Renal Departmental Transplant Guidelines

A. Drug target levels

Cyclosporin A	**Trough level**
3- 6 months	150 - 175
6 - 12 months	125 - 150
12 - 18 months	100 - 125
18 months +	60 - 100

Tacrolimus

3 - 6 months	6 - 8	for SPK patients	10 -12
6 - 12 months	5 - 7		
12 - 18 months	4 - 6		8 - 10
18 - 24 months	3 - 5		
24 months	3 - 5		6 - 8

Sirolimus:

3- 12 months	10 - 14
12 months +	8 - 10

Azathioprine

0 - 12 months	2mg/kg/day or 150mg
12 - 24 months	1mg/kg/day
24 months +	Maintenance 50mg daily

MMF

Up to 12months:	1g b.d. (if tolerates)
12 - 24 months:	750mg b.d.
24 + months:	500mg b.d.

Prednisolone:

Reduce to 5mg/day by 6 months

Further reduction or discontinuation in selected cases e.g. DM, OP, ..

The above stated ranges are for guidance and there may be specific clinical factors at play which result in target level required; for example patients with BK virus (refer to protocol) or cancer.

B. Cholesterol

There is limited evidence that treatment of hypercholesterolaemia in renal transplantation is beneficial. ALERT study suggested need to treat 30 patients for 6 to 7 years to reduce 1 MACDE.

All patients should have **fasting cholesterol** prior to starting therapy and CV Risk assessed using QRISK2 prior to commencement of therapy. If treatment required, then use Fluvastatin (less drug interactions) titrating to 80mg nocte or maximum tolerated.

Monitor at least annually with random cholesterol and HDL value

C. Blood pressure management

BP target ranges for general population are used:

BP <140/90mmHg unless ACR>70mg/mmol and / or diabetic then the target is <130/85mmHg.

ACEi or ARBs only to be used in the setting of proteinuria @ ACR>70mg/mmol

D. Bone management

DEXA scan should be performed on all newly transplanted patients within the first 6 months. If abnormal, treat as appropriate and recheck in 3 years. PTH should be checked annually until either normal or stable at <x2 upper limit of normal range.

If PTH >x5 upper limit of NR >2 years post-transplant then investigate.

E. Surveillance

a. Annual dermatology review
b. Smear test in women < 50 years
c. Native renal USS @ 1 year, 3 years and 3 yearly thereafter

F. Conversion protocols

1. Sirolimus conversion from CNIs

Conversion is abrupt and should only be performed in patients >1 year post transplant. The Prednisolone, Azathioprine and or MMF medication are continued at their current dosages.

CNI discontinued the night before. Sirolimus given on the following day at 4mg. The dose is adjusted according to levels on days 7 & 14 following conversion.

Check U&Es and Sirolimus levels @ week 1 and week 3, if stable then at review. Check lipids 3 weeks post conversion

Complications:

Mouth ulcers:

Dose reduction to lower end of therapeutic range.

Treat with bonjela and difflam mouth wash

Pregnancy: avoid usage.

Women who could potentially become pregnant should use the OCP whilst on treatment.

Young men should be counselled about the potential risk of reduced fertility.

Hypercholesterolaemia / Hypertriglyceridaemia:

Treat as appropriate with stains & fibrates.

Anaemia / leucopenia: review & reduce dosage, consider EPO therapy.

Proteinuria: Check urinalysis; if positive for proteinuria then obtain ACR prior to conversion, monitor at each subsequent visit with urinalysis and if increasing proteinuria on dipstix check ACR. For sub-nephrotic proteinuria consider ACEi/ARB, however if nephrotic range proteinuria develops then discontinue Sirolimus and switch back to CNI.

2. MMF conversion from CNIs

Patients on triple immunosuppressive therapy:

Prednisolone dosage left unchanged.

Discontinue the Azathioprine.

Commence Mycophenolate mofetil at 250mg b.d.

Increase by 500mg weekly until 1g b.d. (or max tolerated)

Only then reduce CNI dosage by 25% fortnightly until discontinued

Patients will need U&Es & FBC to be monitored fortnightly during introduction of MMF & similarly during CNI dose reduction.

For patients on dual immunosuppressive therapy: (AZA & CNI)

The same strategy for introduction of MMF should be adopted, however the target is to minimise the CNI not discontinue. CNI reduction should be 20% fortnightly until a Cyclosporin trough @ 60 - 80µg/l or a Tacrolimus trough @ 2 -3ng/l.