Specialised Medicines Service (SMS) Guideline ~
Amiodarone for patients within adult cardiology services (Devon wide)

Specialist: Please complete the shared care agreement letter at the end of this document and send together with the guideline to the GP.

GP: GPs are invited to participate. Please indicate whether you agree to share patient's care by completing the relevant letter at the end of this document and returning to the specialist.

Responsibilities remain with the specialist service until formally accepted by the GP. If a GP is not confident to undertake these roles, then they are under no obligation to do so. In such an event, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist.

If the GP agrees to share the care of the patient, the patient should not be discharged from the care of their specialist, but rather the care of the patient is shared between the patient, GP and specialist in accordance with the responsibilities outlined in this guideline.

The prescriber has the clinical and legal responsibility for the drug and the consequences of its use. Responsibility for drug monitoring and acting on results remains with the prescriber.

This guideline applies to the use of amiodarone in adults aged 18 years and over and details the responsibilities for the ongoing prescribing and monitoring required to enable a shared care agreement to be arranged between the primary and secondary care interface. Refer to the online British National Formulary (BNF), Summary of Product Characteristics (SmPCs), Medicines and Healthcare products Regulatory Agency (MHRA) or the National Institute for Health and Care Excellence (NICE) website for up-to-date information on any medicine.

Introduction and aims of treatment

Amiodarone treatment should be initiated and monitored only under hospital or specialist supervision, and only continued under a shared care arrangement overseen by cardiology teams.

Amiodarone is a Class I and III antiarrhythmic which should only be prescribed by clinicians who have a full understanding of the characteristics of the drug, its mode of action and risks of therapy. Amiodarone has been associated with serious and potentially life-threatening side effects, particularly of the lung, liver, and thyroid gland. Patients should be supervised and reviewed regularly during treatment.

In accordance with NHS England Policy Guidance: Items which should not routinely be prescribed in primary care (August 2023) amiodarone has been identified as a product where there are significant safety concerns. The principles of the NHS England policy guidance have been adopted in this SMS Guideline.

It may be appropriate to prescribe amiodarone if no other item is clinically appropriate or available, following a shared decision-making conversation between the prescriber and patient, based on evidence-based good quality information, clinical judgement and the patient's values and preferences.

The NHS England policy guidance states that amiodarone may be suitable in the following patients in line with NICE guideline (NG196) Atrial fibrillation: diagnosis and management (April 2021), and the NHS England shared care protocol for amiodarone for patients within adult services:

- Tachyarrhythmias associated with Wolff-Parkinson-White Syndrome
- Atrial flutter fibrillation / atrial fibrillation when other drugs cannot be used
- All types of tachyarrhythmias of paroxysmal nature including: supraventricular, nodal and ventricular tachycardias and ventricular fibrillation when other drugs cannot be used
- Heart failure, left ventricular hypertrophy, or left ventricular impairment
- Pre and post electrical cardioversion (start treatment 4 weeks before and continue for up to 12 months after cardioversion to maintain sinus rhythm)

Use of amiodarone for other indications falls outside the scope of this guideline.

The specialist must specify the indication for each patient when initiating shared care. A specialist includes all appropriately qualified healthcare professionals with training and expertise in the use of amiodarone e.g. Consultant Cardiologist and Non-Medical Prescribers (i.e. arrhythmia nurse specialists) with access to a multidisciplinary team (MDT).

Where there is an existing cohort of patients taking amiodarone who are not currently under shared care, it is recommended that these patients are reviewed to ensure that prescribing remains safe and appropriate, and a shared care arrangement is introduced.

Important safety information

MHRA Drug Safety Update: Amiodarone (*Cordarone X*): reminder of risks of treatment and need for patient monitoring and supervision (March 2022)

This update reminds healthcare professionals of the following:

- Regularly review patients on long-term amiodarone treatment
- Check liver and thyroid function before treatment, and at 6-monthly intervals; thyroid function should also be monitored for several months after discontinuation
- Although routine lung imaging is not necessary in patients taking amiodarone long-term, make patients aware of the need to seek advice if they have new or worsening respiratory symptoms and consider using computerised tomography (CT) scans if pulmonary toxicity is suspected
- Patients and carers should also be advised to seek immediate medical attention if other symptoms or serious adverse reactions develop during or after stopping treatment.
- A patient card is available for all patients that take amiodarone. This card includes important information on the most serious and potentially life-threatening side-effects (and their symptoms) that may occur during treatment with amiodarone and also reminds patients of the potential for drug to drug interactions.
- Report suspected side effects to MHRA via yellow card scheme.

Specialist responsibilities

The specialist may decide to delegate some of these tasks to members of their team, however the responsibility for ensuring the following are undertaken remains with the named specialist overseeing the care of the individual patient:

- Assess the patient, establish diagnosis and the need for treatment with amiodarone. Ensure the diagnosis is within scope of this SMS guideline.
- Use a shared decision making approach; provide appropriate counselling to ensure the patient and/ or the patient's carer is involved in making an informed choice about their treatment.
- Provide the patient and/ or the patient's carer with suitable written and verbal information about the medication prior to starting treatment, including benefits and risks, side effects, cautions, frequency of dosing, monitoring requirements and treatment reviews (timing and by whom).
- Provide amiodarone patient alert card or advise patient to request from dispensing pharmacy. Confirm patient and/or the patient's carer understands the treatment and record consent and agreement to associated patient responsibilities in the patient's medical records.
- Update records with list of existing drugs from available resources and ensure there are no drug interactions of clinical significance with current medication, recreational drugs, or over the counter (OTC) drugs or herbal remedies. Recommend the patient and/ or the patient's carer consults a pharmacist before using OTC treatments or herbal remedies.
- Provide advice on the need for contraception, and the risks of pregnancy to individuals on initiation and at each review; the ongoing responsibility for providing this advice rests with both the specialist and the GP.
- Ensure the patient and/ or the patient's carer understands that treatment may be stopped if they do not attend for monitoring & treatment review.
- Undertake pre-treatment screening and required baseline monitoring before initiating amiodarone.
- Prescribe initial stabilisation and maintenance doses; prescribe the maintenance treatment for at least 4 weeks
- Once treatment is optimised (with no anticipated further changes expected in the immediate future) and condition stable, ask the GP in writing whether they are willing to participate in shared care for a particular

patient using the shared care agreement letter below. Include all relevant test results (GPs may not have access to these results in primary care).

