

Gregory A. Eschenauer, Pharm.D., BCPS (AQ-ID)

Contact Information

Work: University of Michigan Health System Pharmacy Services
1111 Catherine St
Ann Arbor, MI 48109-2054
Office Phone: (734) 936-8226
Email: gregorye@med.umich.edu

Education

1998-2004 **Doctor of Pharmacy**
Butler University
Indianapolis, IN

2004-2005 **Pharmacy Practice Residency**
University of Michigan Health System
Ann Arbor, Michigan

2005-2006 **Infectious Diseases Specialty Residency**
University of Michigan Health System
Ann Arbor, Michigan

Licensure

2004- present Michigan Pharmacist
2009- 2014 Pennsylvania Pharmacist
2006- 2009 New York Pharmacist

Professional Experience

2017- present Clinical Associate Professor (20% appointment)
University of Michigan College of Pharmacy

2013- 2017 Clinical Assistant Professor (20% appointment)
University of Michigan College of Pharmacy

2013- present Infectious Diseases Clinical Pharmacist
University of Michigan Health System

2009- 2013 Clinical Pharmacist, Infectious Diseases
University of Pittsburgh Medical Center
Pittsburgh, Pennsylvania

2012- 2013 Adjunct Assistant Professor
University of Pittsburgh College of Medicine

2009- 2013	Adjunct Instructor in Pharmacy and Therapeutics University of Pittsburgh School of Pharmacy
2006- 2009	Infectious Diseases Clinical Manager New York Presbyterian Hospital New York City, New York
2004- 2006	Clinical Instructor University of Michigan College of Pharmacy

Didactic Experience

University of Michigan College of Pharmacy

2015- 2018	PharmSci 718 Modern Pharmaceutics and Pharmacogenomics Instructor, Pharmacokinetics in the Obese and Critically Ill
2014- 2016	P551/P713 Direct Patient Care Course Coordinator
2015- 2018	P767 Critical Care Instructor, Fungal Infections in the ICU
2014- present	P702 Therapeutics Problem Solving Instructor, Pharmacokinetics/Pharmacodynamics Instructor, HIV/AIDS Instructor, Fungal Infections (2018- present) Instructor, <i>Clostridium difficile</i> Infection (2018- present)
2014- present	P730 Pharmacy Student Seminar Advisor
2013- present	P565/P575/P585 Pharm.D. Investigations Project Advisor
2013	P531 Therapeutics Problem Solving Lab Facilitator
2004- 2006	P452 Pharmaceutical Care IV Instructor

University of Pittsburgh College of Medicine

2011- 2013	MED 5116 Medical Microbiology Lecturer, Antibacterial Drugs
2010- 2013	MED 5710 Clinical Pharmacology Coordinator and Facilitator, Rational Use of Antimicrobial Agents

University of Pittsburgh College of Pharmacy

2013 Pharm 3067 Clinical Pharmacy Environments
Instructor

2011- 2012 Pharm 5111 Profession of Pharmacy
Facilitator

Experiential Rotation Teaching Experience

University of Michigan College of Pharmacy

2014- present Advanced Pharmacy Practice Experience (APPE)
Preceptor for Doctor of Pharmacy Students
Michigan Medicine Infectious Diseases

University of Michigan Health System

2014- present Preceptor, UMHS Pharmacy Residents
Infectious Diseases
Transplant Infectious Diseases
Stewardship Administration

University of Florida College of Pharmacy

2014 Continuous Professional Development
Preceptor, Working Professional Pharm.D. Program, HIV Update for Pharmacists

University of Pittsburgh College of Pharmacy

2009- 2013 Advanced Pharmacy Practice Experience (APPE)
Preceptor for Doctor of Pharmacy Students
University of Pittsburgh Medical Center Infectious Diseases

University of Pittsburgh Medical Center

2009- 2013 Preceptor, UPMC Pharmacy Residents
*Antimicrobial Stewardship Longitudinal (*Developed Experience)*
Antibiotic Management
Infectious Diseases

New York Presbyterian Hospital/Columbia University Medical Center

2006- 2009 Preceptor, CUMC Pharmacy Residents
Infectious Diseases

**St. John's College of Pharmacy and Health Sciences
Philadelphia College of Pharmacy**

2006- 2009 Advanced Pharmacy Practice Experience (APPE)
Preceptor for Doctor of Pharmacy Students
Columbia University Medical Center Infectious Diseases

Mentoring (University of Michigan)

2019- 2020 Resident Mentor (Alina Varabyeva)

2018 Summer MICHR Summer Research Program Mentor (Sydney VanDorf)

2017- 2018 Resident Mentor (Lauren Flieller)

2015 Fall Term P706 Health Systems
Faculty mentor

2015 Winter Term P570 Research (Independent Study) (3 credits)
Instructor for Sara Selman

2015- 2016 Resident Mentor (Lydia Benitez)

2014- present P401, P501, P601, P701 Lifelong Learning
Mentor

2014- 2015 Resident Mentor (Nghy Ha)

Scientific Presentations and Abstracts

1. "Rethinking optimization of empiric gram-negative therapy for pneumonia in intensive care units: We can do better." Klatt M, Dillman N, **Eschenauer G**, Gandhi T, Marshall V, Nagel J, Patel T, Petty L, Smith A, Pogue J. European Congress of Clinical Microbiology & Infectious Diseases (ECCMID) 2021 (virtual).
2. "Comparative in vitro activity of ceftolozane/tazobactam, ceftazidime/avibactam, meropenem/vaborbactam, imipenem/relebactam, and cefiderocol against *P. aeruginosa*, including drug-resistant isolates at an academic medical center." Klatt M, Dillman N, **Eschenauer G**, Gandhi T, Marshall V, Nagel J, Patel T, Petty L, Smith A, Pogue J. European Congress of Clinical Microbiology & Infectious Diseases (ECCMID) 2021 (virtual).
3. "Development and Assessment of a Virtual Simulation Educational Intervention on Aminoglycosides in Post-Graduate Health-System Pharmacy Residents." Leung E, **Eschenauer G**, Kraft MD, Mohammad RA. ASHP Midyear 2020 (virtual).
4. "Infections in Patients Treated with Chimeric Antigen Receptor T-cells (CAR-T) therapy." Tran N, **Eschenauer G**, Scappaticci G, Frame D, Miceli MH, Patel T. IDWeek 2020 (virtual).
5. "Evaluation of Persistent Diarrhea and Recurrence Following Fecal Microbiota Transplantation for Recurrent *Clostridioides difficile* Infection." Boton N, Ni J, Mack A, **Eschenauer G**, Patel TS, Kao J, Rao K. IDWeek 2020 (virtual).

