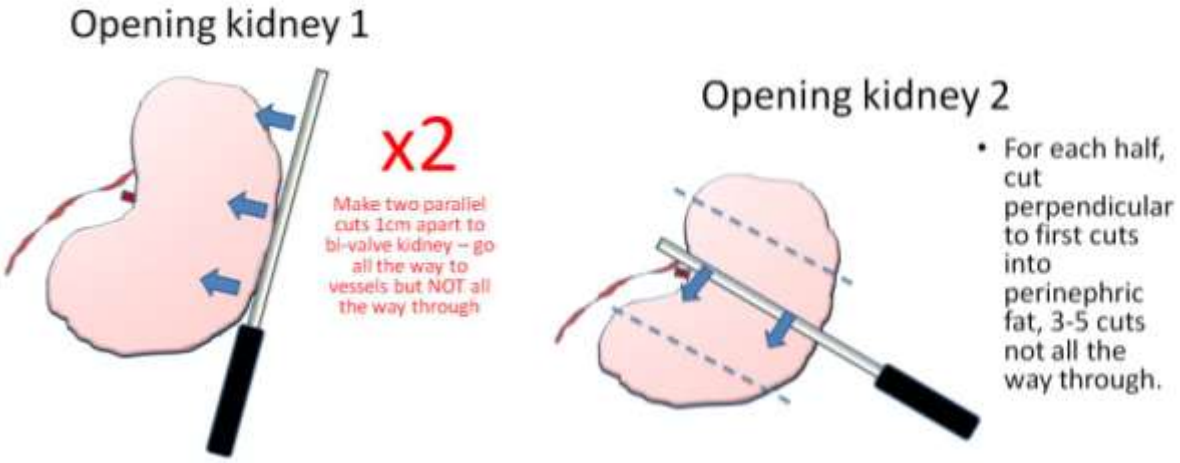
# CUT-UP PROTOCOL - KIDNEY – NEPHRECTOMY FOR TUMOUR

Kidneys poorly fix due to the amount of perinephric fat.
If the kidney is bisected longitudinally then fixation can still take more than 24hrs. By making two longitudinal slices and then perpendicular slices in the fat this can speed fixation (Figure 1a and b).

Figure 1a




If requested remove fresh tumour and normal parenchyma for tissue bank

**Specimens fall into three main categories:**
1. Radical nephrectomies for renal tumours,
2. Nephrouretectomies for ureteric tumours,
3. Partial nephrectomies.

## 1. Radical nephrectomies for renal tumours

(1) Identify the renal vein and vessels. If laproscopic then these have white plastic clips on them.
(2) Measure the specimen including fat, and dimensions of underlying kidney.
(3) Is adrenal gland present?
(4) Length and diameter of ureter
(5) Describe the tumour - Staging renal tumours is based on involvement of renal vessels/renal sinus/perinephric fat and Gerota's fascia- so look closely at these.
  (a) Site? Location (Cortex or medulla)
  (b) Size and shape
  (c) Capsular penetration
  (d) Cut surface – haemorrhage, cysts, necrosis
  (e) Extension into renal vein

(f) Involvement of fat?perinephric or renal sinus

(6) Presence and number of lymph nodes - these are uncommon but are normally around hilar vessels.

(7) Photograph the tumour.

**(8) Sections for histology FIGURE 2**

(a) Tumour to include adjacent parenchyma and capsule.

(b) Tumour and hilum to include renal sinus.

(c) One section of normal parenchyma

(d) Pelvis

(e) Renal artery and vein - this can be taken by shaving off vessels in hilum and if white plastic clips present these can be opened by cutting hinge section of clip.