- Prescribing and monitoring will remain in secondary care until the GP agrees to share care.
- Prescribe sufficient medication to enable transfer to primary care (usually 28 days), including where there are unforeseen delays to transfer of care.
- Conduct required monitoring at initiation and review the patient at agreed specified clinically appropriate intervals - assess patient's ongoing response to treatment.
- Ensure prompt written summary is sent to the GP whenever the patient is reviewed including any changes in treatment or monitoring requirements, results of monitoring undertaken, assessment of adverse events, or guidance on when to stop treatment if indicated. Confirm ongoing dose.
- Urgent changes to treatment should be communicated electronically and directly to the GP surgery (and followed up by telephone as required) to ensure prompt and immediate update.
- Provide the GP with relevant contact information and clear arrangements for back-up advice and support (including weekend and bank holidays).
- Ensure that the GP is informed in writing of any changes to the patient's specialist or their contact details.
- Where patient care is transferred from one specialist service to another a new shared care agreement must be completed between the specialist, the GP and the patient.
- Respond promptly to GP or patient queries and advise on action required when abnormal monitoring results are identified or adverse effects signs or symptoms are detected and flagged.
- Any individual who becomes pregnant or wishes to become pregnant will be referred back to the specialist for an individualised review and discussion of ongoing management plans to provide the best outcome for the individual patient. The specialist will reassume prescribing responsibility, ending the shared care agreement.
- Report suspected side effects to MHRA via yellow card scheme.

General practitioner responsibilities

GPs may decide to delegate some of these tasks to members of their team; however, the responsibility for ensuring the following are undertaken remains with the GP overseeing the care of the individual patient:

- Ensure a timely reply is sent to the specialist in response to the request for shared care using the shared care agreement letters below. Where possible this should be undertaken within 14 days of the request being made.

If GP has agreed to share care:

- Continue to prescribe amiodarone as requested by the specialist.
- Continue to monitor treatment in accordance with these guidelines. Review monitoring results and take any necessary action, communicating any results of concern to the specialist (see monitoring requirements below).
- Be alert to the possibility of interactions when initiating new medicines, recommending over the counter (OTC) treatments or herbal remedies, or disclosure of the use of recreational drugs.
- Provide ongoing advice on the need for contraception.
- Be alert to the possibility of adverse effects at every contact. Manage patient in accordance with guidance below. Ensure prompt action in the case of a severe adverse effect or signs or symptoms.
- **Stop amiodarone and make an urgent referral to the specialist if hyperthyroidism (refer to defining criteria), thyrotoxicosis, new or worsening arrhythmia or heart block, ophthalmological effects (specifically blurred or decreased vision), hepatotoxicity, pulmonary toxicity or bullous skin reactions are suspected.** See monitoring guidance below for further details.
- Ensure advice sought promptly from the specialist if there is a change in the patient's physical or mental health status which is of concern to the GP and may affect treatment.
- Refer management back to the specialist if the patient becomes pregnant or plans to become pregnant.
- Respond promptly to advice from specialist regarding any changes in treatment or monitoring requirements.
- Ensure that the specialist is informed in writing of any changes to the patient's GP or their contact details.
- Where patient care is transferred from one GP practice to another a new shared care agreement must be completed.
- Report suspected side effects to specialist and to MHRA via yellow card scheme.

Patient and/ or carer responsibilities

- Take amiodarone as directed by the prescriber. Patients wishing to reduce their dose or stop amiodarone should discuss with their specialist before doing so. Avoid abrupt withdrawal unless advised by the GP or specialist.
- Understand the importance of monitoring treatment and attend specialist and GP appointments to ensure timely monitoring and reviews can be completed in accordance with the guideline. Understand that treatment will be stopped if they do not attend.
- Ensure contact details are kept up to date with both the GP and the Specialist.
- Read the amiodarone patient information leaflet. Request information in different format(s) if required to aid understanding. Understand treatment, expected benefits and potential side effects.
- Tell anyone who prescribes them a medicine that they are taking amiodarone.
- Seek guidance from a pharmacist, GP or specialist on medication safety and potential interaction with amiodarone if engaging in over the counter (OTC) treatments, recreational drug use, or herbal remedies. Report the use of any regular items to the GP.
- Most people develop corneal microdeposits during treatment. Corneal microdeposits may be associated with blurred vision. Be aware of the effects on driving and performance of skilled tasks. Drivers may be dazzled by headlights at night
- Ophthalmological examination required if visual symptoms occur; however due to the potential for micro-deposits to occur regular optician visits are encouraged. Inform optometrists they take amiodarone.
- Avoid grapefruit juice while taking amiodarone and for several months after discontinuation.
- Moderate alcohol intake to no more than 14 units per week to reduce the risk of hepatotoxicity.
- Use appropriate self-care against the possibility of phototoxic reactions: e.g. sun avoidance, protective clothing, avoiding tanning (including tanning beds) and to purchase and use a broad spectrum sunscreen (at least SPF30). These measures to be continued for the duration of therapy and for several months after discontinuation.
- If taking a statin and amiodarone, report any signs of unexplained muscle pain, tenderness, weakness or dark coloured urine.
- Report any adverse effects or newly presenting signs or symptoms to the GP and/or specialist.
- **Report the following signs and symptoms to the GP or hospital straight away during treatment or in the 3 month period after stopping amiodarone:**
    - Breathlessness, non-productive cough or deterioration in general health
    - New or worsening visual disturbances, including loss of eyesight, blurred or decreased vision
    - Yellowing of the skin or eyes (jaundice), feeling tired or sick, loss of appetite, stomach pain, high temperature
    - Weakness, weight loss or weight gain, heat or cold intolerance, hair thinning, sweating, changes in menstrual periods, swelling of the neck (goitre), nervousness, irritability, restlessness, or decreased concentration
    - Progressive skin rash +/- blisters or mucosal lesions
    - Signs and symptoms of bradycardia or heart block, e.g. dizziness, fatigue, fainting, shortness of breath, chest pain or palpitations, confusion or trouble concentrating
    - Uneven or erratic heartbeat or heat beat becomes very slow
- Individuals should take a pregnancy test if they think there is a possibility they may be pregnant, and inform the GP or specialist immediately if they become pregnant or wish to become pregnant.
- Store medicines safely and securely; it must not be shared with anyone else. Dispose of any unused medication appropriately.
- Report suspected side effects to the GP or specialist and the MHRA via yellow card scheme.