6. "C. Difficile Diagnostic Stewardship: Impact of an Antimicrobial Stewardship Program Intervention." **Eschenauer G**, Tran T, Gandhi T, Tribble T, Petty L, Nagel J, Brancaccio A, Scappaticci G, Patel T, Dillman N, Regal R, Klein K, Marshall V, Mills J, Washer L, Sweeney J, Zimmerman C, Rao K. UMHS 2020 Quality Month Celebration, Ann Arbor, MI.
7. "Implementation and Follow Up of an In-patient Penicillin Allergy Skin Testing Program at One Large University Hospital." Ravikumar R, Zhou S, **Eschenauer G**, Bozaan D, Spranger E, Bashaw L, Barwig K, Penar S, Enell M, Samuels K, Gandhi T. American Academy of Allergy Asthma and Immunology Annual Meeting, Philadelphia, PA. March 2020.
8. "Hard-stop approach for diagnostic stewardship of Clostridioides difficile testing." Tran K, Nagel J, Patel T, **Eschenauer G**. Vizient Consortium Pharmacy Network Dec 2019, Las Vegas, NV. December 2019
9. "Characterization of Extended Spectrum Beta-Lactamase (ESBLs) in Enterobacter Spp. At Michigan Medicine." Yousif S, Bolterman V, Young CL, **Eschenauer G**. ASHP Midyear Meeting, Las Vegas, NV. December 2019.
10. "Penicillin Skin Testing in Hospitalized Patients". UMHS Quality Month Celebration, Ann Arbor, MI. October 22, 2019.
11. "Evaluation of Clinical Outcomes Following Implementation of Real-Time Stewardship Team Interventions for Multi-Drug Resistant Organisms." Xhemali X, Patel TS, **Eschenauer G**, Lew A, Kaye KS, Albin O, Nagel J. IDWeek 2019, Washington, DC. October 2019.
12. "Implementation of an Antimicrobial Stewardship Program-Led, Multifactorial Pneumonia Diagnosis and Treatment Bundle." Cua JL, Crass RL, Marshall V, Ateya M, Nagel J, **Eschenauer G**, Gandhi TN, Kaye KS, Petty LA, Chenoweth C, Baang J, Lew A, Patel TS. IDWeek 2019, Washington, DC. October 2019.
13. "Can we get even better? Comparing strategies to decrease the time to initiation of effective antimicrobial therapy in patients with bloodstream infections." Kohl MS, Leung GP, Nagel JL, **Eschenauer GA**. ASHP Midyear Meeting, Anaheim, CA. December 2018.
14. "Fluconazole versus Echinocandins for Candida albicans Fungemia." Van Dorf S, Carver P, **Eschenauer G**. Michigan Institute for Clinical & Health Research Summer Program Symposium, Ann Arbor, MI. August 2018.
15. "Epidemiology and Clinical Outcomes of Contemporary, Third-Generation Left Ventricular Assist Device (LVAD) Infections." Hershberger TE, Kaye KS, Chenoweth CE, Petty LA, Butler S, Clark A, **Eschenauer GA**, Pagani FD, Patel TS. IDWeek 2018, San Francisco, CA. October 2018.
16. "Impact of Standard versus Prolonged Courses of Antibiotics for the Treatment of Uncomplicated Staphylococcus aureus Bacteremia (SAB) in Patients with Hematologic Malignancies." Cheung E, McKenzie MG, Benitez Colon LL, Kaye KS, Petty L, Martin E, Marini BL, Perissinotti AJ, **Eschenauer G**, Alaniz C, Wallace K, Patel TS. IDWeek 2018, San Francisco, CA. October 2018.

