NICE National Institute for Health and Care Excellence

NICE guidance

Radiofrequency ablation of hepatocellular carcinoma

HealthTech guidance

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www.nice.org.uk/guidance/htg1

Your responsibility

This guidance represents the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, healthcare professionals are expected to take this guidance fully into account, and specifically any special arrangements relating to the introduction of new interventional procedures. The guidance does not override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the Yellow Card Scheme.

Commissioners and/or providers have a responsibility to implement the guidance, in their local context, in light of their duties to have due regard to the need to eliminate unlawful discrimination, advance equality of opportunity, and foster good relations. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties. Providers should ensure that governance structures are in place to review, authorise and monitor the introduction of new devices and procedures.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should assess and reduce the environmental impact of implementing NICE recommendations wherever possible.

Contents

1 Recommendations 4

2 The procedure 5

2.1 Indications 5

2.2 Outline of the procedure 5

2.3 Efficacy 5

2.4 Safety 5

2.5 Other comments 6

Update information 7

This guidance replaces IPG2.

This guidance should be read in conjunction with HTG208.

1 Recommendations

1.1 Current evidence of the safety and efficacy of radiofrequency ablation (RFA) for hepatocellular carcinoma appears adequate to support use of the procedure, provided that normal arrangements are in place for consent, audit and clinical governance.

1.2 It is recommended that:

- patient selection should be carried out by a multidisciplinary team that includes a hepatobiliary surgeon
- the procedure should be monitored by CT or ultrasound.

2 The procedure

2.1 Indications

2.1.1 Hepatocellular carcinoma is one of two common malignant tumours affecting the liver. The majority of malignant liver tumours are unsuitable for surgical excision because of their number, distribution and/or the presence of residual disease elsewhere. Therefore, a number of alternative treatments have been developed, of which RFA is one.

2.2 Outline of the procedure

2.2.1 RFA is a recently developed minimally invasive technique that destroys tissue by heating. Electrodes are inserted percutaneously into the tumour and current is applied to generate local heating and destroy tissue.

2.3 Efficacy

2.3.1 There is evidence that RFA results in tumour destruction, which may be associated with higher survival rates. For more details, refer to the overview for this guidance.

2.4 Safety

2.4.1 Complications of RFA are not common, but include hepatic abscess and injury to bile ducts. The rate of complications appears lower than that with alternative treatments. Evidence suggests a mortality rate of 1% or less. For more details, refer to the overview for this guidance.

2.4.2 The specialist advisors suggested the complication rate to be 3 to 5%.

2.5 Other comments

2.5.1 The committee noted that there was less evidence available about the safety and efficacy of RFA in treatment of colorectal metastases. Guidance for this indication will be postponed pending the publication of a systematic review by the Australian Medical Services Advisory Committee.

Update information

Minor changes after publication

January 2026: Interventional procedures guidance 2 has been migrated to HealthTech guidance 1. The recommendations and accompanying content remain unchanged.

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Endorsing organisation

This guidance has been endorsed by Healthcare Improvement Scotland.