Consumer information for TransUrethral Needle Ablation for urinary outflow obstruction

What is ASERNIP-S?
The Australian Safety and Efficacy Register of New Interventions Procedures-Surgical (ASERNIP-S) is a programme of the Royal Australasian College of Surgeons. ASERNIP-S aims to provide quality and timely assessments of new surgical techniques. This is achieved by systematic literature reviews, the establishment and facilitation of surgical audits and the identification of emerging technologies. Our aim is to improve the quality of health care by providing our evidence-based research to surgeons, health care providers and consumers, both nationally and internationally.

ASERNIP-S has been asked to collect information on the procedure TransUrethral Needle Ablation (TUNA®), on behalf of the Commonwealth Department of Health and Ageing.

What is urinary outflow obstruction?
The prostate gland is found only in men, and is located at the base and outlet of the bladder surrounding the urethra (see figure 1). In most men the prostate will slowly get larger after the age of 40. An enlarged prostate is estimated to affect 40% of men in their seventies. As the prostate gets larger it may start to block the urine flow in the outflow channel (urethra) from the bladder, causing an obstruction. Symptoms include: difficulty in starting to pass urine; a weak stream of urine; dribbling towards the end of passing urine (urination); passing smaller amounts of urine; feeling as though the bladder is not fully empty after urinating; having to urinate more frequently, especially at night; and pain during urination. Side effects can include urinary tract infection, which can lead to the formation of bladder stones. Occasionally the urethra may become fully blocked, which requires urgent medical treatment. On rare occasions kidney damage may occur.

What surgical procedures are available for treating urinary outflow obstruction caused by the enlargement of the prostate?
There are several surgical procedures for treating urinary outflow obstruction, all of which aim to reduce the size of the prostate and relieve obstruction of the urethra. The first surgical procedure ever used was open prostatectomy. This is the most efficient but also the most invasive form of treatment. In the 1930’s, transurethral resection of the prostate (TURP) was developed, in which a telescope is used to cut out small pieces of the obstructing prostate tissue. TURP is less invasive, less costly and safer than the open procedure and has since become the benchmark procedure. However 15-20% of men develop complications after TURP, and another procedure is required in 10-15% of patients within 10 years. Complications can include sexual problems affecting erection and ejaculation, inability to hold urine (urinary incontinence) and further blockage (stricture), as well as bleeding during and after the operation, requiring transfusion. Some studies have reported that the risk of dying after TURP is between 0.2-2.5%.
During the 1990’s, even less invasive than procedures were developed, using heat from a variety of energy sources such as lasers, ultrasound, microwave, electrical and radio frequency. The heat is used to destroy part of the prostate through a telescope passed down the penis. The safety and effectiveness of these procedures is still under review.

**TransUrethral Needle Ablation (TUNA®)**

TUNA is one of several new heat-based methods for treating urinary outflow obstruction caused by an increase in the size of the prostate. The procedure is minimally invasive because the site of operation is accessed through a telescope rather than large surgical cuts. A telescope inserted into the urethra pushes small needles into the part of the prostate tissue blocking the flow of urine. Radiofrequency energy passes through the needles to heat and destroy this obstructing tissue, while leaving the urethra and the rest of the prostate intact.

**Research findings on TUNA®**

In February 2002, the Commonwealth Department of Health and Ageing published a review on the TUNA procedure. TUNA was compared with the TURP procedure. The report showed that there is little good quality long-term evidence available for the TUNA procedure, but the following may be used as a guide:

**Safety**

TUNA appears to be relatively safe and to have fewer post-operative complications than does TURP. The evidence suggests TUNA results in fewer complications relating to sexual function than TURP. While no reports have been published on patients who have day surgery, it is possible that the procedure can be performed in this way, thus avoiding the risk of general anaesthesia.

**Effectiveness**

TUNA is most suited for smaller prostate glands. The procedure appears to have therapeutic benefit in the shorter term; however, the greatest benefits of the procedure may not last as long as those obtained with TURP. Longer-term studies are needed.

**What are the recommendations for surgical treatment?**

The Royal Australasian College of Surgeons still recommends that the TURP procedure is the best surgical choice of treatment. Based on the evidence available, the Commonwealth Department of Health and Ageing recommend that TUNA is safe and effective in the short term; however an audit should be done to help evaluate the long-term safety and effectiveness of the TUNA procedure. The report and subsequent legislation specifies that your surgeon must submit information regarding the procedure. ASERNIP-S will collect this information and report back to the Government. There will be no personal details such as name, address or Medicare number submitted by your surgeon to ASERNIP-S.

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**For further information about ASERNIP-S**

**Contact:** Professor Guy Maddern, ASERNIP-S Surgical Director  
PO Box 533, Stepney, South Australia 5069  
Phone: 61 8 8363 7513  
Fax: 61 8 8362 2077  
Email: college.asernip@surgeons.org  
Website: www.surgeons.org/asernip-s.htm