17. "Evaluation of Broad-Spectrum Antibiotic De-Escalation in Patients with Health-Care Associated Pneumonia (HCAP) and No Microbiological Diagnosis." Patel TS, Petty L, Conlon A, **Eschenauer G**, Nielsen D, Vaughn V, Kaye KS, Malani A, Osterholzer D, Thyagarajan R, Flanders S, Gandhi TN. IDWeek 2018, San Francisco, CA. October 2018.
18. "Patient- and Hospital-Level Factors and Outcomes Associated with Treatment of Asymptomatic Bacteriuria in Hospitalized Patients: A Multi-Hospital Cohort Study." Petty L, Conlon A, Vaughn V, Nielsen D, Kaye K, Malani A, Thyagarajan R, Osterholzer D, **Eschenauer G**, Flanders S, Gandhi TN. IDWeek 2018, San Francisco, CA. October 2018.
19. "Frequency, Risk Factors, and Outcomes of Contemporary, Third Generation Left Ventricular Assist Device Infections." Hershberger TE, Butler S, Clark A, **Eschenauer G**, Patel T. ASHP Midyear Meeting, Orlando, FL. December 2017.
20. "Impact of Standard versus Prolonged Courses of Antibiotics for the Treatment of Uncomplicated Staphylococcus aureus Bloodstream Infections in Patients with Hematologic Malignancies." Cheung E, McKenzie M, Benitez Colon L, Marini B, Perissinotti A, **Eschenauer G**, Alaniz C, Kaye K, Petty L, Wallace K, Patel T. ASHP Midyear Meeting, Orlando, FL. December 2017.
21. "Characterizing procalcitonin use and algorithm compliance at a large academic medical center." Norris M, Yang S, **Eschenauer G**. ASHP Midyear Meeting, Orlando, FL. December 2017.
22. "A Multicenter Stewardship Initiative to Decrease Excessive Duration of Antibiotic Therapy for the Treatment of Community-Acquired Pneumonia (CAP)." Foolad F, Huang A, Nguyen C, Colyer L, Lim M, Grieger J, Revolinski S, Li J, Mack M, Gandhi T, Wainaina JN, **Eschenauer G**, Patel T, Marshall V, Nagel J. IDWeek 2017, San Diego, CA. October 2017.
23. "A Multi-Faceted Antimicrobial Stewardship Program (ASP) Intervention Using Clinical Pharmacists Reduces Antibiotic Use and Hospital-Acquired Clostridium difficile Infection (HA-CDI)." Boyd AM, Nagel J, **Eschenauer G**, Marshall VD, Gandhi T, Chenoweth C, Petty L, McClung D, Patel TS. IDWeek 2017, San Diego, CA. October 2017.
24. "Patient-Level Factors Associated with Treatment of Asymptomatic Bacteriuria in Hospitalized Patients" Gandhi T, Vaughn V, Conlon A, Nielsen D, **Eschenauer G**, Hsaiky L, Thyagarajan R, Malani A, Flanders S. Society for Healthcare Epidemiology of America (SHEA) conference, St. Louis, MO. March 2017.
25. "Evaluating the Need for Antibiotic Stewardship Services on Evening, Night and Weekend Shifts in a Large Academic Medical Center." Freeman T, **Eschenauer G**, Patel T, Nagel J. ASHP Midyear Meeting, Las Vegas, NV. December 2016.
26. "Optimizing Therapy for Patients with Bloodstream Infections: A Collaborative Approach Between an Antimicrobial Stewardship Program and Microbiology." UMHS Quality Month Celebration, Ann Arbor, MI. October 5, 2016.
27. "Outcomes Comparing Initial Fluconazole to Micafungin in ICU Patients with Candidemia ." Theodore D, Singh A, Loo A, **Eschenauer G**, Shields RK, Kubin CJ, Sobieszczyk M. IDWeek 2016, New Orleans, LA. October 2016.

28. "Retrospective Study of Outcomes Comparing Initial Treatment with Fluconazole or Micafungin in Immunosuppressed Patients with Candidemia." Singh A, Theodore D, Loo A, Shields RK, **Eschenauer G**, Sobieszczyk M, Kubin CJ. IDWeek 2016, New Orleans, LA. October 2016.
29. "Impact of a Multi-Faceted Stewardship Intervention on Duration of Antibiotic Therapy for the Treatment of Community-Acquired Pneumonia (CAP)." Foolad F, Huang A, Nguyen C, Mack M, Gandhi T, Colyer L, Lim M, **Eschenauer G**, Patel T, Marshall V, Nagel J. IDWeek 2016, New Orleans, LA. October 2016.
30. "Effect of an Antimicrobial Stewardship Intervention on Outcomes for Patients with Severe *Clostridium difficile* Infection." **Eschenauer G**, Patel TS, Gandhi T, Chenoweth C, Washer L, Chen B, Welch H, DeLeon J, Rao K, Nagel J. ASM Microbe Meeting, Boston, MA. June 2016.
31. "Evaluation of Pharmacist Review of Real-Time Positive Blood Cultures as Part of the Pharmacy Practice Model Initiative." Wein R, Schloemer R, Nagel J, **Eschenauer G**. ASHP Midyear Meeting, New Orleans, LA. December 2015.
32. "Effect of antimicrobial stewardship intervention on patient outcomes in *Clostridium difficile* colitis." Welch H, De Leon J, **Eschenauer G**, Nagel J. ASHP Midyear Meeting, New Orleans, LA. December 2015.
33. "Universal versus Targeted Antifungal Prophylaxis among Adult Liver Transplant Recipients." **Eschenauer GA**, Kwak EJ, Potoski BA, Clarke LG, Shields RK, Abdel-Massih R, Silveira FP, Vergidis P, Clancy CJ, Nguyen MH. ICAAC Meeting, Washington, DC. September 2014.
34. "Clinical and Economic Impact of a Formal Intervention Program Targeting Carbapenem-Resistant *Klebsiella pneumoniae* (CRKP) Bacteremia." Potoski BA, Shields RK, **Eschenauer GA**, Nguyen MH, Clancy CJ. ICAAC Meeting, Washington, DC. September 2014.
35. "Impact of Antimicrobial Stewardship Program (ASP) Intervention on Outcomes of *Pseudomonas aeruginosa* (PsA) Infection with Reduced Susceptibility to Cefepime (CFM) or Piperacillin-Tazobactam (PTZ)." Nagel J, Nguyen C, Hunt A, Hur M, Kunapuli A, **Eschenauer G**, Gandhi T. ICAAC Meeting, Washington, DC. September 2014.
36. "Fluconazole versus echinocandin for *Candida glabrata* fungemia." **Eschenauer GA**, Nguyen MH, Lin S, Klinker KP, Chen Y, Carver PL, Shields RK, Potoski BA, Clancy CJ, Lam SW. SCCM Meeting, Houston, TX. February 2012.
37. "*Pseudomonas aeruginosa* (PSA) combination antibiogram: incorporating pharmacodynamic breakpoints (PDB) to identify most appropriate empiric regimens." Zhang K, **Eschenauer GE**, Potoski BA. ACCP Meeting, Pittsburgh, PA. October 2011.
38. "*de novo* Emergence of Colistin-Resistant *Acinetobacter baumannii* (CRA) after colistin (COL) exposure." Potoski BA, Klima KA, **Eschenauer GE**, Shields RK, Nguyen MH, Doi Y. ICAAC Meeting, Chicago, IL. September 2011.
39. "Epidemiology, risk factors and outcomes of *Klebsiella pneumoniae* carbapenemase (kpc) infections in solid organ transplant (tx) recipients." Shields RK, Nguyen MH, Kwak EJ, Silveira FP, Abdel Massih RC, Potoski BA, **Eschenauer G**, Clancy CJ. ICAAC Meeting, Chicago, IL. September 2011.

