

# Supplement: Intimate Partner Violence-Related Head and Neck Trauma

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*Date Updated: March 2024*

The medical care of adolescents who sustain head and neck trauma as a result of intimate partner violence (IPV) requires special consideration. This supplement provides important background regarding IPV, the different types of cranial and extracranial injuries that can result from IPV and outlines special considerations for providing initial medical assessment, follow-up and multi-disciplinary management of adolescents with acute IPV-related head and neck trauma.

## **Background:**

Intimate partner violence (IPV) is an important public health issue that can impact adolescents and includes physical, sexual or emotional abuse or controlling behaviors inflicted by a current or former intimate partner<sup>1</sup>. It is estimated that approximately 1 in 3 women worldwide experience physical and/or sexual forms of IPV or non-partner sexual violence during their lifetime<sup>1</sup>. Teen dating is a common cause of physical and sexual violence, however adolescents involved in human trafficking or the sex trade industry can also be at risk of gender-based violence. Risk factors for experiencing IPV may include younger age, female sex, lower socioeconomic status and previous exposure to child abuse as well as disability<sup>2,3,4</sup>. Intimate partner violence can result in acute physical injuries and medical conditions but can also contribute to the development of mental health conditions. The most common physical injuries that occur in the context of IPV include those to the head, face and neck<sup>5,6</sup>. Head trauma can lead to a spectrum of traumatic brain injuries that range from concussion to more severe structural brain injuries and result in physical, cognitive, sleep and emotional symptoms and in more severe cases deficits in sensory, motor or language functioning and seizures. Trauma to the face can lead to facial fractures that commonly involve the nasal bones, zygomatic complex and mandible<sup>7,8</sup> and can result in bruising, deformity or facial numbness but can also include injury to the orbit and its contents<sup>9,10</sup> resulting in periorbital bruising, subconjunctival hemorrhage, extraocular muscle entrapment and globe rupture. Neck trauma due to blunt trauma or strangulation can lead to hoarseness and difficulty swallowing as well as blunt cerebrovascular injury and hypoxic-ischemic brain injury. Orthopedic injuries can include strains, sprains, and fractures that often occur in defensive locations including the hands, wrists and ulna<sup>7,11</sup>. Intimate partner violence can also result in injuries to solid organs and can take the form of co-occurring sexual assault, which together can result in pelvic injuries, sexually transmitted and blood borne infections and pregnancy-related complications<sup>12</sup>. Those who experience IPV can be at an elevated risk of developing mental health outcomes including depression, anxiety, post-traumatic stress disorder and substance misuse<sup>13,14</sup>. Beyond the medical impacts of IPV survivors can also present with complex housing, safety or legal needs. When caring for survivors of IPV it is important that medical providers use a trauma-informed approach that includes open-ended questions and limits technical terms. They should provide a safe environment and listen to patients; remain non-judgmental; demonstrate empathy, concern and kindness; provide empowerment and validation and give patients multiple opportunities to disclose IPV<sup>15</sup>. Taken together, IPV exposure in adolescence can have diverse medical and social consequences that require an organized approach to identify and address. Physicians

and nurse practitioners must apply an intersection lens to ensure that patients receive the equitable, trauma-informed, multi-disciplinary and multi-sectoral care they deserve. This table presents important considerations for the initial medical assessment and follow-up care of adolescents who present with acute IPV-related head and neck trauma.

<b>Initial Medical Assessment</b> (physician/nurse practitioner)
<p><b>Objectives:</b></p> <ol style="list-style-type: none"> <li>1.) identify, classify, and diagnose existing traumatic brain injuries</li> <li>2.) identify and diagnose co-existing traumatic injuries and/or mental health/medical conditions</li> <li>3.) develop an individually-tailored management plan</li> </ol>
<p><b>Components:</b></p> <p><i>Informed consent:</i> outline purpose of medical assessment and limits of confidentiality and duty to report  <i>Clinical history:</i> Collect demographics, injury details (including relationship to perpetrator, setting of assault, injury mechanisms- head trauma, strangulation, sexual assault), previous care, past medical history (including previous IPV, mental health conditions, substance use, pregnancy status), social history, current symptoms and red flags and danger assessment<sup>16</sup> and screen for human trafficking  <i>Physical examination:</i> Vital signs, complete neurological exam, vision/oculomotor/otological exam, head and neck exam and focused exam for other extracranial injuries as needed  <i>Supplemental tests (as needed):</i> plain film (e.g extremity fractures), computerized tomography (rule out structural brain or spine injuries), blood work (e.g for sexually-transmitted or blood borne infections)</p>
<p><b>Management Plan:</b></p> <ul style="list-style-type: none"> <li>• Provide verbal and written information on IPV TBI.</li> <li>• Provide return to school, work or sport documentation as needed.</li> <li>• Provide information and guidance about how to develop a safety plan.</li> <li>• Provide information on mental health crisis and IPV support resources, family counseling, victim and legal services and organizations that can provide culture- and gender-specific support and healing.</li> <li>• Consider additional tests or referrals as needed.</li> <li>• Consider referral to a multi-disciplinary TBI clinic or program.</li> <li>• Arrange medical follow-up with patient in 1-2 weeks.</li> <li>• Assess need for mandatory reporting to police or child protective services.</li> </ul>



