

## National Institute for Health and Clinical Excellence

### 934 – Percutaneous cryotherapy for renal cancer Consultation Comments table

IPAC date: Friday 13 May 2011

Com. no.	Consultee name and organisation	Sec. no.	Comments	Response Please respond to all comments
1	Consultee 1 Galilmedical Healthcare Other	1	We agree that the current evidence on the efficacy and safety of laparoscopic cryotherapy for renal cancer is adequate to support the use of this procedure provided under normal arrangements. Our company, in conjunction with the Department of Epidemiology at the University of Aarhus (Denmark) is working to create an online Renal Cryotherapy Registry. The registry design is based upon the EuCAP prostate registry that has been recognised by the EAU-RF (European Association of Urology Research Foundation) and EuCAP will become fully available in April/May 2011 and the renal registry early in 2012.	Thank you for your comment.
2	Consultee 2 Specialist Adviser	1	This treatment should only be offered in a centre that will have enough case loads for development of the interventional radiologist expertise and also maintaining the skill.	Thank you for your comment. The Committee considered this comment and decided not to change the guidance.
3	Consultee 3 Royal College of Physicians	1	The NCRI/RCP/RCR/ACP/JCCO is grateful for the opportunity to respond to this NICE interventional procedure. We believe that this is a well balanced review of the available evidence. We found the provisional recommendations to be clear. You will be interested to know that the National Cancer Research Institute (NCRI) Renal Cancer Clinical Studies Group are putting forward a trial proposal to CTAAC to try to address the issues raised in section 1.3.	NICE thanks the Royal College of Physicians for this comment, and for the information in relation to the proposal from the National Cancer Research Institute (NCRI) Renal Cancer Clinical Studies Group.

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4	Consultee 4 Health care other	1	There are now too many lap neohrectomies being done when any sort of partial treatment would be better for the patient. Minmal access, minimal damage treatments should be encouraged.	Thank you for your comment. The Interventional Procedures Programme does not have a remit to make recommendations on comparator procedures or determine the placement of a procedure in the pathway of care for a disease or condition.
5	Consultee 7 NHS Professional Specialist Adviser	1	No issues.	Thank you for your comment.
6	Consultee 1 Galilmedical Healthcare Other	2.1	We agree and wish to make no further comment.	Thank you for your comment.
7	Consultee 2 Specialist Adviser	2.1	Agree	Thank you for your comment.
8	Consultee 4 Health care other	2.1	There are still many centres doing percutaneous Â cryotherapy with laparoscopic guidance rather than CT or MRI as many smaller hospitals do not have sufficient space and time on the radiological equipment to stand off a whole session for treatment rather than diagnostic use.	Thank you for your comment.
9	Consultee 1 Galilmedical Healthcare Other	2.2	We agree and wish to make no further comment.	Thank you for your comment.
10	Consultee 5 NHS Professional	2.2	In my experience local anasthesia and sedation are not enough. General anasethetic is required as each procedure takes 1-2 hours.	Thank you for your comment. Section 2.2.1 of the guidance will be changed.
11	Consultee 5 NHS Professional	2.2	It is rare that only one probe is sufficient. Uusally 2-4 probes are necessary.	Thank you for your comment. Section 2.2.1 of the guidance states that 'more than 1 probe can be used'.
12	Consultee 5 NHS Professional	2.2	A tumour biopsy may be taken at the same time.	Thank you for your comment. Section 2.2.1 of the guidance will be changed.

