IREDELL HEALTH SYSTEM

Anti-Arrhythmic Agents	
Approved by: Bradley Martin, MD, Cardiologist Becky Wagner, DNP, RN Laura Rollings, PharmD, BCPS, BCGP	Last Revised/Reviewed Date: 12/2024
Cardiovascular Co-Management P&T Committee	Date: 01/2025 Date: 02/2025

Purpose:
Anti-Arrhythmic Agents will be administered in a safe, effective manner by qualified individuals.

Anti-Arrhythmic Agents, such as dofetilide (Tikosyn) and Sotalol, are used for the maintenance of, and conversion to, normal sinus rhythm and to promote a delay in time to recurrence of atrial fibrillation/atrial flutter.

Side Effects:
Most common adverse effects are headache, chest pain, and dizziness. Serious Arrhythmias and conduction disturbances include Torsades de Pointes.

POLICY:
The anti-arrhythmic agents may be administered on the following nursing units:

Anti-Arrhythmic agent	**CCU**	**PCU**	**2North *with* Tele**	**1North & 3North *with* Tele**	**1 North, 3 North & 5 North *without* Tele**
Dofetilide (Tikosyn) Initiation	Y	Y	Y	N	N
Dofetilide (Tikosyn) Continuation of Maintenance	Y	Y	Y	Y	Y
Sotalol IV Load	Y	Y	Y	N	N
Sotalol PO Load	Y	Y	Y	N	N
Sotalol PO Continuation of Maintenance	Y	Y	Y	Y	Y

Refer to *Medications Requiring Cardiac and Special Monitoring* for complete policy.

For the initiation of an anti-arrhythmic agent, nursing shall notify Monitoring Techs (MTs) for close monitoring of QT.

Contraindications:

Contraindications to Dofetilide (Tikosyn):	**Contraindications to Sotalol:**
Concomitant use of verapamil, hydrochlorothiazide (HCTZ) or products containing HCTZ, cation transport inhibitors such as cimetidine, ketoconazole, trimethoprim (alone or in combination), prochlorperazine, megestrol, itraconazole, and dolutegravir.	Sinus bradycardia (< 50 bpm), sick sinus syndrome or second or third degree AV block without a pacemaker

Congenital or acquired long QT syndromes, baseline QTc > 440 msec (>500 msec with ventricular conduction abnormalities)	Congenital or acquired long QT syndromes, QT interval > 450 ms
Severe renal impairment (calculated creatinine clearance < 20 mL/min.)	Cardiogenic shock, decompensated heart failure
Serum potassium < 4 mEq/L	Serum potassium < 4 mEq/L
Serum magnesium < 2 mEq/L	Serum magnesium < 2 mEq/L
Known hypersensitivity to dofetilide (Tikosyn)	Bronchial asthma or related bronchospastic conditions
	Known hypersensitivity to sotalol

PROCEDURE:

1. Prior to administration of the first dose of the anti-arrhythmic agent, the QTc must be determined by the provider using an average of 5-10 beats. The QTc may be determined by the provider within the past 48 hours, if recorded and dated in the patient's medical record. If the QTc is greater than 440 msec (500 msec in patients with ventricular conduction abnormalities) for dofetilide or 450 msec for sotalol, use is contraindicated, and the provider should be notified.
2. Prior to administration of the first dose of the anti-arrhythmic agent, a STAT Chem 7, and magnesium level must be obtained, unless a baseline Chem 7 and magnesium level from within the past 48 hours are recorded and dated in the patient's medical record. Anti-arrhythmic agents are contraindicated if magnesium level is < 2 mEq/L and/ or potassium level is < 4 mEq/L.

3. Initial Dosing, modification of initial dose, maintenance dose and Monitoring

<table>
<tr><th>Anti-Arrhythmic Agent</th><th>Dofetilide (Tikosyn)</th><th>Sotalol IV load</th><th>Sotalol PO Load
[without IV loading dose]</th></tr>
<tr>
<td>Initial Dosing</td>
<td>
<table>
<tr><th>Creatinine Clearance</th><th>Dofetilide Dose</th></tr>
<tr><td>> 60 mL/min</td><td>500 mcg twice daily</td></tr>
<tr><td>40 - 60 mL/min</td><td>250 mcg twice daily</td></tr>
<tr><td>20 - < 40 mL/min</td><td>125 mcg twice daily</td></tr>
<tr><td>< 20 mL/min</td><td>Contraindicated</td></tr>
</table>
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<td>
<table>
<tr><th>Creatinine Clearance</th><th>Sotalol IV Dose when oral maintenance is planned to be 80 mg / 120 mg, respectively</th></tr>
<tr><td>> 90 mL/min</td><td>60 mg / 90 mg IV once</td></tr>
<tr><td>60 – 90 mL/min</td><td>82.5 mg / 125 mg IV once</td></tr>
<tr><td>30 – 60 mL/min</td><td>75 mg / 112.5 mg IV once</td></tr>
<tr><td>10 - < 30 mL/min</td><td>75 mg / 112.5 mg IV once</td></tr>
</table>
Administer over 1 hour.

