

<b>Title:</b>	<b>TransUrethral Needle Ablation (TUNA) - February 2002</b>
<b>Agency:</b>	Medical Services Advisory Committee (MSAC) Commonwealth Department of Health and Ageing 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 1014. Assessment report ISBN 0 642 82100 0</b>

### **Aim**

To assess the safety, effectiveness and cost-effectiveness of TransUrethral Needle Ablation (TUNA) for the treatment of benign prostatic hyperplasia (BPH) and under what circumstances such services should be supported with public funding.

### **Conclusions and results**

#### *Safety*

TUNA appears to be a relatively safe procedure. Randomised trial evidence suggests that TUNA has fewer post-operative complications, such as bleeding, than does TURP. Non-randomised data suggests that apart from urinary retention, which appears more common with the TUNA procedure, the early adverse event rate for TUNA and TURP is similar. It is also likely that TUNA results in fewer complications relating to sexual function than does TURP. However as TUNA has also evolved over time, it is possible that the newer TUNA procedures may result in fewer complications than older procedures, although at this stage this remains unclear. TUNA may also be of value in patients with a high anaesthetic risk as it can be performed as an outpatient or in-clinic procedure, again further evidence of this is needed.

#### *Effectiveness*

The body of evidence on which this review is based is relatively small. Overall, TUNA appears to be a relatively effective procedure for the short-term management of symptoms associated with benign prostatic hyperplasia. However, data suggest that the duration of maximum benefit for TUNA is between approximately three and 12 months, depending upon the parameter measured. This duration of benefit is shorter than that seen for patients treated with TURP (longer than three years), with more TUNA patients than TURP patients experiencing a return of BPH symptoms and more requiring retreatment in the longer term.

#### *Cost effectiveness*

A decision analytic model was designed, based on a set of plausible assumptions, to assess the comparative cost-effectiveness of two treatment strategies: 1) TURP; or 2) TUNA, as initial treatment for symptomatic BPH. The base case analysis indicated that treating patients initially with TURP was both more effective and less costly than treating initially with TUNA. Over a range of sensitivity analyses, this conclusion varied from TURP being a cost-effective initial treatment to TUNA being a cost-effective initial treatment for patients with BPH. The analysis was particularly sensitive to the annual failure rate of both procedures, and subsequently, to the duration of follow-up. The conclusion regarding optimal initial treatment changed over the plausible ranges evaluated. Additional clinical data is required to strengthen our certainty concerning particular variables before definitive conclusions can be drawn regarding the relative cost-effectiveness of TUNA and TURP in this setting.

### **Recommendation**

MSAC recommended that interim funding for a period of three years be supported, and that this funding be restricted to the treatment of particular patients groups as well as the acquisition of data on the type of patients treated and safety data to monitor the use of TUNA under these interim arrangements.

### **Method**

The NHMRC Clinical Trials Centre at the University of Sydney conducted a systematic review of the literature on the role of TUNA. The following sources were searched from commencement to June 2001: Medline, PreMedline, NLM Health Services Research Databases, Biological Abstracts, Best Evidence, Australian Medical Index, Current Contents, EMBASE, the Cochrane Library, ISTAHC, and the NHS Databases, DARE, EED and HTA. Internet and health technology assessment agency sources were searched; studies were also identified from MSAC applications and members of the Supporting Committee.

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