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| **Case Title** | Myocardial Infarction – Refractory VF Arrest - ECMO |
| **Scenario Name** | ECMO possibility |

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| **Learning Objectives -** [**Use action words**](http://ubccpd.ca/sites/ubccpd.ca/files/Accreditation_Learning%20Objectives_%20Verbs.pdf) | |
| **Knowledge:**   1. Apply basic ACLS protocols 2. Demonstrate management of V. Fib Arrest 3. Demonstrate initial management of chest pain 4. Demonstrate initial management of Acute MI | |
| **Skills:**   1. Perform high quality CPR 2. Perform defibrillation 3. Perform intubation 4. Demonstrate EKG interpretation | |
| **Attitude/Behaviours**   1. Demonstrate Team skills 2. Demonstrate Situational awareness 3. Demonstrate Graded Assertiveness | |
| **Scenario Environment** | |
| **Location** | ED |
| **Monitors** | Telemtry/Crash Cart/defibrillator |
| **Props/Equipment** | EMS stretcher brought to right side of ED gurney  Chlorhexidine and trauma shears for RN  Art line and Mac cath set  US at bedside with sterile sheath  IV, Meds  Airway equipment  EKG |
| **Make-up/Moulage** | None |
| **Potential Distractors** | None |

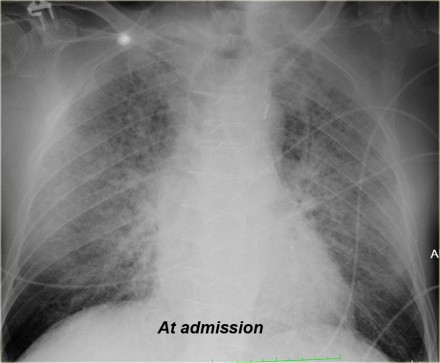
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| **Case Introduction:** |
| 58 y.o. Caucasian male presenting with chest pain at work during argument with co-worker. 45 minutes of central chest pain and SOB. Witnessed arrest. Immediate bystander CPR |

| **Patient Parameters** | **Effective Management** | **Notes** |
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| **Phase 1: VF arrest**  **Condition:** Unstable, CPR ongoing.  **Initial Assessment**   * **Heart Rhythm:** VF * **HR:** * **BP:** 0 * **RR:** 0 * **SP02:** 0 * **T:** 36.6 C * **Glucose:** 6.5 * **CNS:** GCS 3 * **CVS:** None. US no contractility * **GI:** * **Weight:** 154lbs * **Height:** 5’9” | 1. **Take a focused history from EMS** (see Notes column) 2. **Medical Management**  * ECG, goal within 10 mins * Cardiac monitor * Oxygen * IV access (x2 NOT right wrist) * Cardiac labs * Meds: Epi +/- amiodarone | **1. Focused history**  Was having argument with co-worker when sudden central chest pain developed. Ongoing x 45 mins. SOB. Denies cardiac history. Witnessed arrest with immediate bystander CPR. EMS arrival <5min. Defibrillated with ROSC. Lost pulses as arrived in ED. CPR immediately resumed.  **PMHx**   * Smoker * HTN   **Meds**   * HCTZ * Ramipril * Atorvastatin   **Allergies**   * None |
| **Phase 2: V. Fib Arrest**  **Condition:** Coding  Patient unresponsive, eyes closed, apneic  **Physical Examination**   * **Heart Rhythm:** Ventricular Fibrillation * **BP:** no reading * **RR:** apneic * **CNS:** GCS 3 | 1. **Patient Reassessment** (see Notes column)-*Recognizes change in condition* 2. **Medical Management:**  * CPR * Directs RN to lead code (ACLS protocol) * Directs 2nd RN to prepare for lines * Intubates patient * Defibrillate and follow ACLS Protocol in conjunction with RN * Directs 2nd MD to start femoral access with US | 1. **Patient Reassessment**   **Airway**   * Obstructed – tongue * Accepts oral a/w & intubation   **Breathing**   * Apneic – must be bagged   **Circulation**   * Absent pulses – must do CPR |
| **Phase 3: ROSC**  **Condition:** Unstable  Patient unresponsive, eyes closed, apneic  **Physical Examination**   * **Heart Rhythm:** Sinus with obvious anterior STE * **HR:** 100 * **BP:** no reading * **RR:** apneic * **CNS:** GCS 3 | 1. **Patient Reassessment** (see Notes column)-*Recognizes change in condition* 2. **Medical Management:**  * CPR * Intubate patient if not already done so * Calls Interventional cardiology and ICU | 1. **Patient Reassessment**   **Airway**   * Obstructed, must intubate if not already done so   **Breathing**   * Apneic, must bag   **Circulation**   * Absent pulses, must continue CPR |
| **Phase 4: Recurrent VF**  **Condition:** Unstable  **Physical Examination**  **Physical Examination**   * **Heart Rhythm:** Ventricular Fibrillation * **BP:** no reading * **RR:** apneic * **CNS:** GCS 3 | 1. **Patient Reassessment** (see Notes column)-*Recognizes refractory VF* 2. **Medical Management:**  * Calls CV surgery/Interventional (if not done already)/ICU * CV surgery agrees candidate for ECMO and is notifying perfusionist | 1. **Patient Reassessment**   **Airway**   * Intubated   **Breathing**   * Some spontaneous effort, allows assistance between and with own resps   **Circulation**   * Persistent VF with brief episodes of ROSC but GCS 3 |

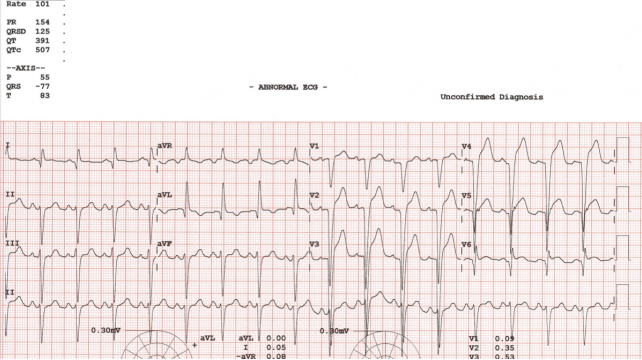
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| **Expected Patient Management** | **Debriefing Points** |
| 1. **Student** 2. **Junior Resident** 3. **Senior Resident** |  |

**References:**

**X-RAYS**



**EKGs**

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