**Section 1: Case Summary**

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| **S****cenario Title:** | **Pediatric Post-Op Tonsillectomy Bleed** |
| Keywords: | Pediatrics, Peds, Post-op, Bleed, Tonsillectomy |
| Brief Description of Case: | An 8-year old develops a post-op tonsillectomy bleed on post-op day 0. The case begins with the patient’s mother calling due to blood seen on pillowcase. Management will focus on psychosocial needs, positioning, suctioning without further traumatization of the site, continuous re-assessment of patient status, calling for help early, and SBAR report. Will require minor fluid resuscitation but no severe hemodynamic instability will occur. The case will resolve once the surgeon has been notified, and safe management of the child has been exhibited. |

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| **Goals and Objectives** | |
| Educational Goal: | Practice the management of a child with a moderate post-op bleed which could compromise oxygenation and hemodynamic status if left untreated |
| Objectives:  (Medical and CRM) | * Recognize and manage the possibility of aspiration * Control bleeding from a difficult-to-access location * Provide accurate and concise SBAR report * Call for help and mobilize resources early * Establish role clarity and distribution of workload * Communicate effectively using closed-loop communication and a shared mental model |

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| **Learners, Setting and Personnel** | | | | | | |
| Target Learners: | Junior Learners | | Senior Learners | | | Staff |
| Physicians | Nurses | | RTs | Inter-professional | |
| Other Learners: | | | | | |
| Location: | Sim Lab | | In Situ | | | Other: |
| Recommended Number of Facilitators: | Instructors: 1 | | | | | |
| Confederates: 1 (if no physicians available; physician and surgeon roles) | | | | | |
| Sim Techs: 1 | | | | | |

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| **Scenario Development** | |
| Date of Development: | 2019.11.26 |
| Scenario Developer(s): | Christina Choung |
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| Last Revision Date: |  |
| Revised By: |  |
| Version Number: |  |

**Section 2A: Initial Patient Information**

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| 1. **Patient Chart** | | | | | | |
| Patient Name: Justin Songbird | | | | Age: 8 | Gender: M | Weight: 31kg |
| Admitting Diagnosis: Post-op Tonsillectomy | | | | | | |
| Temp: 36.4 | HR: 90 | BP: 85/56 | | RR: 24 | O2Sat: 98% | FiO2: RA |
| Cap glucose: 6.2 | | | | GCS: (E V M ) 15 | | |
| Handover:  Justin was admitted at 1000 this morning after his tonsillectomy. Admission assessment revealed all was well – his throat was reddened with some slough, and he had some pain which was relieved with Tylenol. He had a popsicle for lunch. Since then, he’s been awake with stable vitals and minor complaints of throat pain. Tylenol was last given an hour ago. He’s currently taking a nap.  The scenario starts with the call bell going off for Justin’s room | | | | | | |
| Allergies: NKDA | | | | | | |
| Past Medical History:   * Recurrent tonsillitis | | | Current Medications:  n/a | | | |

**Section 2B: Extra Patient Information**

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| **A. Further History** | |
| The case will begin with Justin’s mother stating she called because she noticed blood on his pillowcase. Justin is asleep on his side with a small amount of blood pooled by his mouth. | |
| **B. Physical Exam** | |
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| Cardio: normal | Neuro: normal |
| Resp: coughing; breath sounds fine crackles | Head & Neck: normal |
| Abdo: normal; swallowing a lot | MSK/skin: normal |
| Other: when oral cavity is examined, bright red blood will be apparent. No great pooling of blood inside the mouth. | |

**Section 3: Technical Requirements/Room Vision**

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| **A. Patient** |
| Mannequin:Pediatric manikin with monitor (NIBP display/big numbers display) |
| Standardized Patient |
| Task Trainer |
| Hybrid |
| **B. Special Equipment Required** | |
| * Peripheral IV drainage bag x1 (NOT attached to manikin) * O2 equipment and delivery modalities * Suction equipment * Gauze * PDTM for Tranexamic Acid | |
| **C. Required Medications** | |
| * Tranexamic acid IV | |
| **D. Moulage** | |
| n/a | |
| **E. Monitors at Case Onset** | | |
| Patient on monitor with vitals displayed  Patient not yet on monitor | | |
| **F. Patient Reactions and Exam** | | |
| When Justin’s mouth is reassessed, there will be bright red blood inside – difficult to say how much, maybe about 10mL. It isn’t continuously flowing. It is hard to determine where exactly the bleed originates.  If asked, pain is not worse than it has been. If suctioned aggressively, he will complain that it hurts.  Justin is both swallowing and coughing a lot. | | |

**Section 4: Confederates and Standardized Patients**

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| **Confederate and Standardized Patient Roles and Scripts** | |
| Justin’s mother | Worried about bleeding – needs updates. If no updates given, will ask (persistent and firm, but not distracting) again for updates until she is addressed and information is relayed.  She will also talk to Justin to try and keep him calm |
| Justin | Doesn’t like what’s happening; especially does not like it when suctioned. Hates the taste in his mouth. |
| Lab | State you will be there shortly  Make note of whether STAT status is relayed |
| Physician – if none available | See facilitator notes |

