## Myocardial Ischemia & Arrest

**Relevant Technical Actions**

<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tachycardia</td>
<td>1</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1</td>
</tr>
<tr>
<td>ST Depression</td>
<td>4</td>
</tr>
<tr>
<td>PVCs</td>
<td>4</td>
</tr>
</tbody>
</table>

**Pre-arrest Treatment**

- Deepens anesthetic level | 2 |
- NTG or beta blocker Rx of HTN | 2 |
- NTG or beta blocker Rx of Ischemia | 8 |
- Increases FiO2 | 2 |
- Lidocaine (for PVCs) | 5 |
- Requests other anti-arrhythmic drug | 1 |

**PHASE 2**

### Initial Cardiac Arrest Management

- Recognizes VF/VT | EI |
- Declares cardiac arrest | 5 |
- Requests code cart | 8 |
- Calls for help | 3 |
- Ensures CPR is performed | EI |
- Checks for pulse w & w/o CPR | 3 |
- Checks ETCO2 for adequacy of CPR | 1 |

### ACLS

- Charges defibrillator | 5 |
- Calls "Clear" before defibrillating | 2 |
- Administers defibrillating shock | EI |
- Does not shock through drapes | 5 |
- Checks ECG after shocks | 2 |
- Checks pulse or art line after shocks | 2 |
- Repeats defibrillation as necessary | 5 |
- Conforms to ACLS: 3 shocks in a row | 4 |
- Gives epinephrine if defibrillation x3 not successful | EI |
- Administers antarrhythmic drugs | 5 |

### Miscellaneous Cardiac Arrest and Post-resuscitation Management

- Uses FiO2 of 1.0 after Dx of arrest | 3 |
- Terminates use of volatile anesthetic | 2 |
- Uses high fresh gas flows | 1 |
- Ventilates appropriately | 4 |
- Verifies patient is being ventilated | 1 |
- Sends ABG | 2 |
- Gives HCO3 based on ABG | 1 |
- Requests ICU bed | 2 |
- Sends blood for appropriate lab tests | 1 |
- Suggests terminating surgery ASAP | 2 |
- Requests equipment for invasive monitoring | 1 |

**Maximum Points Possible** | 100 |

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## Malignant Hyperthermia

**Relevant Technical Actions**

<table>
<thead>
<tr>
<th>PHASE 1</th>
<th>Recognition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tachycardia / hypertension</td>
<td>1</td>
</tr>
<tr>
<td>Muscle rigidity (surgeon's comments)</td>
<td>1</td>
</tr>
<tr>
<td>Hypercarbia (if constant MV)</td>
<td>2</td>
</tr>
<tr>
<td>Hyperthermia</td>
<td>2</td>
</tr>
<tr>
<td>Acidosis (if ABG sent)</td>
<td>2</td>
</tr>
<tr>
<td>Dx made &quot;quickly&quot; after cues recognized</td>
<td>2</td>
</tr>
</tbody>
</table>

**PHASE 2**

### Initiation of MH Protocol

- Notifies surgeon of MH emergency | 5 |
- Requests MH box | 5 |
- Calls for help, or already present | 5 |
- Terminates triggering agent within 1 minute of notifying surgeon or requesting MH box | EI |

### Dantrolene Administration

- Gives dantrolene ≥ 20 mg within 10 minutes of MH box arrival | EI |
- Gives dantrolene ≥ 40 mg by end of scenario | 10 |
- Uses correct diluent for all vials | 6 |
- Uses >30 ml diluent for all vials | 6 |
- Request additional dantrolene (only 80 mg in box) | 6 |

### Ventilation and Oxygenation

- Uses FiO2 of 1.0 | 5 |
- Hyperventilates by ventilator or bag | 5 |
- Clears triggering agent with high flows or non-rebreathing circuit | 5 |

### Metabolic Management

- Requests insertion of urinary catheter | 1 |
- Gives mannitol and/or furosemide | 2 |
- Checks blood for K level | 3 |
- Sends ABG for management, not Dx | 2 |

### Hyperthermia Management

- Removes drapes | 2 |
- Calls for and places ice | 2 |
- Requests lower OR temperature | 1 |
- Requests supplies for cold lavage of stomach or peritoneum | 2 |
- Requests cold IV solutions | 2 |
- Considers planning for CPB | 1 |

### Miscellaneous Management

- Treats PVCs with antiarrhythmic drug | 2 |
- Places arterial line | 1 |
- Reviews MH checklist (in box) | 1 |
- Suggests terminating surgery ASAP | 1 |
- Requests ICU bed | 1 |
- Contacts MH Hotline | 1 |
- (no further actions) | 1 |

**Maximum Points Possible** | 95 |