Appendix F: Prescription Medication Tables for Atrial Fibrillation

See BCGuidelines: DOAC and Warfarin guidelines for dosing and therapeutic considerations of these drugs.

Generic Name *Trade name* Dosage form and strengths	**Recommended Adult Dose**[A]	**Approx. Cost per 90 days**[B]	**PharmaCare Coverage**[C]	**Adverse Events**[D]	**Therapeutic Considerations**[D]
Drugs for heart rate control					
Beta-blockers (BB)					
Atenolol *Tenormin, generics* Tabs: 25, 50, 100 mg	Initial: 25 mg daily[1] Usual: 50 to 150 mg daily[2] Max: 200 mg daily[3]	$10 to 25	Regular benefit	Bradycardia, hypotension, bronchospasm, fatigue, depression[2]	Contraindicated:[5] • severe/poorly controlled asthma • 2nd/3rd degree heart block without pacemaker • PR > 0.24 sec • decompensated HF • symptomatic bradycardia • symptomatic hypotension • severe PAD *For LVEF ≤ 40%: use bisoprolol, metoprolol, carvedilol[1] Atenolol associated with increased mortality[5] Carvedilol less effective for rate control than metoprolol[5] Lower HR at rest and exercise, but no change in exercise capacity[5] β-1 selective (less potential for bronchospasm): atenolol, bisoprolol, metoprolol[2] Drug interactions (DI): synergistic with digoxin, CCB, amiodarone (may require dose reduction). Antidiabetic agents (may mask hypoglycemia). Beta blocker Dose Approximate Equivalence[9] Beta blocker / Dose Approximate Equivalence Atenolol: 50 mg Bisoprolol: 5 mg Carvedilol: 25 mg Metoprolol: 100 mg Nadolol: 80 mg Propranolol: 80 mg
Bisoprolol* *Monocor, generics* Tabs: 5, 10 mg	Initial: 2.5 mg daily[1] Usual: 2.5 to 10 mg daily[2] Max: 20 mg daily[4]	$5 to 10	Regular benefit		
Metoprolol* *Lopressor, generics* Tabs: 25, 50, 100 mg SR tabs: 100, 200 mg Injectable solution: 1 mg/mL	Acute care setting[1]: 2.5 to 5 mg iv over 2 min, then q5min x 3 prn Outpatient setting: Initial: 12.5 to 25 mg po bid[1] Usual: 25 to 200 mg po bid or 100 to 200 mg SR po daily[5] Max: 400 mg po daily in divided doses[6]	$15 to 50	Regular benefit		
Nadolol *Cogard, generics* Tabs: 40, 80, 160 mg	Initial: 40 mg daily[1] Usual: 80 to 160 mg daily[1] Max: 160 mg bid[5]	$35 to 130	Regular benefit		
Propranolol *Inderal, generics* Tabs: 10, 20, 40, 80 mg Liquid: 3.75 mg/mL Injectable solution: 1mg/mL	Acute care setting[2]: 1 to 3 mg iv q2min x 2 prn (may repeat in 4 h) Outpatient setting: Initial: 40 mg po bid[1] Usual: 80 to 120 mg po bid Max: 160 mg bid	$45 to 75	Regular benefit		
Carvedilol* *Coreg, generics* Tabs: 3.125, 6.25, 12.5, 25 mg	Initial: 6.25 mg bid[1] Max: 25 mg bid[8]	$45	Limited coverage		