Monitoring requirements

Baseline assessment to be completed by the specialist:

Full history and physical examination and laboratory tests to include:

- Thyroid function tests (TFTs, free T4, free T3 and TSH).
- Consider thyroid peroxidase antibodies
- Liver function tests (LFTs, particularly transaminases)
- Urea and electrolytes (U&Es, including magnesium and potassium)
- Electrocardiogram (ECG)
- Chest X-ray
- Patients taking warfarin: monitor international normalised ratio (INR) at baseline and weekly for at least 7 weeks during dose stabilisation period
- Patients taking digoxin: clinical monitoring is recommended and the digoxin dose should be halved. Digoxin levels should be monitored appropriately.
- If concomitant use of amiodarone with sofosbuvir and daclatasvir, simeprevir and sofosbuvir, or sofosbuvir and ledipasvir cannot be avoided, patients should be closely monitored, particularly during the first weeks of treatment. Patients at high risk of bradycardia should be monitored continuously for 48 hours in an appropriate clinical setting after starting concomitant treatment. See also MHRA Drug Safety Updates in Interactions section below for further information.

Specialist should copy all results to GP.

Ongoing monitoring requirements once stable:

The requirements outlined in the table overleaf will be completed by the specialist until the GP takes over prescribing and monitoring. The exact frequency of monitoring to be communicated by the specialist in all cases. Where abnormal results are identified during routine monitoring consider the actions in the table below, seeking advice from specialist for further support and guidance where required. As well as responding to absolute values, a rapid change or a consistent trend in any value should prompt caution and extra vigilance. If monitoring results are forwarded to the specialist team, include clear clinical information on the reason for sending, to inform action to be taken by secondary care.

Any additional monitoring required due to concomitant medication such as INR or digoxin levels will be communicated to the GP by the specialist on an individual patient basis.

This section is intentionally blank

<table>
<tr><th>Tests</th><th>Frequency of monitoring</th><th>Threshold for action and action to be taken by GP</th></tr>
<tr>
<td>TFTs (TSH with cascading of T3 & T4)

GPs should indicate on the request form that the patient is taking amiodarone

Amiodarone inhibits conversion of T4 to T3. It is common for T4 levels to be raised with TSH/T3 in range, and this is usually not an indicator of hyperthyroidism. Thyroid function should be interpreted primarily with regard to TSH and T3 levels</td>
<td>Every 6 months during treatment, and up to 12 months after discontinuation.</td>
<td>
Hyperthyroidism:
Amiodarone-induced hyperthyroidism may exacerbate cardiac arrhythmia. The half-life of amiodarone is long, meaning that stopping amiodarone will have no immediate effect; rather than cessation of amiodarone, urgent endocrinologist discussion is the priority. Discussion with initiating cardiologist may result in amiodarone being discontinued.
<table>
<tr><td>TSH in range</td><td>T3 high</td><td rowspan="3">This may be early stages of hyperthyroidism, or a transient abnormality.
Recheck after 2-4 weeks; if the issue persists, refer to endocrinology
If at any time there is an indication of clinical consequences (e.g. worsening tachycardia / arrhythmia), discuss with / refer to cardiologist and endocrinologist.</td></tr>
<tr><td rowspan="2">TSH low (<0.1mIU/L) but not fully suppressed</td><td>T3 high</td></tr>
<tr><td>T3 in range</td></tr>
<tr><td>TSH low but not fully suppressed</td><td>No T3 result</td><td>If sample still in lab, request for T3 to be added. If sample no longer available, repeat TFTs (both T4 and T3 are required if TSH low) and in the meantime follow relevant advice above on the assumption that T3 is above range.</td></tr>
<tr><td rowspan="2">TSH fully suppressed (<0.01mIU/L)</td><td>T3 high or upper end of range</td><td rowspan="2">Refer/discuss urgently. Amiodarone may need to be stopped but does NOT need to be stopped prior to discussion.</td></tr>
<tr><td>T3 normal but T4 >30pmol/L</td></tr>
</table>
Hypothyroidism:
Amiodarone need not be stopped. Amiodarone-associated hypothyroidism is treated in the same way as simple hypothyroidism.
Initiate levothyroxine if indicated in accordance with Devon Formulary Guidance (see here N&E / S&W), cautiously in older patients (over 60 years) and those with ischaemic heart disease. Notify initiating cardiologist.
Repeat thyroid function test every 4-6 weeks until stable then continue 6 monthly monitoring.
Hypothyroidism can resolve after cessation of amiodarone. A 25-50% reduction in levothyroxine dose after 6-12 months can be tried – if TSH remains in range, the dose can be reduced further and then stopped. If TSH rises above range then hypothyroidism can be assumed to be permanent and the previous dose of levothyroxine resumed.
</td>
</tr>
</table>

