April 10, 2019

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Dear Sir or Madam:

As a compendium recognized by the Centers for Medicare and Medicaid Services (CMS), Medicare Part D plans utilize the information in Micromedex® DRUGDEX® for determination of medically-accepted off-label indications. This determination is critical, as it dictates whether a drug claim will be reliably paid by a Medicare Part D plan for a specific beneficiary. Current monographs for many immunosuppressive drugs in Micromedex® DRUGDEX® do not adequately address off-label organ transplant uses. As a result, transplant recipients are vulnerable to, and some have experienced, denial of coverage by Part D plans for their lifesaving immunosuppressive drug therapy.

The American Society of Transplantation became aware of this issue in 2016 and formalized a position (Appendix A). Per our proposed approaches for resolution, we hereby implore you to review your Micromedex® DRUGDEX® content on the following drugs, and consider expanding your "Non-FDA Uses" section to include the off-label indications listed below (these are also summarized in Appendix B):

1. Tacrolimus
    a. Add vascular composite allograft rejection, prophylaxis
2. Cyclosporine
    a. Add pancreas transplant rejection, prophylaxis
3. Mycophenolate mofetil
    a. Add lung transplant rejection, prophylaxis
    b. Add intestine transplant rejection, prophylaxis
    c. Add vascular composite allograft rejection, prophylaxis
4. Mycophenolate sodium
    a. Add liver transplant rejection, prophylaxis
    b. Add heart transplant rejection, prophylaxis
    c. Add lung transplant rejection, prophylaxis
    d. Add pancreas transplant rejection, prophylaxis
5. Azathioprine
    a. Add heart transplant rejection, prophylaxis
    b. Add lung transplant rejection, prophylaxis
    c. Add intestine transplant rejection, prophylaxis
6. Leflunomide
    a. Add kidney transplant rejection, prophylaxis
    b. Add liver transplant rejection, prophylaxis

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GOVERNMENT RELATIONS
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7. Sirolimus
    a. Add liver transplant rejection, prophylaxis
    b. Add heart transplant rejection, prophylaxis
    c. Add lung transplant rejection, prophylaxis
    d. Add pancreas transplant rejection, prophylaxis
    e. Add intestine transplant rejection, prophylaxis
8. Everolimus
    a. Add heart transplant rejection, prophylaxis
    b. Add lung transplant rejection, prophylaxis
    c. Add pancreas transplant rejection, prophylaxis
9. Belatacept
    a. Add liver transplant rejection, prophylaxis
    b. Add heart transplant rejection, prophylaxis
    c. Add lung transplant rejection, prophylaxis
    d. Add pancreas transplant rejection, prophylaxis
10. Basiliximab
    a. Add heart transplant rejection, prophylaxis
    b. Add lung transplant rejection, prophylaxis
    c. Add pancreas transplant rejection, prophylaxis
    d. Add intestine transplant rejection, prophylaxis
11. Rabbit antithymocyte globulin
    a. Add liver transplant rejection, prophylaxis
    b. Add liver transplant rejection
    c. Add intestine transplant rejection, prophylaxis
    d. Add vascular composite allograft rejection, prophylaxis
12. Alemtuzumab
    a. Add lung transplant rejection, prophylaxis
    b. Add pancreas transplant rejection, prophylaxis
    c. Add intestine transplant rejection, prophylaxis
    d. Add vascular composite allograft rejection
13. Immune globulin
    a. Add liver transplant rejection
    b. Add liver transplant, pre-transplant desensitization
    c. Add heart transplant, pre-transplant desensitization
    d. Add lung transplant rejection
    e. Add pancreas transplant rejection
    f. Add intestine transplant rejection
    g. Add intestine transplant, pre-transplant desensitization
14. Rituximab
    a. Add kidney transplant rejection
    b. Add kidney transplant, pre-transplant desensitization
    c. Add liver transplant rejection
    d. Add liver transplant, pre-transplant desensitization
    e. Add heart transplant rejection
    f. Add heart transplant, pre-transplant desensitization
    g. Add lung transplant rejection
    h. Add pancreas transplant rejection
    i. Add intestine transplant rejection, prophylaxis
    j. Add intestine transplant rejection

15. Bortezomib
    a. Add kidney transplant rejection
    b. Add kidney transplant, pre-transplant desensitization
    c. Add liver transplant rejection
    d. Add heart transplant rejection
    e. Add heart transplant, pre-transplant desensitization
    f. Add lung transplant rejection
    g. Add pancreas transplant rejection
    h. Add intestine transplant rejection
16. Carfilzomib
    a. Add lung transplant rejection
17. Eculizumab
    a. Add kidney transplant rejection
    b. Add kidney transplant, pre-transplant desensitization
    c. Add liver transplant rejection
    d. Add lung transplant rejection
    e. Add pancreas transplant rejection
    f. Add intestine transplant rejection
18. Tocilizumab
    a. Add kidney transplant rejection
    b. Add kidney transplant, pre-transplant desensitization
19. Adalimumab
    a. Add intestine transplant rejection
20. Infliximab
    a. Add intestine transplant rejection

We realize that you require at least one citation from the medical literature to support each of these revisions. We have reviewed the literature, and Appendix C contains the citations that we believe meet this need.

Thank you in advance for your attention to this matter.

Sincerely,

Dianne B. McKay, MD
President

Attachments:

- Appendix A: AST Position Statement on Immunosuppressant Drug Coverage Under Medicare Part D Benefit
- Appendix B: Overview of drug/indication pairs with on- or off-label indications already endorsed by Micromedex (green) and those for which we request endorsement (yellow)
- Appendix C: Citations from the medical literature in support of the proposed off-label indication