<b>Medical Follow-up</b> (physician/nurse practitioner)
<ul style="list-style-type: none"> <li>• Reassess housing status, safety and new injuries.</li> <li>• Reassess clinical symptoms and return to activity status (work, school, sport).</li> <li>• Screen for features of mental health conditions.</li> <li>• Perform focused physical examination as needed.</li> <li>• Provide return to school, work or sport documentation as needed.</li> <li>• Provide information on mental health crisis and IPV support resources, family counseling, victim and legal services and organizations that can provide culture- and gender-specific support and healing.</li> <li>• Consider additional tests or referrals as needed.</li> <li>• Arrange medical follow-up as needed or consider discharge based on individual patient needs.</li> </ul>

This table outlines medical and allied health professionals who may need to be consulted to optimize the multi-disciplinary care of patients with acute IPV-related head and neck trauma

Medical sub-specialist	Reason for referral
Emergency medicine physician	Cranial or extra-cranial injuries requiring urgent assessment in the emergency department
Radiologist	Need to arrange diagnostic imaging
Neurosurgeon	Structural brain or spine injury
Maxillofacial/plastic surgeon	Facial fractures and injuries
Ophthalmologist	Suspected or diagnosed structural eye injury
Orthopedic surgeon	Traumatic orthopedic injuries
ENT surgeon	Suspected or diagnosed injuries to ears, nose, or throat including hearing deficits and temporal bone pathology
Oral surgeon/dentist	Oral or dental injuries
Psychiatrist	Suspected or diagnosed mental health conditions, addictions, sleep disorders or suicidal ideation
Neuro-ophthalmologist	Suspected or diagnosed cranial neuropathy or visual field defect
Primary care physician	General medical care and follow-up
Neurologist	Persistent post-traumatic headaches, migraines, facial pain, cerebrovascular injury, seizures or stroke
Obstetrician/gynecologist	Pregnancy or gynecological concerns
Allied health sub-specialist	Reason for referral
Social worker	Assistance with social needs, housing, victim and legal services
Patient advocate/navigator	Assistance with accessing and coordinating patient care and support
Forensic nurse examiner	Acute sexual and domestic assault
Clinical psychologist	Suspected or diagnosed mental health conditions, addictions, sleep disorders or suicidal ideation
Neuropsychologist	Persistent mood or cognitive symptoms
Vestibular physiotherapist	Suspected or diagnosed vestibular disorders
Neuro-physiotherapist	Neurological deficits requiring rehabilitation
Musculoskeletal physiotherapist	Diagnosed whiplash and other musculoskeletal injuries requiring rehabilitation
Occupational therapist	Neurological and cognitive challenges or mental health needs requiring rehabilitation, or environmental modifications and support
Speech language pathologist	Deficits in speech, language or swallowing
Chiropractor	Diagnosed whiplash-type injury
Traditional healer	Patients who wish to receive culturally-based traditional healing and support
Clinical child protection service	Children impacted by IPV or family violence

Tables adapted from: *Abused & Brain Injured Toolkit; Supporting Survivors of Abuse and Brain Injury Through Research; Concussion Awareness Training Tool: Intimate Partner Violence Traumatic Brain Injury Medical Provider Resource (Version 1.0), February 2023.*



## Resources:

- Post Injury Patient Education Resource (English): <https://www.abitoolkit.ca/assets/pdfs/HCP-Resource-9Mar2021.pdf>
- Post Injury Patient Education Resource (French): <https://www.abitoolkit.ca/assets/pdfs/HCP-Resource-FR-31Mar2021.pdf>
- IPV TBI Medical Provider Resource: [https://www.abitoolkit.ca/assets/pdfs/IPV-TBI-Medical-Provider-Resource\\_Version-1.1.pdf](https://www.abitoolkit.ca/assets/pdfs/IPV-TBI-Medical-Provider-Resource_Version-1.1.pdf)
- Supporting Survivors of Abuse and Brain Injury Through Research (SOAR)/ Concussion Awareness Training Tool (CATT) Women's Support Worker Training Course: <https://cattonline.com/womens-support-workers/>
- Canadian Pediatric Society: Child Maltreatment: <https://cps.ca/en/documents/tag/child-maltreatment>

### Websites:

- Abused & Brain Injured Toolkit: <https://www.abitoolkit.ca>
- Supporting Survivors of Abuse and Brain Injury Through Research (SOAR project): <https://soarproject.ca>
- Concussion Awareness Training Tool (CATT): <https://cattonline.com>

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