

## ENDOUROLOGY & LAPAROSCOPY

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### **Renal cryoablation: outcome at 3 years**

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**Purpose:** We report intermediate term oncological followup data on 56 patients undergoing laparoscopic renal cryoablation, of whom each completed a 3-year followup.

**Materials and Methods:** Since September 1997, 56 patients undergoing laparoscopic renal cryoablation have completed a followup of 3 years each. The postoperative followup protocol comprised serial magnetic resonance imaging (MRI) at 1 day, months 1, 3, 6, 12, 18 and 24, and yearly thereafter for 5 years. Computerized tomography guided needle biopsy of the cryolesion was performed 6 months postoperatively and repeated if MRI findings were abnormal. Followup data were obtained prospectively.

**Results:** For a mean renal tumor size of 2.3 cm mean intraoperative size of the created cryolesion was 3.6 cm. Sequential mean cryolesion size on MRI on postoperative 1 day, and at 3 and 6 months, and 1, 2 and 3 years was 3.7, 2.8, 2.3, 1.7, 1.2 and 0.9 cm, representing a 26%, 39%, 56%, 69% and 75% percent reduction in cryolesion size at 3 and 6 months, and 1, 2 and 3 years, respectively. At 3 years 17 cryolesions (38%) had completely disappeared on MRI. Postoperative needle biopsy identified locally persistent/recurrent renal tumor in 2 patients. In the 51 patients undergoing cryotherapy for a unilateral, sporadic renal tumor 3-year cancer specific survival was 98%. There was no open conversion, kidney loss, urinary fistula, dialysis requirement, or perirenal or port site recurrence in any patients.

**Conclusions:** Three-year outcomes following renal cryoablation are encouraging. Longer term (5-year) data are necessary to determine the proper place of renal cryotherapy among minimally invasive, nephron sparing options.

### **Editorial Comment**

Minimally invasive ablative techniques are becoming more popular and longer clinical data have been demonstrated by different centers.

The technology seems to ablate the renal cancer cells efficiently and the surgical technique offers comparable complication rates to other nephron-sparing techniques. Not surprisingly, this method of renal mass ablation preserves renal function adequately. As the authors concluded longer clinical follow-up is needed.

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### **Minimally invasive pediatric nephrectomy**

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**Purpose of Review:** Since the first laparoscopic pediatric nephrectomy was performed in 1992, many articles have reported the feasibility of minimally invasive nephrectomy, heminephrectomy, and nephroureterectomy in children. This article reviews the literature related to minimally invasive nephrectomy, including robot-assisted surgery, and its complications published between November 2002 and November 2004.

**Recent Findings:** The retroperitoneoscopic approach to nephrectomy and nephroureterectomy continues to prove successful in the pediatric population, although the transperitoneal approach is beneficial in combined upper and lower tract procedures. Initial reports on bilateral transperitoneal nephrectomy for nephrotic syndrome and laparoscopic nephrectomy for Wilms tumor are presented. Comparison studies between laparoscopic nephrectomy and open procedures are reviewed. Robot-assisted procedures are possible in children but little information is available on their pediatric use at the present time. Laparoscopy in children appears to have a similar complication rate to that in adults.

**Summary:** More studies are needed to compare the outcomes of minimally invasive procedures with those of open procedures. Robot-assisted surgery offers promise but expense currently limits its use.

### Editorial Comment

Since the first laparoscopic nephrectomy in a child was performed by Kavoussi and Koyle in 1992, many articles have demonstrated the feasibility of laparoscopic nephrectomy, heminephrectomy, and nephroureterectomy in children but this surgical technique remains controversial in the pediatric population. This review demonstrates the feasibility, differences between laparoscopic urological surgery in adults versus children, the possible future applications of laparoscopic anatomical knowledge to decrease intraoperative morbidity and superior cosmetic results of minimally invasive surgery.

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## IMAGING

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### **Issues, controversies, and clinical utility of combined PET/CT imaging: what is the interpreting physician facing?**

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**Objective:** This article identifies the most commonly encountered issues of combined PET/CT and shows the wide variability in perceived possible solutions to these issues. This article will serve as a catalyst to stimulate discussion between experts in both radiology and nuclear medicine.

**Conclusion:** Combining a PET tomography and CT scanner into a single unit amounts to advantages that are not merely additive, but synergistic. Even PET/CT skeptics will embrace the technology after becoming acquainted with the possibilities and will accept the reality that there is no return to PET only.