RENAL ABLATION: YEAR IN REVIEW 2021

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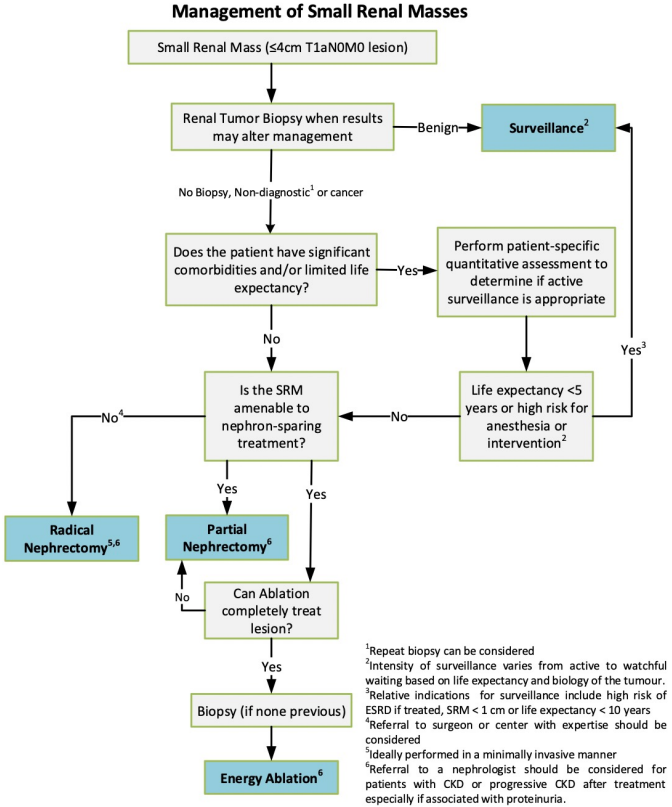
Disclosures

- Johnson and Johnson (Consultant, Medical Advisory Board)
- Boston Scientific (Medical Advisory Board)
- Terumo (Consultant)
- General Electric (Consultant)