Table continued overleaf

Tests	Frequency of monitoring	Threshold for action and action to be taken by GP
LFTs (particularly transaminases)	Every 6 months during treatment, and 6 months after discontinuation.	**Serum transaminases elevated >3xULN but no symptoms of hepatic injury** (see table below) Continue amiodarone and repeat LFTs in 2 weeks; if still elevated discuss with initiating specialist as dose reduction or treatment discontinuation may be required. **Serum transaminases >5xULN or any symptoms of hepatic injury** **Stop amiodarone**. Urgently contact initiating specialist for review. Depending on clinical need consider urgent hepatology referral or admission.
U&Es (including magnesium and potassium)	Every 6 months during treatment, and 6 months after discontinuation.	**Mild hypokalaemia (3.0 to 3.5mmol/L serum potassium)** Identify and treat the underlying cause. If no identifiable cause treat with oral potassium supplementation for 2 days then recheck level. **Mild hypomagnesaemia (0.5 to 0.7mmol/L serum magnesium)** Identify and treat the underlying cause. Recheck level after 1 week. Oral magnesium supplementation should only be commenced following specialist advice. **For clinical concerns or more severe depletion** **Seek specialist advice from cardiology team or on-call medical registrar.** --- Further information detailed in national guidance published by the Specialist Pharmacy Service (SPS): Hypokalaemia: https://www.sps.nhs.uk/articles/hypokalaemia/ Hypomagnesaemia: https://www.sps.nhs.uk/articles/treating-acute-hypomagnesaemia-in-adults/

Table continued overleaf

Tests	Frequency of monitoring	Threshold for action and action to be taken by GP
ECG	At least annually	**Heart rate 50 - 60bpm without symptoms** Continue amiodarone. Repeat monitoring. No action required unless symptoms develop, or heart rate decreases further. **Heart rate ≤ 50bpm, or ≤ 60bpm with symptoms** Discuss with specialist team; dose reduction may be required **Worsening of arrhythmia, new arrhythmia, or heart block** **Stop amiodarone**. **Urgent referral** to initiating specialist. Amiodarone induces ECG changes: QT prolongation (related to prolonged repolarisation) with the possible development of U-waves and deformed T-waves; these changes do not reflect toxicity. Although the development of a prolonged QT is possible on amiodarone, the GP may wish to discuss this with the hospital consultant. Amiodarone has a low pro-arrhythmic effect; pro-arrhythmic effects generally occur in the context of QT prolonging factors such as drug interactions and/or electrolytic disorders. Despite QT interval prolongation, amiodarone exhibits a low torsadogenic activity. Further information regarding cardiac disorders can be found in the manufacturer's SmPC here.
Adverse effects	At every contact	See table below

This section is intentionally blank

Presentation of the following adverse effects, signs or symptoms and associated actions should be noted. Side-effects can occur at any time during treatment with, or in the months after stopping amiodarone. Any serious adverse reactions should be reported to the MHRA via the Yellow Card scheme. See also adverse effects in supporting information below.

Adverse effects, signs and symptoms	Action to be taken by GP
Thyroid dysfunction suspected **Hypothyroidism:** Weight gain, cold intolerance, reduced activity, excessive bradycardia. **Hyperthyroidism:** Weight loss, asthenia, restlessness, increase in heart rate, onset of arrhythmia, angina, and congestive heart failure.	Continue amiodarone. Measure TSH. See page 6 of this guideline for management guidance relating to the monitoring of TFTs and subsequent results.
Symptoms of hepatic injury: Hepatomegaly, weakness, ascites, jaundice	**Stop amiodarone**. Urgently contact initiating specialist for review. Depending on clinical need consider urgent hepatology referral or admission.
Optic neuropathy/neuritis: Blurred or decreased vision - potential progression to blindness.	**Stop amiodarone.** Urgently contact initiating specialist for review. Depending on clinical need consider urgent referral to ophthalmology for prompt ophthalmologic examination, including fundoscopy.
Corneal micro-deposits: Blueish halos when looking at bright lights; no blurred or decreased vision	Continue amiodarone; reversible on discontinuation. Deposits are considered essentially benign and do not require discontinuation of amiodarone or referral to ophthalmology
GI disturbance: Nausea, anorexia, vomiting, taste disturbance	Continue amiodarone. May require dose reduction; discuss with specialist if persistent.
Neurological symptoms: Extrapyramidal tremor, ataxia, peripheral neuropathy, myopathy	Continue amiodarone. May require dose reduction; discuss with specialist. Neuropathy and myopathy may be severe; recovery usually occurs within several months after amiodarone withdrawal, but may sometimes be incomplete.
Pulmonary toxicity including pneumonitis or fibrosis: New/worsening unexplained cough, shortness of breath or deterioration in general health (e.g. fatigue, weight loss, fever). Onset usually slow but may be rapidly progressive.	**Stop amiodarone.** Urgently contact initiating specialist for review. Depending on clinical need consider urgent respiratory referral or admission. Lung function testing (including where possible, measurement of transfer factor) and imaging will be the specialist's responsibility. Usually reversible following early withdrawal of amiodarone with/without corticosteroid therapy. Clinical symptoms often resolve within a few weeks followed by slower radiological and lung function improvement. Some patients deteriorate despite discontinuing amiodarone.
Bullous skin reactions: Life threatening or even fatal cutaneous reactions Stevens-Johnson Syndrome (SJS), Toxic Epidermal Necrolysis (TEN) (e.g. progressive skin rash often with blisters or mucosal lesions)	**Stop amiodarone.** Urgent referral to dermatology, inform initiating specialist.

