

**HIGH RISK SURGERY  
BETA-BLOCKER PROTOCOL**

<b>Procedures</b>	Intra-thoracic, Intra-peritoneal (open), Supra-inguinal Vascular, Major Joint Replacement	<i>May also be used for other selected patients.</i>
<b>Inclusion Criteria</b>	<ul style="list-style-type: none"> <li>• Known CAD (angina, MI, positive ETT or cath)</li> </ul> <p style="text-align: center;"><b>Or</b></p> <ul style="list-style-type: none"> <li>• Any 2 of: Age &gt; 65, HTN, Current smoker, Total Cholesterol &gt; 240, Diabetes mellitus</li> </ul>	
<b>Exclusion Criteria</b>	<ul style="list-style-type: none"> <li>• Asthma (inhaler &gt; 1 per week or on steroids)</li> <li>• COPD + bronchospasm</li> <li>• Heart Rate (HR) &lt; 55 beats per minute</li> <li>• Systolic Blood Pressure (SBP) &lt; 100 mm Hg</li> <li>• Second or third degree AV block without pacemaker</li> <li>• Active CHF</li> <li>• History of adverse reaction to beta-blocker</li> <li>• Hypovolemia or sepsis</li> </ul>	<i>If patient meets inclusion and exclusion criteria, consider Clonidine 0.2 mg po night before and am of surgery and Clonidine TTS 0.1mg am of surgery. Dexmedetomidine (Precedex) 0.2-0.7 mcg/kg/hr in a monitored setting may also be used.</i>
<b>Preop</b>	Outpatient po metoprolol: <ul style="list-style-type: none"> <li>• HR &gt; 70 – 50 mg bid</li> <li>• HR 55-70 – 25 mg bid</li> </ul> Or current dose of beta-blocker	<i>-Attending, surgeon or specialist to start as outpatient. Benefits accrue up to 30 days preop. -Target heart rate &lt; 70 bpm</i>
<b>Holding Area</b>	Anesthesiologist reviews and confirms criteria for inclusion in protocol	<i>Beta blocker protocol annotation on surgery schedule and sticker on chart.</i>
<b>OR</b>	<ol style="list-style-type: none"> <li>1. <b>Hemodynamically stable:</b> Begin IV metoprolol 1-5 mg IVP prn</li> <li>2. <b>Hemodynamically unstable:</b> Esmolol bolus 10-20 mg IVP prn or continuous infusion</li> <li>3. <b>Hypertension:</b> Labetalol 5-10 mg IVP prn</li> </ol>	<i>Target heart rate &lt;70 bpm</i>
<b>PACU</b>	<ol style="list-style-type: none"> <li>1. <b>HR &gt; 75 bpm AND SBP &gt; 100 mmHg</b> Metoprolol 5mg IVP over 5", VS after 15 min, repeat X 2 if still meets criteria.</li> <li>2. <b>HR 65-75 bpm AND SBP &gt; 100 mmHg</b> Metoprolol 2.5mg IVP over 5", VS after 15 min, repeat X 2 if still meets criteria.</li> <li>3. <b>HR &lt; 65 bpm AND/OR SBP &lt; 100 mmHg</b> Hold</li> </ol>	<i>-If patient NPO, send to monitored bed. -Anesthesiologist activates order set. To be renewed within 24 hours by attending physician. -Anesthesiologist or surgeon notifies attending patient will be on protocol. -After PACU, attending is responsible for maintaining protocol.</i>
<b>Inpatient Unit</b>	<ol style="list-style-type: none"> <li>1. <b>IV Metoprolol - NPO</b> Needs monitored bed. Continue IV dosing as in PACU q 6 hours.</li> <li>2. <b>PO Metoprolol</b> <ul style="list-style-type: none"> <li>• HR &gt; 75 bpm AND SBP &gt; 100 mmHg: 50 mg bid</li> <li>• HR 65-75 bpm AND SBP &gt; 100 mmHg: 25 mg bid</li> <li>• HR &lt; 65 bpm AND/OR SBP &lt; 100 mmHg: Hold</li> </ul> </li> <li>3. <b>Resume po dose of other beta-blocker</b></li> </ol>	<i>Continue for 7 days post-operatively</i>
<b>Discharge</b>	Consider outpatient treatment for 30 days or chronically based on attending or specialist recommendation.	