40. "Treatment with colistin (col) and a carbapenem (crb) improves success rates against extreme and pan- drug resistant *Acinetobacter baumannii* (xdr- and pdr- ab) and limits emergence of col resistance." Shields RK, Clancy CJ, Kwak EJ, Silveira FP, Abdel Massih RC, Potoski BA, **Eschenauer G**, Nguyen MH. ICAAC Meeting, Chicago, IL. September 2011.
41. "Bloodstream infections in intestinal transplant recipients are associated with low mortality rates despite the predominance of late-onset infections and the emergence of *Serratia* and other gram-negative bacteria." Shields RK, Minces L, Kwak EJ, Silveira F, Potoski BA, **Eschenauer GA**, Abu-Elmagd K, Nguyen MH, Clancy C. IDSA Meeting, Vancouver, BC. October 2010.
42. "Candidemia in the 21st century: no changes in mortality despite increased use of an expanded antifungal armamentarium." Shields RK, Clancy CJ, Potoski BA, **Eschenauer GA**, Nguyen MH. ICAAC Meeting, Boston, MA. September 2010.
43. "Mutations in FKS genes are associated with caspofungin treatment failure in patients with systemic *Candida glabrata* infections." Shields RK, Nguyen MH, Du C, Cheng S, Potoski BA, **Eschenauer GA**, Clancy CJ. ICAAC Meeting, Boston, MA. September 2010.
44. "Risk factors associated with breakthrough candidemia in patients receiving prophylactic / empiric antifungal therapy." Lam SW, Kludze-Forsen M, **Eschenauer GA**. Society of Critical Care Meeting, Nashville, TN. February 2009.
45. "Evaluation of de-escalation of empiric piperacillin-tazobactam therapy." Maniar S, O'Neil K, Kubin C, **Eschenauer G**. ASHP Midyear Clinical Meeting, Orlando, FL. December 2008.
46. "Impact on mortality of delaying the initiation of appropriate antifungal treatment of candida bloodstream infection." Lam SW, Kludze-Forsen M, Kubin CJ, **Eschenauer GA**. ICAAC Meeting. Washington, DC. October 2008.
47. "Tigecycline outcomes for infections due to multi-drug resistant gram-negative organisms." Hu J, Yin MT, Furuya EY, **Eschenauer G**, Hartman B, Hammer SM, Lowy FD, Kubin CJ. ICAAC Meeting, Chicago, IL. September 2007.
48. "Pharmacoeconomic analysis of susceptibility testing in patients with documented candida glabrata fungemias." Collins CD, **Eschenauer GA**, Salo S, Newton DW. ICAAC Meeting, San Francisco, CA. September 2006.
49. "Effect of continuous enteral nutrition on the bioavailability of itraconazole oral solution." **Eschenauer GA**, Kraft M, DePestel DD, Carver P. MAD-ID Meeting, Orlando, FL. April 2006. Great Lakes Pharmacy Residency Conference, West Lafayette, IN. April 2006. ASHP Midyear Clinical Meeting, Las Vegas, NV. December 2005.
50. "Risks for CHD (coronary heart disease) in newly admitted adult psychiatry inpatients." Guthrie SK, **Eschenauer G**, Kirsch PT. 9th Annual Meeting of the College of Psychiatric and Neurologic Pharmacists, Baltimore, MD. April 2006.
51. "The four pillars of change: Dissecting USP Chapter 797." Patel A, Foster R, **Eschenauer G**, Khalidi N. ASHP Midyear Clinical Meeting, Orlando, FL. December 2004.

52. "Assessing risk factors for coronary heart disease in patients admitted to an adult inpatient psychiatry unit." **Eschenauer GE**, Guthrie S. Great Lakes Pharmacy Residency Conference, West Lafayette, IN. April 2005. ASHP Midyear Clinical Meeting, Orlando, FL. December 2004.
53. "Effects of atypical antipsychotics on serum lipids: A retrospective chart review." **Eschenauer GE**, Thomas C. 7th Annual Meeting of the College of Psychiatric and Neurologic Pharmacists, Chicago, IL. April 2004. ASHP Midyear Clinical Meeting, New Orleans, LA. December 2003.

Invited Lectures, Presentations, and Continuing Education Programs

"Early Antifungals in the ICU: Untangling the Unnecessarily Complex".
Society of Infectious Diseases Pharmacist Annual Meeting. November 14, 2020.

"Pharmacist's Role in HIV Treatment, Management, and Prevention"
SNPhA HIV/AIDS Remember the Ribbon Talk. October 21, 2020.

"Update on Beta-Lactam Allergy"
Michigan Medicine Pharmacy Grand Rounds. October 10th, 2019.

"Update on Beta-Lactam Allergy"
University of Michigan Infectious Diseases Grand Rounds. March 6th, 2019.

"Ocular Candidiasis."
University of Michigan Ophthalmology Grand Rounds. August 23rd, 2018.

Clostridium difficile Infection in Adults and Children. Co-author. Available through the University of Michigan CME web site: <http://ocpd.med.umich.edu/>

"Looking Back, Looking Forward: Infectious Diseases"
Tom D. Rowe 66th Annual Pharmacy Lectures, Ann Arbor, MI. October 26, 2017.

