Organ retrieval and transplantation surgery:

Living-donor Nephrectomy: The endoscopic (laparoscopic) approach is the preferred technique for living-donor nephrectomy in established kidney transplant programmes. Open surgery, preferably by a mini-incision approach, can still be considered a valid option, despite increased pain in the post-operative period.

Donor Kidney Biopsies: Procurement biopsies are used for the detection of tissue injury to aid the decision of whether or not a deceased donor kidney is suitable for transplantation. There is no consistent association between histological lesions observed in donor kidney biopsies and post-transplant outcomes and there is no agreement on prognostically relevant lesions and how they should be scored. Size of the biopsy is of critical importance for its diagnostic value. An adequate biopsy reaches beyond the immediate subcapsular area (≥ 5 mm) and contains ≥ 25 glomeruli and ≥ one artery.

Implantation biopsies: are used to provide baseline information on donor kidney injury for comparison with subsequent post-transplant kidney biopsies and can be essential for clear distinction between pre-existing damage and acquired lesions.

In contrast to procurement biopsies implantation biopsies are usually taken before implantation in order to cover potential effects of CIT.

Living and deceased donor implantation surgery:

1. Anaesthetic and peri-operative aspects: Good communication between nephrologists, anaesthetists and surgeons is required for optimal anaesthetic and peri-operative care of the renal transplant patient.

2. Immediate pre-op haemodialysis:

3. Operating on patients taking anti-platelet and anti-coagulation agents: continuing anti-platelet therapy with aspirin, ticlopidine or clopidogrel does not confer a significantly greater risk of peri/post-operative complications.

4. What measures should be taken to prevent venous thrombosis including deep vein thrombosis during and after renal transplant?

5. Is there a role for peri-operative antibiotics in renal transplantation?: Prophylactic peri-operative antibiotics are generally used in renal transplant surgery but the optimal antibiotic regimen is not known and increasing antibiotic resistance may hamper their effectiveness in this setting.

6. Is there a role for specific fluid regimes during renal transplantation and central venous pressure measurement in kidney transplant recipients?: Careful peri- and post-operative fluid balance is essential for optimal renal graft function. Central venous pressure (CVP) measurement helps anaesthetists guide fluid management.

7. Is there a role for dopaminergic drugs, furosemide or mannitol in renal transplantation? There is insufficient evidence to recommend the routine use of low-dose dopamine, diuretics or mannitol during renal transplant recipient surgery.