellence (TBICoE) core working group, and was supported by the input of an end-user working group. The full literature search is available upon request. The TBICoE team wishes to acknowledge the contributions of the members of the working groups, listed below, and express our sincere gratitude. Many thanks.

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