"Will You Be Compliant with the Antibiotic Stewardship Program Requirements by 2020?"
Michigan Society of Health-System Pharmacists Annual Meeting, Grand Rapids, MI. October 28, 2016.

"Ocular Infections Guideline."
University of Michigan Ophthalmology Pre- Grand Rounds. September 21st, 2017.

"Antibiotic Stewardship Update"
University of Michigan Internal Medicine-Pediatrics Conference. March 11th, 2016.

"Antibiotic Stewardship Update: Back to Basics"
University of Michigan Infectious Diseases Grand Rounds. March 2nd, 2016.

"Update on Invasive Candidiasis Treatment in the ICU."
Program presentation at ASHP Midyear Clinical Meeting, New Orleans, LA. December 7, 2015.

"MRSA bacteremia with vancomycin MIC= 2: are the guidelines still relevant?"
University of Michigan Infectious Diseases Grand Rounds. April 30th, 2014.

“CLSI *Candida* Breakpoint Revisions.”

University of Michigan Infectious Diseases Grand Rounds. April 9th, 2014.

“Universal Versus Targeted Antifungal Prophylaxis in Liver Transplant Recipients at UPMC”.

University of Pittsburgh Transplant Infectious Diseases Research Meeting. April 4, 2014.

“Update on Antibiotics”.

University of Pittsburgh School of Medicine Update in Internal Medicine 2013: Evidence-Based Approaches to Common Medical Problems. Published in online audio CME journal: *Audio-Digest Internal Medicine*. Pittsburgh, PA October 7, 2013.

“The UPMC XDR Pathogen Laboratory and Antimicrobial Management Program: Partnering to Devise Strategies to Combat Infections by Extensively Drug Resistant Gram Negative Bacteria”.

University of Pittsburgh Department of Infectious Diseases Grand Rounds. June 2013.

“Echinocandin vs. Fluconazole Debate”.

University of Pittsburgh Department of Infectious Diseases Grand Rounds. February 2013.

“Caspofungin Susceptibility Reporting”.

University of Pittsburgh Department of Infectious Diseases Grand Rounds. November 2012.

“Susceptibility Testing Changes.”

University of Pittsburgh Department of Infectious Diseases Grand Rounds. September 2012.

“Infectious Diseases 2012 Update.”

University of Pittsburgh Department of Medicine Grand Rounds. June 2012.

“Antibiotic Management Program Update.”

University of Pittsburgh Department of Infectious Diseases Grand Rounds. May 2012.

“Cystitis, Pyelonephritis, and Intra-abdominal Infections.”

University of Pittsburgh Department of Infectious Diseases Grand Rounds. October 2011.

“Colistin, Linezolid, and Daptomycin.”

University of Pittsburgh Department of Infectious Diseases Grand Rounds. November 2010.

“Antifungals.”

Columbia University Medical Center Department of Infectious Diseases Conference. July 2008.

“Update on Antibiotic PK/PD.”

Columbia University Medical Center Department of Infectious Diseases Conference. April 2008.

“Antifungals.”

Columbia University Medical Center Department of Pharmacy Grand Rounds. November 2007.

“Antifungals.”

Columbia University Medical Center Department of Infectious Diseases Conference. July 2007.

“A discussion of the guidelines for the management of adults with hospital-acquired, ventilator-associated, and healthcare-associated pneumonia.”

Program presentation at ASHP Midyear Clinical Meeting, Anaheim, CA. December 2006.

Publications

*Note: Residents** and students* under my direction are indicated by asterisk(s)*

Research

1. Pogue JM, Lauring AS, Gandhi TN, Marshall VD, **Eschenauer GA**, Nagel JL, Baang JH, Zhou S, Valesano AL, Petty LA. Monoclonal antibodies for early treatment of Covid-19 in a world of evolving SARS CoV-2 mutations and variants. *Open Forum Infect Dis* 2021 (in press).
2. Somers EC, **Eschenauer GA**, Troost JP, Golob JL, Gandhi TN, Wang L, Zhou N, Petty LA, Baang JH, Dillman NO, Frame D, Gregg KS, Kaul DR, Nagel J, Patel TS, Zhou S, Lauring AS, Hanauer DA, Martin E, Sharma P, Fung CM, Pogue JM. Tocilizumab for treatment of mechanically ventilated patients with COVID-19. *Clin Infect Dis* 2020 (in press).
3. Tran N**, Mills JP, Zimmerman C, Gandhi TN, Tribble AC, Petty LA, Nagel J, Brancaccio A, Scappaticci G, Patel T, Dillman NO, Regal R, Klein KC, Washer L, Marshall VD, Sweeney J, Rao K, **Eschenauer GA**. Incorporating Preauthorization into Antimicrobial Stewardship Pharmacist Workflow Reduces *Clostridioides difficile* and Gastrointestinal Panel Testing. *Infect Control Hosp Epidemiol* 2020;41:1136- 1141.
4. **Eschenauer GA**, Xiao L, Waites KB, Crabb DM, Ratliff AE, Gandhi TN, Riddell J IV, Kaul DR. Macrolide-resistant *Mycoplasma pneumoniae* pneumonia in transplantation: increasingly typical? *Transplant Infect Dis* 2020;22:e13318.
5. Zimmerman C, Barwig K, **Eschenauer GA**. Impact of a Medication Administration Record Warning on Inappropriate Co-administration of Fluoroquinolone Antibiotics with Cation-Containing Medications. *Am J Health Syst Pharm* 2020;77:1827- 1829.
6. Petty LA, Vaughn VM, Flanders SA, Malani AN, Conlon A, Kaye KS, Thyagarajan R, Osterholzer D, Nielsen D, **Eschenauer GA**, Bloemers S, McLaughlin E, Gandhi TN. Risk Factors and Outcomes Associated with Treatment of Asymptomatic Bacteriuria in Hospitalized Patients: A Multi-Hospital Cohort Study. *JAMA Intern Med* 2019;179:1519- 1527.
7. **Eschenauer G**, Carver P, Patel T, Lin SW, Klinker K, Pai M, Lam S. Survival in Patients with *Candida glabrata* Bloodstream Infections is Associated with Fluconazole Dose. *Antimicrob Agents Chemother* 2018;62:e02566-17.
8. Foolad F, Huang A, Nguyen C, Mack M, Colyer L, Lim M, Grieger J, Li J, Revolinski S, Gandhi T, Wainaina N, **Eschenauer G**, Patel T, Marshall V, Nagel JL. A Multicenter Stewardship Initiative to Decrease Excessive Duration of Antibiotic Therapy for the Treatment of Community-Acquired Pneumonia. *J Antimicrob Chemother* 2018;73:1402–1407.
9. Welch HK*, Nagel JL, Patel TS, Tandhi TN, Chen B, De Leon J, Chenoweth CE, Washer LL, Rao K, **Eschenauer GA**. Effect of an Antimicrobial Stewardship Intervention on Outcomes for Patients with *Clostridium difficile* Infection. *Am J Infect Control* 2016;44:1539-1543.

