**Roles, Responsibilities and Communication During Allocation and Retrieval of Deceased Donor Kidneys**

**Purpose and Aims**

NZ aims to maximise benefit from kidney transplantation for patients with end stage kidney disease by using all available kidneys including marginal kidneys (kidneys with characteristics that make them higher risk for less good short or long term outcomes than average) where they can benefit individuals on the deceased donor waiting list.

Clear communication between members of the team is critical for optimal donor and recipient care.

This document outlines

1. Roles of individual clinicians involved in allocation decisions
2. Agreed communication between donor and recipient clinicians during and after allocation and retrieval
3. Criteria used to decide to undertake biopsies
4. Actions to be undertaken in the event of damage occurring at retrieval

This document does not cover communication during donor assessment prior to allocation.

**Roles**

There are several clinicians involved in assessment and decision-making during allocation and retrieval:

National Kidney Allocation Scheme (NKAS) Physician: a nephrologist/renal physician acting to support Organ Donation New Zealand staff during donor assessment (where requested), and who oversees kidney allocation using the NKAS.

Donor Surgeon: a transplant surgeon operating to retrieve kidneys from deceased donors (employed by Auckland DHB but operating at any DHB in NZ)

Donor Coordinator: an ODNZ staff member who coordinates deceased organ donation (among other specific roles) who will be present at the donor operation.

Transplant Surgeon: a transplant surgeon who will be operating to transplant kidneys into the recipient who has been allocated the kidney (at Auckland, Canterbury or Capital and Coast DHBs)

Transplant Physician: a nephrologist/renal physician responsible for the care of the recipient allocated the kidney (at Auckland, Canterbury, Capital and Coast or Southern DHBs)

Depending on the allocation, an individual physician or surgeon may perform more than one role for the purposes of this document. For example, the NKAS physician may be also the transplant physician.

**Minimum communication during allocation and retrieval**

There is close communication between members of the donor team (Donor Coordinator, NKAS physician and donor surgeon) during donor assessment, prior to a decision to retrieve organs that is vital but outside of the scope of this document.

The following are key steps that occur with every deceased donor allocation. Other discussions between team members are common and encouraged, as the situation requires.

* **following allocation**, the NKAS physician communicates with the Donor Coordinator to confirm the individual recipients rank (up to 15).
* the Donor Coordinator communicates to the relevant Transplant Physician to formally offer kidneys for transplantation, sequentially according to the allocation.
* the Transplant Physician considers the offer and if it is clinically acceptable, and then discusses with appropriate individuals, including but not limited to the potential recipient and the Transplant Surgeon.
* the Transplant Physician confirms acceptance or non-acceptance of the offer to the donor coordinator within the timeframe prescribed in NKAS.
* **following retrieval**, the retrieval surgeon will routinely communicate verbally the findings from the organ procurement to the donor coordinator who will pass these findings on to the transplant nephrologist if there are abnormal findings. observations.
* the transplant nephrologist will to communicate these findings as required to the recipient surgeon at the appropriate time.
* the donor coordinator documents donor surgeon’s findings on the organ retrieval Organ Retrieval Report Form for subsequent audit.
* the Donor Coordinator completes the ODNZ documentation which accompanies kidneys.

**Specific circumstances leading to additional communication**

In addition, the following additional discussions will be undertaken during procurement and allocation:

1. **Prior to allocation**, the NKAS physician may elect to discuss the donor circumstances with the on-call transplant physician at each of the transplant centres, particularly where the kidney(s) are proposed to be not used.
2. **Prior to retrieval surgery**, the NKAS physician will confirm with the donor coordinator if a biopsy is required (informed by the criteria below and/or discussions with the transplant team).
3. **Prior to retrieval surgery**, the donor coordinator will ensure the donor surgeon is aware of the need to undertake a biopsy, if it is required.
4. **During donor surgery**, if the surgeon identifies the kidneys as meeting criteria for biopsy, a biopsy will be undertaken and this will be communicated to the donor coordinator.
5. **After retrieval**, the donor surgeon will communicate additionally in the following instances:
   1. If a biopsy was undertaken due to interoperative findings, the donor surgeon will discuss the findings directly NKAS physician
   2. If kidneys were found to be unusable for transplant in the view of the donor surgeon, the donor surgeon will discuss directly with NKAS physician. The donor coordinator will notify the transplant nephrologist.
   3. If the kidneys were damaged during retrieval in a way that may affect the subsequent transplant surgery (see below), the donor surgeon will discuss directly with the transplant surgeon
   4. A phone call to directly discuss operative findings with the relevant Transplant Surgeon, if, in the opinion of the donor surgeon, that would be helpful in subsequent transplantation
6. **After receiving the biopsy report**, the donor coordinator will communicate the results to the transplant nephrologist (where discard or dual allocation required).

