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| **Case Title** | Blunt Cerebrovascular Injury (BCVI) - PAR |
| **Scenario Name** |  |

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| **Learning Objectives -** [**Use action words**](http://ubccpd.ca/sites/ubccpd.ca/files/Accreditation_Learning%20Objectives_%20Verbs.pdf) | |
| **Knowledge:**   1. Describe risks for BCVI | |
| **Skills:**   1. Demonstrate assessment when considering BCVI | |
| **Attitude/Behaviours:**   1. Demonstrate team skills 2. Demonstrate situational awareness 3. Demonstrate graded assertiveness | |
| **Scenario Environment** | |
| **Location** | PAR |
| **Monitors** | Stand PAR Monitor |
| **Props/Equipment** | |  |  |  | | --- | --- | --- | | Penlight |  |  | |  |  |  | |
| **Make-up/Moulage** | Nil |
| **Potential Distractors** | Nil |

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| **Case Introduction:** |
| 45 year old to PAR after surgurey to extensive facial lacerations – no other significant injuries. Involved in speed single vehicle accident. |

| **Patient Parameters** | **Effective Management** | **Notes** |
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| **Phase 1: Arrival to PAR**  **Condition:** Stable  **Initial Assessment**   * **Heart Rhythm:** Sinus * **HR:** 74 * **BP:** 120-45 * **RR:** Intubated. Spont RR of 20 * **SP02:** 98 * **T:** 36.5 * **Glucose:** 7 * **CNS:** Still drowsy. GCS 10(E:3, V:1, M:6) PERL @ 4mm. Proceeds to GCS 14 (E:3, V:5, M:6) * **Chest:** Clear. Seatbelt bruising present neck/chest/abd * **CVS:** Normal * **GI:** Normal * **Integ:** Mutliple bruising/lacerations * **Weight:** 100 kg | 1. **Take a focused history** (see Notes column) 2. **Management**  * Attach to monitors * Neuro check - *\*\*critical action* * Extubate   *Proceed to* ***Phase 2:Neuro decline*** *after extubation and Normal assessment* | 1. **Focused history**   **PMHx**   * Healthy   **Meds**   * Nil   **Allergies**   * Nil |
| **Phase 2: Neuro decline**  **Condition:** Appears to be more drowsy  **Physical Examination**   * **Heart Rhythm:** Sinus * **HR:** 100 * **BP:** 100/40 * **RR:** 16 * **SP02:** 98% * **T:** 36.7 * **Glucose:** 7 * **CNS:** GCS (E:2, V:3, M:6). Neglecting rt side. Lt pupil sluggish to react to light * **CVS:** Increasing edema to lt side of neck | 1. **Patient Reassessment** (see Notes column) 2. **Management**  * Recognize neuro decline * Complete full neuro assessment * Notify physician of change in neuro status   *\*\*Proceed to* ***Phase3:*** *Neuro crisis* | 1. **Patient Reassessment**   **Airway**   * Patent   **Breathing**   * Normal   **Circulation**   * Mildly hypotensive |
| **Phase 3: Neuro crisis**  **Condition:** Unresponsive  **Physical Examination**   * **Heart Rhythm:** Sinus * **HR:** 125 * **BP:** 76/30 * **RR:** 20, shallow * **SP02:** 89% * **T:** 37 * **Glucose:**  7 * **CNS:** GCS 6(E:1, V:1, M:4). Only withdraws Lt side, rt side flaccid. Lt puil dilated * **CVS:** Gross neck edema | 1. **Patient Reassessment** (see Notes column) 2. **Medical Management**  * Call for additional support/help – consider calling a Code Blue * Consider fluid resucusitation/blood products * Consider airway management * Return to OR | 1. **Patient Reassessment**   **Airway**   * Compromised due to increasing neck edema   **Breathing**   * Compromised   **Circulation**   * BP declining, HR increasing |

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| **Debriefing Points** |
| * Although BCVI represents a rare injury, the long-term complications can be fatal but mostly prevented by adequate treatment.   Cerebral artery dissection   * The vast majority of dissections present with cerebral infarct; those few that present with local mass effect and respiratory compromise may deteriorate rapidly, requiring urgent resuscitation and consideration of endotracheal intubation, which is often dangerous and/or impossible. * Rarely, dissection can cause severe dysphagia, neck swelling, dysphonia, and extremely rarely, rapidly life‐threatening airway obstruction * When to watch for BCVI * Signs and symptoms of BCVI * Components of complete neuro assessment. Early signs of neuro deterioration vs. late signs |