10. Nguyen C, Gandhi T, Chenoweth C, Lassiter J, Dela Pena J, **Eschenauer G**, Nagel JL. Impact of an antimicrobial stewardship led initiative to improve adherence with quality performance measures for the management of *Staphylococcus aureus* bacteremia. *J Antimicrob Chemother* 2015;70:3390-3396.
11. Espinel-Ingroff A, Alvarez-Fernandez M, Cantón E, Carver P, Chen S, **Eschenauer G**, Getsinger D, González G, Govender N, Grancini A, Hanson K, Kidd S, Klinker K, Kubin C, Kus J, Lockhart S, Meletiadiis J, Morris A, Pelaez T, Quindós G, Rodriguez-Iglesias M, Sánchez-Reus F, Shoham S, Wengenack N, Borrell N, Echeverria J, Esperalba J, Gómez-G. de la Pedrosa E, García-García I, Linares-Sicilia M, Marco F, Merino P, Pemán J, Pérez del Molino L, Roselló E, Rubio Calvo C, Ruiz-Pérez de Pipaon M, Yague G, Garcia-Effron G, Guinea J, Perlin D, Sanguinetti M, Shields R, Turnidge J. Multi-center study of epidemiological cutoff values and detection of resistance in *Candida* spp. to anidulafungin, caspofungin and micafungin using the Sensititre YeastOne colorimetric method. *Antimicrobial Agents and Chemotherapy* 2015;59:6725- 6732.
12. Shields RK, Nguyen MH, Potoski BA, Press EG, Chen L, Kreiswirth BN, Clarke LG, **Eschenauer GA**, Clancy CJ. Doripenem minimum inhibitory concentrations and ompK36 porin genotypes of ST258, KPC-producing *Klebsiella pneumoniae* may predict responses to carbapenem-colistin combination therapy among patients with bacteremia. *Antimicrob Agents Chemother* 2015;59:1797-1801.
13. **Eschenauer GA**, Kwak EJ, Potoski BA, Clarke LG, Shields RK, Abdel-Massih R, Silveira FP, Vergidis P, Clancy CJ, Nguyen MH. Targeted versus Universal Antifungal Prophylaxis among Liver Transplant Recipients. *Am J Transplant* 2015;15:180-9.
14. **Eschenauer GA**, Nguyen MH, Shoham S, Vazquez JA, Morris AJ, Pasculle WA, Kubin CJ, Klinker KP, Carver PL, Hanson KE, Chen S, Lam SW, Potoski BA, Clarke LG, Shields RK, Clancy CJ. Real-world experience with echinocandin MICs against *Candida* species: A multi-center study of hospitals that routinely perform susceptibility testing of bloodstream isolates. *Antimicrob Agents Chemother* 2014;58:1897-906
15. **Eschenauer GA**, Carver PL, Lin SW, Klinker KP, Chen YC, Potoski BA, Shields RK, Clancy CJ, Nguyen MH, Lam SW. Fluconazole versus echinocandin for *Candida glabrata* fungemia: A retrospective cohort study. *J Antimicrob Chemother* 2013;68:922-926.
16. Shields RK, Clancy CJ, Gillis LM, Kwak EJ, Silveira FP, Abdel-Massih RC, **Eschenauer G**, Potoski BA, Nguyen MH. Extensively drug-resistant *Acinetobacter baumannii* infections among solid organ transplant recipients: treatment with colistin and a carbapenem improves clinical outcomes and limits emergence of colistin resistance. *PLoS One* 2012;7: e52349.
17. Nguyen M**, **Eschenauer GA**, Bryan M, O'Neil K, Furuya EY, Della-Latta P, Kubin CJ. Carbapenem resistant *Klebsiella pneumoniae* bacteremia: factors correlated with clinical and microbiological outcomes. *Diagn Microbiol Infect Dis* 2010;67:180-184.
18. Kludze-Forsom M**, **Eschenauer GA**, Kubin CJ, Della-Latta P, Lam SW. The impact of delaying the initiation of appropriate antifungal treatment for *Candida* bloodstream infection. *Med Mycol* 2010;48:436- 439.

19. Collins CD, **Eschenauer GA**, Salo S, Newton DW. To test or not to test: A cost-minimization analysis of susceptibility testing in patients with documented *Candida glabrata* fungemias. *J Clin Microbiol* 2007;45:1884-1888.
20. **Eschenauer G**, Fedwa K, Collins C, Alaniz C. Compliance with institutional guidelines on the use of vancomycin in a medical intensive care unit. *Hosp Pharm* 2006;41:749-753.