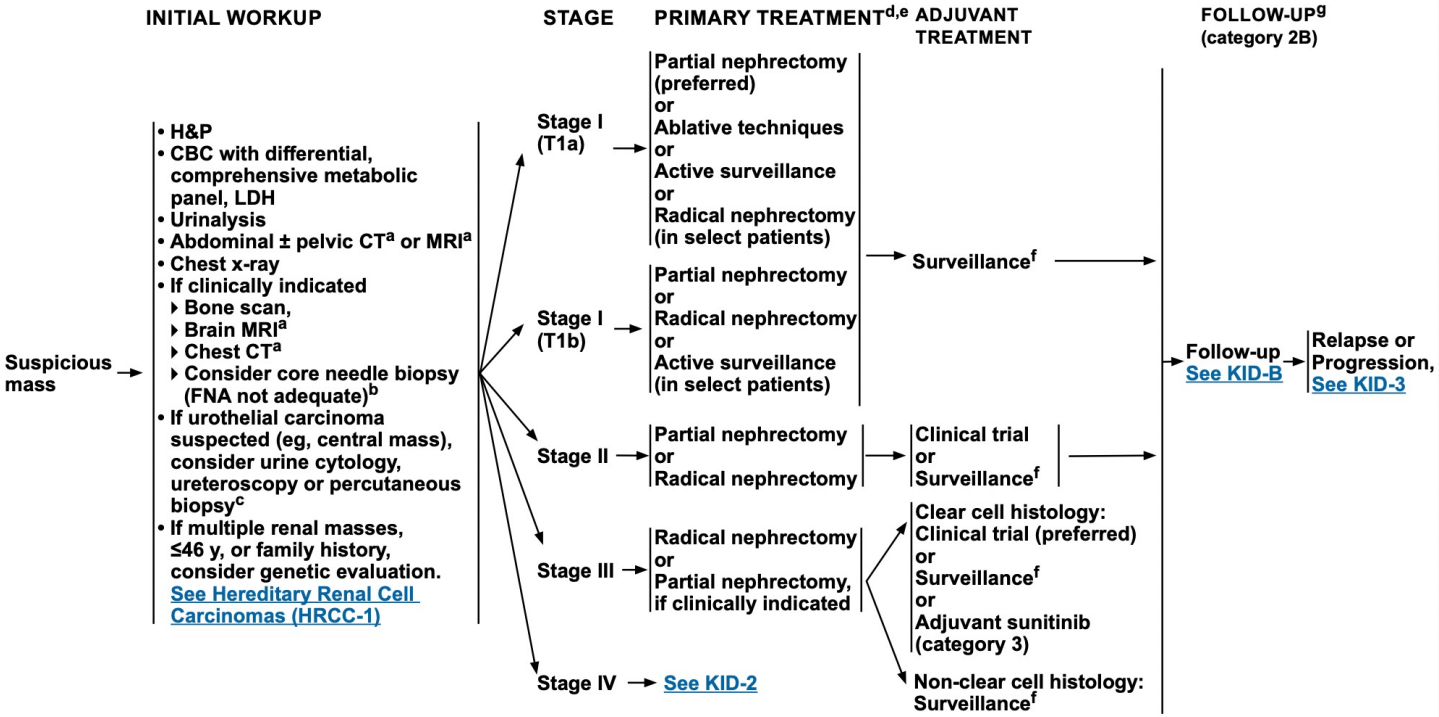
Weill Cornell Medicine

Guidelines 2021

ASCO – No changes since 2017



NCCN Guidelines 2021