Generic Name *Trade name* Dosage form and strengths	Recommended Adult Dose[A]	Approx. Cost per 90 days[B]	PharmaCare Coverage[C]	Adverse Events[D]	Therapeutic Considerations[D]
Non-dihydropyridine calcium channel blockers (ND – CCB)					
Diltiazem *Tiazac, generics* Tabs: 30, 60 mg CD caps/Tiazac XC tabs: 120, 180, 240, 300, 360 mg Injectable solution: 5 mg/mL	Acute care setting:[1] 0.25 mg/kg iv; a second bolus of 0.35 mg/kg may be given in 15 min prn Outpatient setting: Initial: 30 mg po q6h to q8h or 120 mg CD/XC daily[1] Usual/Max: 120 to 360 mg CD/XC daily (dose divided q6h or q8h for immediate release tabs)[10]	$35 to 60	Regular benefit	Headache, **edema**, dizziness, bradycardia, flushing[10]	Contraindicated:[10] • severe bradycardia (< 40 BPM) • hypotension (SBP < 90 mmHg) • Sick Sinus Syndrome (without pacemaker) • 2nd/3rd degree AV block • MI with left ventricular failure • Concomitant use with ivbradine, dantrolene May be preferred for active patients, since less fatiguing than beta blockers[5] DI results in ↑ concentration/effect(s): amiodarone, digoxin, beta blockers, cyclosporine, lithium[10] DI results in ↓ concentration/effect(s): carbamazepine[1]
Verapamil *Isoptin, generics* IR tabs: 80, 120 mg SR tabs: 120, 180, 240 mg Injectable solution: 2.5 mg/mL	Acute care setting:[1] 5 to 10 mg (0.075 mg to 0.15 mg/kg) iv over 2 min Outpatient setting: Initial: 40 mg po tid or 120 mg SR daily[2] Usual/Max: 120 mg daily to 240 mg bid[5]	$50 to 335	Regular benefit	Headache, dizziness, hypotension, **constipation**, nausea[11]	Contraindicated:[11] • severe bradycardia/hypotension • Sick Sinus Syndrome • 2nd/3rd degree AV block • severe MI with left ventricular failure • severe CHF (EF < 40%) • Concomitant use with ivbradine, flibanserin May be preferred for active patients since less fatiguing than beta blockers[5] DI: avoid with beta blockers in pts with poor ventricular function, grapefruit juice DI results in ↑ concentration/effect(s): alpha blockers, dabigatran, digoxin, carbamazepine, colchicine, doxorubicin, lithium[11] DI results in ↓ concentration/effect(s): phenytoin, rifampin[11]
Digoxin					
Digoxin *Toloxin, generics* Tabs: 0.0625, 0.125, 0.25 mg Oral solution: 0.05 mg/mL Injectable solution: 0.25 mg/mL	Acute care setting:[1] Loading dose: 10 to 15 mcg/kg in divided doses (e.g., 0.5 mg iv, then 0.25 mg iv q6 to 8h for 2 doses)[1] Outpatient setting: Initial: 0.125 mg po daily (loading not usually necessary)[1] Usual/Max: 0.125 to 0.25 mg po daily[1]	$20 to 40	Regular benefit	CNS: visual disturbances (blurred/yellow vision), headache, weakness Cardiac: arrhythmias (many are dose-dependent) GI: nausea, vomiting, diarrhea, anorexia[12]	Contraindicated: ventricular fibrillation Use with caution in elderly (consider lower initial dose), CKD and concomitant K+ wasting diuretic, e.g., furosemide[1] DI results in ↑ concentration/effect(s): amiodarone, macrolide antibiotics, e.g., clarithromycin, CCBs, cyclosporine, dronedarone, propafenone, azole antifungals[12] DI results in ↓ concentration/effect(s): aluminum or magnesium-containing antacids, doxorubicin, bupropion[12] Serum trough concentration used to monitor for toxicity, although signs of toxicity may occur < 1.5 nmol/L