Table continued overleaf

Adverse effects, signs and symptoms	Action to be taken by GP
Photosensitivity: E.g. tingling, burning and erythema of sun-exposed skin but severe phototoxic reactions with blistering may be seen.	Continue amiodarone. Reinforce appropriate self-care
Skin discolouration (blue/grey): Occurs in unprotected, light exposed skin, particularly the face	Continue amiodarone. May require dose reduction; discuss with specialist. Reinforce self-care measures. Pigmentation slowly disappears following treatment discontinuation

Supporting Information

This section provides additional information regarding amiodarone. Refer to the online BNF, SmPCs, the MHRA or NICE websites for up-to-date information on any medicine.

Formulation

Refer to Devon formulary for list of preparations approved for use locally.

Dosage and administration

The minimum effective dose should be used to maintain control of the arrhythmia as undesirable effects are usually dose related. In all cases the patient's management must be judged on the individual response and wellbeing.

Initial Stabilisation: 200mg three times a day for 1 week; then reduce to 200mg, twice daily for a further week.

Maintenance: Following initial stabilisation reduce dose to 200mg daily, or less if appropriate. Rarely, the patient may require a higher maintenance dose. Review maintenance dose regularly, especially where this exceeds 200mg daily.

The initial stabilisation and maintenance dose must be prescribed by the initiating specialist. All dose adjustments will be the responsibility of the specialist unless directions have been discussed and agreed with the GP.

Elderly: Patients may be more susceptible to bradycardia and conduction defects if too high a dose is employed. Particular attention should be paid to monitoring thyroid function.

Treatment withdrawal

Treatment duration will be determined by the specialist. Termination of treatment will be the responsibility of the specialist with exceptions due to adverse effects detailed in the table above.

Amiodarone is strongly protein bound and the plasma half-life is typically of the order of 50 days, however there may be considerable inter-patient variation (reported range 20-100 days). Sufficient time must be allowed for a new distribution equilibrium to be achieved between adjustments of dosage. The long half-life is a valuable safeguard for patients with potentially lethal arrhythmias as omission of occasional doses does not significantly influence the protection afforded by amiodarone.

It should also be remembered that adverse effects may persist for a month (or more) after treatment has stopped. Residual tissue bound amiodarone may protect the patient for up to a month, however, the likelihood of recurrence of arrhythmia during this period should be considered.

Contraindications

- Hypersensitivity to the active substance, iodine, or to any of the excipients including lactose (one 200mg tablet contains approximately 75mg iodine).
- Sinus bradycardia and sino-atrial heart block. In patients with severe conduction disturbances (high grade AV block, bifascicular or trifascicular block) or sinus node disease, amiodarone should be used only in conjunction with a pacemaker.
- Evidence or history of thyroid dysfunction.
- The combination of amiodarone with drugs which may induce Torsades de Pointes
- Lactation
- Pregnancy – except in exceptional circumstances (see Pregnancy section)
- Combined therapy with drugs which prolong the QT interval due to the increased risk of Torsades de Pointes

Precautions

In addition to the points listed below, refer to the monitoring section above for further cautions to be noted during treatment depending on patient medical history and actions to take in the case of a severe adverse effect or patient reported signs or symptoms.

- Serious adverse reactions affecting the eyes, heart, lung, liver, thyroid gland, skin and peripheral nervous system; it is subject to a number of cautions. Reactions may be delayed, therefore patients on long-term treatment should be carefully supervised.
- Acute porphyrias; conduction disturbances (in excessive dosage); elderly; heart failure; hypokalaemia; severe bradycardia (in excessive dosage); surgery; ECG changes; pro-arrhythmic effect - onsets of new arrhythmias or worsening of treated arrhythmias; implantable cardioverter defibrillator or a pacemaker; primary graft dysfunction (PGD) post cardiac transplant; thyroid disorders

Adverse effects

Due to the long half-life of amiodarone there is potential for adverse effects to occur for several weeks/months after treatment has been discontinued.

The data below has been taken from the online BNF. **The list is not exhaustive.** Refer to the online BNF and SmPCs for full prescribing data. Seek specialist advice where necessary. See also adverse effects, signs and symptoms in monitoring requirements section above.

Very common (≥1/10) or common (≥1/100 to <1/10): Arrhythmias; constipation; corneal deposits; hepatic disorders; hyperthyroidism; hypothyroidism; movement disorders; nausea; photosensitivity reaction; respiratory disorders; skin reactions; sleep disorders; taste altered; vomiting

Uncommon (≥1/1000 to <1/100): Cardiac conduction disorders; dry mouth; myopathy (usually reversible on discontinuation); peripheral neuropathy (usually reversible on discontinuation)

Rare (≥1/10,000 to <1/1,000) or very rare (<1/10,000): Alopecia; aplastic anaemia; bronchospasm (in patients with severe respiratory failure); epididymo-orchitis; erectile dysfunction; haemolytic anaemia; headache; idiopathic intracranial hypertension; nerve disorders; pulmonary haemorrhage; SIADH; thrombocytopenia; vertigo

Frequency not known: Altered smell sensation; angioedema; appetite decreased; confusion; delirium; pancreatitis; parkinsonism; severe cutaneous adverse reactions (SCARs); vasculitis

This section is intentionally blank

Interactions

MHRA Drug Safety Update: Simeprevir with sofosbuvir: risk of severe bradycardia and heart block when taken with amiodarone (August 2015)

MHRA Drug Safety Update: Sofosbuvir with daclatasvir; sofosbuvir and ledipasvir: risks of severe bradycardia and heart block when taken with amiodarone (May 2015)

Avoid concomitant use of amiodarone with the named antivirals. If concomitant use cannot be avoided, patients should be closely monitored, particularly during the first weeks of treatment. Monitor patients at high risk of bradyarrhythmia continuously for 48 hours in an appropriate clinical setting after starting concomitant treatment. Patients and their carers should be told how to recognise signs and symptoms of bradycardia and heart block and advised to seek immediate medical attention if symptoms such as shortness of breath, light-headedness, palpitations, fainting, unusual tiredness or chest pain develop. Further guidance on concomitant use is detailed in the MHRA Drug Safety Updates.