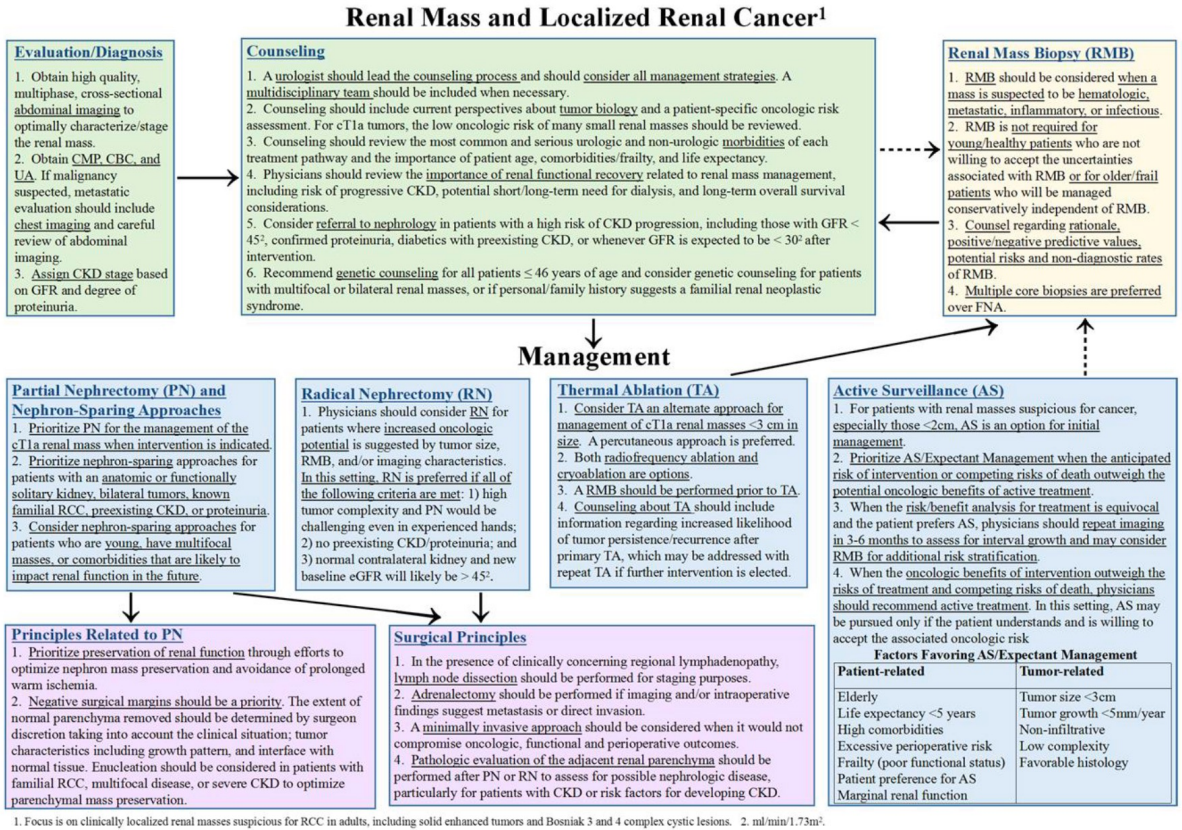


NCCN Guidelines 2021

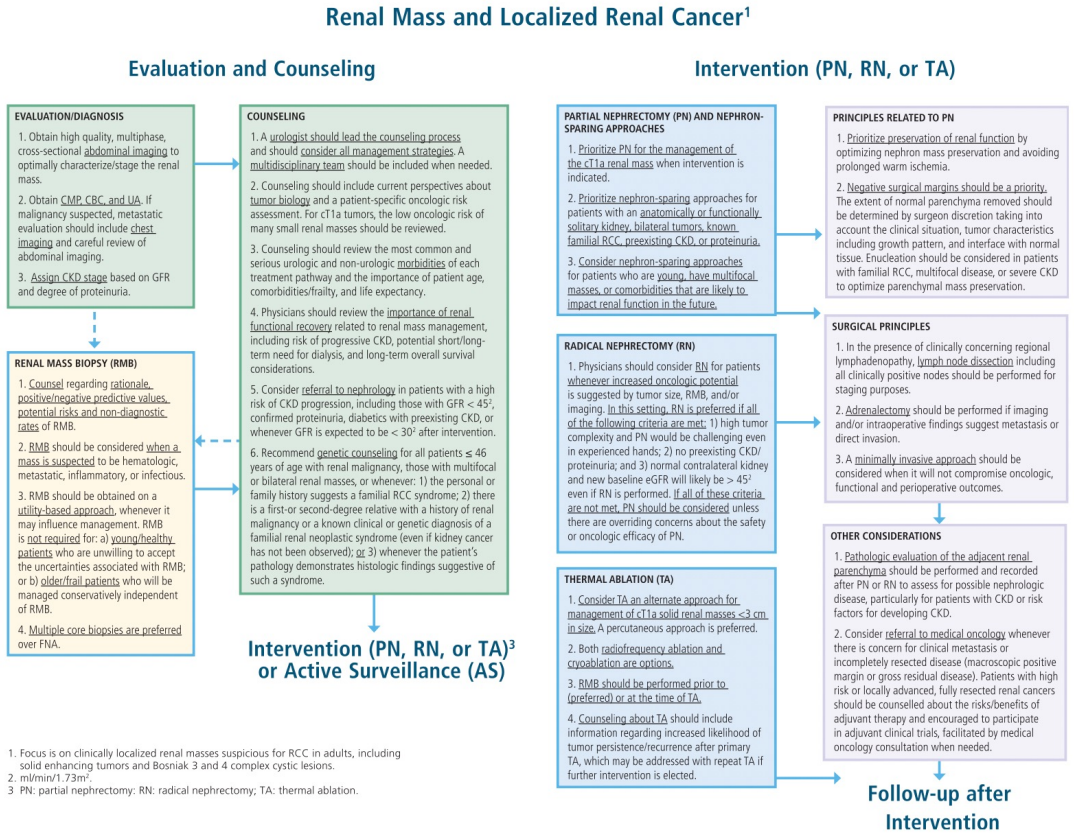
Follow-up After Ablative Techniques[c]

