Title:	**Radiofrequency ablation of liver tumours**
Agency:	Medical Services Advisory Committee (MSAC) Commonwealth Department of Health and Ageing GPO Box 9848 Canberra ACT 2601 Australia
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Aim:
To assess the safety, effectiveness and cost-effectiveness of radiofrequency ablation (RFA) for treating liver tumours.

Conclusions and results:
Safety
Hepatocellular carcinoma (HCC)
In two RCTs, no significant differences in complications between RFA and PEI were found.
Metastatic colorectal liver tumours (CLM)
Patients with more tumours (and therefore more RFA sessions) may have a higher complication rate (based on case series data).
Metastatic neuroendocrine liver tumours (NLM)
In five case series, complication rates varied from 0% to 11%.

Effectiveness
Hepatocellular carcinoma (HCC)
Local recurrence free survival (and local recurrence rate) at one and two years did showed a statistically significant benefit for RFA over PEI in one RCT. In two other RCTs, local recurrence rates were less for RFA than for PEI, but this result was not statistically significant in either study.
Metastatic colorectal liver tumours (CLM)
While most of the case series reported high levels of ablation with RFA (90% and above), this surrogate outcome may not reflect long term effectiveness. Local recurrence rates varied from 4% to 55% and may depend on the method of access used for RFA. The single comparative study suggested that survival from the time of diagnosis was less for patients treated with RFA than surgical resection.
Metastatic neuroendocrine liver tumours (NLM)
A comparative study of only two patients was inconclusive. In five case series, local recurrence varied from 0% to 20%.

Cost-effectiveness
In a cost-effectiveness analysis, RFA was shown to be more expensive than PEI for treating HCC.

Recommendation:
MSAC recommended that on the strength of evidence pertaining to radiofrequency ablation (RFA) public funding should be supported for the percutaneous treatment of nonresectable hepatocellular carcinoma not being considered for surgical resection. MSAC recommended that as there is currently insufficient evidence pertaining to RFA for colorectal metastases (CLM) public funding should not be supported at this time for this procedure for treating CLM. It was further recommended that the procedure for treating CLM should be assessed when more evidence from randomised controlled trials becomes available. Since there is currently insufficient evidence pertaining to RFA for neuroendocrine liver metastases (NLM), MSAC recommended that public funding should not be supported at this time for this procedure for treating NLM. The Minister for Health and Ageing accepted this recommendation on 8 August 2003.

Methods:
MSAC conducted a systematic review of the literature pertaining to radiofrequency ablation of liver tumours, with comparative procedures defined by tumour type. Case series assessing RFA for the treatment of CLM must have reported follow-up of at least one year.