UCMC Kidney Transplant Guidelines
Treatment of Biopsy Proven Acute Cellular Rejection
For Recipients on Calcineuin Inhibitor (CNI)-based Immunosuppressive Regimens

I. Treat episodes of rejection according to Banff classification as described in table below
II. For ALL episodes, obtain MPA AUC and then adjust mycophenolate mofetil (Cellcept®) dose per MPA Monitoring Guidelines.
III. Repeat biopsy depends on response to treatment
   a. Repeat biopsy: if SCr increases during therapeutic dose CNI treatment OR if no improvement at 7 days.
   b. Do not repeat biopsy: if SCr returns to baseline ± 10% within 10 days of treatment
IV. All patients experiencing a recurrent rejection of Banff 1997 (updated 2007) IA or greater should receive rabbit antithymocyte globulin (Thymoglobulin®) and enhanced immunosuppression. Consider transitioning patient to tacrolimus-based regimen if on cyclosporine and/or adding maintenance corticosteroid therapy
V. If possible, patients should have their labs drawn at UCMC or at West Chester Hospital in order to expedite laboratory turnaround times

TREATMENT OF REJECTION BASED ON BANFF GUIDELINES

BORDERLINE REJECTION

Enhance baseline immunosuppression and rebiopsy at 7-10 days ; if SCr worsens, repeat biopsy sooner

1A REJECTION – BANFF 1997 (UPDATED 2007)

First Line: corticosteroids

Methylprednisolone 500mg IV x 3 doses (Days 1-3)
Follow with oral prednisone taper:

Day	4	5	6	7	8	9	10	11 +
Prednisone dose (mg)	200	160	120	80	40	20	10	5

Decision to taper prednisone to less than 5mg daily per physician discretion

Second line: Rabbit antithymocyte globulin (Thymoglobulin®)

Rabbit antithymocyte globulin (Thymoglobulin®) 1.5mg/kg/day over 4-6 hours
Premedicate with:
- Diphenhydramine (Benadryl®) 25mg
- Acetaminophen (Tylenol®) 650mg
- Corticosteroids
  - 1st dose: methylprednisolone 250 mg
  - 2nd dose: methylprednisolone 125 mg
  - No steroids thereafter unless infusion reactions to rabbit antithymocyte globulin (Thymoglobulin®)

Target 7 days of CD3 suppression (absolute CD3 count < 25 cells/μL)[1]
- Order scheduled CD3 counts (via transplant monitor panel)

[1]If CD3 count is unavailable, can target absolute lymphocyte count <70 /μL

Note: if lymphocyte-depleting therapy is used to treat rejection, the prophylactic medications must be recycled. Restart PCP and antiviral prophylaxis as per current post-transplant infectious prophylaxis guidelines

<table>
<tr><th colspan="2">1B OR HIGHER GRADE REJECTION – BANFF 1997 (UPDATED 2007)</th></tr>
<tr><td rowspan="3">First line:
Rabbit antithymocyte globulin (Thymoglobulin®) AND corticosteroids</td><td>Rabbit antithymocyte globulin (Thymoglobulin®) 1.5mg/kg/day over 4-6 hours
Premedicate with:
• Diphenhydramine (Benadryl®) 25mg
• Acetaminophen (Tylenol®) 650mg
• Corticosteroids: as per steroid taper below
Target CD3 suppression (absolute CD3 count < 25 cells/μL)[1]:
• Banff IB: 7 days
• Banff IIA: 10 days
• Banff ≥ IIB: 14 days
• Order scheduled CD3 counts (via transplant monitor panel)</td></tr>
<tr><td>Steroid taper:
<table>
<tr><th>Day</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9 +</th></tr>
<tr><td>Methylprednisolone IV dose (mg)</td><td>250</td><td>250</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td></tr>
<tr><td>Prednisone PO dose (mg)</td><td>--</td><td>--</td><td>160</td><td>120</td><td>80</td><td>40</td><td>20</td><td>10</td><td>5</td></tr>
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Decision to taper prednisone to less than 5mg daily per physician discretion</td></tr>
<tr><td>Consider long-term steroids if rejection is Banff 1997 (updated 2007) ≥IIB</td></tr>
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Note: if lymphocyte-depleting therapy is used to treat rejection, the prophylactic medications must be recycled. Restart PCP and antiviral prophylaxis as per current post-transplant infectious prophylaxis guidelines