- **H&P annually**
- **Laboratory tests annually, as clinically indicated**
- **Abdominal imaging:**
  - **Abdominal CT or MRI with and without IV contrast at 1–6 mo following ablative therapy unless otherwise contraindicated, then CT or MRI (preferred), or US annually for 5 y or longer as clinically indicated. If patient is unable to receive IV contrast, MRI is the preferred imaging modality**
  - **If there is imaging or clinical concerns for recurrence, then more frequent imaging, renal mass biopsy, or further treatment may be indicated**
- **Chest imaging:**
  - **Chest x-ray or CT annually for 5 y for patients who have biopsy-proven low-risk renal cell carcinoma (RCC), nondiagnostic biopsies, or no prior biopsy**

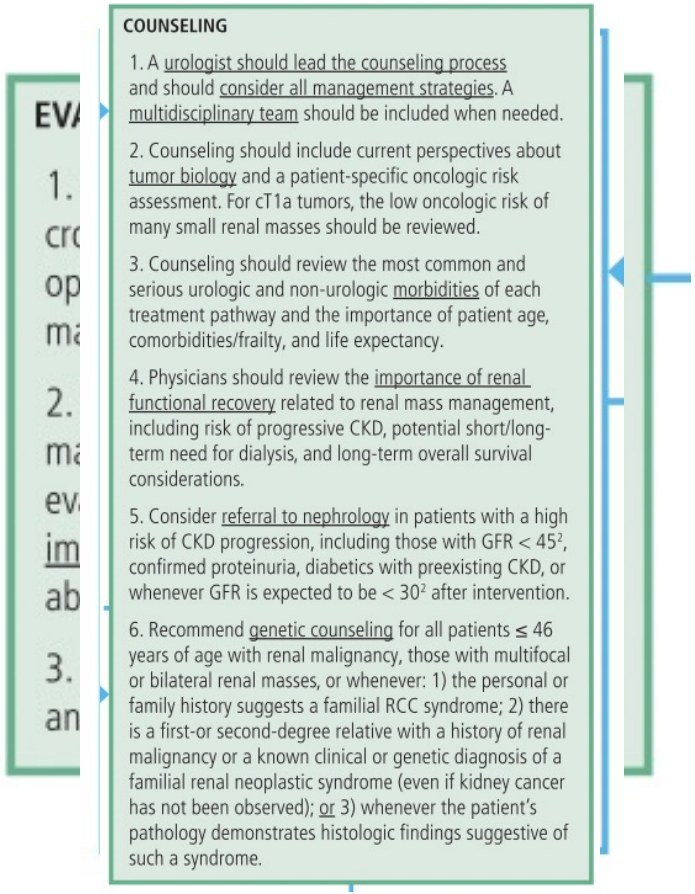