Amiodarone has a long half-life; there is potential for drug interactions to occur for several weeks (or even months) after treatment with it has been stopped.

The following list is not exhaustive; it is intended to alert the reader and prompt further consideration before prescribing. Refer to the online BNF and SmPCs for full prescribing data. Seek specialist advice where necessary and / or refer to specialist Medicines Information services for additional support (and reference to Stockley's Drug Interactions where paid subscription available) if concomitant administration of interacting medicines clinically indicated.

The following interactions are classified in the online BNF as **severe** (the result may be a life-threatening event or have a permanent detrimental effect):

- **Acebutolol, atenolol, betaxolol, bisoprolol, carvedilol, celiprolol, chloroprocaine, esmolol, labetolol, landiolol, levobunolol, metoprolol, nadolol, nebivolol, pindolol, propranolol, sotalol, timolol** - predicted to increase the risk of cardiovascular adverse effects. Manufacturer's advises use with caution, avoid or monitor.
- **Acenocoumarol, warfarin** – increased anticoagulant effect. Manufacturer advises monitor INR
- **Aliskiren, berotralstat, ciclosporin, colchicine, dabigatran, digoxin, edoxaban, eplerenone, flecainide, fosphenytoin, irutinib, panobinostat, phenytoin, simvastatin, siponimod, sirolimus, tacrolimus, talazoparib, ticagrelor, topotecan, venetoclax, vinblastine, vincristine, vindesine, vinorelbine** – amiodarone is predicted to increase exposure to the drug. Manufacturer's advise avoid or caution with monitoring of drug levels and adverse effects; dose adjustments may be required in some cases. NICE CKS recommends that only specialists should co-prescribe a beta-blocker and amiodarone.
- **Amifampridine, amisulpride, anagrelide, apalutamide, apomorphine, aripiprazole, arsenic trioxide, artemether, artenimol, bedaquiline, bosutinib, cabozantinib, ceritinib, chlorpromazine, citalopram, clomipramine, crizotinib, dasatinib, delamanid, desflurane, domperidone, droperidol, efavirenz, encorafenib, entrectinib, eribulin, erythromycin, escitalopram, fingolimod, fluconazole, glasdegib, granisetron, haloperidol, hydroxychloroquine, hydroxyzine, inotuzumab ozogamicin, isoflurane, ivosidenib, lapatinib, lenvatinib, levomepromazine mefloquine, methadone, mizolastine, mobocertinib, moxifloxacin, nilotinib, ondansetron, osilodrostat, osimertinib, ozanimod, paliperidone, palonosetron, panobinostat, pasireotide, pazopanib, pentamidine (intravenous or intramuscular), pimozide, ponesimod, promethazine, quinine, ranolazine, ribociclib, selpercatinib, sevoflurane, siponimod, sorafenib, sotalol, sunitinib, tetrabenazine, tolterodine, toremifene, vandetanib, vardenafil, vemurafenib, voclosporin, voriconazole** – all prolong (confirmed or predicted) the QT interval. Most manufacturers advise avoiding the use of two or more drugs that are associated with QT prolongation. Increasing age, female sex, cardiac disease, and some metabolic disturbances (notably hypokalaemia) predispose to QT prolongation. Further examples of drugs that prolong the QT interval can be accessed in the Devon Formulary and the amiodarone SmPC.
- **Aminophylline, amphotericin B, bambuterol, beclomethasone, bendroflumethiazide, betamethasone, budesonide, bumetanide, chlorothiazide, chlortalidone, deflazacort, dexamethasone, fludrocortisone, formoterol, furosemide, hydrochlorothiazide, hydrocortisone, hydroflumethiazide, indacaterol, indapamide, methylprednisolone, metolazone, olodaterol, prednisolone, salbutamol,**

salmeterol, terbutaline, theophylline, torasemide, triamcinolone, vilanterol, xipamide - predicted to cause hypokalaemia (potentially increasing the risk of torsade de pointes) when given with amiodarone.

- **Atazanavir, cobicistat, darunavir, fosamprenavir, itraconazole, lopinavir, nirmatrelvir boosted with ritonavir, ribociclib (high dose), ritonavir, voriconazole** – predicted to increase exposure to amiodarone. Manufacturer advises avoid for majority.
- **Alcohol - induced liver disease, bemiparin (high dose), dalteparin (high dose), enoxaparin (high dose), fluconazole, itraconazole, ritonavir, simvastatin, tinzaparin (high dose), voriconazole** – increased risk of hepatotoxicity.
- **Acebutolol, atenolol, betaxolol, bisoprolol, carvedilol, celiprolol, ceritinib, crizotinib, digoxin, diltiazem, esmolol, fingolimod, ivabradine, labetalol, landiolol, levobunolol, metoprolol, nadolol, nebivolol, ozanimod, pasireotide, pindolol, ponesimod, propranolol, siponimod, sotalol, ticagrelor, timolol, verapamil** – can increase the risk of bradycardia.
- **Diltiazem, propafenone, verapamil** - increased risk of cardiodepression. Manufacturer advises avoid for diltiazem and verapamil. Manufacturer advises monitor and adjust dose for propafenone.
- **Eribulin, phenytoin, vinblastine, vincristine, vindesine, vinorelbine** - increased risk of peripheral neuropathy.
- **Ivabradine, mexiletine** - predicted to increase the risk of torsade de pointes. Manufacturer advises avoid.
- **Ledipasvir, sofosbuvir** - increases the risk of severe bradycardia or heart block. Refer to specialist literature.

