

Pharmacologic Assessment of Transplant Candidates and Living Donors

Michael A. Wynd, Pharm.D., BCPS
Clinical Associate Professor
Ernest Mario School of Pharmacy
Rutgers, The State University of New Jersey
Clinical Pharmacy Specialist – Organ Transplant
Hackensack University Medical Center



Hackensack
Meridian *Health*

Learning Objectives

- After attending and participating in this session, the attendee should be able to
 - List the elements of the pre-transplant pharmacologic assessment
 - Explain the importance of an accurate medication history
 - Describe the rationale for pre-transplant medication adherence assessment
 - Discuss the requirement for indefinite use of immunosuppressants post-transplant



Transplant Candidates

- Pre-transplant evaluation
 - Identify 'current' medications
 - Evaluate any medication-related issues or concerns
 - Ascertain medication allergy history
 - Identify and minimize or avoid potential drug interactions
 - Assess medication adherence
 - Educate about post-transplant medications

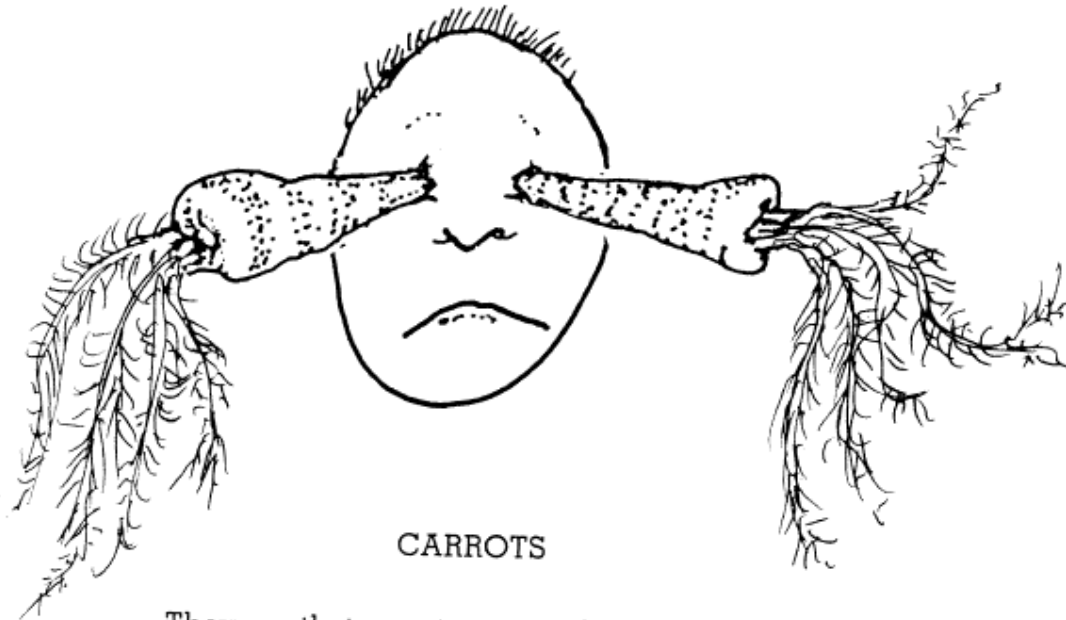


Pharmacologic Assessment

- Potential issues with post-transplant medications
 - Drug-drug interactions
 - Nephrotoxic adverse effects
 - Anticoagulation
 - Chronic pain
 - Mental health
 - Allergies (medication and other)
 - Immunomodulators / immunosuppressants
 - Dietary / herbal supplements



Non-adherence is broadly defined...



They say that carrots are good for your eyes,
They swear that they improve your sight,
But I'm seein' worse than I did last night—
You think maybe I ain't usin' 'em right?

--Shel Silverstein, *Falling Up*



Hackensack
Meridian Health

Medication Adherence

- Adherence to medications
 - Prescribed
 - Over-the-counter
 - Vitamins, minerals, dietary supplements
- Appropriate medication adherence means...