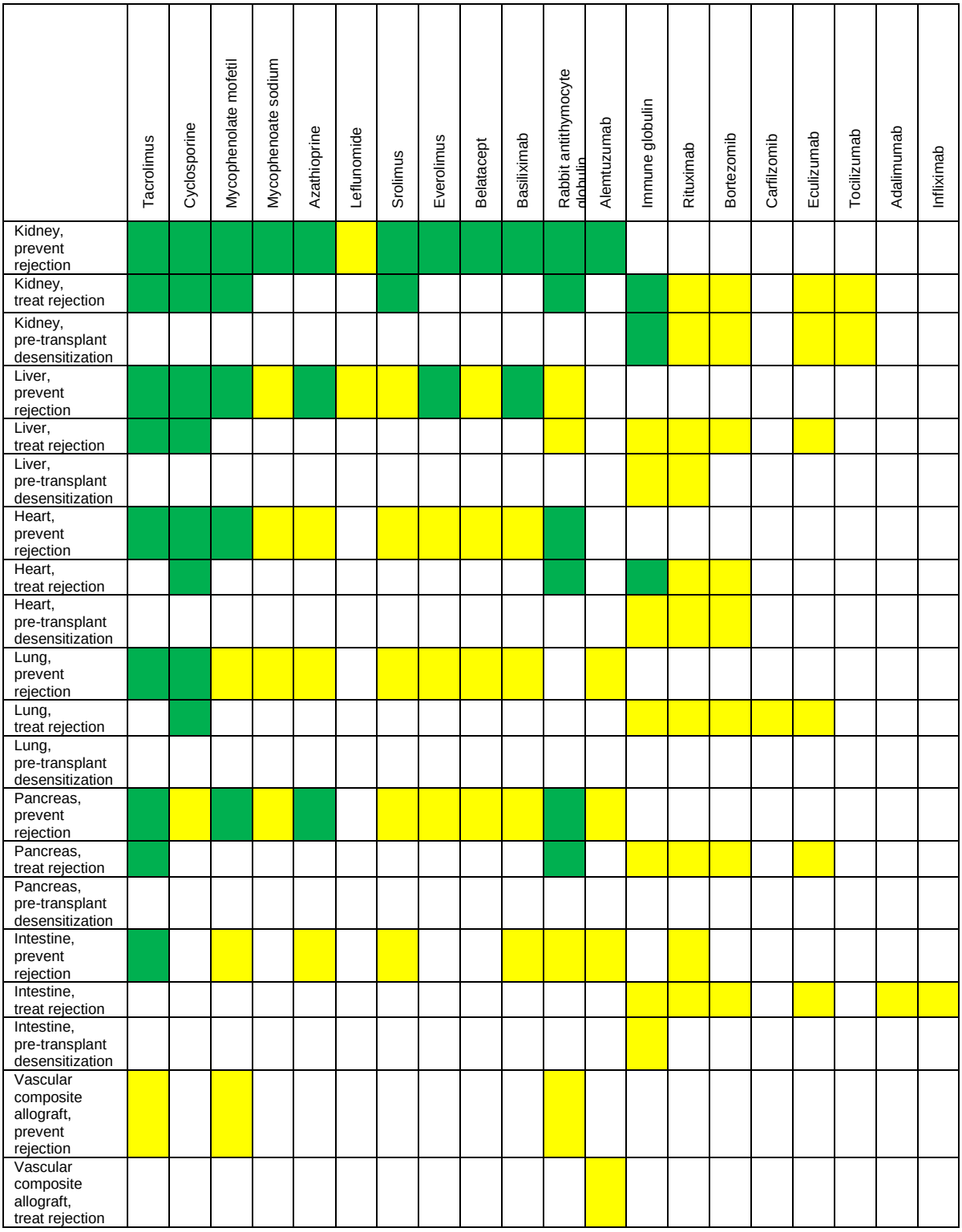
Appendix A:

AST Position Statement on Immunosuppressant Drug Coverage Under Medicare Part D Benefit

https://www.myast.org/public-policy/key-position-statements/immunosuppressant-drug-coverage-under-medicare-part-d-benefit

Appendix B:

Overview of drug/indication pairs with on- or off-label indications already endorsed by Micromedex (green) and those for which we request endorsement (yellow)



Appendix C:

Citations from the medical literature in support of the proposed off-label indication

1. Tacrolimus

    a. Add vascular composite allograft rejection, prophylaxis
        i. Petruzzo P, Kanitakis J, Testelin S, et al. Clinicopathological findings of chronic rejection in a face grafted patient. *Transplantation* 2015; 99(12): 2644-50.
        ii. Petruzzo P, Kanitakis J, Badet L, et al. Long-term follow-up in composite tissue allotransplantation: in-depth study of five (hand and face) recipients. *Am J Transplant* 2011; 11: 808-16.
        iii. Devauchelle B, Badet L, Lengele B, et al. First human face allograft: early report. *Lancet* 2006; 368: 203-09.
        iv. Dubernard JM, Owen E, Herzberg G, et al. Human hand allograft: report on first 6 months. *Lancet* 1999; 353: 1315-20.

2. Cyclosporine

    a. Add pancreas transplant rejection, prophylaxis
        i. Knight RJ, Podder H, Kerman RH, et al. Comparing an early corticosteroid/late calcineurin-free immunosuppression protocol to a sirolimus-, cyclosporine A-, and prednisone-based regimen for pancreas-kidney transplantation. *Transplantation* 2010; 89(6): 727-32.
        ii. Rajab A, Pelletier RP, Ferguson RM, et al. Steroid-free maintenance immunosuppression with rapamune and low-dose neoral in pancreas transplant recipients. *Transplantation* 2007; 84(9): 1131-7.
        iii. Boggi U, Vistoli F, Del Chiaro M, et al. Neoral versus prograf in simultaneous pancreas-kidney transplantation with portal venous drainage: three-year results of a single-center, open-label, prospective, randomized pilot study. *Transplant Proc* 2005; 37(6): 2641-3.
        iv. Boggi U, Vistoli F, Del Chiaro M, et al. Single-center, open, prospective, randomized pilot study comparing cyclosporine versus tacrolimus in simultaneous pancreas-kidney transplantation. *Transplant Proc* 2004; 36(4): 1064-6.

3. Mycophenolate mofetil

    a. Add lung transplant rejection, prophylaxis
        i. McNeil K, Glanville AR, Wahlers T, et al. Comparison of mycophenolate mofetil and azathioprine for prevention of bronchiolitis obliterans syndrome in de novo lung transplant recipients. *Transplantation* 2006; 81(7): 998-1003.
        ii. Zuckermann A, Reichenspurner H, Birsan T, et al. Cyclosporine A versus tacrolimus in combination with mycophenolate mofetil and steroids as primary immunosuppression after lung transplantation:

one-year results of a 2-center prospective randomized trial. *J Thorac Cardiovasc Surg* 2003; 125(4): 891-900.

iii. Palmer SM, Baz MA, Sanders L, et al. Results of a randomized, prospective, multicenter trial of mycophenolate mofetil versus azathioprine in the prevention of acute lung allograft rejection. *Transplantation* 2001; 71(12): 1772-6.

b. Add intestine transplant rejection, prophylaxis
   i. Abu-Elmagd KM, Costa G, Bond GJ, et al. Five hundred intestinal and multivisceral transplantations at a single center: major advances with new challenges. *Ann Surg* 2009; 250(4): 567-81.

c. Add vascular composite allograft rejection, prophylaxis
   i. Petruzzo P, Kanitakis J, Testelin S, et al. Clinicopathological findings of chronic rejection in a face grafted patient. *Transplantation* 2015; 99(12): 2644-50.
   ii. Petruzzo P, Kanitakis J, Badet L, et al. Long-term follow-up in composite tissue allotransplantation: in-depth study of five (hand and face) recipients. *Am J Transplant* 2011; 11: 808-16.
   iii. Devauchelle B, Badet L, Lengele B, et al. First human face allograft: early report. *Lancet* 2006; 368: 203-09.
   iv. Dubernard JM, Owen E, Herzberg G, et al. Human hand allograft: report on first 6 months. *Lancet* 1999; 353: 1315-20.