The following interactions of commonly prescribed medicines have also been highlighted in the NHS England shared care protocol:

- **Stimulant laxatives** – may cause hypokalaemia
- **Diuretics and systemic corticosteroids** – may induce hypomagnesaemia
- **Fentanyl and sildenafil** – amiodarone may increase exposure to these medicines.
- **Statins** - the risk of muscular toxicity (e.g. rhabdomyolysis) is increased by concomitant administration of statins metabolised by CYP 3A4 such as simvastatin, atorvastatin and lovastatin. It is recommended to use a statin not metabolised by CYP 3A4 when given with amiodarone.
- **Grapefruit juice** - inhibits cytochrome P450 3A4 and may increase the plasma concentration of amiodarone. Grapefruit juice should be avoided during treatment with oral amiodarone.

Pregnancy and lactation

Before prescribing in this area seek specialist advice and check up-to-date sources of information.

Pregnancy (Maternal exposure)

The UK Teratology Information Service (UKTIS) provides a national service on all aspects of the toxicity of drugs and chemicals in pregnancy (Tel: 0344 892 0909), and provides the 'best use of medicines in pregnancy' (bumps) website for supportive patient information relating to individual treatments.

Amiodarone is **contraindicated in pregnancy** except in exceptional circumstances. Due to the risk of neonatal goitre, amiodarone should only be prescribed in pregnancy if there is no alternative. Under these circumstances prescribing and monitoring will be the responsibility of the initiating specialist.

If, because of the long half-life of amiodarone, discontinuation of the drug is considered prior to planned conception, the real risk of re-occurrence of life threatening arrhythmias should be weighed against the possible hazard for the foetus.

Lactation

UK Drugs in Lactation Advisory Service (UKDILAS) provides evidence based information on the use of drugs during the breastfeeding period to all UK healthcare professionals.

Amiodarone is excreted into the breast milk in significant quantities and therefore **breast-feeding is contraindicated** due to the theoretical risk of neonatal hypothyroidism from release of iodine.

Support

Cardiology Services Contact Details	
Royal Devon and Exeter Hospital Email: rde-tr.ArrhythmiaNurses@nhs.net Telephone: 01392 403813	**North Devon District Hospital** Email: rduh.arrhythmia-services@nhs.net Telephone: 01271311633
University Hospitals Plymouth NHS Trust Email: plh-tr.cardiology-advicereferrals@nhs.net Switchboard Telephone: 01752 202082	**Torbay and South Devon NHS Foundation Trust** Email: Arrythmianurse.sdhct@nhs.net Arrythmia nurse team: 07775017559

For further support and information in relation to individual shared care agreements please contact your practice pharmacist or alternatively please contact the Medicines Optimisation Team.
Email: D-ICB.medicinesoptimisation@nhs.net

Version 1

Date ratified: September 2025

This guideline has been reviewed by stakeholders across Devon and is intended for use in accordance with locally commissioned services.

This guideline has been developed with consideration and local adaptation of the national shared care protocol; “Amiodarone for patients within adult services” 4 July 2022 Version 1 (available here). Development of the national guideline was led by the Regional Medicines Optimisation Committee (RMOC) (north) with approval for publication on the NHS England website.

Shared Care Agreement Letter - Specialist Request to GP

To	**GP name**	
	Practice address	
Patient name		
Hospital number		
NHS number		
Date of birth		
Address		

GPs are invited to participate in shared care agreements, but if the GP is not confident to undertake these roles then they are under no obligation to do so. If so, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. If asked to prescribe this drug the GP should reply to this request as soon as practical. Continuing the care assumes communication between the specialist, GP and patient; the intention should be explained to the patient and accepted by them.

The prescriber has the clinical and legal responsibility for the drug and the consequences of its use. Responsibility for drug monitoring and acting on results remains with the prescriber.

NHS England 'Responsibility for prescribing between Primary & Secondary/Tertiary care' guidance (2018) states that "when decisions are made to transfer clinical and prescribing responsibility for a patient between care settings, it is of the utmost importance that the GP feels clinically competent to prescribe the necessary medicines. It is therefore essential that a transfer involving medicines with which GPs would not normally be familiar should not take place without full local agreement, and the dissemination of sufficient, up-to-date information to individual GPs."

I have discussed and agreed the following treatment with the patient:

	Specialist to complete
Amiodarone tablets	
Indication	
Dose	
Treatment start date	
Expected duration of treatment	
Patient has been on the optimised dose stated for	
Sufficient medication has been provided to last until	
GP to undertake prescribing and monitoring in line with the SMS Guideline from	
Next monitoring due date	
Follow up due date	

This patient is now suitable for prescribing to move to primary care. The patient fulfils criteria for shared care therefore I am writing to request your agreement to continue the care of this patient according to the Specialised Medicines Service (SMS) Guideline.

In accordance with the SMS Guideline, the specialist will prescribe initial stabilisation dose and maintenance doses. The specialist will prescribe at least 4 weeks of maintenance treatment before the transfer of monitoring and prescribing passes to the GP. The condition should be stable and the dose optimised (with no anticipated further changes expected in the immediate future).

I can confirm that the following has happened with regard to this treatment:

	Specialist to complete (YES/NO)
Baseline investigation and monitoring as set out in the SMS Guideline have been completed and were satisfactory	
The condition being treated has a predictable course of progression and the patient can be suitably maintained by primary care	
The risks and benefits of treatment have been explained to the patient	
The roles of the Specialist / GP / Patient have been explained and agreed	
The patient has agreed to this shared care arrangement, understands the need for ongoing monitoring, and has agreed to attend all necessary appointments	
I have enclosed a copy of the SMS Guideline which covers this treatment. The guideline can also be found here	
I have included with this letter copies of the information the patient has received	

The results of baseline tests, early monitoring and any additional supportive information are included below and/or attached:

GP please sign response letter and return promptly (where possible this should be within 14 days of the request being made).