Generic Name *Trade name* Dosage form and strengths	Recommended Adult Dose[A]	Approx. Cost per 90 days[B]	PharmaCare Coverage[C]	Adverse Events[D]	Therapeutic Considerations[D]
Drugs for heart rhythm control					
Class 1A Antiarrhythmics					
Procainamide *Pronestyl, generics* Injection: 100 mg/mL	Acute care setting:[1] 15 to 18 mg/kg iv over 30 to 60 min (usual dose 1 g over 1 hour)	N/A	Non- benefit	Hypotension, bradycardia, ventricular proarrhythmia[1]	Contraindicated/avoid use:[1] • Hypotension • Ischemic heart disease • HF • Conduction system disease • Brugada syndrome Efficacy similar to amiodarone. Less efficacious than Class 1C and other Class III antiarrhythmics. Time to conversion: 1 hour Suggested monitoring: 1 hour post infusion
Class 1C Antiarrhythmics					
Flecainide *Tambocor, generics* Tabs: 50, 100 mg	Pill in the Pocket:[1] Give one immediate release: diltiazem 60 mg/verapamil 80 mg/metoprolol 25 mg tablet 30 min prior to: 200 mg po (≤ 70 kg) **OR** 300 mg po (> 70 kg) Rhythm control: Initial: 50 mg bid[13] Usual: 50 to 100 mg bid Max: 150 mg bid[13]	$30 to 55	Regular benefit	CNS: nausea, asthenia, tremor, dizziness, headache Ophthalmic: blurred vision, corneal deposit, dry eyes, photopsia[5] CV: arrhythmias, hypotension	Contraindicated/avoid use:[1] • Advanced atrioventricular or infranodal conduction disease • Marked sinus bradycardia • Ischemic heart disease (active ischemia or history of MI) • Clinical heart failure or LVEF (≤ 40%) • Brugada syndrome • LVH (ECG or echo) with repolarization abnormality (ECG) DI: avoid with other antiarrhythmic agents, QTc prolonging agents. Time to conversion: 2 to 6 hours[1] Suggested monitoring: 6 hours post administration[1] ECG parameter for discontinuing: QRS duration increases > 25% from baseline or to > 150 msec, PR interval > 200 msec[1]
Propafenone *Rythmol, generics* Tabs: 150, 300 mg	Pill in the Pocket:[1] Give one immediate release: diltiazem 60 mg/verapamil 80 mg/metoprolol 25 mg tablet 30 min prior to: 450 mg po (≤ 70 kg) **OR** 600 mg po (> 70 kg) Rhythm control: Initial: 150 mg daily[5] Usual: 150 mg tid[5] Max: 300 mg tid[1]	$90	Regular benefit	CNS: dizziness, anxiety fatigue CV: arrhythmias, chest pain, edema, palpitations, hypotension GI: altered taste, constipation, nausea/vomiting, dyspnea[5] Agranulocytosis (< 0.1%)[5]	Contraindicated/avoid use:[1] • Advanced atrioventricular or infranodal conduction disease • Marked sinus bradycardia • Ischemic heart disease (active ischemia or history of MI) • Clinical heart failure or LVEF (≤ 40%) • Brugada syndrome • Severe hepatic impairment • Myasthenia gravis • LVH (ECG or echo) with repolarization abnormality (ECG) DI: avoid with amiodarone DI results in ↑ concentration/effect(s): beta-blockers, venlafaxine, warfarin, SSRIs, may require dose reduction[5] Time to conversion: 2 to 6 hours Suggested monitoring: 6-hours post administration ECG parameter for discontinuing: QRS duration increases > 25% from baseline or to > 150 msec, PR interval > 200 msec[1]

Generic Name *Trade name* Dosage form and strengths	Recommended Adult Dose[A]	Approx. Cost per 90 days[B]	PharmaCare Coverage[C]	Adverse Events[D]	Therapeutic Considerations[D]
Class III Antiarrhythmics					
Amiodarone *Cardarone, generics* Tabs: 100, 200 mg Injectable solution: 50 mg/mL	Acute care setting:[1] 150 mg iv bolus then 60 mg/h x 6 hours then 30 mg/h x 18 hours Rhythm control: 100 to 200 mg po daily[1]	$40 to 85	Regular benefit	CNS: abnormal gait/coordination, dizziness, paresthesia/ neuropathy, fatigue, tremor, insomnia Ophthalmic: corneal/micro-deposit, visual disturbances CV: bradycardia, hypotension, bradyarrhythmia DERM: blue skin, photo-dermatitis/ sensitivity GI: ↓ appetite, constipation, nausea/vomiting[5]	Contraindicated/avoid use:[1] • Advanced atrioventricular or infranodal conduction disease • Marked sinus bradycardia • Advanced pulmonary disease • Active hepatitis • Significant chronic liver disease • Pre-existing QTc prolongation • Uncontrolled thyroid dysfunction Reserved for exceptional cases when other means not feasible, preferred if reduced EF[5] 60-70% efficacy at 1 year[5] DI: avoid with azoles, cyclosporin, clarithromycin, ritonavir.[5] DI results in ↑ concentration/effect(s): beta blockers, procainamide, quinidine, warfarin (dose reduction may be warranted)[2] ECG parameter for discontinuing: QTc increases > 25% from baseline or to ≥ 500 msec[1] Monitor transaminases and thyroid function every 6 months[2]
Sotalol *Sotacor, generics* Tabs: 80, 160 mg	Initial: 40 mg po bid[1] Usual/Max: 80 to 160 mg po bid	$40 to 65	Regular benefit	Hypotension, bradycardia, wheezing, ventricular proarrhythmia -especially at higher doses or with renal dysfunction[2]	Contraindicated/avoid use:[1] • Pre-existing QTc prolongation • Marked sinus bradycardia • Advanced atrioventricular node disease • Severe renal impairment (CrCl < 40 mL/ min) • Advanced age (> 75 years) • LV dysfunction (LVEF ≤ 40%) • LVH (ECG or echo) with repolarization abnormality (ECG) 30-50% efficacy at 1 year[5] DI results in ↑ concentration/effect(s): antiarrhythmics, drugs that ↑ QTc interval[5] ECG parameter for discontinuing: QTc increases > 25% from baseline or to ≥ 500 msec[1]