Taking the right dose of the right medication at the right time every time

- Medication use assessment
- Compliance with dialysis schedule



Medication Use Assessment

- How often...
 - Do you forget to take your prescription medications?
 - Do you decide not to take your prescription medications?
 - Do you run out of your medications before your next refill?
 - Do you change how you take your medications?
 - Do you use a friend or family member's medications?
 - Do you have difficulty affording prescription medications?
 - Does your pharmacy have difficulty filling your prescriptions?

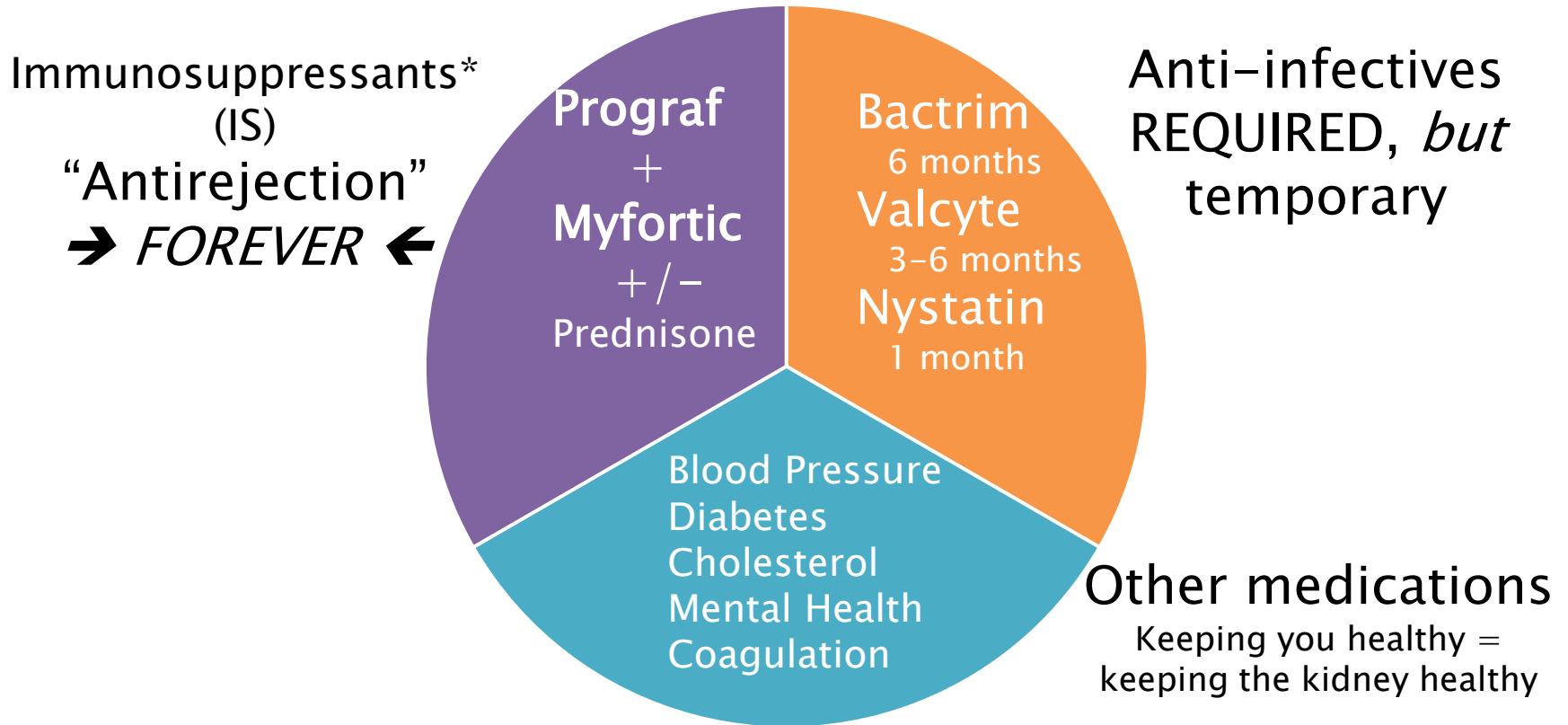


Pre-transplant Education

- Discuss why immunosuppression is required after a transplant
- Manage expectations about post-transplant medications
 - Will have to take medications for life