4. Mycophenolate sodium

a. Add liver transplant rejection, prophylaxis
   i. Saliba F, Duvoux C, Gugenheim J, et al. Efficacy and safety of everolimus and mycophenolic acid with early tacrolimus withdrawal after liver transplantation: a multicenter randomized trial. *Am J Transplant* 2017; 17(7): 1843-52.
   ii. Wang Z, He JJ, Liu XY, et al. The evaluation of enteric-coated mycophenolate sodium in cardiac deceased donor liver transplant patients in China. *Immunopharmacol Immunotoxicol* 2015; 37(6): 508-12.
   iii. Manzia TM, Sforza D, Angelico R, et al. Everolimus and enteric-coated mycophenolate sodium ab initio after liver transplantation: midterm results. *Transplant Proc* 2012; 44(7): 1942-5.
   iv. Cantisani GPC, Zanotelli ML, Gleisner ALM, et al. Enteric-coated mycophenolate sodium experience in liver transplant patients. *Transplant Proc* 2006; 38(3): 932-3.

b. Add heart transplant rejection, prophylaxis
   i. Lehmkuhl H, Hummel M, Kobashigawa J, et al. Enteric-coated mycophenolate-sodium in heart transplantation: efficacy, safety, and pharmacokinetic compared with mycophenolate mofetil. *Transplant Proc* 2008; 40(4): 953-5.
   ii. Kobashigawa JA, Renlund DG, Gerosa G, et al. Similar efficacy and safety of enteric-coated mycophenolate sodium (EC-MPS, myfortic) compared with mycophenolate mofetil (MMF) in de novo

heart transplant recipients: results of a 12-month, single-blind, randomized, parallel-group, multicenter study. *J Heart Lung Transplant* 2006; 25(8): 935-41.

c. Add lung transplant rejection, prophylaxis
    i. Glanville AR, Aboyoun C, Klepetko W, et al. Three-year results of an investigator-driven multicenter, international, randomized open-label de novo trial to prevent BOS after lung transplantation. *J Heart Lung Transplant* 2015; 34(1): 16-25.

d. Add pancreas transplant rejection, prophylaxis
    i. Belliere J, Esposito L, Gandia P, et al. Comparison of the exposure of mycophenolate mofetil and enteric-coated mycophenolate sodium in recipients of kidney-pancreas transplantation. *Ann Transplant* 2014; 19: 76-81.

5. Azathioprine

a. Add heart transplant rejection, prophylaxis
    i. Keogh A, Macdonald P, Mundy J, et al. Five-year follow-up of a randomized double-drug versus triple-drug therapy immunosuppressive trial after heart transplantation. *J Heart Lung Transplant* 1992; 11(3 Pt 1): 550-5.
    ii. Esmore DS, Spratt PM, Keogh AM, et al. Cyclosporine and azathioprine immunosuppression without maintenance steroids: a prospective randomized trial. *J Heart Transplant* 1989; 8(3): 194-9.
    iii. Barnhart GR, Goldman MH, Hastillo A, et al. Comparison of immunosuppression therapy following heart transplantation: pretransfusion/azathioprine/ATG/prednisone versus cyclosporine/prednisone. *J Heart Transplant* 1985; 4(4): 381-4.

b. Add lung transplant rejection, prophylaxis
    i. Bhorade S, Ahya VN, Baz MA, et al. Comparison of sirolimus with azathioprine in a tacrolimus-based immunosuppressive regimen in lung transplantation. *Am J Respir Crit Care Med* 2011; 183(3): 379-87.
    ii. McNeil K, Glanville AR, Wahlers T, et al. Comparison of mycophenolate mofetil and azathioprine for prevention of bronchiolitis obliterans syndrome in de novo lung transplant recipients. *Transplantation* 2006; 81(7): 998-1003.
    iii. Palmer SM, Baz MA, Sanders L, et al. Results of a randomized, prospective, multicenter trial of mycophenolate mofetil versus azathioprine in the prevention of acute lung allograft rejection. *Transplantation* 2001; 71: 1772-6.

c. Add intestine transplant rejection, prophylaxis
    i. Abu-Elmagd KM, Costa G, Bond GJ, et al. Five hundred intestinal and multivisceral transplantations at a single center: major

advances with new challenges. *Ann Surg* 2009; 250(4): 567-81.

6. Leflunomide

    a. Add kidney transplant rejection, prophylaxis
        i. Williams JW, Mital D, Chong A, et al. Experiences with leflunomide in solid organ transplantation. *Transplantation* 2002; 73(3): 358-66.
        ii. Hardinger KL, Wang CD, Schnitzler MA, et al. Prospective, pilot, open-label, short-term study of conversion to leflunomide reverses chronic renal allograft dysfunction. *Am J Transplant* 2002; 2(9): 867-71.
        iii. Pascual J, Orte J, Marcén R, et al. Use of leflunomide in human renal transplantation. *Transplantation* 2001; 72(10): 1709.

    b. Add liver transplant rejection, prophylaxis
        i. Williams JW, Mital D, Chong A, et al. Experiences with leflunomide in solid organ transplantation. *Transplantation* 2002; 73(3): 358-66.

7. Sirolimus

    a. Add liver transplant rejection, prophylaxis
        i. Geissler EK, Schnitzbauer AA, Zulke C. Sirolimus use in liver transplant recipients with hepatocellular carcinoma: a randomized, multicenter, open-label phase 3 trial. *Transplantation* 2016; 100(1): 116-25.
        ii. Schnitzbauer AA, Sothmann J, Baier L, et al. Calcineurin inhibitor free de novo immunosuppression in liver transplant recipients with pretransplant renal impairment: results of a pilot study (PATRON07). *Transplantation* 2015; 99(12): 2565-75.
        iii. Teperman L, Moonka D, Sebastian A, et al. Calcineurin inhibitor-free mycophenolate mofetil/sirolimus maintenance in liver transplantation: the randomized spare-the-nephron trial. *Liver Transpl* 2013; 19(7): 675-89.
        iv. Watson CJE, Gimson AES, Alexander GJ, et al. A randomized controlled trial of late conversion from calcineurin inhibitor (CNI)-based to sirolimus-based immunosuppression in liver transplant recipients with impaired renal function. *Liver Transpl* 2007; 13(12): 1694-702.
        v. Chang GJ, Mahanty HD, Quan D, et al. Experience with the use of sirolimus in liver transplantation – use in patients for whom calcineurin inhibitors are contraindicated. *Liver Transpl* 2000; 6(6): 734-40.

    b. Add heart transplant rejection, prophylaxis
        i. Guethoff S, Stroeh K, Grinninger C, et al. De novo sirolimus with low-dose tacrolimus versus full-dose tacrolimus with mycophenolate mofetil after heart transplantation--8-year results. *J Heart Lung Transplant* 2015; 34(5): 634-42.

