

Title:	Drug-Eluting Stents, November 2004
Agency:	Medical Services Advisory Committee (MSAC) Mail Drop Point 107 Commonwealth Department of Health and Ageing GPO Box 9848 Canberra ACT 2601 Australia http://www.msac.gov.au/
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Aim

To assess the safety, effectiveness and cost-effectiveness of drug-eluting coronary stents currently available in Australia versus bare-metal stents for the treatment of single *de novo* atherosclerotic lesions with a subgroup analysis in patients with diabetes mellitus, bifurcation lesions of the left anterior descending artery, in-stent restenosis, long lesions >18mm or small vessels <2.5mm.

Conclusions and results

Safety Drug-eluting stents are at least as safe as bare-metal stents at up to one year post-procedure.

Effectiveness Drug-eluting stents are more effective than bare-metal stents in reducing the rates of revascularization procedures to the stented lesion (target lesion) at up to one year, including in patients with diabetes, long lesions or small vessel diameter. The review did not demonstrate a difference in the rates of myocardial infarction, coronary artery bypass grafting or mortality by stent type. There were insufficient trial data to determine the effectiveness of drug-eluting stents in subgroups of patients with bifurcation lesions or in-stent restenosis, or for conclusions about potential differences in the absolute or relative benefits of drug-eluting stents versus bare-metal stents in high-risk patient subgroups compared to patients without these risk factors.

Cost-effectiveness Drug-eluting stents are cost-effective if a cost of \$3,700- \$6,200 is considered acceptable to avoid revascularisation of the target lesion. However a sensitivity analysis to estimate the cost-effectiveness in Australian clinical practice indicates that the cost per target lesion revascularisation avoided may be higher than this figure. Australian clinical practice data is required to resolve this uncertainty.

Recommendations

The Australian Minister for Health and Ageing noted these conclusions on March 2, 2005.

Method

MSAC conducted a systematic review of medical literature using the Cochrane Library, Medline, PreMedline, Current Contents, CINAHL and EMBASE databases from 1966 to May 2004 to identify randomized controlled trials published in English that compared polymer based paclitaxel or sirolimus-eluting stents and reported on stent thrombosis, mortality, myocardial infarction, coronary artery bypass grafting or target lesion revascularisation. Assessment of safety and effectiveness was based on seven trials

and sub-studies of these trials. Assessment of cost-effectiveness was undertaken for *de novo* single vessel lesions using on a trial based economic model.