AUA Guidelines 2017



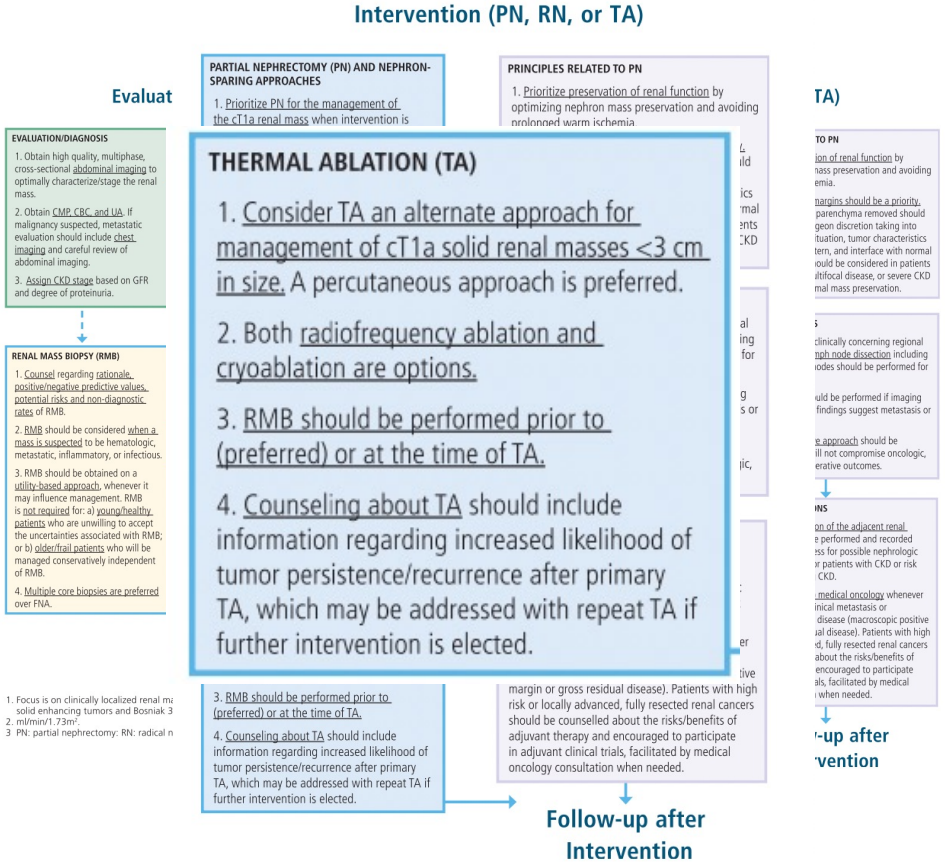
AUA Guidelines Amended in 2021



AUA Guidelines Amended in 2021



AUA Guidelines Amended in 2021



AUA Guidelines 2021:
Emphasis on **Active Surveillance**

ACTIVE SURVEILLANCE (AS)

1. For patients with a solid renal mass < 2cm, or those that are complex but predominantly cystic, AS with potential for delayed intervention is an option for initial management.

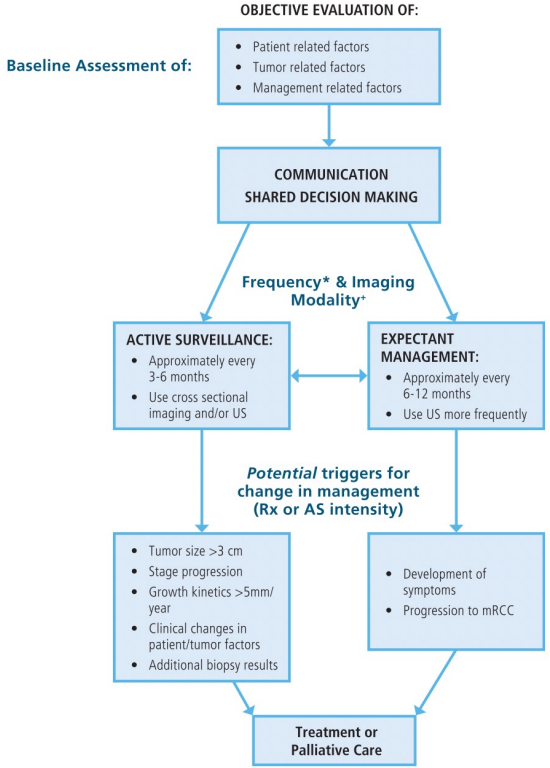
2. Prioritize AS/Expectant Management when the anticipated risk of intervention or competing risks of death outweigh the potential oncologic benefits of intervention. If asymptomatic, periodic clinical surveillance/imaging can be based on shared decision-making.