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| **Decision to perform donor biopsy**  Biopsies are performed under three circumstances:   1. Planned prior to retrieval, based on **known mandatory criteria** 2. During surgery, based on **mandatory criteria discovered at surgery** 3. In other circumstances as requested by a surgeon or physician involved in care of donor or intended recipient   Applying the **mandatory criteria** is the responsibility of the NKAS physician and the donor surgeon.  Following allocation, the transplant nephrologist or surgeon may request a biopsy where one was not planned, following discussion with the NKAS physician and/or the donor surgeon. This is unusual, as the criteria for mandatory biopsy cover most circumstances where a biopsy may be helpful.  In most cases therefore, a decision to biopsy will already be taken prior to donor surgery proceeding.  If no biopsy was mandated or requested prior to donor surgery, **the donor surgeon must proceed to biopsy based on intraoperative findings as below\***, or may elect to in other circumstances at their judgement.  **Donor biopsy criteria**  Biopsy of deceased donor kidneys is **mandatory** if (any of):   * Age > 65 years * History of hypertension > 10 years * Chronic renal impairment including reduced eGFR and/or proteinuria * Diabetes mellitus * Abnormal macroscopic appearance / size\* * Extensive atheroma involving donor aorta or renal arteries\*   **Technique for performing biopsy**   * Generous wedge biopsy about 1 cm long and 0.5 cm deep from both kidneys * Specimens placed on moist gauze in a sterile specimen container * Biopsy reported by Pathologist, Lab Plus, Auckland City Hospital   **Histological reporting**   * Urgent histological processing, examination and reporting – donor co-ordinators to arrange with pathologist * Pathologist calls NKAS physician with report. * Semi-quantitative histological reporting on defined criteria using the modified Remuzzi Schema * The biopsy must contain 25 glomeruli in three sections to be classed as adequate | | | | |
| New Zealand Kidney Score (NZKS, 0 – 12) | | | | |
|  | 0 – 5 % | 6 - 20% | 21 – 50% | > 50% |
| Glomerulosclerosis:  scored as % globally sclerosed of total glomeruli examined | 0 | 1 | 2 | 3 |
| Interstitial fibrosis:  scored as % cortical area involved | 0 | 1 | 2 | 3 |
| Tubular atrophy:  scored as % cortical area involved | 0 | 1 | 2 | 3 |
|  | | | | |
| Vascular lesions: (most severe lesion even if focal) | | | |  |
| Absent | | | | 0 |
| Increased wall thickness but less than diameter of lumen | | | | 1 |
| Wall thickness equal to lumen | | | | 2 |
| Wall thickness far exceeds diameter of lumen with extreme luminal narrowing or occlusion | | | | 3 |
|  | | | | |
| TOTAL NZKS (0 – 12) | | | |  |

Action resulting from biopsy results (NZKS) and surgical assessment

Adult kidneys

Not transplanted:

* Severely scarred, very small or on recommendation of donor surgeon after discussion as above
* Histology: NZKS 7 – 12 or score of 3 in any one category

Offered for dual transplantation:

* Histology: NZKS 4 – 6

All other kidneys offered for single transplantation:

* If, after allocation of a single kidney, a second kidney from the same donor is unable to be allocated but is suitable for transplantation it will be offered for dual transplantation with the first kidney.

Paediatric kidneys

* Donors aged > 3 yrs or weighing > 15 kg should be transplanted as single kidneys into adult or paediatric recipients
* Donors aged < 3 yrs and weighing < 15 kg should be transplanted en bloc into adult recipients

**Kidney Damaged at Retrieval**

Occasionally, a kidney may be damaged during retrieval. This can include inadequate or suboptimal perfusion with preservation fluid.

A kidney that is, in the opinion of the donor surgeon, too damaged for transplantation will not be transplanted (including return to the deceased donor’s body where that is appropriate). Kidneys not used for any reason are audited by the NRTLT.

Where the donor surgeon is of the opinion that the damage will require significant additional steps undertaken by the transplanting surgeon beyond what would be routine, the donor surgeon will:

* Document the damage on the Donor Surgery Report Form, which is placed in the clinical record.
* Discuss the damage and probable surgical approach with the transplanting surgeon at the unit to which the kidney is allocated (noting that the identity of the recipient and therefore the transplant surgeon may not be known immediately).

The transplanting surgeon who is receiving the damaged kidney will:

* Ensure they are comfortable with undertaking the transplant procedure with any additional steps required.
* Discuss the nature and estimated impact of the damage on the recipient’s operation and the probability of successful transplantation with the recipient as part of the informed consent process.

If the transplanting surgeon is unable to accept the kidney for any reason, the kidney offer will be declined. The transplanting surgeon should indicate whether they are declining the kidney entirely, or only for the recipient to whom it has been allocated. This should be communicated directly to the local transplant nephrologist, who will inform the NKAS physician.

The kidney will then be offered to the next person as per the NKAS (although where the kidney has been declined for any recipient at a transplant unit, patients from that unit will be omitted from subsequent allocations for the damaged kidney).

**Order of organ offers**

The highest ranked recipient receives the first offer.

Where two kidneys are available for allocation, the left kidney is offered first, unless in the opinion of the donor surgeon, the right kidney is anatomically preferred for transplantation. Following a discussion with the NKAS physician, the right kidney may be offered first.

If the first kidney is not accepted for the first ranked recipient for any reason, and there are two available, the second kidney should subsequently be offered to the highest ranked recipient. Only after acceptance of one (or declining both kidneys) should the any available kidneys be offered to the next highest ranked recipient.