Blue Guideline for Recommended Beta-blocker Therapy

The attached guideline has been adopted by Anthem Blue Cross and Blue Shield
From American College of Cardiology and the American Heart Association

Recommended Beta-blocker Therapy
for Heart Failure and Post-MI

The following clinical practice guideline outlines the indications, maintenance, adverse effects and contraindications of beta-blocker regimen for the management of heart failure and post-MI patients.

The guideline is designed to assist the practitioner in clinical decision making by describing a range of generally acceptable approaches for the management of heart failure and is not intended to replace the practitioner’s judgement in the office setting. Some services may not be covered under certain plans. Please refer to Membership Certificate for details concerning benefits, procedures and exclusions.


Committee Review: PAC Committee
Revision Date: 10/99, 10/01, 10/02, 10/04
Date Adopted: 1997
Line of Business: HMO Colorado & Nevada
**2004 Recommended Beta-blocker Therapy**

**Beta-blocker Therapy after Myocardial Infarction (excluding those with re-vascularization procedures)**

**Beta-blocker Therapy for Heart Failure**

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**Indications:**

1. **Acute Myocardial Infarction (AMI-MI)**
   - Maintenance beta-blocker therapy has been shown to reduce mortality after myocardial infarction (MI) and is recommended as prophylaxis for prevention of sudden death after myocardial infarction (secondary prevention), decreases re-infarctions and increases the probability of long-term survival by up to 40%. The greatest benefit with beta-blocker therapy is seen in the high-risk patient. Beta-blocker therapy should be continued indefinitely. Beta-blockers are recommended for the management of patients with a recent MI, regardless of ejection fraction.

2. **Heart Failure (CHF-HF)**
   - Beta-blocker therapy is recommended for patients with a reduced ejection fraction, whether or not they have experienced a MI. The American College of Cardiology and the American Heart Association has stratified heart failure (HF) into 4 stages. These classifications recognize that therapeutic interventions performed even before the appearance of left ventricular dysfunction or symptoms can reduce the morbidity and mortality of HF. Thus, the guidelines focus on the prevention of HF as well as on the evaluation and management of chronic HF in the adult patient with left ventricular systolic and diastolic dysfunction.

<table>
<thead>
<tr>
<th>Drug</th>
<th>Initial Dose</th>
<th>Maximum Dose</th>
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<tbody>
<tr>
<td>Bisoprolol</td>
<td>1.25 mg once daily</td>
<td>10 mg once daily, regardless of body weight</td>
</tr>
<tr>
<td>Carvedilol</td>
<td>3.125 mg twice daily</td>
<td>25 mg twice daily; 50 mg for &gt;85kg</td>
</tr>
<tr>
<td>Metoprolol tartrate</td>
<td>6.25 mg twice daily</td>
<td>75 mg twice daily</td>
</tr>
<tr>
<td>Metoprolol XL, extended release</td>
<td>12.5 mg to 25 mg, daily</td>
<td>200 mg once daily, regardless of body weight</td>
</tr>
</tbody>
</table>

The management of HF also includes the following commonly used drugs: diuretics, ACE inhibitors, and digitalis.

The value of these drugs has been established by the results of numerous large-scale clinical trials, and the evidence supporting a central role for their use is compelling and persuasive. Patients with evidence of fluid retention should take a diuretic until an euvoletic state is achieved, and diuretic therapy should be continued to prevent the recurrence of fluid retention. Even if the patient responds favorably to the diuretic, treatment with both an ACE inhibitor and a beta-blocker should be initiated and maintained in patients who can tolerate them, because they have been shown to favorably influence the long-term prognosis of HF.
### Long Term Maintenance:

Beta-blockers exhibit anti-arrhythmic activity and act by inhibiting myocardial beta-adrenergic receptors in the heart, producing negative chronotropic and inotropic activity leading to a decrease in the rate of SA node discharge. In HF, beta-blockers act principally to inhibit the adverse effects of the sympathetic nervous system.

**Formulary -- Tiered Benefit Structure (lower co-payments):**

- Atenolol
- Atenolol/Chlorthalidone
- Acebutolol
- Betaxolol
- Bisoprolol
- Bisoprolol/Hydrochlorothiazide
- Labetalol
- Metoprolol
- Naldolol
- Propranolol
- Propranolol/Hydrochlorothiazide
- Pindolol
- Satalol
- Timolol

**Brands:**

- Inderal LA (brand name extended release Propranolol, generic extended release is not available)
- Coreg (brand name Carvedilol)
- Lopressor HCT (brand name mix)

*Dosage is based on recommended therapeutic regimen*

**Non-Formulary -- Tiered Benefit Structure (higher co-payments):**

- Levatol (Penbutaolo), Timolide (brand name mix), Corzide (brand name mix), Cartrol (carteolol) – not available on formulary

### Adverse Effects:

Beta-blockers should be used cautiously in hypertensive patients with peripheral vascular disease. Side effects may include fluid retention and worsening CHF, bradycardia, heart block, hypotension, fatigue, sexual dysfunction, depression, nightmares, elevated blood glucose and decreased ability to recognize hypoglycemia or previous adverse reaction. Beta 1 selective blockers may produce fewer side effects.

If the patient has been using a beta-blocker regularly for several weeks, it should not be abruptly discontinued. It is recommended that the dose be gradually tapered over 3-14 days.

### Contraindications:

- Systolic arterial pressure <100mm Hg
- Sinus bradycardia
- Heart block >1 degree
- PR interval >.24 sec.
- History of asthma (relative) - bronchospastic
- Signs of peripheral hypoperfusion
- Severe peripheral vascular disease (CHF)

Beta-blockers should not be prescribed for patients who have reactive airway disease, advanced heart block (unless treated with a pacemaker) or symptomatic bradycardia.

**MI**

Although relative contraindications one may have been thought to preclude the use of beta-blockers in some patients, new evidence suggests that the benefits of beta-blockers in reducing re-infarctions and mortality may actually outweigh the risks, even in patients with asthma, insulin-dependent diabetes mellitus, chronic obstructive pulmonary disease, severe peripheral vascular disease, PR interval >.24 sec., and moderate LV failure.

It is also emphasized that the use of beta-blockers in such patients requires careful patient monitoring for adverse events.