3. When the risk/benefit analysis for treatment is equivocal and the patient prefers AS, clinicians should repeat imaging in 3-6 months to assess for interval growth and may consider RMB for additional risk stratification. Repeat cross-sectional imaging should be obtained 3-6 months later. Periodic clinical/imaging surveillance can then be based on growth rate and shared decision-making with intervention recommended if substantial interval growth or if other clinical/imaging findings suggest that the risk/benefit analysis is no longer equivocal or favorable for continued AS.

4. When the oncologic benefits of intervention outweigh the risks of treatment and competing risks of death, clinicians should recommend intervention. In this setting, AS may be pursued only if the patient is willing to accept the associated oncologic risk. Clinicians should encourage RMB for additional risk stratification. If the patient continues to prefer AS, close clinical and cross-sectional imaging surveillance with periodic reassessment and counseling should be recommended.

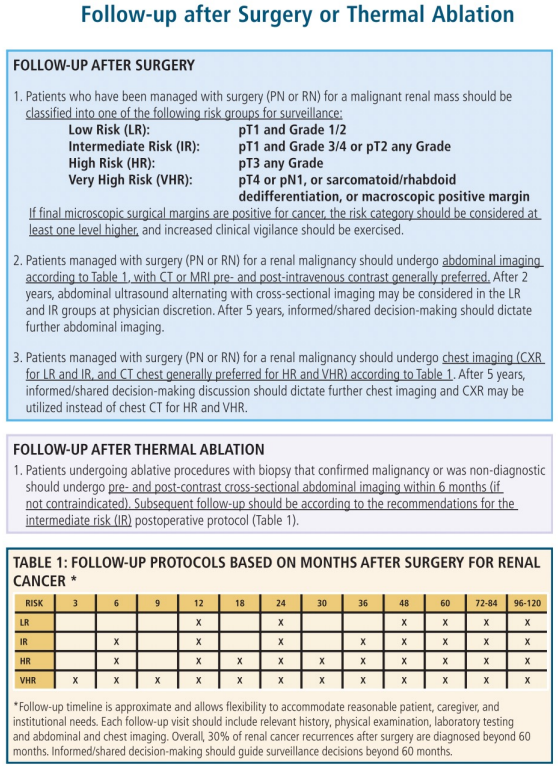
FACTORS FAVORING AS/EXPECTANT MANAGEMENT

Patient-related	Tumor-related
Elderly Life expectancy <5 years High comorbidities Excessive perioperative risk Frailty (poor functional status) Patient preference for AS Marginal renal function	Tumor size < 3cm Tumor growth < 5mm/year Non-infiltrative Low complexity Favorable histology Predominantly cystic



* Consider concurrent renal functional assessment (sCr, proteinuria), metabolic assessment (LFTs) and chest imaging
\+ Consider alternatives to contrast when possible or necessary (doppler, diffusion weighted images etc.)

AUA Guidelines 2021: Recommendations on follow-up



Follow-up after Surgery or Thermal Ablation

FOLLOW-UP AFTER SURGERY

1. Patients who have been managed with surgery (PN or RN) for a malignant renal mass should be classified into one of the following risk groups for surveillance:

Low Risk (LR):	**pT1 and Grade 1/2**
Intermediate Risk (IR):	**pT1 and Grade 3/4 or pT2 any Grade**
High Risk (HR):	**pT3 any Grade**
Very High Risk (VHR):	**pT4 or pN1, or sarcomatoid/rhabdoid dedifferentiation, or macroscopic positive margin**

If final microscopic surgical margins are positive for cancer, the risk category should be considered at least one level higher, and increased clinical vigilance should be exercised.

2. Patients managed with surgery (PN or RN) for a renal malignancy should undergo abdominal imaging according to Table 1, with CT or MRI pre- and post-intravenous contrast generally preferred. After 2 years, abdominal ultrasound alternating with cross-sectional imaging may be considered in the LR and IR groups at physician discretion. After 5 years, informed/shared decision-making should dictate further abdominal imaging.