**Section 5: Scenario Progression**

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| **Scenario States, Modifiers and Triggers** | | | | |
| Patient State/Vitals | Patient Status | Learner Actions, Modifiers & Triggers to Move to Next State | | Facilitator Notes |
| **1. Baseline State**  Rhythm: Sinus  HR: 99  BP: 78/52  RR: 24  O2SAT: 94%  T: 36.6oC  GCS: 15 | Asleep to start; once woken:   * Coughing ++ and swallowing a bunch * Small amount of blood flies out when coughing * Hurts when coughs | Expected Learner Actions  Assess patient status and vital signs  Call for help  Verbalize roles and responsibilities; delegation of tasks  Patient asked to sit up, lean forward, and cough into basin  Update/inform pt’s mum  Reassure child  O2 by NP applied  Chest assessment done  Physician called and updated  If suctioning done, suction lightly using yanker  ± dipping a swab in Epinepherine and toughing it to bleed  Medications calculated and administered appropriately  Fluid bolus calculated and administered appropriately using the pull-push method  Lab called and STAT CBC ordered  Documentation initiated  Paperwork related to OR prepared and placed on front of chart:   * Consent * Pre-op checklist * Surgical papers   Report given to physician upon arrival | Modifiers  *-*if suctioned aggressively – will gag, choke, and increased bleeding will be noted  -if sat up and asked to lean forward: SpO2 will not change  -if sat up but not asked to lean forward: SpO2 ↓ 90% over 2 min  -if remains lying down or on side: SpO2 ↓ 90% over 1 min  Triggers  -Case ends ~10-15 minutes after beginning of case, or after all Expected Learner Actions completed | * See confederate notes re: Justin and mum’s verbalizations * If no physician present, when physician called:   + Make note of accuracy and flow of SBAR report   + Specifically ask how much bleeding they estimate is happening, and if they know from where   + If not already reported, ask what has been done to date   + Suggest leaning patient forward and coughing into basin   + Suggest O2 by NP (if not already done)   + Order Tranexamic Acid 15mg/kg IV (= 465mg)   + Order NS 6mL/kg IV over 30 min (=186mL)   + Ask for stat CBC   + State Justin may need to go back to OR   + State you will be there shortly * If no physician present, walk in to room and ask for report ~10-15 minutes after case started |

**Appendix A: Facilitator Cheat Sheet & Debriefing Tips**

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| “Factors that may influence the risk of postoperative hemorrhage include:   * Age of the child – Older children and adolescents appear to have an increased risk compared with young children (<6 years old). * Indication for surgery – Patients undergoing tonsillectomy for chronic tonsillitis appear to be at increased risk compared with those undergoing tonsillectomy for OSA This is due to the fact that children with chronic tonsillitis have more scarring between the tonsil and the surrounding tissue, making removal more difficult. * Experiencing a minor bleeding in the immediate postoperative setting appears to increases the likelihood of a subsequent severe bleeding episode.   Children who have experienced a bleeding episode should be hospitalized overnight for observation. Postoperative hemorrhages usually stop spontaneously, but they sometimes require a return to the operating room for hemorrhage control. They seldom require blood transfusion. In rare cases, they can be life threatening.”3   * “The patient should be sitting upright, with suction available for active bleeding. * Inspection of the oral cavity and oropharynx must be performed, including a thorough inspection of the tonsillar fossa. * Intravenous access should be obtained early and not delayed until the operating room theater. * Basic labs, including a hemoglobin and hematocrit, should be drawn.   The degree of bleeding and age will often help dictate whether a patient will need to return to the operating room for cauterization. If a patient is not actively bleeding, or there is less than 1 tablespoon, some providers choose close observation. If a patient is actively bleeding, the patient should be taken urgently for control of the hemorrhage. Until the patient is transferred to the operating room, if hemorrhaging is significant, direct pressure, either with a throat pack or gauze, should be applied to the tonsillar fossa if the patient is cooperative.  Control of hemorrhage was historically managed with suture ligation, but suction cautery is more routinely performed today. Suction cautery results in less operating time and a decreased amount of intraoperative blood loss. If bleeding is controlled under local anesthesia, hurricaine spray (benzocaine) may be used for initial anesthetization, followed by viscous lidocaine or a local injection of lidocaine. Local cauterization may be attempted with bipolar cautery or silver nitrate.”1 |

**References**

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| 1. Iowa Head and Neck Protocols. (July 2019). [Tonsillectomy bleed (hemorrhage) management (post-tonsillectomy hemorrhage)](https://medicine.uiowa.edu/iowaprotocols/tonsillectomy-bleed-hemorrhage-management-post-tonsillectomy-hemorrhage). Retrieved November 26, 2019  2. Johnson, K. (September 2018.) Starship Child Health, Starship Clinical Guidelines, [Clinical Guideline: Tonsillectomy – management of post-tonsillectomy bleed in CED](https://www.starship.org.nz/guidelines/tonsillectomy-management-of-post-tonsillectomy-bleed-in-ced/). Retrieved November 26, 2019  3. Messner, AH. (October 2019). UpToDate: [Tonsillectomy (with or without adenoidectomy) in children: Postoperative care and complication](https://www.uptodate.com/contents/tonsillectomy-with-or-without-adenoidectomy-in-children-postoperative-care-and-complications?search=post-op%20tonsillectomy%20bleed&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1#H7658129). |