During the administration of infusion, the following shall be monitored:

QTc expression shall be monitored every 15 minutes x4
Vitals every 15 minutes x4
If QTc increases to > 500 msec or increases by > 20% of baseline, hold infusion and contact provider.
Hold for SBP < 90 mmHg and / or heart rate of < 50 BPM

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For Atrial Fibrillation:
<table>
<tr><th>Creatinine Clearance</th><th>Sotalol PO Load Dose</th></tr>
<tr><td>> 60 mL/min</td><td>80 mg PO q12h</td></tr>
<tr><td>40 - 60 mL/min</td><td>80 mg PO q24h</td></tr>
<tr><td>< 40 mL/min</td><td>Do not use</td></tr>
</table>
For Ventricular Arrhythmias:
<table>
<tr><th>Creatinine Clearance</th><th>Sotalol PO Load Dose</th></tr>
<tr><td>> 60 mL/min</td><td>80 mg PO q12h</td></tr>
<tr><td>30 - 59 mL/min</td><td>80 mg PO q24h</td></tr>
<tr><td>10 – 29 mL/min</td><td>80 mg PO q36h</td></tr>
<tr><td>< 10 mL/min</td><td>Do not use</td></tr>
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<tr>
<td>Modification of Initial Dose</td>
<td>At 3 hours after administering the first dose of dofetilide, a 12 lead ECG will be obtained. The RN will notify provider of 12 lead ECG and the provider will determine the QTc.

If the QTc has increased by greater than 15% compared to the baseline or if the QTc is greater than 500 msec (> 550 msec in patients with ventricular conduction abnormalities), the dofetilide dose should be reduced by 50% as follows:
<table>
<tr><th>If the starting dose, based on Creatinine Clearance, is:</th><th>Then the adjusted dose for prolongation is:</th></tr>
<tr><td>500 mcg BID</td><td>250 mcg BID</td></tr>
<tr><td>250 mcg BID</td><td>125 mcg BID</td></tr>
<tr><td>125 mcg BID</td><td>125 mcg Daily</td></tr>
</table>
</td>
<td>Four hours after END of sotalol infusion, administer 1st oral dose.

If CrCl is 30 - < 60 mL/min, the 1st oral dose should be administered 6 hours after END of sotalol infusion.

If CrCl is 10 - <30 mL/min, the 1st oral dose should be administered 12 hours after END of sotalol infusion.</td>
<td>Monitor 12 lead EKG 3 hours after each oral dose x6 doses.

If QTc increases to > 500 msec or increases by > 20% of baseline, notify the provider.

Obtain vitals per protocol

Hold for SBP < 90 mmHg and/or heart rate of < 50 BPM.</td>
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Maintenance Therapy	**Three hours** after each subsequent dose of dofetilide, the RN will determine the QTc via the monitor and mount strips and document on the TIKOSYN flowsheet. If at any time after second dose of dofetilide is given, the QTc is greater than 500 msec (550 msec in patients with ventricular conduction abnormalities), the RN must notify the provider and dofetilide should be discontinued. NOTE: No further down titration of dose based on QTc is recommended following modification of initial dose. Patients are to be monitored with a **daily** ECG for a minimum of 3 days, or for a minimum of 12 hours after electrical or pharmacological conversion to normal sinus rhythm, whichever is greater.	Monitor 12 lead EKG **2 hours** after 1st and 2nd oral dose. Obtain vitals per protocol Hold for SBP < 90 mmHg and/or heart rate of < 50 BPM.	If QTc increases to > 500 msec or increases by > 20% of baseline, notify the provider. Obtain vitals per protocol Hold for SBP < 90 mmHg and/or heart rate of < 50 BPM.

CONTINUATION OF MAINTENANCE THERAPY

4. Patients with a new initiation order of an anti-arrhythmic agent who remain on Telemetry longer than three days, with QTc less than 500 msec, will no longer require continuous QTc monitoring after the third day.
5. Patients admitted to the hospital on a maintenance dose of an anti-arrhythmic agent will not require QTc monitoring after QTc is evaluated on initial admission strip, unless the maintenance dose is increased. If the dose is increased, patients will be monitored according to the titration protocol.
6. Patients on maintenance an anti-arrhythmic agent will require additional QTc monitoring if placed on QT prolonging medication. The pharmacist will contact the provider if a QT prolonging medication is added.

INITIAL EFFECTIVE DATE: 06/2017
DATES REVISIONS EFFECTIVE: 08/2019, 10/2019, 10/2022, 03/2025
DATES REVIEWED (no changes):