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13	Consultee 2 Specialist Adviser	<b>2.2</b>	We have performed about 35 percutaneous cryoablation for renal cell carcinoma in our institution, all the cases are under general anaesthesia. In my opinion, it is difficult to keep the patient still in a certain position for such a long period of time as usually we would need to position 6 to 8 cryo-probes per case depending on the size of the tumour. Therefore general anaesthesia is employed in our centre. I would recommend adding under general anaesthesia into the first sentence for the outline of the procedure above.	Thank you for your comment. Section 2.2.1 of the guidance will be changed.
14	Consultee 4 Health care other	<b>2.2</b>	The above data confirms the belief that more surgeons are moving to cryotherapy from Radiotherapy. Also that lap guidance is an excellent practise, and easier to achieve in some centres with limited access to CT.	Thank you for your comment.
15	Consultee 7 NHS Professional Specialist Adviser	<b>2.2.1</b>	The first sentence is incorrect. Almost all centres performing percutaneous cryoablation carry out the procedure under general anaesthetic with ultrasound and CT guidance.	Thank you for your comment. Section 2.2.1 of the guidance will be changed.
16	Consultee 7 NHS Professional Specialist Adviser	<b>2.2.1</b>	A double freeze-thaw cycle is employed – with adequate margins of 5-10mm – to ensure tumour infarction. A cluster of probes are utilised to ensure complete treatment.	Thank you for your comment. Section 2.2.1 of the guidance only intends to provide a brief description of the procedure.
17	Consultee 7 NHS Professional Specialist Adviser	<b>2.2.2</b>	There is accruing evidence that renal tumour sizes up to 6cm can be dealt with by percutaneous cryoablation, so long as 5-10mm treatment margins can be achieved.  Schmitt J. Endourol (2010) 24:1255-62 Atwell AJR (2007) 188: 1195 – 200	Thanks for your comment. A section 2.5.3 will be added to the guidance to note that cryotherapy has been used in larger tumours. Schmidt (2010) was identified in the post-consultation literature search and will be added to appendix A of the overview. Atwell (2007) is included in appendix A of the overview.
18	Consultee 1 Galilmedical Healthcare Other	<b>2.3</b>	We agree and would also like to propose the following paper as offering further evidence as to the safety and efficacy of renal percutaneous cryotherapy. Recurrence rates after percutaneous and laparoscopic renal cryoablation of small renal masses: does the approach make a difference? Strom KH et. al. J Endourol. (2011) 25:371-5.	Thank you for your comment. Strom (2011) was identified in the post-consultation literature search and will be added to table 2 of the overview.

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19	Consultee 2 Specialist Adviser	<b>2.3</b>	The differences in treatment outcome for percutaneous RFA and percutaneous cryoablation, could be partly related to the fact that most operators (interventional radiologists) are in their early learning curve for the percutaneous ablative therapy when they first explore RFA as percutaneous cryoablation is introduced certainly in the UK at a slightly later date. Percutaneous cryoablation however has the intrinsic advantage that the ice ball can be visualised on imaging during treatment therefore we can be more precise regarding the treatment margin in order to avoid ablative injury to the surrounding tissue and also ensure adequate treatment margin is achieved during treatment.	Thank you for your comment.
20	Consultee 4 Health care other	<b>2.3</b>	THE APPLICATION OF CRYOTHERAPY HAS BEEN NOTED TO BE QUITE EASY, EASILY REPRODUCIBLE AND MOSTLY WITHOUT COMPLCATION.	Thank you for your comment.
21	Consultee 7 NHS Professional Specialist Adviser	<b>2.3</b>	The references above concerning treatment of larger (>3cm) renal tumours need to be taken into consideration as does - Atwell et al. J Urology (2010) 184:1291 – 5. Overall the references utilised in the NICE document need updating as many centres now use thinner (17G), equally effective and less invasive percutaneous probes. The reviewers should be aware of a significant bias in the available outcome literature. More favourable patients are usually selected for laparoscopic or open partial nephrectomy with the percutaneous procedure often reserved for the less fit patients, those with single kidneys etc. This inevitably impacts upon the available oncological outcome data for the percutaneous procedure.	Thank you for your comment. The consultee is referring to Schmidt (2010) and Atwell (2007) in comment 17. Please see response to comment number 17. The Committee is only able to make recommendations on the published literature currently available.

