

## On-Pump and Off-Pump CABG Equally Effective and Safe



---

The findings of a large randomised trial, which were recently published in *The New England Journal of Medicine*, suggest that on-pump and off-pump coronary-artery bypass grafting (CABG) procedures are equally effective and safe.

CABG with the use of cardiopulmonary bypass, i.e. on-pump CABG, is associated with a perioperative mortality of approximately 2%, with an additional 5 to 9% of patients having myocardial infarction, stroke or renal failure. Some of the perioperative and long-term complications are thought to be related to the use of cardiopulmonary bypass and to cross-clamping of the aorta performed during on-pump CABG surgery. Off-pump CABG was developed to decrease the risk of perioperative complications but also to improve the chances of long-term outcomes. Several small and large trials have compared off-pump and on-pump CABG but none of these previous trials have reported long-term outcomes. The largest of these studies was the 'CABG Off or On Pump Revascularization Study (CORONARY)', which was a randomized, controlled trial with blinded adjudication of outcomes involving 4,752 patients.

**See also :** [Postoperative Kidney Injury Less Likely In 'Off-Pump' Heart Bypass Patients](#)

A study by Lamy and colleagues evaluated the long-term effects of off-pump versus on-pump CABG by analysing the 5-year follow-up data from the CORONARY study, which was conducted in 19 countries. The results demonstrated that there were no significant differences between the off-pump group (23.1%) and the on-pump group (23.6%) in the rate of the composite outcome or in the rates of the composite outcome of death, non-fatal stroke, non-fatal myocardial infarction, non-fatal renal failure requiring dialysis or subsequent revascularisation procedures at 5 years of follow-up. Moreover, the secondary outcome for the overall period of the trial, i.e. the mean cost per patient, did not differ significantly between the off-pump group (\$15,107) and the on-pump group (\$14,992). There were no significant between-group differences in the quality of life of the patients.

The current study emphasises "the importance of long-term follow-up in surgical trials and indicates that new surgical techniques should be subject to rigorous comparative and large randomized trials before they are adopted widely in practice."

**Source :** [The New England Journal of Medicine](#)

Published on : Mon, 7 Nov 2016