3. Patients managed with surgery (PN or RN) for a renal malignancy should undergo chest imaging (CXR for LR and IR, and CT chest generally preferred for HR and VHR) according to Table 1. After 5 years, informed/shared decision-making discussion should dictate further chest imaging and CXR may be utilized instead of chest CT for HR and VHR.

FOLLOW-UP AFTER THERMAL ABLATION

1. Patients undergoing ablative procedures with biopsy that confirmed malignancy or was non-diagnostic should undergo pre- and post-contrast cross-sectional abdominal imaging within 6 months (if not contraindicated). Subsequent follow-up should be according to the recommendations for the intermediate risk (IR) postoperative protocol (Table 1).

TABLE 1: FOLLOW-UP PROTOCOLS BASED ON MONTHS AFTER SURGERY FOR RENAL CANCER *

RISK	3	6	9	12	18	24	30	36	48	60	72-84	96-120
LR				X		X			X	X	X	X
IR		X		X		X		X	X	X	X	X
HR		X		X	X	X	X	X	X	X	X	X
VHR	X	X	X	X	X	X	X	X	X	X	X	X

*Follow-up timeline is approximate and allows flexibility to accommodate reasonable patient, caregiver, and institutional needs. Each follow-up visit should include relevant history, physical examination, laboratory testing and abdominal and chest imaging. Overall, 30% of renal cancer recurrences after surgery are diagnosed beyond 60 months. Informed/shared decision-making should guide surveillance decisions beyond 60 months.

- **<u>Follow up after TA:</u>**
- Pre and post contrast cross sectional imaging within 6 months after TA
- Yearly there after (can alternate with US after 2 years)
- Include chest xray
- Do not stop at 5 years
- 30% of local recurrence occurs **after 5 years**

AUA Guidelines 2021: Evolving role of ablation in oligometastatic disease

GENERAL PRINCIPLES

1. Discuss the implications of stage, grade and histology including the risks of recurrence and possible sequelae of treatment. Patients with pathologically-proven benign renal masses should undergo occasional clinical evaluation and laboratory testing for sequelae of treatment but most do not require routine periodic imaging.
2. Patients with treated malignant renal masses should undergo periodic medical history, PE, laboratory studies, and imaging directed at detecting signs/symptoms of metastatic spread and/or local recurrence as well as evaluation for possible sequelae of treatment.
3. Patients with treated malignant renal masses should have periodic laboratory testing including SCr level, eGFR, and urinalysis. Other laboratory evaluations (e.g. CBC, LDH, LFTs, alkaline phosphatase and calcium level) may be obtained at the discretion of the clinician or if advanced disease is suspected.
4. Patients undergoing follow-up for treated renal masses with progressive renal insufficiency or proteinuria should be referred to nephrology.
5. Patients undergoing follow-up for treated malignant renal masses should only undergo bone scan if one or more of the following is present: clinical symptoms such as bone pain, elevated alkaline phosphatase, or radiographic findings suggestive of a bony neoplasm.
6. Patients undergoing follow-up for treated malignant renal masses with acute neurological signs or symptoms should undergo prompt CT or MRI scanning of the brain and/or spine.
7. For patients undergoing follow-up for treated malignant renal masses, additional site-specific imaging can be ordered as warranted by clinical symptoms suggestive of local recurrence or metastatic spread. PET scan should not be obtained routinely but may be considered selectively.
8. Patients with findings suggestive of metastatic renal malignancy should be evaluated to define the extent of disease and referred to medical oncology. Surgical resection or ablative therapies should be considered in select patients if isolated or oligo-metastatic disease is present.
9. Patients with findings suggesting a new renal primary or local recurrence of renal malignancy should undergo metastatic evaluation (including chest and abdominal imaging). If the new primary or recurrence is isolated to the ipsilateral kidney and/or retroperitoneum a urologist should be involved in the decision-making process and surgical resection or ablative therapies may be considered.

