West of Scotland Cancer Network

Urological Cancers
Managed Clinical Network

Renal Cancer

Regional Follow-up Guidelines

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Approved by	Urological Cancers MCN Advisory Board
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Renal Cancer Regional Follow-up Guidelines Review

The purpose of the renal cancer regional follow-up guidelines is to ensure consistency of practice across the West of Scotland and the principles of any revision to the follow-up guideline will continue to ensure that management of patients after initial treatment for renal cancer are:

- Patient-centred;
- Aligned to recognised current best practice;
- Equitable across the region;
- Clinically safe and effective; and
- Efficiently delivered.

The guidelines continue to be developed on the basis that the key aims underpinning the purpose of follow-up are to:

- Manage and treat symptoms and complications;
- Provide psychological and supportive care; and
- Detect and treat recurrent disease.

Follow-up practice has to be patient centred and, ideally, supported by empirical evidence of improved outcomes and survival. In the absence of good quality evidence, care should be tailored to the needs and preference of patients. The construction of appropriate follow-up guidance requires balancing perceived patient needs with effective utilisation of resources.

A review of the existing Regional Renal Cancer follow up guideline was initiated in August 2020 by Mr Gavin Lamb, Consultant Urologist, NHS Forth Valley. Appraisal of the published evidence and guidance on the management of renal cancer follow-up indicates that the current WoSCAN guideline remains in line with the published guidance.

National guidance pertaining to Bosniak IIF follow-up was first included in Version 3 of the WoSCAN guideline published in 2017. This protocol will be due for audit prior to the next scheduled WoSCAN review in 2023.

It is also recommended that, all patients receiving treatment for renal cancer should undergo a holistic needs assessment (HNA) by a suitably trained individual at defined time points during follow up care.

These regional guidelines are recommended by the Urological Cancers MCN whose members also recognise that specific needs of individual patients may require to be met by an alternative approach and that this will be provided where necessary and documented in the patient notes.

Renal Cancer Regional Follow-up Guidelines

Renal Cancer Investigations and Rationale

Leibovich Scoring: The Leibovich score is a scoring algorithm to predict cancer specific survival rates. It assesses the risk of recurrence/metastatic disease.

Bosniak Scoring System: The Bosniak scoring system for CT evaluation of renal cysts is helpful in determining malignant risk and required follow-up and/or treatment.

Blood tests: **U+Es** are taken to assess the function of the remaining renal unit(s).
CRP is taken as this represents a prognostic marker in the presence of recurrence.

CT Scans are used to check for evidence of locally recurrent and metastatic disease.

Renal Ultrasound (US) is used to check for evidence of locally recurrent or contra lateral disease.

The use of the **Leibovich** prognostic scoring system is recommended in WoSCAN where pathology is of clear cell variant. A modified score should be added to partial nephrectomy cases where possible. (See Appendix 1)

The use of the Bosniak scoring system is recommended in WoSCAN in order to provide specific definitions to classify cysts by the risk of renal cancer. (See Appendix 2) Any Bosniak I/II cysts can be discharged; IIF/III/IV cysts must be discussed through an MDT/pre-MDT radiology meeting.

Clear cell pathology

A) Post Nephrectomy

1. Imaging

Low Risk
Annual US and CXR
Consider discharge at 5 years if no signs of recurrence.

Intermediate Risk
CT Chest/Abdomen/Pelvis 6 monthly for 2 years then annually to 5 years. Then annual US and CXR and consider discharge at 10 years if no evidence of recurrence.

High Risk
CT Chest/Abdomen/Pelvis 6 monthly for 3 years then annually to 5 years. Then annual US and CXR and consider discharge at 10 years if no evidence of recurrence.

2. Bloods

CRP and U+Es should be checked at the same time intervals as imaging across all patient groups.

B) Post Partial Nephrectomy

1. Imaging

Low Risk
CT or MRI Abdomen and CXR annually to 3 years**,** US years 4-10, then consider discharge if no signs of recurrence.

Intermediate Risk
CT Chest/Abdomen/Pelvis 6 monthly for 2 years then annually to 5 years. Then annual US and consider discharge at 10 years if no evidence of recurrence.

High Risk
CT Chest/Abdomen/Pelvis 6 monthly for 3 years then annually to 5 years. Then annual US and consider discharge at 10 years if no evidence of recurrence.

2. Bloods
CRP and U+Es should be checked at the same time intervals as the imaging across all patient groups.

C) Post Ablation Therapy

1. Imaging

Low Risk
CXR annually to 5 years with MRI at 3,6,12 months, then MRI 6/12 to years 2-3 and MRI annually years 4-5; then consider discharge if no evidence of recurrence.