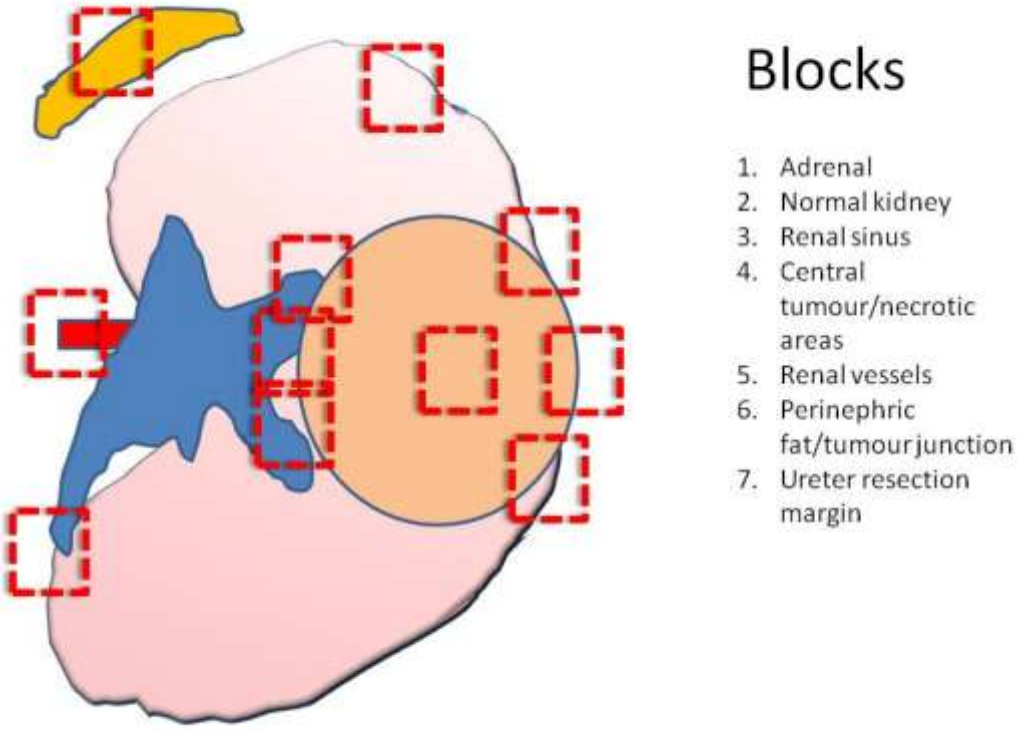
(f) Ureter

(g) Lymph nodes if present

(h) Adrenal gland if present

(i) Large blocks are useful for anatomy but make sure a small block of tumour is taken as immunohistochemistry maybe required.

Figure 2.



## 2. Nephrouretectomies for ureteric tumours.

**Blocks for histology as per FIGURE 2 but also:**

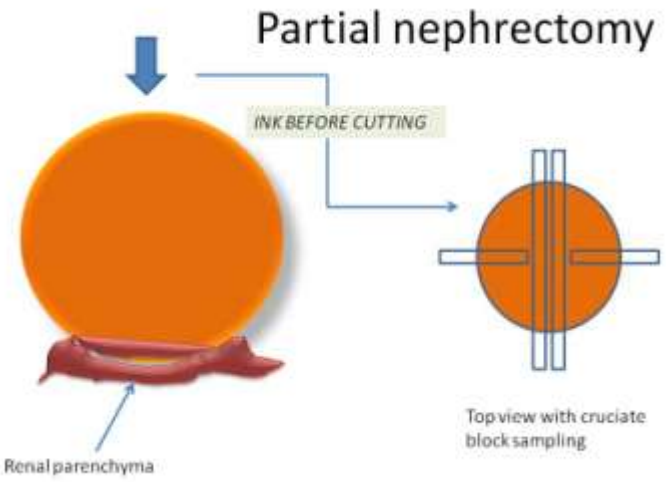
1. Ureteric resection margin in one cassette and then adjacent section in another.
2. If there is a tumour in mid ureter - ink the outside of the ureter and then section, sample background ureter - one section every 30-40mm.
3. IF NO MACROSCOPIC TUMOUR then sample ureter every 20mm. If no tumour is detected on microscopy then embed remainder later.
4. Photograph sections.
5. Stage pT3 is dependent on penetration of ureteric muscle into periureteric soft tissue.

## 3. Partial nephrectomies

*These are difficult specimens to assess margins and should be shown to a member of the Uropathology MDT team before cutting up*.

1. Identify the parenchymal margin and the perinephric margin.
2. Weigh specimen
3. Photograph specimen
4. Measure specimen - remember that 40mm is a stage cut off.
5. Describe any obvious surgical breaches in the capsule
6. Ink the outside - a separate colour for the parenchymal
7. Cut up as per Figure 3 in cruciate blocks, photograph cut sections.
8. Large blocks of tumour can help with anatomy but make sure a small block of tumour is taken for immunohistochemistry if required.

Figure 3




# REPORTING: USE DATASETS