ii. Kaczmarek I, Zaruba MM, Beiras-Fernandez A, et al. Tacrolimus with mycophenolate mofetil or sirolimus compared with calcineurin inhibitor-free immunosuppression (sirolimus/mycophenolate mofetil) after heart transplantation: 5-year results. *J Heart Lung Transplant* 2013; 32(3): 277-84.
iii. Zuckermann A, Keogh A, Crespo-Leiro MG, et al. Randomized controlled trial of sirolimus conversion in cardiac transplant recipients with renal insufficiency. *Am J Transplant* 2012; 12(9): 2487-97.
iv. Meiser B, Buchholz S, Kaczmarek I. De-novo calcineurin-inhibitor-free immunosuppression with sirolimus and mycophenolate mofetil after heart transplantation: 5-year results. *Curr Opin Organ Transplant* 2011; 16(5): 522-8.
v. Groetzner J, Kaczmarek I, Schulz U, et al. Mycophenolate and sirolimus as calcineurin inhibitor-free immunosuppression improves renal function better than calcineurin inhibitor-reduction in late cardiac transplant recipients with chronic renal failure. *Transplantation* 2009; 87(5): 726-33.
vi. Kobashigawa JA, Miller LW, Russell SD, et al. Tacrolimus with mycophenolate mofetil (MMF) or sirolimus vs. cyclosporine with MMF in cardiac transplant patients: 1-year report. *Am J Transplant* 2006; 6(6): 1377-86.
vii. Mancini D, Pinney S, Burkhoff D, et al. Use of rapamycin slows progression of cardiac transplantation vasculopathy. *Circulation* 2003; 108(1): 48-53.

c. Add lung transplant rejection, prophylaxis
i. Bhorade S, Ahya VN, Baz MA, et al. Comparison of sirolimus with azathioprine in a tacrolimus-based immunosuppressive regimen in lung transplantation. *Am J Respir Crit Care Med* 2011; 183(3): 379-87.

d. Add pancreas transplant rejection, prophylaxis
i. Ciancio G, Sageshima J, Chen L, et al. Advantage of rapamycin over mycophenolate mofetil when used with tacrolimus for simultaneous pancreas kidney transplants: randomized, single-center trial at 10 years. *Am J Transplant* 2012; 12(12): 3363-76.
ii. Knight RJ, Podder H, Kerman RH, et al. Comparing an early corticosteroid/late calcineurin-free immunosuppression protocol to a sirolimus-, cyclosporine A-, and prednisone-based regimen for pancreas-kidney transplantation. *Transplantation* 2010; 89(6): 727-32.
iii. Girman P, Lipar K, Koznarova R, et al. Similar early complication rate in simultaneous pancreas and kidney recipients on tacrolimus/ mycophenolate mofetil versus tacrolimus/sirolimus immunosuppressive regimens. *Transplant Proc* 2010; 42(6): 1999–2002.

iv. Rajab A, Pelletier RP, Ferguson RM, et al. Steroid-free maintenance immunosuppression with rapamune and low-dose neoral in pancreas transplant recipients. *Transplantation* 2007; 84(9): 1131-7.
v. Burke G, Ciancio G, Figueiro J, et al. Can acute rejection be prevented in SPK transplantation? *Transpl Proc* 2002; 34(5): 1913-4.

e. Add intestine transplant rejection, prophylaxis
i. Abu-Elmagd KM, Costa G, Bond GJ, et al. Five hundred intestinal and multivisceral transplantations at a single center: major advances with new challenges. *Ann Surg* 2009; 250(4): 567-81.
ii. Lauro A, Dazzi A, Ercolani G, et al. Rejection episodes and 3-year graft survival under sirolimus and tacrolimus treatment after adult intestinal transplantation. *Transplant Proc* 2007; 39(5): 1629-31.
iii. Fishbein TM, Florman S, Gondolesi G, et al. Intestinal transplantation before and after the introduction of sirolimus. *Transplantation* 2002; 73(10): 1538-42.

8. Everolimus

a. Add heart transplant rejection, prophylaxis
i. Potena L, Pellegrini C, Grigioni F, et al. Optimizing the safety profile of everolimus by delayed initiation in de novo heart transplant recipients: results of the prospective randomized study EVERHEART. *Transplantation* 2018; 102(3): 493-501.
ii. Gullestad L, Eiskjaer H, Gustafsson F, et al. Long-term outcomes of thoracic transplant recipients following conversion to everolimus with reduced calcineurin inhibitor in a multicenter, oen-label, randomized trial. *Transpl Int* 2016; 29(7): 819-29.
iii. Andreassen AK, Andersson B, Gustafsson F, et al. Everolimus initiation with early calcineurin inhibitor withdrawal in de novo heart transplant recipients: three-year results from the randomized SCHEDULE study. *Am J Transplant* 2016; 16(4): 1238-47.
iv. Arora S, Andreassen AK, Andersson B, et al. The effect of everolimus initiation and calcineurin inhibitor elimination on cardiac allograft vasculopathy in de novo recipients: one-year results of a Scandinavian randomized trial. *Am J Transplant* 2015; 15(7): 1967-75.
v. Andreassen AK, Andersson B, Gustafsson F, et al. Everolimus initiation and early calcineurin inhibitor withdrawal in heart transplant recipients: a randomized trial. *Am J Transplant* 2014; 14(8): 1828-38.
vi. Eisen HJ, Kobashigawa J, Starling RC, et al. Everolimus versus mycophenolate mofetil in heart transplantation: a randomized, multicenter trial. *Am J Transplant* 2013; 13(5): 1203-16.
vii. Arora S, Ueland T, Wennerblom B, et al. Effect of everolimus introduction on cardiac allograft vasculopathy—results of a randomized, multicenter trial. *Transplantation* 2011; 92(2): 235-43.

viii. Gullestad L, Mortensen SA, Eiskjaer H, et al. Two-year outcomes in thoracic transplant recipients after conversion to everolimus with reduced calcineurin inhibitor within a multicenter, open-label, randomized trial. *Transplantation* 2010; 90(12): 1581-9.
ix. Gullestad L, Iversen M, Mortensen SA, et al. Everolimus with reduced calcineurin inhibitor in thoracic transplant recipients with renal dysfunction: a multicenter, randomized trial. *Transplantation* 2010; 89(7): 864-72.
x. Lehmkuhl HB, Arizon J, Vigano M, et al. Everolimus with reduced cyclosporine versus MMF with standard cyclosporine in de novo heart transplant recipients. *Transplantation* 2009; 88(1): 115-22.
xi. Vigano M, Tuzcu M, Benza R, et al. Prevention of acute rejection and allograft vasculopathy by everolimus in cardiac transplant recipients: a 24-month analysis. *J Heart Lung Transplant* 2007; 26(6): 584-92.
xii. Eisen HJ, Tuzcu EM, Dorent R, et al. Everolimus for the prevention of allograft rejection and vasculopathy in cardiac-transplant recipients. *N Engl J Med* 2003; 349(9): 847-58.

