## Drug Therapy Protocols: Amiodarone

<table>
<thead>
<tr>
<th>Policy code</th>
<th>DTP_AMI_0119</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>January, 2019</td>
</tr>
<tr>
<td>Purpose</td>
<td>To ensure a consistent procedural approach to amiodarone administration.</td>
</tr>
<tr>
<td>Scope</td>
<td>Applies to Queensland Ambulance Service (QAS) clinical staff.</td>
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<tr>
<td>Health care setting</td>
<td>Pre-hospital assessment and treatment.</td>
</tr>
<tr>
<td>Population</td>
<td>Applies to all ages unless stated otherwise.</td>
</tr>
<tr>
<td>Source of funding</td>
<td>Internal – 100%</td>
</tr>
<tr>
<td>Author</td>
<td>Clinical Quality &amp; Patient Safety Unit, QAS</td>
</tr>
<tr>
<td>Review date</td>
<td>January, 2022</td>
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</tbody>
</table>

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**Drug class**

Anti-arrhythmic

**Pharmacology**

Amiodarone prolongs the duration of the action potential and therefore the refractory period of atrial, nodal and ventricular tissues. It also reduces conduction across all cardiac tissue – including myocardial and conducting system cells. Amiodarone demonstrates electrophysiological properties across all Vaughan-Williams Class groups, which enables a broad spectrum of activity.[1-3]

**Metabolism**

The majority of amiodarone is excreted via the liver and GI tract by biliary excretion; there may be some hepatic recirculation.

**Indications**

- **Cardiac arrest** (refractory VF OR pulseless VT)[4]
- **Sustained conscious VT** (haemodynamically stable)

**Contraindications**

- **Cardiac arrest** (refractory VF OR pulseless VT):
  - Nil
- **Sustained conscious VT** (haemodynamically stable):
  - Allergy and/or Adverse Drug Reaction
  - severe conduction disorders (unless pacemaker or AICD in situ)
  - current amiodarone therapy
  - concurrent anti-arrhythmic therapy that prolongs the QT interval
  - pregnancy and/or lactation

**Precautions**

- **Cardiac arrest** (refractory VF OR pulseless VT):
  - concurrent anti-arrhythmic therapy that prolongs the QT interval[5]
  - thyroid disease
- **Sustained conscious VT** (haemodynamically stable):
  - hypotension
  - thyroid disease[2,6]
Side effects
- Hypotension\(^1,2\)
- Bradycardia
- Nausea and/or vomiting
- Peripheral paraesthesia

Presentation
- Ampoule, 150 mg/3 mL amiodarone

<table>
<thead>
<tr>
<th>Onset (IV)</th>
<th>Duration (IV)</th>
<th>Half-life</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 minutes</td>
<td>30 minutes</td>
<td>14–110 days (with chronic dosing)</td>
</tr>
</tbody>
</table>

Schedule
- S4 (Restricted drugs).

Routes of administration
- Intravenous injection (IV)
- Intraosseous injection (IO)
- Intravenous infusion (IV INF)

Special notes
- Ambulance officers must only administer medications for the listed indications and dosing range. Any consideration for treatment outside the listed scope of practice requires mandatory approval via the QAS Clinical Consult and Advice Line.
- If the patient is on oral amiodarone, the following cardiac arrest administration protocols continue to be authorised.
- If lidocaine (lignocaine) has been administered to a patient with conscious VT that progresses into cardiac arrest, the following administration protocols continue to be authorised.
- If the patient is in Torsade de Pointes due to suspected prolonged QT interval from excess amiodarone administration, magnesium sulphate administration is to be considered.
- After completion of a risk/benefit analysis, the QAS authorises the administration of sodium chloride 0.9% (flush or running IV line) following amiodarone administration in cardiac arrest, despite manufacturer’s recommendations.
# Adult dosages

## Cardiac arrest (refractory VF OR pulseless VT)

<table>
<thead>
<tr>
<th>Test</th>
<th>Route</th>
<th>Dosage</th>
<th>Administration</th>
<th>Total Maximum Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCP</td>
<td>IV</td>
<td>300 mg</td>
<td>Slow push over 2 minutes. Repeated once at <strong>150 mg</strong> after <strong>5 minutes</strong>.</td>
<td><strong>450 mg</strong></td>
</tr>
<tr>
<td>CCP</td>
<td>IO</td>
<td>300 mg</td>
<td>Slow push over 2 minutes. Repeated once at <strong>150 mg</strong> after <strong>5 minutes</strong>.</td>
<td><strong>450 mg</strong></td>
</tr>
</tbody>
</table>

## Sustained conscious VT (haemodynamically stable)

<table>
<thead>
<tr>
<th>Test</th>
<th>Route</th>
<th>Dosage</th>
<th>Administration</th>
<th>Syringe Preparation</th>
<th>Maintenance Infusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>CCP</td>
<td>IV INF</td>
<td>300 mg</td>
<td>Infusion over 30 minutes.</td>
<td>SPRFUSOR® 30 mL</td>
<td>Immediate following the loading dose and is to continue for a period of 24 hours with a total of 900 mg amiodarone administered.</td>
</tr>
</tbody>
</table>

**Syringe Preparation**: Mix 300 mg amiodarone (6 mL) with 24 mL of glucose 5% in a 30 mL SPRFUSOR® syringe to achieve a final concentration of 300 mg/30 mL. Ensure all syringes are appropriately labelled. Administer via SPRFUSOR® syringe driver at a rate of 60 mL/hour (over 30 minutes).
**Paediatric dosages**

<table>
<thead>
<tr>
<th>Cardiac arrest (refractory VF or pulseless VT)</th>
</tr>
</thead>
</table>
| **CCP** | **IV** | 5 mg/kg  
Slow push over 2 minutes.  
**Single dose only.**  
*Syringe preparation:* Mix 150 mg (3 mL) of amiodarone with 12 mL of glucose 5% (totalling 15 mL) in a 20 mL syringe to achieve a final concentration of 10 mg/mL.  

| **CCP** | **IO** | 5 mg/kg  
Slow push over 2 minutes.  
**Single dose only.**  
*Syringe preparation:* Mix 150 mg (3 mL) of amiodarone with 12 mL of glucose 5% (totalling 15 mL) in a 20 mL syringe to achieve a final concentration of 10 mg/mL.  

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