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22	Consultee 7 NHS Professional Specialist Adviser	<b>2.3</b>	<p>In segment 2.3.5 a significantly higher primary failure rate of 25% (5/20) is suggested versus 4% (2/52) for the laparoscopic procedure. The percutaneous treatments were repeated in this paper in 4/5 cases to good effect. This treatment option is not open to the laparoscopic procedure. Other papers have suggested that the laparoscopic procedure is more likely to lead to incomplete treatments – see:  Hinshaw AJR (2008) 191:1159*  Finley J Urol (2008) 180:492 ^  Lehman J Endourol (2008) 22:1123^  Baduvan J Endourol (2008) 22:1275 †</p> <p>These authors found that a percutaneous, image-guided cryoablation procedure was more effective in terms of efficacy*, cost and transfusion requirements^.</p>	Thank you for your comment. Section 2.3.5 of the guidance will be changed. Studies by Hinshaw (2008) and Finley (2008) are included in table 2 of the overview. Lehman (2008) relates to patients treated with laparoscopic cryoablation and therefore is not relevant to this guidance. Badwan (2008) was excluded from the overview because it is about cost and the Interventional Procedures Programme does not have a remit to consider cost-effectiveness.
23	Consultee 1 Galilmedical Healthcare Other	<b>2.4</b>	The haemorrhage rates as quoted in section 2.4.2 do not accurately represent the haemorrhage rates of the current technology being used in the majority of U.K. sites. We therefore do not agree that this particular reference accurately reflects the haemorrhage rates for the procedure. We agree and wish to make no further comment on the other statements (2.4.1 & 2.4.3 - 2.4.6)	Thank you for your comment. The haemorrhage rates reported are those in the published literature.
24	Consultee 2 Specialist Adviser	<b>2.4</b>	Percutaneous cryoablation has the intrinsic advantage when compared with RFA that the iceball can be visualised on imaging during treatment therefore we can be more precise regarding the treatment margin in order to avoid ablative injury to the surrounding tissue	Thank you for your comment.
25	Consultee 4 Health care other	<b>2.4</b>	BIOPSY SHOULD BE TAKEN AT THE TIME OF TREATMENT. AGAIN, LAP GUIDANCE MEANS THE OPERATOR IS CERTAIN THAT THE LESION ITSELF WAS BIOPSIED, EVEN IF SOME BIOPSIES COME BACK AS BENIGN TISSUE ONLY.	Thank you for your comment. Section 2.2.1 of the guidance will be changed.

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26	Consultee 7 NHS Professional Specialist Adviser	<b>2.4</b>	Generally a higher haemorrhage or severe complication rate has been reported by a number of centres for the laparoscopic versus the percutaneous procedure. See – Tsivian et al. European Urology (2010) 58: 142 – 8 Lehman DS et al. J Endourology (2008) 22:1123	Thank you for your comment. The haemorrhage rates reported are those in the published literature. The guidance will not be changed. The paper by Tsivian (2010) was identified in the post-consultation literature search and will be added to appendix A of the overview. Lehman (2008) relates to patients treated with laparoscopic cryoablation therefore is not relevant to this guidance.
27	Consultee 1 Galilmedical Healthcare Other	<b>2.5</b>	While we agree with this statement, we would like to submit the following information that we consider to be worthy of inclusion as evidence of good practice in the biopsy proven treatment of renal tumours with cryotherapy. Following are the references to 2 papers that have not been currently cited. Percutaneous renal cryoablation: local control at mean 26 months of followup. Atwell TD, Callstrom et. al. J Urol. 2010 Oct184(4):1291-. Prospective Analysis of the Safety and Efficacy of Percutaneous Cryoablation for pT1NxMx Biopsy-Proven Renal Cell Carcinoma. Rodriguez R et. al. Intervent Radiol. 2010 Jul 14.	Thank you for your comment. Atwell TD (2010) was identified in the post-consultation literature search and will be added to appendix A of the overview. Rodriguez R (2010) was not indexed when the searches were performed (since it is an Epub ahead of print) and will therefore not be included in the overview.
28	Consultee 2 Specialist Adviser	<b>2.5</b>	Percutaenous renal tumour biopsy should be recommended as part of the percutaneous ablative therapy and in our centre we usually perform this immediately before the renal ablative therapy.	Thank you for your comment. Section 2.2.1 of the guidance will be changed.
29	Consultee 3 Royal College of Physicians	<b>2.5</b>	This section highlights the difficulty in interpreting the evidence given that the histology was unknown for many of the lesions. Our experts believe that NICE should consider suggesting/recommending that biopsy be performed at the same time as the procedure.	Thank you for your comment. Section 2.2.1 of the guidance will be changed.
30	Consultee 7 NHS Professional Specialist Adviser	<b>2.5</b>	Regarding points above almost all centres performing percutaneous renal tumour cryoablation will perform a pre- or peri-procedural biopsy. These comments relate to older literature and are not borne out by fuller histological data such as Atwell et al. J. Urology (2010) 184:1291 – 5	Thank you for your comment. Section 2.2.1 of the guidance will be changed. The study by Atwell (2010) was identified in the post-consultation literature search and will be added to table 2 of the overview.