b. Add lung transplant rejection, prophylaxis
    i. Gullestad L, Eiskjaer H, Gustafsson F, et al. Long-term outcomes of thoracic transplant recipients following conversion to everolimus with reduced calcineurin inhibitor in a multicenter, open-label, randomized trial. *Transpl Int* 2016; 29(7): 819-29.
    ii. Glanville AR, Aboyoun C, Klepetko W, et al. Three-year results of an investigator-driven multicenter, international, randomized open-label de novo trial to prevent BOS after lung transplantation. *J Heart Lung Transplant* 2015; 34(1): 16-25.
    iii. Gullestad L, Iversen M, Mortensen SA, et al. Everolimus with reduced calcineurin inhibitor in thoracic transplant recipients with renal dysfunction: a multicenter, randomized trial. *Transplantation* 2010; 89(7): 864-72.

c. Add pancreas transplant rejection, prophylaxis
    i. Li J, Koch M, Kramer K, et al. Dual antibody induction and de novo use of everolimus enable low-dose tacrolimus with early corticosteroid withdrawal in simultaneous pancreas-kidney transplantation. *Transpl Immunol* 2018; 50: 226-33.
    ii. Sageshima J, Ciancio G, Chen L, et al. Everolimus with low-dose tacrolimus in simultaneous pancreas and kidney transplantation. *Clin Transplant* 2014; 28(7): 797-801.
    iii. di Francesco F, Cautero N, Vincenzi P, et al. One year follow-up of steroid-free immunosuppression plus everolimus in isolated pancreas transplantation. *Transplantation* 2008; 86(8): 1146–7.

9. Belatacept

a. Add liver transplant rejection, prophylaxis
    i. LaMattina JC, Jason MP, Hanish SI, et al. Safety of belatacept bridging immunosuppression in hepatitis C-positive liver transplant recipients with renal dysfunction. *Transplantation* 2014; 97(2):

133-7.

b. Add heart transplant rejection, prophylaxis
    i. Enderby CY, Habib P, Patel PC, et al. Belatacept maintenance in a heart transplant recipient. *Transplantation* 2014; 98(7): 74-5.

c. Add lung transplant rejection, prophylaxis
    i. Iasella CJ, Winstead RJ, Moore CA, et al. Maintenance belatacept-based immunosuppression in lung transplantation recipients who failed calcineurin inhibitors. *Transplantation* 2018; 102(1): 171-7.
    ii. Timofte I, Terrin M, Barr E, et al. Belatacept for renal rescue in lung transplant patients. *Transpl Int* 2016; 29(4): 453-63.

d. Add pancreas transplant rejection, prophylaxis
    i. Mujtaba MA, Sharfuddin AA, Taber T, et al. Conversion from tacrolimus to belatacept to prevent the progression of chronic kidney disease in pancreas transplantation: case report of two patients. *Am J Transplant* 2014; 14(11): 2657-61.

10. Basiliximab

a. Add heart transplant rejection, prophylaxis
    i. Cantarovich M, Giannetti N, Routy JP, et al. Long-term immunosuppression with anti-CD25 monoclonal antibodies in heart transplant patients with chronic kidney disease. *J Heart Lung Transplant* 2009; 28(9): 912-8.
    ii. Cantarovich M, Metrakos P, Giannetti N, et al. Anti-CD25 monoclonal antibody coverage allows for calcineurin inhibitor "holiday" in solid organ transplant patients with acute renal dysfunction. *Transplantation* 2002; 73(7): 1169-72.

b. Add lung transplant rejection, prophylaxis
    i. Borro JM, De la Torre M, Miguelez C, et al. Comparative study of basiliximab treatment in lung transplantation. *Transplant Proc* 2005; 37(9): 3996-8.

c. Add pancreas transplant rejection, prophylaxis
    i. Fernández-Burgos I, Montiel Casado MC, Pérez-Daga JA, et al. Induction therapy in simultaneous pancreas-kidney transplantation: thymoglobulin versus basiliximab. *Transplant Proc* 2015; 47(1): 120-2.

d. Add intestine transplant rejection, prophylaxis
    i. Kubal CA, Mangus RS, Vianna RM, et al. Impact of positive flow cytometry crossmatch on outcomes of intestinal/multivisceral transplantation: role anti-IL-2 receptor antibody. *Transplantation* 2013; 95(9): 1160-6.

11. Rabbit antithymocyte globulin

a. Add liver transplant rejection, prophylaxis
    i. Montenovo MI, Jalikis FG, Li M, et al. Superior patient and graft survival in adult liver transplant with rabbit antithymocyte globulin induction: experience with 595 patients. *Exp Clin Transplant* 2017; 15(4): 425-31.
    ii. Bogetti D, Sankary HN, Jarzembowski TM, et al. Thymoglobulin induction protects liver allografts from ischemia/reperfusion injury. *Clin Transplant* 2005; 19(4): 507-11.

b. Add liver transplant rejection
    i. Palmer WC, Taner CB, Keaveny AP, et al. Antithymocyte globulin use for corticosteroid nonresponsive rejection after liver transplantation. *Transplant Proc* 2018; 50(10): 3606-14.
    ii. Kozlowski T, Rubinas T, Nickeleit V, et al. Liver allograft antibody-mediated rejection with demonstration of sinusoidal C4d staining and circulating donor-specific antibodies. *Liver Transpl* 2011; 17(4): 357-68.
    iii. Wilson CH, Agarwal K, Carter V, et al. Late humoral rejection in a compliant ABO-compatible liver transplant recipient. *Transplantation* 2006; 82(7): 988-9.

c. Add intestine transplant rejection, prophylaxis
    i. Abu-Elmagd KM, Costa G, Bond GJ, et al. Five hundred intestinal and multivisceral transplantations at a single center: major advances with new challenges. *Ann Surg* 2009; 250(4): 567-81.
    ii. Vianna RM, Mangus RS, Fridell JA, et al. Induction immunosuppression with thymoglobulin and rituximab in intestinal and multivisceral transplantation. *Transplantation* 2008; 85(9): 1290-3.
    iii. Reyes J, Mazariegos GV, Abu-Elmagd, et al. Intestinal transplantation under tacrolimus monotherapy after perioperative lymphoid depletion with rabbit anti-thymocyte globulin (thymoglobulin). *Am J Transplant* 2005; 5(6): 1430-6.
    iv. Bond GJ, Mazariegos GV, Sindhi R, et al. Evolutionary experience with immunosuppression in pediatric intestinal transplantation. *J Pediatr Surg* 2005; 40(1): 274-80.