 - May have high pill burden – *but* may not be as high as many patients think
 - Dosing schedule may be complex
 - Frequent dose changes – especially early after transplant



Pre-transplant Education “PIE”

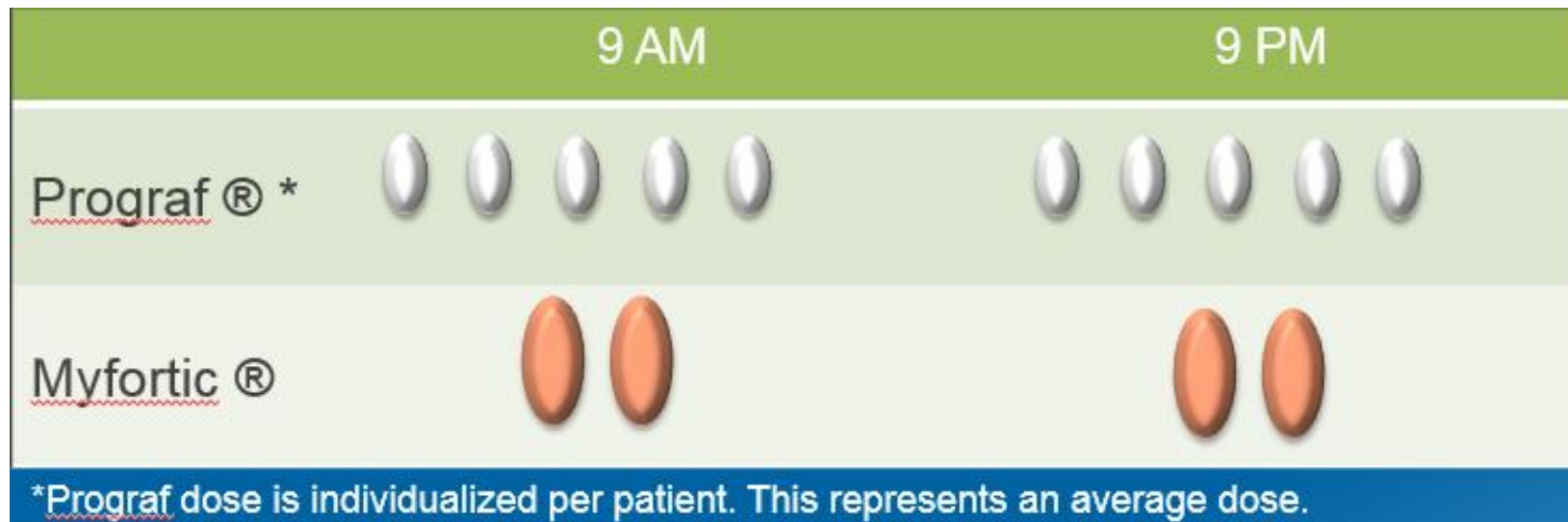


* Representative of commonly used medications









Immunosuppressants

- “Forever meds”
- Cannot skip or miss doses
- Multiple pills for each drug



Anti-infectives

- Prevent bacterial, viral, fungal infections
- Taken for 1 to 6 months post-transplant

	9 AM	1 PM	5 PM	9 PM
Bactrim				
<u>Valcyte</u>				
Nystatin				



Adherence Helpers

- List of current medications
- Caregiver, family member, friend, transplant team
- Calendar / medication grid
- Reminders – phone, Apps, Alexa, Siri, Google Home
- Pill trays and boxes



