



**\* Notes:**

1. Do not initiate ACE, ARB, or beta blocker drugs in a dehydrated patient.
2. Beta blockers contraindicated in advanced heart block or symptomatic bradycardia. OK to use with caution in COPD, diabetes, or peripheral vascular disease.
3. If the patient must take a calcium channel blocker due to angina, only amlodipine (Norvasc) has been shown NOT to increase mortality as compared with placebo.
4. If an antiarrhythmic is necessary, only amiodarone has been shown to reduce mortality in CHF as opposed to others that may increase mortality.
5. Carvedilol, Toprol-XL, and Diovan are the only agents in their class indicated for treatment of CHF.



## Pharmacologic Agents for Treatment of Congested Heart Failure

### 2010 SCAN Formulary Drugs

Medication	Daily Dosage	Max Dose	Adverse Drug Reactions	Tier Level & Notes		
				CA (except San Joaquin County)	AZ SNP/ MAPD & San Joaquin County	AZ Long Term Care
<b>Angiotensin Converting Enzyme Inhibitors (ACEIs)</b>						
<i>benazepril</i>	40 mg	80 mg/ day	Angioedema, cough, hyperkalemia, dizziness, headache	2	1	1
<i>captopril</i>	150 mg	150mg/day	Angioedema, cough, hyperkalemia, dizziness, headache, skin rash	2	1	1
<i>enalapril</i>	20 mg	20 mg/ day	Angioedema, cough, hyperkalemia, dizziness, headache	2	1	1
<i>fosinopril</i>	10 mg	40 mg/day	Angioedema, cough, hyperkalemia, dizziness, headache	2	1	1
<i>lisinopril</i>	20 mg	40 mg/ day	Angioedema, cough, hyperkalemia, dizziness, headache	2	1	1
<i>quinapril</i>	40 mg	40 mg/ day	Angioedema, cough, hyperkalemia, dizziness, headache	2	1	1
<i>ramipril</i>	10 mg	20 mg/ day	Angioedema, cough, hyperkalemia, dizziness, headache	2	1	1



<i>trandolapril</i>	4 mg	4 mg/day	Angioedema, cough, hyperkalemia, dizziness, headache	2	1	1
<i>perindopril</i>	8 mg	16 mg	Angioedema, cough, hyperkalemia, dizziness, headache	2	NF	1
<b>Angiotensin Receptor Blockers (ARBs)</b>						
BENICAR (olmesartan)	40 mg	40 mg/ day	Dizziness, headaches, hyperkalemia, hypotension	3	NF	2 [ST]
DIOVAN (valsartan)	160 mg	320 mg/ day	Dizziness, fatigue, hyperkalemia, hypotension	3	2 [ST]	2 [ST]
MICARDIS (telmisartan)	20-80 mg		Dizziness, fatigue, hyperkalemia, hypotension	NF	2 [ST]	NF
<b>Beta Blockers</b>						
<i>bisoprolol</i>	5 - 10 mg	20 mg/ day	Bronchospasm, fatigue, depression	2	1	1
<i>carvedilol</i>	6.25 -50 mg	100 mg/ day	Hypotension, dizziness, fatigue	2	1	1
<i>metoprolol</i>	100 - 200 mg	200 mg /day	Dizziness, headache, fatigue, depression, bradycardia	1	1	1
<i>metoprolol er</i>	100 - 200 mg	200 mg /day	Dizziness, headache, fatigue, depression, bradycardia	1	1	1
<b>Cardiovascular Agents, Other</b>						



<i>digoxin</i>	0.125 mg Digoxin level monitoring required	0.25mg/ day	Anorexia, confusion, visual disturbance, bradycardia	1	1	1
<b>Diuretics</b>						
<i>amiloride</i>	5 -10 mg		Anorexia, diarrhea, nausea, headache, orthostatic hypotension, fatigue, rash	2	1	1
<i>chlorothiazide</i>	12.5 - 25 mg	100mg / day	Phototoxicity, constipation, hyperglycemia, hyperuricemia, dizziness, headache	2	1	1
<i>furosemide</i>	20 - 80 mg	600 mg /day	Hypokalemia, hyperuricemia	1	1	1
<i>hydrochlorothiazide</i>	25-100 mg BID		Anorexia, epigastric distress, phototoxicity	1	1	1
<i>indapamide</i>	5 mg	20 mg	Headache, dizziness, hyperuricemia	2	1	1
<i>metolazone</i>	5 - 10 mg	50 mg/ day	Dizziness, muscle cramps, orthostatic hypotension	2	1	1
<i>spironolactone</i>	12.5 - 25 mg		Hyperkalemia, drowsiness, lethargy, mental confusion	2	1	1



<i>spironolactone/hctz</i>	25 / 200 mg		Hyperkalemia, drowsiness, lethargy, mental confusion	2	1	1
<i>triamterene/hctz</i>	37.5 / 25 mg (1 or 2 tablets/ capsules) to 75mg/50mg (1 tablet daily)		Hyperkalemia, dizziness, fatigue	1	1	1
<b>Vasodilators</b>						
<i>hydralazine</i>	75 mg	400 mg/ day	Hypotension, palpitation, tachycardia, anorexia	2	1	1
<i>isosorbide</i>	30 mg	240 mg/ day	Hypotension, headaches, dizziness, orthostatic hypotension, syncope	2	1	1

Brand-name drugs are capitalized and generic drugs are listed in lower-case italics

[NF] = Non-formulary      [ST] = Step Therapy



## Dose Titration Recommendations

<b>ACE</b>	<u>starting dose</u>		<u>step 2</u>	<u>step 3</u>	<u>step 4</u>	<b>TARGET</b>	<u>max dose</u>	<u>increase/interval</u>
Captopril	6.25	TID	12.5	25	50	50	50 TID	48 hours
Enalapril	2.5	BID	5	7.5	10	10	10 BID	1 week
Lisinopril	2.5	QD	10	15	20	30	40 QD	1 week
Quinapril	5	BID	10	15	20	20	20 BID	1 week
Lotensin	5	QD	10	20	30	40	80 QD	1 week
Ramipril	1.25	BID	2.5	5	5	5	10 BID	1 week

<b>Beta Blocker*</b>	<u>starting dose</u>		<u>increase by</u>	<u>every</u>	<u>target dose</u>	<u>max</u>
Metoprolol	25	BID	25	2 weeks	50-100 BID	200 d
Bisoprolol	2.5	QD	2.5	2 weeks	5 to 10 QD	20 d
Carvedilol	3.125	BID	3.125	2 weeks	25 to 50 BID	100 d



## CHF Guideline References

### CHF Guideline adapted from:

- Circulation – Journal of the American Heart Association. Focused Update: ACCF/AHA Guidelines for the Diagnosis and Management of Heart Failure in Adults. A report of the American College of Cardiology Foundation / American Heart Association Task Force on Practice Guidelines. M. Jessup, WT. Abraham, DE. Casey, AM. Feldman, GS. Francis, TG. Ganiats, MA. Konstam, DM. Mancini, PS. Rahko, MA. Silver, LW. Stevenson and CW. Yancy. (2009, Mar 26). AHA: Dallas, TX.
- Drug Facts & Comparisons. (2010, Feb). Retrieved from [www.online.factsandcomparisons.com](http://www.online.factsandcomparisons.com). Wolters Kluwer Health: Deventer, The Netherlands.