Title:	Endoscopic argon plasma coagulation of gastrointestinal bleeding and oesophageal stents
Agency:	Medical Services Advisory Committee (MSAC) MDP 106 Commonwealth Department of Health and Ageing GPO Box 9849 Canberra ACT 2601 http://www.msac.gov.au
Reference:	MSAC Application 1106 Assessment report First printed July 2008 ISBN Number 1-74186-628-6

Aim:

To assess the safety, effectiveness and cost-effectiveness of argon plasma coagulation (APC) for the following indications of the gastrointestinal (GI) tract: ablation of dysplastic Barrett's oesophagus; haemostasis of bleeding ulcers; haemostasis of gastric antral vascular ectasia (GAVE); haemostasis of radiation proctitis; haemostasis of bleeding angiodysplasia; coagulation of post-polypectomy bleeding; ablation of tumorous growth through oesophageal metal stents.

Results and Conclusions:

Safety:

For some of the conditions investigated, there was a paucity of evidence regarding the safety of APC. Overall, APC appears to be a relatively safe treatment. The majority of complications were transient and resolved without additional procedures.

Effectiveness:

Comparative data were available for ablation of dysplastic Barrett's oesophagus, haemostasis of bleeding ulcers, haemostasis of GAVE and haemostasis of radiation proctitis. From these data APC appears to be as effective as or more effective than the appropriate comparative procedure. However, more high quality comparative data is required to assess the effectiveness of APC in the treatment of all the indications considered in this review.

Cost Effectiveness:

Meta-analysis of effectiveness data and economic evaluation was possible for two indications; namely ablation of dysplastic Barrett's oesophagus and haemostasis of bleeding ulcers.

The incremental cost per patient of receiving APC rather than multipolar electrocoagulation for the treatment of Barrett's oesophagus is $283. The total additional cost to the health care system of treating Barrett's oesophagus patients with APC is $1,633,000 per annum.

The incremental cost per patient of receiving APC rather than heater probe treatment for bleeding peptic ulcer is $343. Based on an estimated 13.2% improvement in effectiveness (permanent haemostasis), the incremental cost-effectiveness per additional patient with permanent haemostasis is $2,606.

Recommendation:

MSAC has considered the safety, effectiveness and cost-effectiveness of endoscopic argon plasma coagulation compared with alternative modalities used to secure gastrointestinal haemostasis under certain circumstances and for the ablation of tumorous growth through or over oesophageal stents.

MSAC finds that argon plasma coagulation is as safe as other forms of heat coagulation or local vasoconstrictor therapy in peptic ulcer disease. Although data for the other conditions with low incidence is very limited, argon plasma coagulation is considered by inference to be similar in safety profile for haemostasis of radiation proctitis, haemostasis of bleeding angiodysplasia, coagulation of post-polypectomy bleeding, other allied conditions of low

incidence (haemostasis of gastric antral vascular ectasia (GAVE), and ablation of tumorous growth through or over oesophageal stents).
MSAC considers that argon plasma coagulation is at least as effective and as cost-effective as other local methods of treatment of bleeding in peptic ulcer disease.
There are insufficient data to demonstrate effectiveness and cost-effectiveness for haemostasis of radiation proctitis, haemostasis of bleeding angiodysplasia, coagulation of post-polypectomy bleeding, other allied conditions of low incidence (haemostasis of gastric antral vascular ectasia (GAVE), and ablation of tumorous growth through or over oesophageal stents). MSAC considers that the incidence of these conditions is insufficient to allow the collection of these data.
MSAC recommends that public funding is supported for endoscopic argon plasma coagulation as an option for the treatment of peptic ulcer disease and other less common causes of gastro-intestinal bleeding including radiation proctitis, bleeding angiodysplasia, post-polypectomy bleeding, gastric antral vascular ectasia (GAVE), and for ablation of tumorous growth through or over oesophageal stents.
The Minister for Health and Ageing endorsed this recommendation on 20 May 2008.

Methods:

The evidence for APC in the treatment of GI conditions was systematically assessed. MEDLINE, EMBASE, PubMed, Current Contents and a number of other databases were searched for literature from inception to February 2007.