Post-transplant Medication List

Name: Sample, Patient

Date: 4/27/2020

POST KIDNEY TRANSPLANT MEDICATION LIST						
	Medication	9 AM	1 PM	5 PM	9 PM	Purpose
1	Prograf (tacrolimus) 1 mg	4			4	Prevents rejection. Do NOT take on the morning of your appointment.
2	Myfortic (mycophenolate sodium) 360 mg	2			2	Prevents rejection.
3	Nystatin 100,000 units/mL	5 mL	5 mL	5 mL	5 mL	Prevents oral thrush. Take for 1 month.
4	Bactrim (sulfamethoxazole-trimethoprim) 400-80 mg	1				Prevents bacterial infections. Take for 6 months.
5	Valcyte (valganciclovir) 450 mg	1				Prevents infections from cytomegalovirus (CMV). Take for 3 months.
6	Prenatal vitamin	1				Vitamin. Take for 1 month.
7	Protonix (pantoprazole) 40 mg	1				Antacid. Take for 1 month.
8	Miralax (polyethylene glycol) 17 g	1 capful				Laxative. As needed.
9	Metoprolol tartrate 50 mg	1			1	Heart / blood pressure
10	Januvia (sitagliptin) 50 mg	1				Diabetes
11						



Living Donor Evaluation

- Assess current medications and allergies
- Counsel to **avoid** medications that can damage the kidney after donation
 - Non-steroidal Anti-inflammatory Drugs [NSAIDs]
 - Ex: ibuprofen (Motrin®, Advil®), naproxen (Aleve®)



- Encourage patient to inform all healthcare providers that they are/will be a living donor
- There are NO required medications post-donation for the donor—*many potential donors (and recipients) ask*

Post-transplant Patient Care

- Attend multidisciplinary inpatient rounds and prospectively evaluate each patient's pharmacotherapy
 - Monitor drug dosing based on organ function
 - Identify and mitigate drug interactions
 - Minimize polypharmacy
 - Evaluate impact of transplant-related meds on other treatments and disease states
 - Guide patient-specific medication selection
 - Provide care to living donors

Facilitate medication delivery to patient prior to discharge

Conduct medication reconciliation



Education

- Provide ongoing, individualized patient education after transplantation
- Provide education and training to health care providers and learners