Weill Cornell Medicine

Literature

Microwave ablation

European Radiology
https://doi.org/10.1007/s00330-021-07900-2

ONCOLOGY

A multicenter 10-year oncologic outcome of ultrasound-guided percutaneous microwave ablation of clinical T1 renal cell carcinoma: will it stand the test of time?

Jie Yu[1] · Hui Wang[2] · Zhi-Gang Cheng[1] · Fang-Yi Liu[1] · Qin-ying Li[3] · Guang-zhi He[4] · Yan-chun Luo[1] · Xiao-Ling Yu[1] · Zhi-Yu Han[1] · Ping Liang[1]

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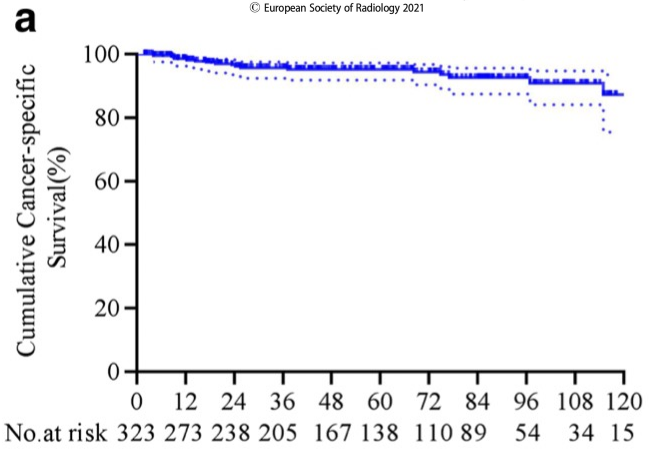

- 275 patients
- 10-year outcomes:
  - local recurrence free survival 1.9%
  - cancer-specific survival 87.4%
  - disease-free survival, 71.8%
  - overall survival, 67.5%,

Salvage surgery is not associated with increased risk of complications

available at www.sciencedirect.com
journal homepage: www.europeanurology.com

European Association of Urology

Surgery in Motion

Salvage Robot-assisted Renal Surgery for Local Recurrence After Surgical Resection or Renal Mass Ablation: Classification, Techniques, and Clinical Outcomes

Alberto Martini[a], Filippo Turri[b], Ravi Barod[c], Bernardo Rocco[b], Umberto Capitanio[a], Alberto Briganti[a], Francesco Montorsi[a], Alexandre Mottrie[d,e], Ben Challacombe[f], Brunolf W. Lagerveld[g], Karim Bensalah[h], Ronney Abaza[i], Ketan K. Badani[j], Reza Mehrazin[j], Maurizio Buscarini[k], Alessandro Larcher[a,] on behalf of the Junior ERUS/YAU Working Group on Robot-assisted Surgery of the European Association of Urology[1]*

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Percutaneous ablation for local recurrence after partial nephrectomy is superior to repeat surgery

Percutaneous Ablation Versus Surgical Resection for Local Recurrence Following Partial Nephrectomy for Renal Cell Cancer: A Propensity Score Analysis (REPART Study—UroCCR 71)

Marie Brassier[a,1,], Zine-Eddine Khene[b,1], Jean-Christophe Bernhard[c], Van Thi Dang[d], Idir Ouzaid[e], François Xavier Nouhaud[f], Jonathan Olivier[g], Cosmina Nedelcu[h], Nicolas Grenier[i], Luc Beuzit[j], Nicolas Doumerc[d], Karim Bensalah[b], Pierre Bigot[a],*

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Summary

- Ablation of small renal masses remain in guidelines
- AUA Guidelines in 2021 endorse Cryo and RFA but not MWA
- Increasing role of active surveillance and renal mass biopsy for patients on active surveillance
- Surgery for local recurrence after thermal ablation does not put patients at an increased risk of post surgical complications
- Local recurrence after partial nephrectomy is best treated with ablation

THANK YOU

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