## *New England Journal of Medicine*: Lower Mortality With Coronary Bypass Compared to Drug Eluting Stents for Multi-Vessel Disease Patients

For patients with multi-vessel coronary blockage, coronary artery bypass grafting (CABG) has a lower 18-month mortality compared to percutaneous intervention with drug eluting stents, according to a study published January 24, 2008, in the New England Journal of Medicine. Edward Hannan and co-workers of the School of Public Health at the University of Albany, reviewed outcomes from the New York State Department of Health databases for 9,963 patients who received drug-eluting stents (DES) and 7,437 patients who underwent CABG between October 1, 2003, and December 31, 2004. The patients were followed until December 31, 2005. The risk-adjusted rate of death in 18 months was 6.0% with CABG versus 7.3% with DES for patients with three vessel disease, and 4.0% with CABG versus 5.4% with DES for patients with two vessel blockage. Both these differences were statistically significant ($p<.03$ and $P<.003$ respectively).

The results favoring CABG over DES are not surprising – they are consistent with earlier studies comparing CABG with bare metal stents (BMS) which has shown that there is no survival benefit or myocardial infarction benefit with DES compared to BMS. What was surprising in this study was the high repeat procedure rate after DES; 30.6% of patients had repeat procedures within 18 months (approximately one-third of these may have been planned staged procedures). This compares to a 5.2% repeat procedure incidence after CABG. Only a small portion of these repeat procedures after stenting were related to the initially treated blockages, implying that repeat procedures are primarily needed for progression of disease elsewhere, not restenosis of the stented blockage. Stenting treats isolated stenosis, and progression of disease elsewhere, even in the same vessel, may require another procedure. CABG bypasses the current stenosis and the proximal two-thirds of the coronary artery where most future blockages occur, giving CABG a theoretical advantage over stenting, even if new stents are developed with no restenosis and no thrombosis.

These results highlight the need for full discussion with the patient about outcomes and options prior to coronary revascularization. In the case of multivessel disease, the patient should not have a catheterization and then proceed to stenting while semi-conscious on the catheterization table. While some patients would choose stenting (despite the 22% to 35% relative higher mortality with DES compared to CABG in 18 months shown in this study) many would not. The patient needs to make the choice with as much information as we can provide.

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