

# Renal Mass and Localized Renal Cancer<sup>1</sup>

## Evaluation and Counseling

### EVALUATION/DIAGNOSIS

1. Obtain high quality, multiphase, cross-sectional abdominal imaging to optimally characterize/stage the renal mass.
2. Obtain CMP, CBC, and UA. If malignancy suspected, metastatic evaluation should include chest imaging and careful review of abdominal imaging.
3. Assign CKD stage based on GFR and degree of proteinuria.

### COUNSELING

1. A urologist should lead the counseling process and should consider all management strategies. A multidisciplinary team should be included when needed.
2. Counseling should include current perspectives about tumor biology and a patient-specific oncologic risk assessment. For cT1a tumors, the low oncologic risk of many small renal masses should be reviewed.
3. Counseling should review the most common and serious urologic and non-urologic morbiditys of each treatment pathway and the importance of patient age, comorbidities/frailty, and life expectancy.
4. Physicians should review the importance of renal functional recovery related to renal mass management, including risk of progressive CKD, potential short/long-term need for dialysis, and long-term overall survival considerations.
5. Consider referral to nephrology in patients with a high risk of CKD progression, including those with GFR < 45<sup>2</sup>, confirmed proteinuria, diabetics with preexisting CKD, or whenever GFR is expected to be < 30<sup>2</sup> after intervention.
6. Recommend genetic counseling for all patients ≤ 46 years of age with renal malignancy, those with multifocal or bilateral renal masses, or whenever: 1) the personal or family history suggests a familial RCC syndrome; 2) there is a first-or second-degree relative with a history of renal malignancy or a known clinical or genetic diagnosis of a familial renal neoplastic syndrome (even if kidney cancer has not been observed); or 3) whenever the patient's pathology demonstrates histologic findings suggestive of such a syndrome.

### RENAL MASS BIOPSY (RMB)

1. Counsel regarding rationale, positive/negative predictive values, potential risks and non-diagnostic rates of RMB.
2. RMB should be considered when a mass is suspected to be hematologic, metastatic, inflammatory, or infectious.
3. RMB should be obtained on a utility-based approach, whenever it may influence management. RMB is not required for: a) young/healthy patients who are unwilling to accept the uncertainties associated with RMB; or b) older/frail patients who will be managed conservatively independent of RMB.
4. Multiple core biopsies are preferred over FNA.

## Intervention (PN, RN, or TA)<sup>3</sup> or Active Surveillance (AS)

1. Focus is on clinically localized renal masses suspicious for RCC in adults, including solid enhancing tumors and Bosniak 3 and 4 complex cystic lesions.
2. ml/min/1.73m<sup>2</sup>.
3. PN: partial nephrectomy; RN: radical nephrectomy; TA: thermal ablation.

## Intervention (PN, RN, or TA)

### PARTIAL NEPHRECTOMY (PN) AND NEPHRON-SAVING APPROACHES

1. Prioritize PN for the management of the cT1a renal mass when intervention is indicated.
2. Prioritize nephron-sparing approaches for patients with an anatomically or functionally solitary kidney, bilateral tumors, known familial RCC, preexisting CKD, or proteinuria.
3. Consider nephron-sparing approaches for patients who are young, have multifocal masses, or comorbidities that are likely to impact renal function in the future.

### PRINCIPLES RELATED TO PN

1. Prioritize preservation of renal function by optimizing nephron mass preservation and avoiding prolonged warm ischemia.
2. Negative surgical margins should be a priority. The extent of normal parenchyma removed should be determined by surgeon discretion taking into account the clinical situation, tumor characteristics including growth pattern, and interface with normal tissue. Enucleation should be considered in patients with familial RCC, multifocal disease, or severe CKD to optimize parenchymal mass preservation.

### SURGICAL PRINCIPLES

1. In the presence of clinically concerning regional lymphadenopathy, lymph node dissection including all clinically positive nodes should be performed for staging purposes.
2. Adrenalectomy should be performed if imaging and/or intraoperative findings suggest metastasis or direct invasion.
3. A minimally invasive approach should be considered when it will not compromise oncologic, functional and perioperative outcomes.

### OTHER CONSIDERATIONS

1. Pathologic evaluation of the adjacent renal parenchyma should be performed and recorded after PN or RN to assess for possible nephrologic disease, particularly for patients with CKD or risk factors for developing CKD.
2. Consider referral to medical oncology whenever there is concern for clinical metastasis or incompletely resected disease (macroscopic positive margin or gross residual disease). Patients with high risk or locally advanced, fully resected renal cancers should be counselled about the risks/benefits of adjuvant therapy and encouraged to participate in adjuvant clinical trials, facilitated by medical oncology consultation when needed.

## Follow-up after Intervention