d. Add vascular composite allograft rejection, prophylaxis
    i. Petruzzo P, Kanitakis J, Testelin S, et al. Clinicopathological findings of chronic rejection in a face grafted patient. *Transplantation* 2015; 99(12): 2644-50.
    ii. Petruzzo P, Kanitakis J, Badet L, et al. Long-term follow-up in composite tissue allotransplantation: in-depth study of five (hand and face) recipients. *Am J Transplant* 2011; 11: 808-16.
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12. Alemtuzumab

a. Add lung transplant rejection, prophylaxis
    i. Benazzo A, Schwarz S, Muckenhuber M, et al. Alemtuzumab induction combined with reduced maintenance immunosuppression is associated with improved outcomes after lung transplantation: A single centre experience. *PLoS One* 2019; 14(1): e0210443.
    ii. Jaksch P, Ankersmit J, Scheed A, et al. Alemtuzumab in lung transplantation: an open-label, randomized, prospective single center study. *Am J Transplant* 2014; 14(8): 1839-45.

b. Add pancreas transplant rejection, prophylaxis
    i. Stratta RJ, Rogers J, Orlando G, et al. Depleting antibody induction in simultaneous pancreas-kidney transplantation: a prospective single-center comparison of alemtuzumab versus rabbit anti-thymocyte globulin. *Expert Opin Biol Ther* 2014; 14(12): 1723-30.
    ii. Farney AC, Doares W, Rogers J, et al. A randomized trial of alemtuzumab versus antithymocyte globulin induction in renal and pancreas transplantation. *Transplantation* 2009; 88(6): 810-9.

c. Add intestine transplant rejection, prophylaxis
    i. Lauro A, Zanfi C, Bagni A, et al. Induction therapy in adult intestinal transplantation: reduced incidence of rejection with “2-dose” alemtuzumab protocol. *Clin Transplant* 2013; 27(4): 567-70.
    ii. Zanfi C, Lauro C, Cescon M, et al. Daclizumab and alemtuzumab as induction agents in adult intestinal and multivisceral transplantation: rejection and infection rates in 40 recipients during the early postoperative period. *Transplant Proc* 2010; 42(1): 35-8.
    iii. Abu-Elmagd KM, Costa G, Bond GJ, et al. Five hundred intestinal and multivisceral transplantations at a single center: major advances with new challenges. *Ann Surg* 2009; 250(4): 567-81.

d. Add vascular composite allograft rejection
    i. Petruzzo P, Kanitakis J, Testelin S, et al. Clinicopathological findings of chronic rejection in a face grafted patient. *Transplantation* 2015; 99(12): 2644-50.

13. Immune globulin

a. Add liver transplant rejection
    i. Kozlowski T, Rubinas T, Nickeleit V, et al. Liver allograft antibody-mediated rejection with demonstration of sinusoidal C4d staining and circulating donor-specific antibodies. *Liver Transpl* 2011; 17(4): 357-68.
    ii. Urbani L, Mazzoni A, De Simone P, et al. Treatment of antibody-mediated rejection with high-dose immunoglobulins in ABO-incompatible liver transplant recipient. *Transpl Int* 2007; 20(5): 467-70.
    iii. Wilson CH, Agarwal K, Carter V, et al. Late humoral rejection in a compliant ABO-compatible liver transplant recipient.

Transplantation 2006; 82(7): 988-9.

b. Add liver transplant, pre-transplant desensitization
    i. Kim SH, Lee EC, Shim JR, et al. A simplified protocol using rituximab and immunoglobulin for ABO-incompatible low-titre living donor liver transplantation. *Liver Int* 2018; 38(5) :932-9.
    ii. Kim JD, Choi DL, Kim SG, et al. Single-center experience of ABO-incompatible living-donor liver transplantation with a new simplified intravenous immunoglobulin protocol: a propensity score-matching analysis. *Transplant Proc* 2016; 48(4): 1134-8.

c. Add heart transplant, pre-transplant desensitization
    i. Kobashigawa JA, Patel JK, Kittleson MM, et al. The long-term outcome of treated sensitized patients who undergo heart transplantation. *Clin Transplant* 2011; 25(1): E61-7.
    ii. Pisani BA, Mullen GM, Malinowska K, et al. Plasmapheresis with intravenous immunoglobulin G is effective in patients with elevated panel reactive antibody prior to cardiac transplantation. *J Heart Lung Transplant* 1999; 18(7): 701-6.
    iii. John R, Lietz K, Burke E, et al. Intravenous immunoglobulin reduces anti-HLA alloreactivity and shortens waiting time to cardiac transplantation in highly sensitized left ventricular assist device recipients. *Circulation* 1999; 100(19 Suppl): II229-35.

d. Add lung transplant rejection
    i. Muller YD, Aubert JD, Vionnet J, et al. Acute antibody-mediated rejection 1 week after lung transplantation successfully treated with eculizumab, intravenous immunoglobulins, and rituximab. *Transplantation* 2018; 102(6): e301-3.
    ii. Ensor CR, Yousem SA, Marrari M, et al. Proteasome inhibitor carfilzomib-based therapy for antibody-mediated rejection of the pulmonary allograft: use and short-term findings. *Am J Transplant* 2017; 17(5): 1380-8.
    iii. Witt CA, Gaut JP, Yusen RD, et al. Acute antibody mediated rejection after lung transplantation. *J Heart Lung Transplant* 2013; 32(10): 1034-40.
    iv. Stuckey LJ, Kamoun M, Chan KM. Lung transplantation across donor-specific anti-human leukocyte antigen antibodies: utility of bortezomib therapy in early graft dysfunction. *Ann Pharmacother* 2012; 46(1): e2.

e. Add pancreas transplant rejection
    i. Hartono C, Kim J, McDermott J, et al. High-dose intravenous immunoglobulin (IVIG) adjuvant therapy for cell-mediated pancreas transplant rejection. *Transplantation* 2013; 96(5): e43-4.
    ii. Melcher ML, Olson JL, Baxter-Lowe LA, et al. Antibody-mediated rejection of a pancreas allograft. *Am J Transplant* 2006; 6(2): 432-8.

f. Add intestine transplant rejection

i. Wu GS, Zhao QC, Li ZS, et al. Successful rescue of late-onset antibody-mediated rejection 12 years after living-donor intestinal transplantation: a case report. *Transplant Proc* 2017; 49(1): 232-6.

g. Add intestine transplant, pre-transplant desensitization
   i. Gondolesi G, Blondeau B, Maurette R, et al. Pretransplant immunomodulation of highly sensitized small bowel transplant candidates with intravenous immune globulin. *Transplantation* 2006; 81(12): 1743-6.

