

UCMC – Living Donor Kidney Transplant Immunosuppressive Guidelines

Population <i>Defined by these RISK Categories (RC)</i> 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	Steroids	Antimetabolite <i>Mycophenolate Mofetil (Cellcept®)</i> ¹⁰	Calcineurin Inhibitor	
				<i>Tacrolimus (Prograf®)</i>	<i>Tacrolimus Target Levels</i>
RC: Low Risk¹ <ul style="list-style-type: none"> Age > 65 years or 0 antigen mismatch (not HLA identical) No immunologic risk factors² 	Basiliximab (Simulect®)⁴ 20 mg IV 2 doses: POD #0 and POD #3-4 <i>Initiate intraoperatively</i>	Taper ^{7,8,9} Initiate PERI-op	1000mg PO BID Initiate PRE operatively	Starting dose 0.2mg/kg/day divided in 2 daily doses¹¹ Use weight-based dosing to rapidly obtain therapeutic levels Initiate on POD #0	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 American¹ <ul style="list-style-type: none"> Age > 65 years African American No additional immunologic risk factors² 	Rabbit antithymocyte globulin^{5,6} (Thymoglobulin®) 1.5mg/kg/dose 3 doses: POD #0, 1, 2 Total dose = 4.5mg/kg <i>Initiate intraoperatively</i>	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 Risk¹ <ul style="list-style-type: none"> Age ≤ 65 years No immunologic risk factors² 	Rabbit antithymocyte globulin^{5,6} (Thymoglobulin®) 1.5mg/kg/dose 4 doses: POD #0, 1, 2, 3 Total dose = 6mg/kg <i>Initiate intraoperatively</i>	Taper ^{7,8,9} Initiate PERI-op	1000mg PO BID Initiate PRE operatively	Starting dose 0.1mg/kg/day divided in 2 daily doses¹¹ 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 Risk¹ <ul style="list-style-type: none"> One or more immunologic risk factor² 	Rabbit antithymocyte globulin^{5,6} (Thymoglobulin®) 1.5mg/kg/dose 5 doses: POD #0, 1, 2, 3, 4 Total dose = 7.5mg/kg <i>Initiate intraoperatively</i>	Taper ^{7,8,9} Initiate PERI-op	1000mg PO BID Initiate PRE operatively	Starting dose 0.1mg/kg/day divided in 2 daily doses¹¹ 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

<p>RC: Oliguric ATN/Delayed CrCl/SGF^{1,3}</p> <ul style="list-style-type: none"> • UOP < 250ml in first 12 hours • UOP < 500ml in first 24 hours • No ↓ SCr by > 10% in first 48 hours 	<p>Rabbit antithymocyte globulin^{5,6} (Thymoglobulin®) 1.5mg/kg/dose given POD #0, 1, then every other day 3-5 doses based on physician discretion</p>	<p>Taper^{7,8,9} Initiate PERI-op</p>	<p>1000mg PO BID Initiate PRE operatively</p>	<p>2mg PO BID¹² Initiate by POD #1</p>	<p>Until SCr ↓ ≥ 50% of pre-Tx: 6-10 ng/mL</p> <p>Then...</p> <p>POD #0-89: 10-15 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history</p>
<p>HLA Identical</p> <p><i>Patients with all of the following:</i></p> <ul style="list-style-type: none"> • 2 haplotype match (0 mismatch for A, B, C, DR, DQ, DP) • Recipients of a living-related kidney transplant • No pre-existing DSA or positive crossmatch <p><i>Exclusion criteria:</i></p> <ul style="list-style-type: none"> • Recipient of another transplanted organ • Recipients of deceased donor kidney transplant <p style="text-align: center;">Refer to UCMC Kidney Transplant Immunosuppressant Guidelines: HLA Identical Guidelines</p>					

¹Oliguric 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.*

²Immunologic 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

³Oliguric ATN/Delayed CrCl/SGF

Consider performing kidney allograft biopsy at 7-10 days post-transplant, then weekly until kidney function starts to recover

⁴Basiliximab Administration

Second dose can be administered peripherally as an outpatient

⁵Thymoglobulin®

- 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

⁶Thymoglobulin® 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	

⁷STEROID Administration

Administer methylprednisolone prior to rabbit antithymocyte globulin (Thymoglobulin®) dose when appropriate

⁸STEROID 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

⁹CRITERIA 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

¹⁰Mycophenolate 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	

¹¹For African Americans: consider tacrolimus starting dose of 0.2 mg/kg/day divided in 2 daily doses

¹²For African Americans: start tacrolimus at 4 mg PO BID