Book Chapters

1. **Eschenauer GA**, Buehrle D, Potoski BA. Central nervous system infections. In: Zeind CS, Carvalho MG, eds. *Applied therapeutics: the clinical use of drugs*. 11th ed. Philadelphia, USA: Wolters Kluwer, 2017.
2. Mohammad RA, **Eschenauer GA**, Matzke GR. Drug therapy in renal failure. In: Vincent JL, Abraham E, Moore FA, Kochanek PM, Fink MP, eds. *Textbook of Critical Care*. 6th ed. Philadelphia, USA: Elsevier Saunders, 2011: 1294- 1302.
3. **Eschenauer GA**, Potoski BA, Dudas V. Central nervous system infections. In: Allredge BK, Corelli RL, Ernst ME, Guglielmo BJ, Jacobson PA, Kradjan WA, Williams BR, eds. *Applied therapeutics: the clinical use of drugs*. 10th ed. Philadelphia, USA: Lippincott Williams & Wilkins, 2012: 1468-1488.

Reviews

1. Klatt ME**, **Eschenauer GA**. Review of Pharmacologic Considerations in the Use of Azole Antifungals in Lung Transplant Recipients. *J Fungi* 2021;7:76.
2. Lew AK**, Crass RL, **Eschenauer G**. Evolution of Equations for Estimating Renal Function and Their Application to the Dosing of New Antimicrobials. *Ann Pharmacother* 2020;54:496- 503.
3. Patel T, Carver P, **Eschenauer GA**. Are In Vitro Susceptibilities to Azole Antifungals Predictive of Clinical Outcome in the Treatment of Candidemia?" *J Clin Microbiol* 2018;56:e01072-18.
4. Foolad F, Nagel J, **Eschenauer G**, Patel T, Nguyen C. Disease-Based Antimicrobial Stewardship: A Review of Active and Passive Approaches to Patient Management. *J Antimicrob Chemother* 2017;72:3232–3244.
5. Carver PL, **Eschenauer GA**, Stuckey L, Patel T. Antifungal Prophylaxis in Lung Transplant Recipients. *Transplantation* 2016;100:1815-1826.
6. **Eschenauer GA**, Lam SW, Mueller BA. Dose Timing of Aminoglycosides in Hemodialysis Patients: A Pharmacology View. *Semin Dial* 2016;29:204-13.
7. **Eschenauer GA**, Nguyen MH, Clancy CJ. Is Fluconazole or an Echinocandin the Agent of Choice for Candidemia. *Ann Pharmacotherapy* 2015;49:1068-1074.
8. Pogue JM, Potoski BA, Postelnick M, Mynatt RP, Trupaino DP, **Eschenauer GA**, Kaye KS. Bringing the "Power" to Cerner's Powerchart for Antimicrobial Stewardship. *Clin Infect Dis* 2014;59:416-424.

9. **Eschenauer GA**, Carver PL. The evolving role of antifungal susceptibility testing. *Pharmacotherapy* 2013;33:465-475
10. **Eschenauer GA**, Lam SW, Carver PL. Antifungal prophylaxis in liver transplant recipients. *Liver Transpl* 2009;15:842- 858.
11. Lam SW, **Eschenauer GA**, Carver PL. Evolving role of early antifungals in the intensive care unit. *Crit Care Med* 2009;37:1580- 1593.
12. **Eschenauer G**, Carver PL, DePestel D. A comparison of echinocandin antifungals. *Therapeutics and Clinical Risk Management* 2007;3:71-97.
13. **Eschenauer G**, Sweet BV. Pharmacology and therapeutic uses of theanine. *Am J Health Syst Pharm* 2006;63:26-30.

Letters/Commentaries

1. **Eschenauer GA**. Antifungal stewardship: Still catching up? Commentary on “Variability in antifungal stewardship strategies among Society for Healthcare Epidemiology of America (SHEA) Research Network facilities”. *Infect Control Hosp Epidemiol* 2020;41:590- 591. (Invited Commentary).
2. Freeman T, **Eschenauer G**, Patel T, Gandhi T, Petty L, Chenoweth C, Santarossa M, Nagel J. Evaluating the need for Antibiotic Stewardship Prospective Audit and Feedback on Weekends. *Infect Control Hosp Epidemiol* 2017;38:1262- 1263.
3. **Eschenauer GA**, Nagel JL, Kubin CJ, Lam SW, Patel TS**, Potoski BA. Calming the "Perfect Storm" in Methicillin-Resistant *Staphylococcus aureus* Bacteremia: A Call for a More Balanced Discussion. *Clin Infect Dis* 2015;60:670-671.
4. **Eschenauer GA**, Lam SW. Supratherapeutic oseltamivir levels during continuous dialysis: an expected risk. *Intensive Care Med* 2011;37:371.
5. Lam SW, **Eschenauer GA**. Letter to the editor: Identifying patients at risk of chronic kidney disease. *Am Fam Physician* 2007;76:1454.
6. **Eschenauer G**, Regal R, DePestel D. Antibiotic allergy (Correspondence). *N Engl J Med* 2006;354:2293-2294.
7. **Eschenauer G**, Collins CD, Regal RE. Azithromycin-Warfarin interaction: Are we fishing with a red herring? *Pharmacotherapy* 2005;25(4):630–631).

Other Contributions

Expert Reviewer, Infectious Diseases Self-Assessment Program (IDSAP). *Infections in Immunocompromised Patients, Candidiasis/Candidemia*. Release Date May 17, 2021. American College of Clinical Pharmacy

Chenoweth C, Dillman N, **Eschenauer G**, Gandhi T, Klein K, McClung D, Nagel J, Patel T, Petty L, Tribble A. *Guidelines for Antimicrobial Use in Adult Patients, 6th edition (2016)*. University of Michigan Health System Antimicrobial Stewardship Program.

