

Pre-surgery beta blockers, risk of death examined in noncardiac surgery

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The controversial practice of administering pre-surgery beta-blockers to patients having noncardiac surgery was associated with an increased risk of death in patients with no cardiac risk factors but it was beneficial for patients with three to four risk factors, according to a report published online by *JAMA Surgery*.

Pre-surgery β -blockade is a widely accepted practice in [patients](#) having [cardiac surgery](#). But its use in patients at low risk of heart-related events having noncardiac surgery is controversial because of the increased risk of stroke and hypotension (low blood pressure).

Because of the persistent controversy, researcher Mark L. Friedell, M.D., of the University of Missouri-Kansas City School of Medicine, and co-authors analyzed data from the Veterans Health Administration to examine the effect of perioperative β -blockade on patients having noncardiac surgery by measuring 30-day surgical mortality.

The analysis included 326,489 patients: 314,114 (96.2 percent) had noncardiac surgery and 12,375 (3.8 percent) had cardiac surgery. Overall, 141,185 patients (43.2 percent) received a β -blocker. Of the patients having cardiac surgery, 8,571 (69.3 percent) received a β -blocker and 132,614 (42.2 percent) of the patients having noncardiac surgery got one.

The unadjusted 30-day mortality rates among patients having noncardiac surgery for those not receiving β -blockers were 0.5 percent for patients with no [cardiac risk factors](#), 1.4 percent for patients with one to two [risk factors](#) and 6.7 percent for patients with three to four risk factors. For those patients having noncardiac surgery who did receive β -blockers, the unadjusted 30-day mortality rates for patients with no [cardiac risk](#) factors, one to two risk factors and three to four risk factors were 1 percent, 1.7 percent and 3.5 percent,

respectively, according to the results.

The results suggest that among patients with no cardiac risk factors having noncardiac surgery, those patients receiving β -blockers were 1.2 times more likely to die than those not receiving β -blockers. The risk of death decreased for those patients with one to two risk factors but the reduction was not significant. However, for patients having noncardiac surgery with three to four cardiac risk factors, those receiving β -blockers were significantly less likely to die than those not receiving β -blockers, the authors found. The authors did not observe similar results in patients having cardiac [surgery](#).

" β -blockade is beneficial perioperatively for patients with three to four cardiac risk factors undergoing NCS [[noncardiac surgery](#)] but not in patients with one to two cardiac risk factors. Most important, the use of β -blockers in patients with no cardiac risk factors appears to be associated with a higher risk of death, which has, to our knowledge, not been previously reported," the study concludes.

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