

# Dofetilide (Tikosyn)

## ► PREREQUISITES

Initiation of dofetilide requires 3 days in the hospital to assess the impact of the medication on the QT interval.

## ► INDICATIONS (See sidebar for CONTRAINDICATIONS)

Dofetilide is indicated for the conversion and/or maintenance of normal sinus rhythm in patients with symptomatic atrial fibrillation/atrial flutter. This medication can also be used in patients with ischemic heart disease and heart failure.

## ► INITIATION AND DOSING

**1. Check for prior antiarrhythmics.** Ensure the patient has NOT received any class I or class III antiarrhythmic agents within the last 3 days, amiodarone within the last 3 months, or that the serum level of amiodarone is less 0.3 mg/L.

**2. Determine the patient's corrected QT interval (QTc) and renal function.**

– **QTc:** Determine the patient's QTc using an average of 5 to 10 beats. To figure QTc for heart rates > 60 bpm, use an online [calculator](#) or use this equation:  $QTc = QT \div \sqrt{RR}$ . If the heart rate is ≤ 60 bpm, use the uncorrected QT interval.

If the QTc is < 440 msec (< 500 msec if there is a ventricular conduction abnormality), proceed.

– **Renal function:** Calculate the patient's **creatinine clearance (CrCl)** use these formulas:

$$CrCl \text{ (male)} = \frac{(140 - \text{age}) \times \text{actual body weight (kg)}}{72 \times \text{serum creatinine (mg/dL)}}$$

$$CrCl \text{ (female)} = \frac{(140 - \text{age}) \times \text{actual body weight (kg)} \times 0.85}{72 \times \text{serum creatinine (mg/dL)}}$$

**3. Determine the starting dose** based on the patient's creatinine clearance.

TABLE 1 — Starting dose by creatinine clearance

CrCl	Starting Dose
> 60 mL/min	500 mcg, twice daily
40–60 mL/min	250 mcg, twice daily
20–39 mL/min	125 mcg, twice daily
< 20 mL/min	DO NOT USE Dofetilide is contraindicated in these patients.

**4. Check QTc and adjust dose during initiation.** At 2 to 3 hours after administering the first dose, determine the QTc. If the QTc has increased by more than 15% compared to baseline OR if the QTc is > 500 msec (> 550 msec if there is a ventricular conduction abnormality), adjust the dosing according to the table on the next page.

## ► CONTRAINDICATIONS

- Congenital or acquired long QT syndrome.
- Baseline QTc ≥ 440 msec (≥ 500 msec if there is a ventricular conduction abnormality). See calculator link and equation for calculating corrected QT interval at left.
- Creatinine clearance (approximated) < 20 mL/min. See calculator link and equations for renal function at left.
- Concurrent use of verapamil, cimetidine, trimethoprim, sulfamethoxazole, ketoconazole, prochlorperazine, or megestrol.
- Concurrent use of hydrochlorothiazide diuretic (alone or in combination with triamterene).
- Concurrent use of any other Class III antiarrhythmic medication.

**TABLE 2 — Dose adjustment during dofetilide initiation**

IF the starting dose based on creatinine clearance is:	THEN the adjusted dose for QTc prolongation* is:
500 mcg, twice daily	250 mcg, twice daily
250 mcg, twice daily	125 mcg, twice daily
125 mcg, twice daily	125 mcg, once daily

\*QTc has increased by more than 15% compared to baseline OR QTc is > 500 msec (> 550 msec if there is a ventricular conduction abnormality). Per package insert, the dofetilide dose should be decreased based on QTc just once, then discontinued.

### 5. When to DISCONTINUE dofetilide during initiation:

- Discontinue dofetilide if, at any time after the second dose, the QTc increases to > 500 msec (or > 550 msec if there is a bundle branch block).
- Discontinue dofetilide if polymorphic ventricular tachycardia is observed at any time.

## ► FOLLOW UP

### Reevaluate renal function and QTc every 3 months, or as medically warranted.

- If QTc is > 500 msec (> 550 msec if there is a ventricular conduction abnormality), reduce the dose based on the table above. If you have already decreased the dose once, discontinue dofetilide.
- If renal function deteriorates, adjust the dose as in the initiation dose in TABLE 1 on the previous page.

These guidelines apply to common clinical circumstances, and may not be appropriate for certain patients and situations. The treating clinician must use judgment in applying guidelines to the care of individual patients.