Intermediate/High Risk
CT Chest 6/12 for 2 years then annually to 5 years. US and CXR annually to 10 years, then consider discharge if no evidence of recurrence.

2. Bloods
CRP and U+Es should be checked at the same time intervals as the imaging across all patient groups.

Pathology other than clear cell carcinoma

A) Chromophobe
Poor prognostic pathological factors include advanced stage and grade, tumour necrosis and the presence of sarcomatoid change.

Low Risk
Where no adverse features are present annual US and CXR are recommended and consider discharge at 5 years if no evidence of recurrence.

Intermediate/High Risk (If poor prognostic features present)

1. Imaging
CT Chest/Abdomen/Pelvis 6 monthly for 3 years and annually to 5 years. Then annual US and CXR and consider discharge at 10 years if no evidence of recurrence.

2. Bloods
CRP and U+Es should be checked at the same time intervals as imaging across all patient groups.

B) Papillary Renal Cell Carcinoma

1. Imaging

Low Risk
pT1: Annual US and CXR. Consider discharge at 5 years if no signs of recurrence.

Intermediate/High Risk
pT2+: CT, CXR/Abdomen/Pelvis 6/12 to 2 years then annually to 5years. US and CXR annually to 10 years, then consider discharge if no evidence of recurrence.

2. Bloods
CRP and U+Es should be checked at the same time intervals as imaging across all patient groups.

C) Collecting Duct Carcinoma

1. Imaging
CT Chest/Abdomen/Pelvis 6 monthly for 3 years then annually to 5 years. Annual US and CXR and consider discharge at 10 years if no evidence of recurrence.

2. Bloods
CRP and U+Es should be checked at the same time intervals as imaging across all patient groups.

Radiological Follow-up of IIF Cysts:
See Appendix 2

Complex Renal Cysts

Bosniak Category	Features	Work-up
I	A simple benign cyst with a hairline-thin wall that does not contain septa, calcification, or solid components. It has the same density as water and does not enhance with contrast medium.	Benign
II	A benign cyst that may contain a few hairline-thin septa. Fine calcification may be present in the wall or septa. Uniformly high-attenuation lesions < 3cm in size, with sharp margins but without enhancement.	
IIF	These cysts may contain more hairline-thin septa. Minimal enhancement of a hairline-thin septum or wall can be seen. There may be minimal thickening of the septa or wall. The cyst may contain calcification, which may be nodular and thick, but there is no contrast enhancement. There are no enhancing soft-tissue elements. This category also includes totally intrarenal, non-enhancing, high attenuation renal lesions ≥ 3cm in size. These lesions are generally well-marginated.	Follow-up. A small proportion are malignant. See Appendix 2.
III	These lesions are indeterminate cystic masses that have thickened irregular walls or septa in which enhancement can be seen.	Surgery or follow-up. Over 50% of the lesions are malignant.
IV	These lesions are clearly malignant cystic lesions that contain enhancing soft-tissue components.	Surgical therapy recommended. Mostly malignant tumour.

***Source**: EAU Renal Cell Carcinoma Guidelines: April 2014*

Metastatic renal cancer
Patients should have follow up individualised to their needs or as dictated by trial protocols.

Appendix 1

Leibovich Prognostic Scoring System

Primary Tumour	Score	Nuclear Grade	Score
pT1a	0	1	0
pT1b	2	2	0
pT2	3	3	1
pT3a	4	4	3
pT3b	4		
pT3c	4		
pT4			
Regional lymph Node status		**Tumour Size**	
pNx	0	< 10 cm	0
pN0	0	≥ 10 cm	1
pN1	2		
pN2	2		
Histological Tumour Necrosis			
No	0		
Yes	1		

Total Score

Risk Category	Total Score	Follow-up protocol
Low risk	0-2	Annual US renal
Intermediate risk	3-5	CT chest, abdomen and pelvis every 6/12 for 2 years, followed by annual CT chest, abdomen and pelvis to 5 years – then change to annual US renal
High Risk	≥ 6	CT chest, abdomen and pelvis every 6/12 for 3 years, followed by annual CT chest, abdomen and pelvis to 5 years – then change to annual US renal

Appendix 2

Baseline CT (Triple phase)

(Suggested protocol: non contrast CT, arterial phase CT at 40 seconds and nephrographic phase CT at 100 seconds ideally bolus tracked over upper abdominal aorta)

6 month CT (Single nephrographic phase)



18 month CT (Single nephrographic phase)



30 month CT (Single nephrographic phase)



48 month CT (Single nephrographic phase)



At 48 months consider discharge if no change

Follow up MRI can be considered as an alternative if particular circumstances or likely to require prolonged follow-up.