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| **Case Title** | Beta Blocker Overdose |
| **Scenario Name** | Beta Blocker Overdose |

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| **Learning Objectives -** [**Use action words**](http://ubccpd.ca/sites/ubccpd.ca/files/Accreditation_Learning%20Objectives_%20Verbs.pdf) | |
| **Knowledge:**   1. Manage beta blocker OD 2. Manage the patient with profound toxicological shock | |
| **Skills:**   1. Lead resuscitation 2. Perform intubation 3. Perform Central line/IO insertion | |
| **Attitude/Behaviours:**   1. Demonstrate Team skills 2. Demonstrate Situational awareness 3. Demonstrate Graded Assertiveness | |
| **Scenario Environment** | |
| **Location** | Emergency Department – resuscitation room |
| **Monitors** | BP, cardiac, pulse oximeter |
| **Props/Equipment** |  |
| **Make-up/Moulage** | None |
| **Potential Distractors** | None |

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| **Case Introduction:** |
| 51 year old woman brought in by husband with SOB, vomiting, and syncope. Home on weekend pass from psychiatric facility. Took “half a bottle” of husband’s bisoprolol 36h prior. |

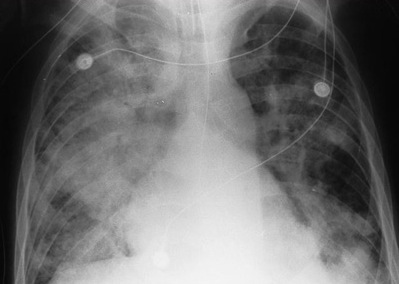
| **Patient Parameters** | **Effective Management** | **Notes** |
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| **Phase 1: Lethargic, unstable**  **Condition: Unstable**  Unwell, lethargic  **Initial Assessment**   * **Heart Rhythm:** Sinus Bradycardia * **HR:**  58 * **BP:** 55/40 * **RR:** 16 * **SP02:** 86% on RA * **T:** 36.5 * **Glucose:** 6.2 * **Chest:** Diffuse crackles * **CNS:** GCS 9 **(**E3-M4-V2), drowsy, no FND * **CVS:** normal * **GI:** normal | 1. **Take a focused history** (see Notes column) 2. **Medical Management** 3. Airway control    1. RSI (ketamine/etomidate +rocuronium)    2. Technically easy airway    3. Oxygenation improves marginally post 4. Vascular access    1. Nurses can only get 1 large bore IV    2. Student should move to IO/CL 5. IV crystalloids – 2L NS 6. Investigations    1. ECG    2. CXR    3. Labwork 7. Consider tailored therapies for beta blocker toxicity | 1. **Focused history**   51 year old woman brought in by husband with SOB, vomiting, and syncope. Home on weekend pass from psychiatric facility. Took “half a bottle” of husband’s bisoprolol 36h prior.  **PMHx**   * Depression * Osteoporosis   **Meds**   * Calcium * Vitamin D * Effexor   **Allergies**   * NKDA |
| **Phase 2: Intubated, unstable**  **Condition: Unstable**  **Physical Examination**   * **Heart Rhythm:** Sinus Bradycardia * **HR:** 55 * **BP:** 60/40 * **RR:** 16 * **SP02:** 89% (100% by ETT) * **T:** 36.5 * **Chest:** Diffuse crackles * **CNS:** GCS 6T (E1-M4-V1) * **CVS:** Normal | 1. **Patient Reassessment** (see Notes column) 2. **Medical Management:** 3. Call Poison Control 4. Continue IV crystalloids 5. Interpret CXR (ALI) 6. Interpret ECG (sinus bradycardia) 7. IV glucagon bolus/infusion    1. No response 8. Calcium 9. Trial of atropine    1. No response 10. Trial of pacing     1. Unable to capture 11. High dose Insulin/glucose infusion 12. Inotropes/vasopressors     1. No response to any single agent     2. Improves with addition of second agent 13. Intralipid infusion 14. Consider ECMO | 1. **Patient Reassessment**   **Airway**   * Secured with ETT   **Breathing**   * Apneic if paralytic used, otherwise assisted   **Circulation**   * Bradycardic, hypotensive   **NOTES:**   * Patient stabilizes with combination of 2 inotropes/vasopressors, IV glucagon, high dose insulin/glucose, and intralipid * Otherwise, persistent hypotension/bradycardia |

**Insert more lines if more phases required.**

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| **Expected Patient Management** | **Debriefing Points** |
| 1. **Student** 2. **R1** 3. **Senior IM resident** |  |

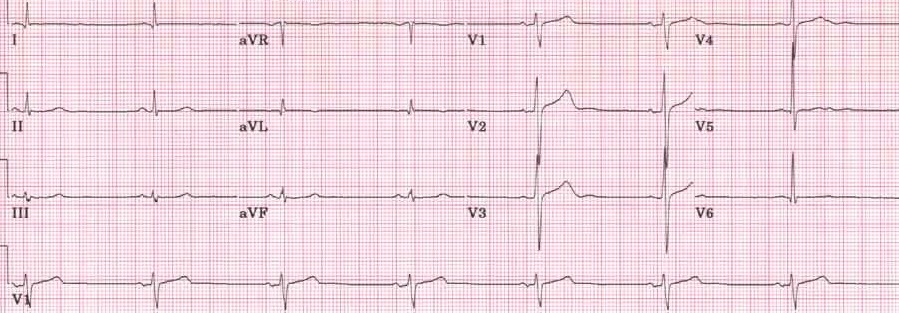
**References:**

**X-RAYS – Click** [here](https://extranet.interiorhealth.ca/IHUBCFaculty/Diagnostics/Forms/AllItems.aspx?RootFolder=%25252FIHUBCFaculty%25252FDiagnostics%25252FX%25252Drays&View=%25257bFD97E2FE-FD01-433F-B9CB-D75A4195924E%25257d)

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**LABS – click** [here](https://extranet.interiorhealth.ca/IHUBCFaculty/Diagnostics/Forms/AllItems.aspx?RootFolder=%25252FIHUBCFaculty%25252FDiagnostics%25252FLabs&View=%25257bFD97E2FE-FD01-433F-B9CB-D75A4195924E%25257d) **OR fill out below**

**EKGs – click** [here](https://extranet.interiorhealth.ca/IHUBCFaculty/Diagnostics/Forms/AllItems.aspx?RootFolder=%25252FIHUBCFaculty%25252FDiagnostics%25252FECGs&View=%25257bFD97E2FE-FD01-433F-B9CB-D75A4195924E%25257d) **or paste**

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