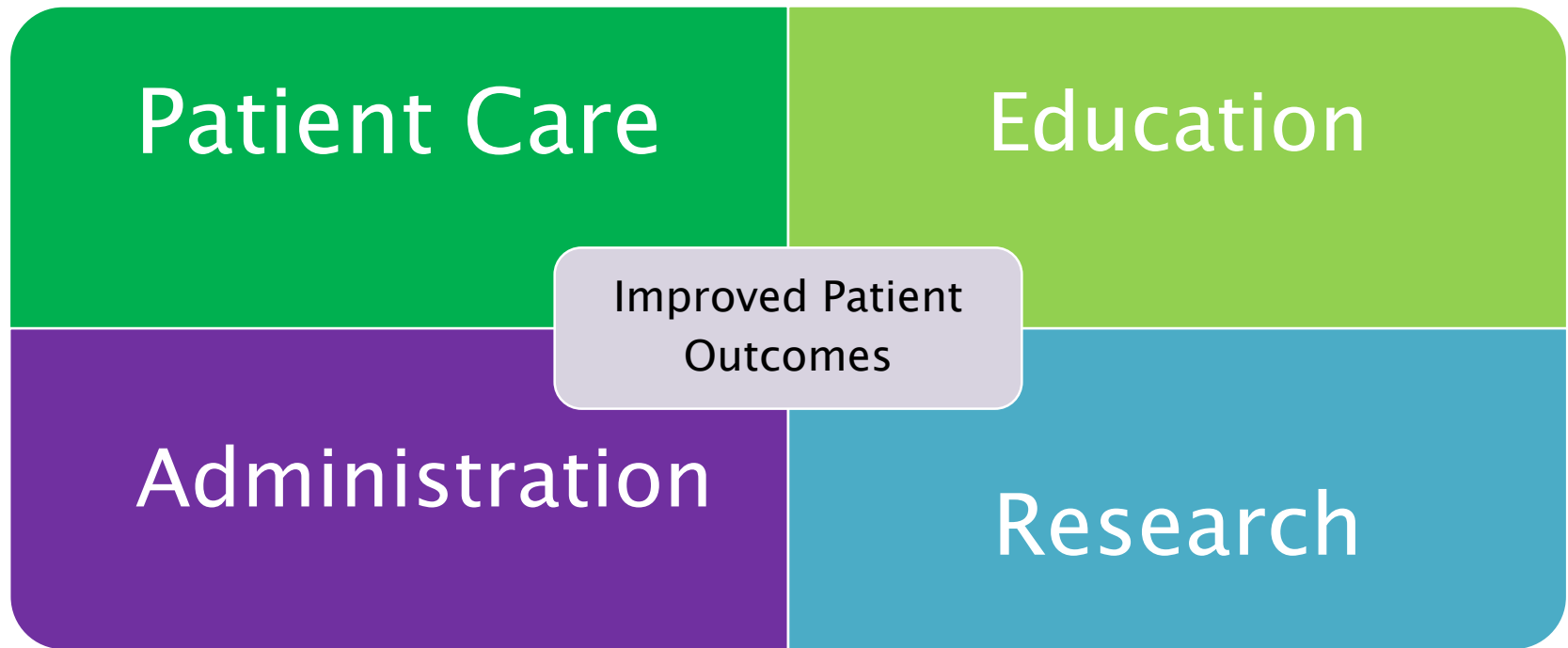


Administration and Research

- Develop and implement drug therapy protocols and ensure protocol adherence
- Facilitate cost-containment and medication-use optimization strategies
- Participate in clinical and pharmacoeconomic research



Transplant Pharmacist's Role

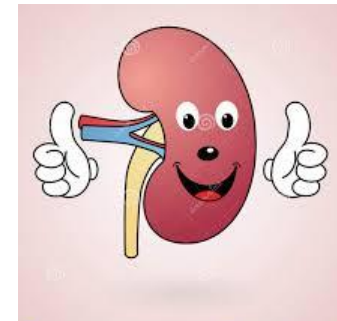


References

1. Maldonado AQ, Hall RC, Pilch NA, et al. ASHP Guidelines on pharmacy services in solid organ transplantation. *Am J Health-Syst Pharm* 2020; 77:222–232.
2. Alloway RR, Dupuis R, Gabardi S, et al. Evolution of the role of the transplant pharmacist on the multidisciplinary transplant team. *Am J Transplant* 2011;11(8):1576–83.
3. Wang HY, Chan ALF, Chen MT, et al. Effects of pharmaceutical care intervention by clinical pharmacists in renal transplant clinics. *Transplant Proc* 2008;40:2319–2323.
4. Musgrave CR, Pilch NA, Taber DJ, et al. Improving transplant patient safety through pharmacist discharge medication reconciliation. *Am J Transplant* 2013;13:796–801.
5. Satino C, Lewin JJ, Nesbit TW, et al. Survey of transplant-related pharmacy services at large comprehensive transplant centers in the United States. *Prog Transplant* 2013;23(1):23–27.



Thank You



Pharmacologic Assessment of Transplant Candidates and Living Donors

Michael A. Wynd, Pharm.D., BCPS
Clinical Associate Professor
Ernest Mario School of Pharmacy
Rutgers, The State University of New Jersey
Clinical Pharmacy Specialist – Organ Transplant
Hackensack University Medical Center



Give thanks. Give life.



Hackensack
Meridian *Health*