

Appendix B Beta-Blockers (BB)

Rationale

- BB are the most recent dramatic advance in HF medical treatment
- They slow disease progression, decrease hospitalization, decrease mortality and improve quality of life but have little effect on exercise duration

Beneficial Subsets

- All patients with chronic, stable HF (volume controlled NYHA Class I-IV)
 - Start when there is no physical evidence of fluid retention (i.e. euvolemic), with a heart rate >60 bpm and a systolic BP >85 mmHg
 - Not to be initiated in volume overloaded, acute or highly symptomatic HF

Considerations

- Contraindicated in patients with reactive airway disease (asthma) but can be used for patients with COPD, peripheral vascular disease or diabetes

Monitoring

- Monitor blood pressure, pulse rate and HF symptoms with dose adjustments

Dealing with Side-Effects

- Patients may clinically deteriorate over the first 6-12 weeks but persistence is necessary
- Adjustments may be required in the doses of other medication, including diuretics, vasodilators and ACE-I, at least in the titration phase, to increase the tolerance for BB
- Hypotensive effects:
 - Consider general measures as above (**See Recommendation 3**)
 - Reconsider need for nitrates, CCB, vasodilators and diuretics
 - Reassure: symptoms of dizziness often resolve within 2-4 weeks of titration
- Worsening fluid overload:
 - Intensify sodium and fluid restriction and/or increase diuretic dose
 - May have to temporarily reduce BB dose until volume control achieved then retry titration (halve dose if serious deterioration (**See Recommendation 9**))
- Significant bradycardia:
 - Obtain an ECG to exclude heart block
 - Reduce or eliminate other drugs that also slow heart rate (digoxin, diltiazem, verapamil, amiodarone)
 - Reduce dose of BB
 - Consider pacemaker support if severe bradycardia or high grade AV block

	STARTING DOSE	TITRATION	TARGET DOSE
Carvedilol (preferred)	3.125 mg PO BID	Increase by 50-100% q2-4 weeks	25 mg PO BID if <75 kg 50 mg PO BID if >75 kg
Bisoprolol	1.25 mg PO daily		10 mg PO daily
Metoprolol Tartrate or LCA	12.5 mg PO BID		100 mg PO BID*

LCA - low cost alternative

- * for Metoprolol Tartrate it is recommended to change to once daily sustained release formulation when target dose has been reached

Beta-Blocker Equivalent Doses

- The effect of BB in HF is not a class effect. It is recommended that patients already on a beta blocker be changed to one of the recommended agents as above. The following is presented as a rough guide based only on recommended “usual” and “starting” doses. Therefore, it is recommended that patients are followed closely during and after conversion.

The following doses are equivalent to carvedilol 12.5mg BID

acebutolol 100mg BID	metoprolol 50mg BID	propranolol 40mg BID
atenolol 50mg daily	metoprolol SR 100mg daily	propranolol LA 80mg daily
bisoprolol 5mg daily	nadolol 80mg daily	sotalol 80mg BID
labetolol 100mg BID	pindolol 5mg BID	timolol 5mg BID