

<b>Title:</b>	<b>Percutaneous Transluminal Coronary Rotational Atherectomy for Lesions of the Coronary Arteries – May 2002</b>
<b>Agency:</b>	Medicare Services Advisory Committee (MSAC) Commonwealth Department of Health and Aged Care GPO Box 9848 Canberra ACT 2601 Australia <a href="http://www.msac.gov.au">http://www.msac.gov.au</a>
<b>Reference:</b>	<b>MSAC application 1036. ISBN 0 642 82135 6 February 2003</b>

### **Aim**

To assess the safety, effectiveness and cost effectiveness of adjunctive percutaneous transluminal coronary rotational atherectomy (PTCRA) with particular reference to non-complex lesions, complex lesions, in-stent restenosis and lesions refractory to or contraindicated for coronary angioplasty, relative to the comparator methods of coronary artery bypass graft (CABG) surgery and percutaneous transluminal coronary angioplasty (PTCA).

### **Conclusions and results**

*Safety.* PTCRA with or without PTCA is no more likely to result in Q-wave infarcts or emergency surgery compared to PTCA alone. Patients are also less likely to experience angiographic dissection or proceed to bailout stenting. PTCRA is as safe as PTCA in the first 24 hours of the procedure; however, minor complications such as temporary vessel spasm and slow flow are more likely. There is insufficient data to conclude whether PTCRA is as safe as PTCA in revascularising different types of coronary artery lesions.

*Effectiveness.* When conventional PTCA with or without stent placement is feasible, PTCRA appears to confer no additional benefit to the patient. In cases of in-stent restenosis, there is limited but conflicting evidence and no long term data to support the routine use of rotational atherectomy. Expert clinical opinion indicates that in certain circumstances rotational atherectomy is a useful adjunctive procedure to increase the success of subsequent angioplasty in achieving satisfactory revascularisation in complicated or calcified lesions. In specific cases where conventional angioplasty and stenting cannot be undertaken successfully or is associated with poor clinical or angiographic outcome, PTCRA appears to be an effective adjunctive procedure.

*Cost-effectiveness.* Due to limitations of research data on effectiveness and the paucity of robust cost estimates from high quality studies cost effectiveness ratios could not be determined.

### **Recommendations**

MSAC recommended that on the evidence pertaining to percutaneous transluminal coronary rotational atherectomy that public funding:

- is supported for revascularisation of complex and heavily calcified coronary artery lesions which cannot be treated by percutaneous transluminal coronary angioplasty (PTCA) alone or when previous PTCA attempts have not been successful; and for revascularisation of complex and heavily calcified coronary artery stenoses where coronary artery bypass graft (CABG) surgery is contra-indicated.
- is not supported for revascularisation of coronary artery stenoses which can be satisfactorily treated by PTCA alone, with or without stent placement; and for revascularisation of coronary artery in-stent restenoses as a result of prior coronary artery intravascular interventions (since no long term data exists and short term data are conflicting).

The Minister for Health and Ageing accepted this recommendation on 17 September 2002.

### **Methods**

The Centre for Clinical Effectiveness conducted a systematic review of the literature (with eligibility criteria defined *a priori*) on the role of rotational atherectomy. The following sources were searched from 1966 to March 2001: Medline, PreMedline, National Library of Medicine Health Services Research Databases, Biological Abstracts, Best Evidence, Current Contents, Embase, the Cochrane Library, ISTAHC, and the NHS Databases, DARE, EED and HTA. Internet and health technology assessment agency sources were searched and studies were also identified from MSAC applications and members of the Supporting Committee.