

Measure #44: Preoperative Beta-blocker in Patients with Isolated Coronary Artery Bypass Graft (CABG) Surgery

DESCRIPTION:

Percentage of patients aged 18 years and older undergoing isolated coronary artery bypass (CABG) surgery who received a beta-blocker pre-operatively

INSTRUCTIONS:

This measure is to be reported for patients who undergo an isolated coronary artery bypass graft (CABG) procedure during the reporting period. It is anticipated that clinicians who provide services for isolated CABG will submit this measure. Isolated CABG refers to CABG using arterial and/or venous grafts only. Isolated CABG refers CABG using arterial and/or venous grafts only. Part B claims data will be analyzed to determine "isolated" CABG. The timeframe for this measure includes the entire 24 hour period before the incision time.

This measure is reported using CPT Category II codes:

CPT procedure codes and patient demographics (age, gender, etc.) are used to identify patients who are included in the measure's denominator. CPT Category II codes are used to report the numerator of the measure.

When reporting the measure, submit the listed CPT procedure codes and the appropriate CPT Category II code **OR** the CPT Category II code **with** the modifier. The modifiers allowed for this measure are: 1P- medical reasons, 8P- reasons not otherwise specified.

NUMERATOR:

Patients undergoing CABG with documented pre-operative beta-blocker

Numerator Coding:

Pre-operative Beta-blocker Received

CPT II 4115F: Beta blocker administered within 24 hours prior to surgical incision

OR

Pre-operative Beta-blocker not Received for Medical Reasons

Append a modifier (**1P**) to the CPT Category II code **4115F** to report documented circumstances that appropriately exclude patients from the denominator.

- **1P:** Documentation of medical reason(s) for not administering beta blocker within 24 hours prior to surgical incision

OR

Pre-operative Beta-blocker not Received, Reason not Specified

Append a reporting modifier (**8P**) to CPT Category II code **4115F** to report circumstances when the action described in the numerator is not performed and the reason is not otherwise specified.

- **8P:** Beta blocker not administered within 24 hours prior to surgical incision, reason not otherwise specified

DENOMINATOR:

Patients with isolated coronary artery bypass graft

Denominator Coding:

A CPT procedure code for isolated coronary artery bypass graft surgery is required to identify patients for denominator inclusion.

CPT procedure codes: 33510, 33511, 33512, 33513, 33514, 33516, 33517, 33518, 33519, 33521, 33522, 33523, 33533, 33534, 33535, 33536

RATIONALE:

In patients at risk of cardiovascular complications in a variety of medical conditions, beta-blockers have shown to reduce that risk. Studies show that patients with a history of myocardial infarction, who have had beta-blocker therapy initiated and continued, have a 20 to 30% reduction in subsequent coronary events, cardiovascular mortality, and all-cause mortality (Yusuf, 1985). In a meta analysis by McGory et al (2005), long-term cardiac mortality and myocardial ischemia were reduced significantly by perioperative beta blockade. Patients maintained on beta-blockers, without complications that might warrant discontinuation, are good candidates for continuation of beta-blockers through the perioperative period.

CLINICAL RECOMMENDATION STATEMENTS:

Prevention of Postoperative Arrhythmias

Class I

Preoperative or early postoperative administration of beta-blockers in patients without contraindications should be used as the standard therapy to reduce the incidence and/or clinical sequelae of atrial fibrillation after CABG. (*Level of Evidence: B*)

The use of b-blockers, calcium channel blockers, and nitrates plays a significant role in ensuring that the myocardial oxygen demand does not exceed the supply. Patients well compensated while receiving these agents should be continued on their therapy through the perioperative period. Special attention should be paid to avoiding excess catecholamine effects by the sudden withdrawal of b-blocker therapy. At least one study supports the use of b-blocker immediately prior to surgery: in 1988, Stone and colleagues gave oral b-blockers 2 hours prior to surgery and reported a decrease in frequency of ST segment depression from 28% among control patients to 2% in treated patients. Similarly, in 1987, Pasternack and colleagues reported a reduction from 18% to 3% incidence of acute perioperative myocardial infarction in patients treated with metoprolol immediately prior to and following surgery. More recently, Podesser and colleagues demonstrated in patients undergoing coronary artery bypass procedures that the combination of nifedipine and metoprolol was associated with a lower incidence of ischemic events than nifedipine alone.