UCMC – Deceased Donor Kidney Transplant Immunosuppressive Guidelines

Population *Defined by these RISK Categories (RC)* At time of Tx select LOW, NORMAL or HIGH RC. Over time post-Tx, may need to transition to Oliguric ATN/Delayed CrCl/Slow Graft Function (SGF) RC based on clinical situation.	Induction *Rabbit antithymocyte globulin (Thymoglobulin®)* [4,5]	Steroids	Antimetabolite *Mycophenolate Mofetil (Cellcept®)* [10]	Calcineurin Inhibitor	
				Tacrolimus (Prograf®)	*Tacrolimus Target Levels*
RC: Low Risk[1] • Age > 65 years or 0 antigen mismatch (not HLA identical) • No immunologic risk factors[2]	**1.5mg/kg/dose** 3 doses: POD #0, 1, 2 Total dose = 4.5mg/kg *Initiate intraoperatively* Consider Basiliximab[6] when KDPI < 85% and CIT < 24 hours	Taper[7,8,9] Initiate PERI-op	**1000mg PO BID** Initiate PRE operatively	**Starting dose 0.1mg/kg/day divided in 2 daily doses**[11, 12] Max 8mg PO BID Initiate by POD #1[13]	POD #0-89: 10-12 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history
RC: Low Risk African American[1] • Age > 65 years • African American • No additional immunologic risk factors[2]	**1.5mg/kg/dose** 3 doses: POD #0, 1, 2 Total dose = 4.5mg/kg *Initiate intraoperatively*	Taper[7,8,9] Initiate PERI-op	**1000mg PO BID** Initiate PRE operatively	**Starting dose 0.2mg/kg/day divided in 2 daily doses** Max 8mg PO BID Initiate by POD #1	POD #0-89: 10-15 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history
RC: Normal Risk[1] • Age ≤ 65 years • No immunologic risk factors[2]	**1.5mg/kg/dose** 4 doses: POD #0, 1, 2, 3 Total dose = 6mg/kg *Initiate intraoperatively*	Taper[7,8,9] Initiate PERI-op	**1000mg PO BID** Initiate PRE operatively	**Starting dose 0.1mg/kg/day divided in 2 daily doses**[11] Max 8mg PO BID Initiate by POD #1	POD #0-89: 10-15 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history
RC: High Risk[1] • One or more immunologic risk factor[2]	**1.5mg/kg/dose** 5 doses: POD #0, 1, 2, 3, 4 Total dose = 7.5mg/kg *Initiate intraoperatively*	Taper[7,8,9] Initiate PERI-op	**1000mg PO BID** Initiate PRE operatively	**Starting dose 0.1mg/kg/day divided in 2 daily doses**[11] Max 8mg PO BID Initiate by POD #1	POD #0-89: 10-15 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history
RC: Oliguric ATN/Delayed CrCl/SGF[1,3] • UOP < 250ml in first 12 hours • UOP < 500ml in first 24 hours • No ↓ SCr by > 10% in first 48 hours	**1.5mg/kg/dose given POD #0, 1, then every other day** 3-5 doses based on physician discretion	Taper[7,8,9] Initiate PERI-op	**1000mg PO BID** Initiate PRE operatively	**2mg PO BID**[14] Initiate by POD #1	Until SCr ↓ ≥ 50% of pre-Tx: 6-10 ng/mL *Then…* POD #0-89: 10-15 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history

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[1]Oliguric ATN/Delayed CrCl/SGF
If patient experiences oliguric ATN, delayed CrCl, or SGF: refer to the Oliguric ATN/Delayed CrCl/SGF guideline as appropriate. *Note: Any patient experiencing Oliguric ATN/Delayed CrCl/SGF who is not in a research protocol will receive immunosuppression based on these guidelines, regardless of regimen initiated at transplant.*

[2]Immunologic Risk Factors:
- Repeat renal transplant (for kidney after liver transplant recipients, only give 3 doses of Thymoglobulin on POD #0, 1, 2)
- Type 1 diabetes
- African American ≤ 65 years
- cPRA: per provider discretion (strong consideration if cPRA >80%)
- Positive DSA
- Positive T or B cell flow crossmatch with a positive DSA
- Female recipient with exposure to paternal antigen

[3]Oliguric ATN/Delayed CrCl/SGF
Consider performing kidney allograft biopsy at 7-10 days post-transplant, then weekly until kidney function starts to recover

[4]Thymoglobulin®
- Use pre-op weight on day of transplant for dose calculations
- Round doses to nearest 25 mg
- Premedication: administer 30 minutes before dose
  - Steroids = 500mg methylprednisolone pre-op for first dose then daily steroid taper
  - Acetaminophen 650mg PO
  - Diphenhydramine 25mg PO
- Administration: 1st dose over 24 hours and subsequent doses over 4-6 hours. Decrease rate if adverse events occur or if patient becomes hemodynamically unstable

[5]Thymoglobulin® recommended dose adjustments

Laboratory parameter	Adjustment	Comments
ANC >1200 cells/μL AND PLT > 80,000 cells/μL	None	Complete held or decreased dose at next dosing interval (to ensure total dose of either 4.5mg/kg, 6mg/kg, or 7.5mg/kg, as appropriate)
ANC ≤ 1200 cells/μL OR PLT ≤ 80,000 cells/μL	Reduce dose by 50%	
ANC ≤ 800 cells/μL OR PLT ≤ 50,000 cells/μL	Hold dose	

[6]Basiliximab (Simulect®) 20mg induction x 2 doses (see criteria for use above)
- 2 doses: POD #0 (initiate intraoperatively) and POD #3-4 (can be administered peripherally as an outpatient)

[7]STEROID Administration
Administer methylprednisolone prior to rabbit antithymocyte globulin (Thymoglobulin®) dose when appropriate

[8]STEROID Taper

POD	0	1	2	3	4	5	6	7
Methylprednisolone IV	500	250	125	80	--	--	--	--
Prednisone PO	--	--	--	--	60	40	30	20

POD 8: DISCONTINUE steroids

[9]CRITERIA for STEROID continuation:
Consider continuing prednisone 5mg PO daily indefinitely if the following:
- History of biopsy-proven IgA nephropathy
- DSA ≥ 4000 MFI prior to transplant
- Chronic prednisone use at time of transplant

[10]Mycophenolate recommended dose adjustments

Laboratory parameter	Adjustment
Mycophenolate mofetil (MMF)	
WBC ≤ 3000 cells/μL	Refer to leukopenia management guideline MPA AUC methodology can be found in the PK monitoring of mycophenolate mofetil (Cellcept®) guidelines
ANC ≤ 1500 cells/μL	

[11]For African Americans: consider tacrolimus starting dose of 0.2 mg/kg/day divided in 2 daily doses
[12]If using basiliximab induction: use tacrolimus starting dose of 0.2 mg/kg/day divided in 2 daily doses. Use weight-based dosing of tacrolimus to rapidly obtain therapeutic levels, with no maximum starting dose
[13]If using basiliximab induction: initiate tacrolimus on POD #0
[14]For African Americans: start tacrolimus at 4 mg PO BID