Specialist signature		**Date**	
Specialist name, role, speciality			
Daytime telephone number			
Email address			
Alternative contact **e.g. clinic or specialist nurse**			
Out of hours contact details **e.g. duty doctor**			

Remember to keep a copy of this letter for the patient's records.

Shared Care Agreement Letter – GP Acceptance Letter to Specialist

To	Specialist name	

Patient name	
Hospital number	
NHS number	
Date of birth	
Address	

GPs are invited to participate in shared care agreements, but if the GP is not confident to undertake these roles then they are under no obligation to do so. If so, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. If asked to prescribe this drug the GP should reply to this request as soon as practical. Continuing the care assumes communication between the specialist, GP and patient; the intention should be explained to the patient and accepted by them.

The prescriber has the clinical and legal responsibility for the drug and the consequences of its use. Responsibility for drug monitoring and acting on results remains with the prescriber.

NHS England 'Responsibility for prescribing between Primary & Secondary/Tertiary care' guidance (2018) states that "when decisions are made to transfer clinical and prescribing responsibility for a patient between care settings, it is of the utmost importance that the GP feels clinically competent to prescribe the necessary medicines. It is therefore essential that a transfer involving medicines with which GPs would not normally be familiar should not take place without full local agreement, and the dissemination of sufficient, up-to-date information to individual GPs."

Thank you for your request for me to accept prescribing responsibility for this patient under a shared care agreement and to provide the following treatment:

Amiodarone tablets (state dose to be administered)

……

I can confirm that **I am willing to take on this responsibility** from …….. and will maintain the prescribing and monitoring responsibilities as set out in the Specialised Medicines Service (SMS) Guideline.

GP signature		**Date**	
GP name			
Practice address			
Telephone number			
Email address			

Remember to keep a copy of this letter for the patient's records. If this letter is not returned sharing of the care for this patient will not commence.

Shared Care Agreement Letter – GP Refusal Letter to Specialist

To	Specialist name	

Patient name	
Hospital number	
NHS number	
Date of birth	
Address	

GPs are invited to participate in shared care agreements, but if the GP is not confident to undertake these roles then they are under no obligation to do so. If so, the total clinical responsibility for the patient for the diagnosed condition remains with the specialist. If asked to prescribe this drug the GP should reply to this request as soon as practical. Continuing the care assumes communication between the specialist, GP and patient; the intention should be explained to the patient and accepted by them.

The prescriber has the clinical and legal responsibility for the drug and the consequences of its use. Responsibility for drug monitoring and acting on results remains with the prescriber.

NHS England 'Responsibility for prescribing between Primary & Secondary/Tertiary care' guidance (2018) states that "when decisions are made to transfer clinical and prescribing responsibility for a patient between care settings, it is of the utmost importance that the GP feels clinically competent to prescribe the necessary medicines. It is therefore essential that a transfer involving medicines with which GPs would not normally be familiar should not take place without full local agreement, and the dissemination of sufficient, up-to-date information to individual GPs."

In the interest of patient safety NHS Devon, in conjunction with local acute trusts have classified amiodarone as a "shared care" drug which requires a number of conditions to be met before transfer can be made to primary care.

Thank you for your request for me to accept prescribing responsibility for this patient. I regret to inform you that in this instance **I am unable to take on responsibility** due to the following:	**Tick all applicable**
The prescriber does not feel clinically confident in managing this individual patient's condition, and there is a sound clinical basis for refusing to accept shared care. As the patients GP I do not feel clinically confident to manage this patient's condition. I have consulted with other GPs in my practice who support my decision. This is not an issue which would be resolved through adequate and appropriate training of prescribers within my practice. **I have discussed my decision with the patient and request that prescribing for this individual remain with you as the specialist, due to the sound clinical basis given below.**	

The condition does not fall within the criteria defining suitability for inclusion in a shared care arrangement. As the condition requested to be treated is not included on the locally recognised list of indications for shared care for amiodarone I am unable to accept clinical responsibility for prescribing this medication at this time. **Until this condition is identified locally as requiring shared care with amiodarone the responsibility for providing this patient with their medication remains with you.**	
A minimum duration of supply by the initiating specialist. As the patient has not had the minimum supply of medication to be provided by the initiating specialist (28 days) I am unable to take clinical responsibility for prescribing this medication at this time. Therefore can you please contact the patient as soon as possible in order to provide them with the medication that you have recommended. **Until the patient has had the appropriate length of supply the responsibility for providing the patient with their medication remains with you.**	
Initiation and optimisation by the initiating specialist. In accordance with the SMS Guideline, the specialist will prescribe initial stabilisation dose and maintenance doses. The specialist will prescribe at least 4 weeks of maintenance treatment before the transfer of monitoring and prescribing passes to the GP. The condition should be stable and the dose optimised (with no anticipated further changes expected in the immediate future). As the patient has not been optimised on this medication I am unable to take clinical responsibility for prescribing this medication at this time. Therefore can you please contact the patient as soon as possible in order to provide them with the medication that you have recommended. **Until the patient is optimised on this medication the responsibility for providing the patient with their medication remains with you.**	
Other (GP to complete if there are other reasons why shared care cannot be accepted):	

I would be willing to consider prescribing for this patient once the above criteria have been met for this treatment.

Please do not hesitate to contact me if you wish to discuss any aspect of my letter in more detail and I hope to receive more information regarding this shared care agreement as soon as possible.

GP signature		**Date**	
GP name			
Practice address			
Telephone number			
Email address			

Remember to keep a copy of this letter for the patient's records.