Amiodarone is used for the treatment of arrhythmias, particularly when other medicines are ineffective or contraindicated. Amiodarone should be initiated under hospital or specialist supervision.

Note: Amiodarone has been confused with other medicines such as allopurinol and amlodipine. Please take special care when prescribing, dispensing and administering these medicines.

MAKE SURE THERE IS A PLAN FOR MONITORING AND DOSE ADJUSTMENT

Although amiodarone is most frequently initiated in the hospital environment, long-term monitoring and evaluation often becomes the responsibility of the primary care team.

Check that dose reductions occur post-discharge as planned. The high initial dose is necessary because amiodarone has a very long half-life and it takes time before the optimal tissue levels of amiodarone are achieved.

Recommended amiodarone dosing regime

<table>
<thead>
<tr>
<th>Week</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1</td>
<td>200mg three times daily</td>
</tr>
<tr>
<td>Week 2</td>
<td>200mg twice daily</td>
</tr>
<tr>
<td>Week 3 onwards</td>
<td>200mg* daily</td>
</tr>
</tbody>
</table>

*or the minimum required to control the arrhythmia Amiodarone remains in the tissues for many months after being withdrawn. This is particularly important when monitoring for adverse effects because they can occur well after amiodarone has been stopped.

CHECK LIVER FUNCTION AND THYROID FUNCTION EVERY 6 MONTHS

Liver function

Amiodarone is associated with dose-dependent hepatotoxicity. Liver function tests are recommended at baseline and every 6 months during treatment. If serum transaminases are raised, a dose reduction is advised; if clinical signs of liver disease are evident, amiodarone should be stopped.

Thyroid function

Amiodarone contains iodine and can cause disorders of thyroid function. Thyroid stimulating hormone (TSH) levels, and clinical symptoms of thyroid dysfunction should be assessed before treatment, every 6 months during treatment, and for several months after discontinuation.

Amiodarone-induced Hyperthyroidism can occur as long as a year after withdrawal of the medicine, depending on dose and duration of treatment.

Note: A transient rise in T4 can occur soon after initiating amiodarone due to an inhibition of T4 to T3 conversion but should return within range after 3-6 months.

Hypothyroidism occurs in around 2 to 4% of amiodarone users. It can develop rapidly and may present as a new arrhythmia. Re-check thyroid function if tachycardia or atrial fibrillation occur. Thyrotoxicosis can take several years to develop, and the classical signs such as goitre or ophthalmopathy may be absent. Raised T3 and T4 levels with a very low or undetectable TSH concentration suggest thyrotoxicosis. Stopping amiodarone will not hasten recovery as it stays in the body for a long time after cessation; discuss with the patient’s cardiologist. Treatment with carbimazole and sometimes steroids may be required and the patient referred to an endocrinologist.

Hypothyroidism has also been associated with amiodarone use, more often in iodine replete areas. Patients should be informed about the symptoms such as fatigue, cold intolerance and dry skin, and if detected, referred to an endocrinologist for review. It may be possible to continue amiodarone under close supervision, with replacement therapy added if necessary.

INVESTIGATE NON-PRODUCTIVE COUGH AND DYSPNOEA

Pulmonary toxicity including pneumonitis and fibrosis occurs in around 2%-5% of amiodarone recipients. It can
Optic neuropathy can cause decreased visual acuity, decreased colour vision, or visual field loss. It usually occurs in both eyes within 12 months of starting amiodarone, and improves or resolves when discontinued. If there is evidence of pre-existing visual impairment, an eye examination should be organised prior to amiodarone treatment.

INTERACTIONS WITH AMIODARONE
There are a number of important interactions with amiodarone, and its long half-life can cause interactions for weeks after withdrawal. Amiodarone should generally be avoided with concurrent medicines that cause QT prolongation such as citalopram, erythromycin, ondansetron and digoxin.

Additional significant interactions of note:
- **Digoxin** - amiodarone increases digoxin concentrations. If both are absolutely necessary, a dose reduction of digoxin and careful monitoring are essential.
- **Warfarin** - amiodarone impairs the metabolism of warfarin, potentiating its anticoagulant effect and increasing the risk of bleeding. Dose reduction and weekly monitoring of warfarin are required until stable.
- **Dabigatran** – The anticoagulant effect of dabigatran can be potentiated by the concurrent use of amiodarone, increasing the risk of bleeding.
- **Simvastatin and atorvastatin** – The risk of myopathy may be increased; do not exceed 20mg per day of simvastatin if taking amiodarone.

Please refer to [www.nzf.org.nz](http://www.nzf.org.nz) for a comprehensive list.
### Recommended amiodarone monitoring

<table>
<thead>
<tr>
<th></th>
<th>Baseline</th>
<th>Follow up</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>6 monthly</td>
<td>Annually</td>
<td></td>
</tr>
<tr>
<td>Electrocardiogram (ECG)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chest x-ray (CXR)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thyroid function tests (TFTs)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liver function tests (LFTs)</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pulmonary function tests (PFTs)</td>
<td>Only if symptoms of respiratory deficiency</td>
<td>Only if suspicious symptoms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eye examination</td>
<td>Only if visual impairment</td>
<td>Slit lamp assessment suggested if suspicious symptoms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*or as clinically appropriate

### REFERENCES


### ACKNOWLEDGEMENTS

We wish to thank Dr Simon Young, Endocrinologist, and Johanna Lim, Cardiology Pharmacist, at Waitemata District Health Board, for their valuable contribution to this bulletin.

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**For further information on other high-risk medicines visit our website at [www.saferx.co.nz](http://www.saferx.co.nz)**