14. Rituximab

a. Add kidney transplant rejection
   i. Sautenet B, Blancho G, Buchler M, et al. One-year results of the effects of rituximab on acute antibody-mediated rejection in renal transplantation: RITUX ERAH, a multicenter double-blind randomized placebo-controlled trial. *Transplantation* 2016; 100(2): 391-9.
   ii. Immenschuh S, Zilian E, Dammrich ME, et al. Indicators of treatment responsiveness to rituximab and plasmapheresis in antibody-mediated rejection after kidney transplantation. *Transplantation* 2015; 99(1): 56-62.
   iii. Billing H, Rieger S, Susal C, et al. IVIG and rituximab for treatment of chronic antibody-mediated rejection: a prospective study in paediatric renal transplantation with a 2-year follow-up. *Transpl Int* 2012; 25(11): 1165-73.
   iv. Kaposztas Z, Podder H, Mauiyyedi S, et al. Impact of rituximab therapy or treatment of acute humoral rejection. *Clin Transplant* 2009; 23(1): 63-73.
   v. Becker YT, Becker BN, Pirsch JD, et al. Rituximab as treatment for refractory kidney transplant rejection. *Am J Transplant* 2004; 4(6): 996-1001.

b. Add kidney transplant, pre-transplant desensitization
   i. Ide K, Tanaka Y, Sasaki Y, et al. A phased desensitization protocol with rituximab and bortezomib for highly sensitized kidney transplant candidates. *Transplant Direct* 2015; 1(5): e17.
   ii. Vo AA, Choi J, Cisneros K, et al. Benefits of rituximab combined with intravenous immunoglobulin for desensitization in kidney transplant recipients. *Transplantation* 2014; 98(3): 312-9.
   iii. Vo AA, Lukovsky M, Toyoda M, et al. Rituximab and intravenous immune globulin for desensitization during renal transplantation. *N Engl J Med* 2008; 359(3): 242-51.

c. Add liver transplant rejection
   i. Kozlowski T, Rubinas T, Nickeleit V, et al. Liver allograft antibody-mediated rejection with demonstration of sinusoidal C4d staining and circulating donor-specific antibodies. *Liver Transpl* 2011; 17(4): 357-68.
   ii. Wilson CH, Agarwal K, Carter V, et al. Late humoral rejection in a compliant ABO-compatible liver transplant recipient.

Transplantation 2006; 82(7): 988-9.

d. Add liver transplant, pre-transplant desensitization
    i. Kim SH, Lee EC, Shim JR, et al. A simplified protocol using rituximab and immunoglobulin for ABO-incompatible low-titre living donor liver transplantation. *Liver Int* 2018; 38(5) :932-9.
    ii. Kim JD, Choi DL, Kim SG, et al. Single-center experience of ABO-incompatible living-donor liver transplantation with a new simplified intravenous immunoglobulin protocol: A propensity score-matching analysis. *Transplant Proc* 2016; 48(4): 1134-8.

e. Add heart transplant rejection
    i. Ravichandran AK, Schilling JD, Novak E, et al. Rituximab is associated with improved survival in cardiac allograft patients with antibody-mediated rejection: a single center review. *Clin Transplant* 2013; 27(6): 961-7.
    ii. Garrett HE, Duvall-Seaman D, Helsley B, et al. Treatment of vascular rejection with rituximab in cardiac transplantation. *J Heart Lung Transplant* 2005; 24(9): 1337-42.

f. Add heart transplant, pre-transplant desensitization
    i. Kobashigawa JA, Patel JK, Kittleson MM, et al. The long-term outcome of treated sensitized patients who undergo heart transplantation. *Clin Transplant* 2011; 25(1): E61-7.

g. Add lung transplant rejection
    i. Muller YD, Aubert JD, Vionnet J, et al. Acute antibody-mediated rejection 1 week after lung transplantation successfully treated with eculizumab, intravenous immunoglobulins, and rituximab. *Transplantation* 2018; 102(6): e301-3.
    ii. Witt CA, Gaut JP, Yusen RD, et al. Acute antibody mediated rejection after lung transplantation. *J Heart Lung Transplant* 2013; 32(10): 1034-40.

h. Add pancreas transplant rejection
    i. Melcher ML, Olson JL, Baster-Lowe LA, et al. Antibody-mediated rejection of a pancreas allograft. *Am J Transplant* 2006; 6(2): 432-8.

i. Add intestine transplant rejection, prophylaxis
    i. Vianna RM, Mangus RS, Fridell JA, et al. Induction immunosuppression with thymoglobulin and rituximab in intestinal and multivisceral transplantation. *Transplantation* 2008; 85(9): 1290-3.

j. Add intestine transplant rejection
    i. Wu GS, Zhao QC, Li ZS, et al. Successful rescue of late-onset antibody-mediated rejection 12 years after living-donor intestinal transplantation: a case report. *Transplant Proc* 2017; 49(1): 232-6.

15. Bortezomib

a. Add kidney transplant rejection

i. Abbas K, Mubarak M, Zafar MN, et al. Management of plasma cell-rich acute rejection in living-related kidney transplant: Role of proteasome inhibitor. *Exp Clin Transplant* 2019; 17(1): 42-6.
ii. Slatinska J, Slavcev A, Honsova E, et al. Efficacy and safety of bortezomib treatment for refractory acute antibody-mediated rejection – a pilot study. *HLA* 2018; 92 Suppl 2: 47-50.
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v. Pearl MH, Nayak AB, Ettenger RB, et al. Bortezomib may stabilize pediatric renal transplant recipients with antibody-mediated rejection. *Pediatr Nephrol* 2016; 31(8): 1341-8.
vi. De Sousa-Amorim E, Revuelta I, Diekmann F, et al. Bortezomib for refractory acute antibody-mediated rejection in kidney transplant recipients: A single-center case series. *Nephrology* 2016; 21: 700-4.
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viii. Westphal S, Hansson S, Stelin G, et al. Successful treatment of severe ABO antibody-mediated rejection using bortezomib: a case report. *Transplant Proc* 2013; 45(3): 1213-5.
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x. Waiser J, Budde K, Shutz M, et al. Comparison between bortezomib and rituximab in the treatment of antibody-mediated renal allograft rejection. *Nephrol Dial Transplant* 2012; 27(3): 1246-51.
xi. Walsh R, Brailey P, Girnita A, et al. Early and late acute antibody-mediated rejection differ immunologically and in response to proteasome inhibition. *Transplantation* 2011; 91(11): 1218-26.
xii. Walsh RC, Everly JJ, Brailey P, et al. Proteasome inhibitor-based primary therapy for antibody-mediated renal allograft rejection. *Transplantation* 2010; 89(3): 277-84.
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xiv. Everly MJ. A summary of bortezomib use in transplantation across 29 centers. *Clin Transpl* 2009: 323-337.

xv. Everly MJ, Everly JJ, Arend LJ, et al. Reducing de novo donor-specific antibody levels during acute rejection diminishes renal allograft loss. *Am J Transplant* 2009; 9(5): 1063-71
xvi. Everly MJ, Everly JJ, Susskind B, et al. Bortezomib provides effective therapy for antibody- and cell-mediated acute rejection. *Transplantation* 2008; 86: 1754-61.