Gandhi, TN, Rao, K, Arnold, MA, **Eschenauer, G**, Kao, JY, Napolitano, LM, Seagull, FJ, Somand, DM, Tribble, Alison, Valyko, AM, Washer, LL, Watson, Jr, ME. Clostridioides difficile Infection in Adults and Children [Internet]. Ann Arbor (MI): Michigan Medicine University of Michigan; 2019 December. Available from <https://pubmed.ncbi.nlm.nih.gov/32510895/>. PubMed PMID: 32510895 and from UMHS at <http://www.uofmhealth.org/provider/clinical-care-guidelines>

Expert Reviewer, Ambulatory Care Self-Assessment Program (ACSAP), 2016 Book 3, Infection Primary Care. American College of Clinical Pharmacy

Potoski BA, Nguyen H, Shields RK, Byers K, Veldkamp P, Vergis E, Pasculle W, **Eschenauer GA**, Muto C, Skledar S, Falcione B, Glowa T, Gillis LM. Guide to Antimicrobial Chemotherapy, 8th edition (2013). UPMC Presbyterian Antibiotic Management Program.

Potoski BA, Nguyen H, Shields RK, Byers K, Veldkamp P, Vergis E, Pasculle W, **Eschenauer GA**, Muto C, Skledar S, Falcione B, Glowa T, Gillis LM. Guide to Antimicrobial Chemotherapy, 7th edition (2012). UPMC Presbyterian Antibiotic Management Program.

Grants

Multi-center evaluation of outpatient antibiotic utilization for treatment of urinary tract infection. Making a Difference in Infectious Diseases (MAD-ID). PI: Nagel. Co-Investigator (2018- 2020).

AUR NHSN module data lift to CDC Project. PI: Nagel, J. Co-Investigator (2017)

Community Acquired Pneumonia Duration of Therapy Initiative. Investigator-initiated research grant from Merck, Inc. PI: Nagel, J. \$197,650.00 (2015- 2017)

BCBS HMS Project - Quality Consortium Grant, 5% effort, Co-Investigator (2015- 2016)

University and Hospital Service

University of Michigan College of Pharmacy

Member, Admissions (2016- present)

Member, Executive Committee (2020- present)

Member, Pharm.D. Investigations (2013- 2017)

Member, Practitioner Relations/CE (2013- present)

Ad Hoc Promotion Committee, Member (2018 Assistant Professor Review)

Ad Hoc Promotion Committee, Chair (2018 Assistant Professor Review)

University of Michigan Hospital

Member, Antibiotic Subcommittee (2013- present)

Member, Antibiotic Stewardship Team (2013- present)

Member, Infection Control Committee (2013- present)

Member, Clostridium difficile Guideline Team (2013- present)

Member, Clostridium difficile Workgroup (2013- present)

Member, Proton Pump Inhibitor Workgroup (2016- 2018)

Member, Medication Expense Tracking and Expense Reduction (METER) Group (2013- present)

Lead, Specific Ebola Treatment task preparedness, Incident Management Group (2013- 2014)
 Member, Michigan Hospital Medicine Safety (HMS) Consortium Antimicrobial Stewardship Initiative (2013- present)
 Member, Clinical Workflow Group (2014- 2015)

University of Pittsburgh Medical Center (2009- 2013)

Member, Antibiotic Management Program
 Member, Infection Control Committee
 Member, Clostridium difficile Task Force
 Member, Quality Pneumonia and Vaccine Task Force
 Member, UPMC eRecord Immunization Committee
 Member, System P&T Safety and Quality Subcommittee: Antibiotic Management

New York Presbyterian Hospital

Member, Residency Advisory Committee (2008- 2009)
 Antimicrobial Subcommittee (2006- 2009)

External Service

2021- present	Member, NIH COVID-19 Treatment Guidelines Panel SIDP representative
2019- present	Member, Infectious Diseases Society of America (IDSA) Member, HIV Medicine Association (HIVMA)
2019- present	Member, Michigan Infectious Diseases Society
2016- present	Member, Michigan Society of Health-System Pharmacists (MSHP) Antimicrobial Stewardship Task Force Committee
2005- present	Society of Infectious Diseases Pharmacists 2017- 2018 Past Chair, Recognition Awards Committee 2016- 2017 Chair, Recognition Awards Committee 2014- 2019 Member, Recognition Awards Committee 2019- present Member, Guidelines Committee 2015- 2016 Member, Fellowship Application Subcommittee 2013- 2014 Member, Elections Committee 2013- 2014 Member, Annual Report Committee
2005- present	ACCP Infectious Diseases Practice and Research Network 2014- 2015 Member, Awards Committee
2005- present	American College of Clinical Pharmacy
2005- present	American Society for Microbiology
2014- 2017	American Society of Health-System Pharmacists

2002- present Rho Chi Pharmaceutical Honor Society
2001- 2002 Mortar Board

Professional Reviewer

American Journal of Health-System Pharmacy
American Journal of Infection Control
American Journal of Transplantation
Annals of Pharmacotherapy
Antimicrobial Agents and Chemotherapy
BMC Anesthesiology
Clinical Infectious Diseases
Critical Care
Diagnostic Microbiology and Infectious Diseases
Expert Review of Anti-Infective Therapy
Infection Control and Hospital Epidemiology
Journal of Antimicrobial Chemotherapy
Journal of Clinical Pharmacy and Therapeutics
Journal of Critical Care
Medical Mycology
Mycoses
New England Journal of Medicine
Open Forum Infectious Diseases
Pharmacotherapy
Transplant Infectious Diseases
Transplant International

Other Reviewer Activities

External Promotion and Tenure Review, University of California Irvine College of Pharmacy (2020)

Consulting

2018 — Present Clinical Consultant
 Wolters Kluwer, Clinical Drug Information