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31	Consultee 7 NHS Professional Specialist Adviser	2.5	The cryoprobes have evolved to smaller 17G equally effective probes and the percutaneous outcomes in the literature are now reflecting this shift in practice.	Thank you for your comment.
32	Consultee 7 NHS Professional Specialist Adviser	2.5	There is accruing evidence that percutaneous image guided cryoablation using CT (and MR) guidance permits a more adequate peri procedural assessment of treatment than the laparoscopic viewpoint.	Thank you for your comment.
33	Consultee 6 Faculty of Radiology within Royal College of Radiologists	General	The Faculty of Radiology within the Royal College of Radiologists (RCR) has recently considered the Interventional Procedure (IP) consultation document about the safety and efficacy of Percutaneous Cryotherapy for Renal Cancer, which is being considered by the IP Advisory Committee. The Faculty of Radiology (RCR) is pleased that NICE is consulting on this important and effective technique for treating renal cancer, avoiding nephrectomy or partial nephrectomy. It is happy with the consultation document as it stands.	Thank you for your comment. NICE welcomes the comments from the RCR Faculty of Radiology.

*"Comments received in the course of consultations carried out by NICE are published in the interests of openness and transparency, and to promote understanding of how recommendations are developed. The comments are published as a record of the submissions that NICE has received, and are not endorsed by NICE, its officers or advisory committees."*

[Cardiovasc Intervent Radiol.](#) 2010 Jul 14. [Epub ahead of print]

## **Prospective Analysis of the Safety and Efficacy of Percutaneous Cryoablation for pT1NxMx Biopsy-Proven Renal Cell Carcinoma.**

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### **Source**

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## **Abstract**

### ***PURPOSE:***

Our objective was to determine the efficacy and safety of image-guided, percutaneous cryoablation for American Joint Committee on Cancer pT1ANxMx and pT1BNxMx biopsy-proven renal cell carcinoma (RCC).

### ***MATERIALS AND METHODS:***

Computed tomography (CT)-guided, percutaneous cryoablation was used to treat 117 renal lesions in 113 consecutive patients with pT1NxMx RCC. All 117 ablations were included in the safety analysis, and complications were categorized according to Common Terminology Criteria for Adverse Events version 3.0 (CTCAE v3.0). Eighty-one lesions were biopsy-proven RCC and were included in the efficacy analysis. Technical success was defined as the "ice-ball" covering the entire lesion plus a minimum 5-mm margin. Efficacy was defined as complete lack of enhancement and continuous decrease in size on subsequent follow-up imaging studies.

### ***RESULTS:***

Technical success was 100%, with 15% of ablations requiring air or saline injection to prevent nontarget ablation. We recorded a 7% rate of clinically significant complications (CTCAE category  $\geq 2$ ) and 0% mortality. Renal function was not adversely affected. Seventy percent of patients were discharged to home on the same day. Efficacy was 98.7% for a median follow-up of 67 weeks (range 7-172). For the subgroup of patients that reached a median follow-up of 2 (n = 59) and 3 years (n = 13), efficacy was 98.3 and 92.3%, respectively. Cancer specific survival was 100%.

### ***CONCLUSIONS:***

CT-guided, percutaneous cryoablation has an excellent safety and efficacy profile for stage T1A and T1B RCC; however, longer follow-up is needed to compare it with other nephron-sparing surgical treatments. It is a great option for nonsurgical patients, those in whom renal function cannot be further sacrificed, and those at risk for metachronous