

Title:	Intra-operative transoesophageal echocardiography – May 2002
Agency:	Medical Services Advisory Committee 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 intra-operative TOE for the monitoring of cardiac function during closed heart surgery, open heart surgery and other surgery, and under what circumstances public funding should be supported for the procedure.

Conclusions and Results

Safety

The semi-invasive procedure has a small but definite risk. There are reports of probe-related complications such as thermal or pressure injuries, compression of the aorta or trachea, and procedure-related adverse events involving injury to the cardiovascular, pulmonary and gastrointestinal systems, but the incidence of such events are uncertain. The incidence of gastro-oesophageal injury in unanaesthetised patients is estimated at one in 20,000. The incidence is uncertain in anaesthetised patients but is thought to be higher.

Effectiveness

The diagnostic accuracy of TOE in the outpatient setting was not reviewed in this evaluation. Intra-operative TOE may be useful for detection of endocarditis, abscesses associated with endocarditis, coronary artery stenosis and left atrial thrombi, and changes in cardiac function. The effectiveness of TOE as a monitoring intervention during surgery on clinical management and patient outcomes was also assessed. Evidence identified from less than ideal study designs suggested that the use of intra-operative TOE may result in changes to the pre-operative surgical plans of patients during cardiac surgery. There was no evidence to date ideally designed to assess whether the use of intra-operative TOE benefits the patient in terms of reduced mortality or morbidity.

Cost-effectiveness

Studies from the USA indicate that the use of intra-operative TOE during cardiac valve surgery is cost-effective due to revisions in surgical management which prevents the need for re-operations later. However, there were insufficient data to assess whether the use of intra-operative TOE is cost-effective in the Australian setting.

Recommendations

There is limited evidence of the safety, effectiveness and cost effectiveness of intra-operative transoesophageal echocardiography. MSAC recommends that public funding for this procedure should be supported on an interim basis and restricted to intra-operative assessment of cardiac valve competence following valve replacement or repair. The provision of funding should be reconsidered no later than June 2005 to ascertain whether further additional evidence has become available which supports continued funding.

Method

MSAC conducted a systematic review of the biomedical literature (Cochrane library, EBM-Reviews-ACP Journal Club, Medline, PreMedline, Current Contents, Biological abstracts and PsycINFO) from commencement to November 2001. These sources were searched to identify studies examining the accuracy of intra-operative TOE in detecting changes in cardiac function and the effect of intra-operative TOE on patient management and patient outcomes.