## UCMC – Living 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.

<table>
<thead>
<tr>
<th>RC: Low Risk¹</th>
<th>Induction</th>
<th>Steroids</th>
<th>Antimetabolite Mycophenolate Mofetil (Cellcept*)¹⁰</th>
<th>Calcineurin Inhibitor Tacrolimus (Prograf*)</th>
<th>Tacrolimus Target Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basiliximab (Simulect*)⁴</td>
<td>20 mg IV 2 doses: POD #0 and POD #3-4</td>
<td>Taper⁷,⁸,⁹ Initiate PERI-op</td>
<td>1000mg PO BID Initiate PRE operatively</td>
<td>Starting dose 0.2mg/kg/day divided in 2 daily doses¹¹</td>
<td>POD #0-89: 10-12 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history</td>
</tr>
<tr>
<td>RC: Low Risk African American¹</td>
<td>Rabbit antithymocyte globulin⁵,⁶ (Thymoglobulin*) 1.5mg/kg/dose 3 doses: POD #0, 1, 2 Total dose = 4.5mg/kg</td>
<td>Taper⁷,⁸,⁹ Initiate PERI-op</td>
<td>1000mg PO BID Initiate PRE operatively</td>
<td>Starting dose 0.2mg/kg/day divided in 2 daily doses Max 8mg PO BID</td>
<td>POD #0-89: 10-15 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history</td>
</tr>
<tr>
<td>RC: Normal Risk¹</td>
<td>Rabbit antithymocyte globulin⁵,⁶ (Thymoglobulin*) 1.5mg/kg/dose 4 doses: POD #0, 1, 2, 3 Total dose = 6mg/kg</td>
<td>Taper⁷,⁸,⁹ Initiate PERI-op</td>
<td>1000mg PO BID Initiate PRE operatively</td>
<td>Starting dose 0.1mg/kg/day divided in 2 daily doses¹¹ Max 8mg PO BID</td>
<td>POD #0-89: 10-15 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history</td>
</tr>
<tr>
<td>RC: High Risk¹</td>
<td>Rabbit antithymocyte globulin⁵,⁶ (Thymoglobulin*) 1.5mg/kg/dose 5 doses: POD #0, 1, 2, 3, 4 Total dose = 7.5mg/kg</td>
<td>Taper⁷,⁸,⁹ Initiate PERI-op</td>
<td>1000mg PO BID Initiate PRE operatively</td>
<td>Starting dose 0.1mg/kg/day divided in 2 daily doses¹¹ Max 8mg PO BID</td>
<td>POD #0-89: 10-15 ng/mL POD #90-364: 8-10 ng/mL POD #≥365: 6-8 ng/mL if no rejection history</td>
</tr>
</tbody>
</table>

¹ 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.

² No immunologic risk factors

³ African American

⁴ Basiliximab (Simulect®) 20 mg IV 2 doses: POD #0 and POD #3-4

⁶ Rabbit antithymocyte globulin (Thymoglobulin®) 1.5mg/kg/dose 3 doses: POD #0, 1, 2 Total dose = 4.5mg/kg

⁷ Initiate PRE operatively

⁸ Initiate intraoperatively

⁹ Initiate PERI-op

¹⁰ Mycophenolate Mofetil (Cellcept®)

¹¹ 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

October 2018
**RC: Oliguric ATN/Delayed CrCl/SGF**

- UOP < 250ml in first 12 hours
- UOP < 500ml in first 24 hours
- No ↓ Scr by > 10% in first 48 hours

**Rabbit antithymocyte globulin**

1.5mg/kg/dose given POD #0, 1, then every other day 3-5 doses based on physician discretion

**Taper**

- Initiate PERI-op

**1000mg PO BID**

Initiate PRE operatively

**2mg PO BID**

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

---

**HLA Identical**

**Patients with all of the following:**

- 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

**Exclusion criteria:**

- Recipient of another transplanted organ
- Recipients of deceased donor kidney transplant

Refer to UCMC Kidney Transplant Immunosuppressant Guidelines: HLA Identical Guidelines

---

**Thymoglobulin**

Recommend dose adjustments

<table>
<thead>
<tr>
<th>Laboratory parameter</th>
<th>Adjustment</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANC &gt;1200 cells/µL AND PLT &gt; 80,000 cells/µL</td>
<td>None</td>
<td>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)</td>
</tr>
<tr>
<td>ANC ≤ 1200 cells/µL OR PLT ≤ 80,000 cells/µL</td>
<td>Reduce dose by 50%</td>
<td></td>
</tr>
<tr>
<td>ANC ≤ 800 cells/µL OR PLT ≤ 50,000 cells/µL</td>
<td>Hold dose</td>
<td></td>
</tr>
</tbody>
</table>

**Steroid Administration**

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

**Steroid Taper**

<table>
<thead>
<tr>
<th>POD</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methylprednisolone IV</td>
<td>500</td>
<td>250</td>
<td>125</td>
<td>80</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Prednisone PO</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>60</td>
<td>40</td>
<td>30</td>
<td>20</td>
</tr>
</tbody>
</table>

**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

**Mycophenolate recommended dose adjustments**

<table>
<thead>
<tr>
<th>Laboratory parameter</th>
<th>Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>WBC ≤ 3000 cells/µL</td>
<td>Refer to leukopenia management guideline</td>
</tr>
<tr>
<td>MPA AUC methodology can be found in the PK monitoring of mycophenolate mofetil (Cellcept®) guidelines</td>
<td></td>
</tr>
<tr>
<td>ANC ≤ 1500 cells/µL</td>
<td></td>
</tr>
</tbody>
</table>

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

For African Americans: start tacrolimus at 4 mg PO BID

---

**Notes:**

- 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

---

October 2018