Generic Name *Trade name* Dosage form and strengths	Recommended Adult Dose[A]	Approx. Cost per 90 days[B]	PharmaCare Coverage[C]	Adverse Events[D]	Therapeutic Considerations[D]
Dronedarone *Multaq* Tab: 400 mg	400 mg po bid with food[14]	$460	Limited Coverage	CNS: asthenia GI: nausea, diarrhea, abdominal pain, hepatic dysfunction (rare)[5]	Contraindicated/avoid use:[1] • HF with recent decompensation • LV dysfunction (LVEF ≤ 40%) • Long-standing persistent or permanent AF • Previous amiodarone-induced lung or liver injury • Pre-existing QTc prolongation Not recommended for rate control due to increased risk of HF, stroke and cv death[5] Less efficacious than amiodarone, but less serious AE at 1 year[5] DI: avoid with azoles, ritonavir DI results in ↑ concentration/effect(s): clarithromycin, cyclosporine, grapefruit juice DI results in ↓ concentration/effect(s): carbamazepine, phenobarbital, phenytoin, rifampin, St. John's Wort[5] ECG parameter for discontinuing: QTc increases > 25% from baseline or to ≥ 500 msec[1]

Abbreviations: **ACS** – Acute Coronary Syndrome; **AE** – Adverse Events; **BPM** – Beats Per Minute; **CAP** – Capsules; **CCB** – Calcium Channel Blockers; **CD** – Controlled Delivery; **CV** – Cardiovascular; **DERM** – Dermatological; **ECG** – Electrocardiogram; **ER** – Extended Release; **H** – Hour; **HF** – Heart Failure; **HR** – Heart Rate; **LVEF** – Left Ventricular Ejection Fraction; **LVH** – Left Ventricular Hypertrophy; **MI** – Myocardial Infarction; **N/A** – Not Applicable; **PAD** – Peripheral Artery Disease; **PRN** – Pro Re Nata (as needed); **PTS** – Patients; **SR** – Sustained Release; **Tab** – Tablets; **XR** – Extended Release.

[A] For normal renal and hepatic function. Consult product monograph for detailed dosing instructions and dose adjustments for unique patient populations.

[B] Drugs costs are average retail cost of the generic, when available, rounded up to the nearest $5. Current as of March 2023 and does not include retail markups or pharmacy fees.

[C] PharmaCare coverage as of March 2023 (subject to revision). Regular benefit: Eligible for full reimbursement*. Limited coverage: Requires Special Authority to be eligible for reimbursement*. Non-benefit: Not eligible for reimbursement. *Reimbursement is subject to the rules of a patient's PharmaCare plan, including any deductibles. In all cases, coverage is subject to drug price limits set by PharmaCare. See: www.health.gov.bc.ca/pharmacare/plans/index.html and www.health.gov.bc.ca/pharmacare/policy.html for further information.

[D] Not an exhaustive list of all adverse events, therapeutic considerations, contraindications, and drug interactions. Check product monographs (https://health-products.canada.ca/dpd-bdpp/index-eng.jsp) or an interaction checker (e.g., Lexicomp(C)) before prescribing

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