b. Add kidney transplant, pre-transplant desensitization
i. Jeong JC, Jambaldorj E, Kwon HY, et al. Desensitization using bortezomib and high-dose immunoglobulin increases rate of deceased donor kidney transplantation. *Medicine (Baltimore)* 2016; 95(5): e2635.
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vii. Everly MJ. A summary of bortezomib use in transplantation across 29 centers. *Clin Transpl* 2009: 323-337.

c. Add liver transplant rejection
i. Paterno F, Shiller M, Tillery G, et al. Bortezomib for acute antibody-mediated rejection in liver transplantation. *Am J Transplant* 2012; 12(9): 2526-31.
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d. Add heart transplant rejection
i. Gazdic T, Svobodova E, Kubanek M, et al. Bortezomib-containing regimen for primary treatment of early antibody-mediated cardiac allograft rejection: a case report. *Prog Transplant* 2015; 25: 147-52.
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iv. Eckman PM, Thorsgard M, Maurer D, et al. Bortezomib for refractory antibody-mediated cardiac allograft rejection. *Clin Transpl* 2009: 475-8.

e. Add heart transplant, pre-transplant desensitization
    a. May LJ, Yeh J, Maeda K, et al. HLA desensitization with bortezomib in a highly sensitized pediatric transplant patient. *Pediatr Transplant* 2014; 18(8): E280-2.
    v. Patel J, Everly M, Chang D, et al. Reduction of alloantibodies via proteasome inhibition in cardiac transplantation. *J Heart Lung Transplant* 2011; 30(12): 1320-6.

f. Add lung transplant rejection
    i. Hayes D, Nicholson KL, Baker PB. Bortezomib for antibody-mediated rejection in a young lung transplant recipient. *Pediatr Transpl* 2016; 20(1): 178-9.
    ii. Baum C, Reichenspurner H, Deuse T. Bortezomib rescue therapy in a patient with recurrent antibody-mediated rejection after lung transplantation. *J Heart Lung Transplant* 2013; 32(12): 1270-1.
    iii. Stuckey LJ, Kamoun M, Chan KM. Lung transplantation across donor-specific anti-human leukocyte antigen antibodies: utility of bortezomib therapy in early graft dysfunction. *Ann Pharmacother* 2012; 46(1): e2.
    iv. Neumann J, Tarrasconi H, Bortolotto A, et al. Acute humoral rejection in a lung recipient: reversion with bortezomib. *Transplantation* 2010; 89(1): 125-6.

g. Add pancreas transplant rejection
    i. Govil A, Walsh RC, Tevar A, et al. Bortezomib-based treatment of antibody mediated rejection in pancreas allograft recipients. *Clin Transpl* 2009; 443-53.

h. Add intestine transplant rejection
    i. Fujiwara S, Wada M, Kudo H, et al. Effectiveness of bortezomib in a patient with acute rejection associated with an elevation of donor-specific HLA antibodies after small-bowel transplantation: case report. *Transplant Proc* 2016; 48(2): 522-7.
    ii. Gerlach UA, Schoenemann C, Lachmann N, et al. Salvage therapy for refractory rejection and persistence of donor-specific antibodies after intestinal transplantation using the proteasome inhibitor bortezomib. *Transpl Int* 2011; 24(5): e43-5.
    iii. Island ER, Gonzalez-Pinto IM, Tsai HL, et al. Successful treatment with bortezomib of a refractory humoral rejection of the intestine after multivisceral transplantation. *Clin Transpl* 2009; 465-9.

16. Carfilzomib

a. Add lung transplant rejection
    i. Ensor CR, Yousem SA, Marrari M, et al. Proteasome inhibitor carfilzomib-based therapy for antibody-mediated rejection of the

pulmonary allograft: use and short-term findings. *Am J Transplant* 2017; 17(5): 1380-8.

17. Eculizumab

    a. Add kidney transplant rejection
        i. Kulkarni S, Kirkiles-Smith NC, Deng YH, et al. Eculizumab therapy for chronic antibody-mediated injury in kidney transplant recipients: a pilot randomized controlled trial. *Am J Transplant* 2017; 17(3): 682-91.

    b. Add kidney transplant, pre-transplant desensitization
        i. Marks WH, Mamode N, Montgomery R, et al. Safety and efficacy of eculizumab in the prevention of antibody-mediated rejection in living-donor kidney transplant recipients requiring desensitization therapy. *Am J Transplant* 2019; doi: 10.1111/ajt.15364.

    c. Add liver transplant rejection
        i. Wozniak LJ, Naini BV, Hickey MJ, et al. Acute antibody-mediated rejection in ABO-compatible pediatric liver transplant recipients: case series and review of the literature. *Pediatr Transplant* 2017; 21(1): e12791.

    d. Add lung transplant rejection
        i. Muller YD, Aubert JD, Vionnet J, et al. Acute antibody-mediated rejection 1 week after lung transplantation successfully treated with eculizumab, intravenous immunoglobulins, and rituximab. *Transplantation* 2018; 102(6): e301-3.
        ii. Dawson KL, Parulekar A, Seethamraju H. Treatment of hyperacute antibody-mediated lung allograft rejection with eculizumab. *J Heart Lung Transplant* 2012; 31(12): 1325-6.

    e. Add pancreas transplant rejection
        i. Biglarnia AR, Nilsson B, Nilsson T, et al. Prompt reversal of a severe complement activation by eculizumab in a patient undergoing intentional ABO-incompatible pancreas and kidney transplantation. *Transplant Int* 2011; 24(8): e61-6.

    f. Add intestine transplant rejection
        i. Fan J, Tryphonopoulos P, Tekin A, et al. Eculizumab salvage therapy for antibody-mediated rejection in a desensitization-resistant intestinal re-transplant patient. *Am J Transplant* 2015; 15(7): 1995-2000.

18. Tocilizumab

    a. Add kidney transplant rejection
        i. Choi J, Aubert O, Vo A, et al. Assessment of tocilizumab (anti-interleukin-6 receptor monoclonal) as a potential treatment for chronic antibody-mediated rejection and transplant glomerulopathy in HLA-sensitized renal allograft recipients. *Am J*

Transplant 2017; 17(9): 2381-9.

b. Add kidney transplant, pre-transplant desensitization
    i. Vo AA, Choi J, Kim I, et al. A phase I/II trial of the interleukin-6 receptor-specific humanized monoclonal (tocilizumab) + intravenous immunoglobulin in difficult to desensitize patients. *Transplantation* 2015; 99(11): 2356-63.

19. Adalimumab

a. Add intestine transplant rejection
    i. Rao B, Jafri SM, Kazimi M, et al. A case report of acute cellular rejection following intestinal transplantation managed with adalimumab. *Transplant Proc* 2016; 48(2): 536-8.

20. Infliximab

a. Add intestine transplant rejection
    i. Pascher A, Radke C, Dignass A, et al. Successful infliximab treatment of steroid and OKT3 refractory acute cellular rejection in two patients after intestinal transplantation. *Transplantation* 2003; 76(3): 615-18.