

PROMOTION RECOMMENDATION  
UNIVERSITY OF MICHIGAN  
MEDICAL SCHOOL  
DEPARTMENT OF PEDIATRICS AND COMMUNICABLE DISEASES

Gail M. Annich, M.D., associate professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School, is recommended for promotion to professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School.

Academic Degrees:

M.S.	1997	University of Michigan
M.D.	1988	University of Alberta
B.A.	1986	University of Alberta

Professional Record:

2007-present	Associate Professor of Pediatrics and Communicable Diseases, University of Michigan
2000-2007	Assistant Professor of Pediatrics and Communicable Diseases, University of Michigan
1997-2000	Lecturer, Department of Pediatrics and Communicable Diseases, University of Michigan

Summary of Evaluation:

Teaching: Dr. Annich is a dedicated and respected educator of all learner groups. She has been consistently ranked as one of the top resident teachers in the department for the past several years and also received the Faculty Teaching Award for the department in 2012. Over the years, she has effectively mentored many residents and fellows, with some who have gone on to become independent NIH-funded researchers. In addition to traditional bedside teaching, Dr. Annich often uses the Clinical Simulation Center in education of her trainees. Here, her students receive the “practical aspects” of critical care medicine that involves team training with multidisciplinary groups and includes an active Mock Code program, maintenance of clinical competencies, and teamwork training for safe patient care. In her role as medical director of the Clinical Simulation Center, Dr. Annich is also working with a group to develop a credentialing program for simulation instructors and how to teach simulation. Her simulation center role also encompasses being the medical lead for the American Heart Association programs which are run through the simulation center. In this role she serves both as an instructor for many of the courses, as well as a co-director for how to administer these programs better and maintain continuity of this knowledge rather than only having re-education at the time of recertification. Additionally, as director of fellowship programs for the Department of Pediatrics, Dr. Annich works diligently with all the department’s fellowship directors to ensure the highest quality of education while navigating through the changing national requirements of these programs.

Research: Dr. Annich’s research focuses on biomaterials and the development of biocompatible artificial surfaces to decrease the hemorrhagic and thrombotic risks to patients while increasing the longevity of implantable and extracorporeal devices. In this area, she has published 26 papers, five

book chapters, and was senior editor for one textbook since her promotion to associate professor. She has been an invited speaker at 33 meetings, international and national, and continues to secure grant funding for her investigations. She has maintained co-investigator status on several large R01 grants that support our Extracorporeal Life Support Laboratory and has also secured intramural funding through MICHR and Global Reach for device related research. Most recently, Dr. Annich is the principal investigator on a Federal Drug Administration grant designed to develop and produce nitric oxide releasing catheters used in ECMO circuits for the neonatal population to allow for maintenance of patency without the use of extrinsic anticoagulants. She is also a significant co-investigator with Dr. Robert Bartlett on an NIH grant to study the development of implantable artificial lung technology for children. Dr. Annich is also a co-investigator on a pending NIH application with Dr. Robert Bartlett and Dr. Mark Meyerhoff from the Department of Chemistry to combine the basic chemistry of nitric oxide production with biologic evaluation in animal models leading to clinical application.

#### Recent and Significant Publications:

Fleming GM, Gurney JG, Donohue JE, Remenapp RT, Annich GM: Mechanical component failures in 28,171 neonatal and pediatric ECMO courses from 1987-2006. *Pediatric Critical Care Medicine* 10:439-444, 2009.

Major T, Brant D, Reynolds M, Handa H, Bartlett RH, Meyerhoff ME, Annich GM: Attenuation of platelet and monocyte activation in a rabbit model of extracorporeal circulation by a nitric oxide releasing polymer. *Biomaterials* 31:2736-45, 2010.

Reynolds M, Annich GM: The artificial endothelium [Review]. *Organogenesis* Jan 1;7, 2011.

Bembea MM, Annich GM, Rycus P, Oldenburg G, Berkowitz I, Pronovost P: Variability in anticoagulation management of patients on extracorporeal membrane oxygenation: an international survey. *Pediatric Critical Care Medicine* 14:e77-e84, February 2013.

Wagner D, Pasko D, Phillips K, Waldvogel J, Annich GM: *In vitro* clearance of dexmedetomidine in extracorporeal membrane oxygenation. *Perfusion* 28:40-46, 2013.

Service: Over the years Dr. Annich has served as the educational liaison for the Pediatric Intensive Care Unit (PICU) where she instituted the highest level of standards for the intensive care training of pediatric, emergency and med/peds residents. She has served as a research mentor for numerous PICU and pediatric cardiology fellows and as the assistant director of fellowship programs for the department from 2010 to 2012. In 2011, Dr. Annich was appointed medical director of the PICU and in 2012 associate director of fellowship programs. She is chair of the Pediatric CPR Committee and Rapid Response Team for C.S. Mott Children's Hospital and the Von Voigtlander Women's Hospital. Dr. Annich serves as director of Pediatric Extracorporeal Membrane Oxygenation (ECMO) for C.S. Mott and Von Voigtlander and is co-director of ECMO for the University of Michigan Health System (UMHS). Dr. Annich is also the medical director of the Clinical Simulation Center for UMHS.

#### External Reviewers:

Reviewer A: "Dr. Annich's scholarly research centers around extracorporeal life support, and in particular, antithrombosis during extracorporeal circulation....Dr. Annich is internationally

recognized as a thought leader in the field....she is a sought-after lecturer, advisor and collaborator at the national and international level.”

Reviewer B: “Her expertise and devotion to bringing along the next generation of physicians is recognized by the Faculty Teaching Award she received in 2012. This is highly prestigious and is a testament to the level of respect and admiration Dr. Annich has among junior physicians. Dr. Annich also has taken on new and innovative aspects of medical training throughout her career, currently noted by her involvement and leadership in simulation. This form of training is becoming a vital part of medical education.”

Reviewer C: “Her achievements have clearly established her in the top tier of pediatric intensivists in the country....Perhaps the best example, both of her expertise and of her service, was Gail’s selection to edit the most recent edition of the ELSO Redbook, the ‘Bible’ of extracorporeal support around the world.”

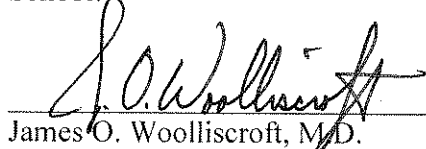
Reviewer D: “She has a reputation as a fierce patient advocate and ally of bedside nursing staff, and has earned a reputation as a strong advocate for patient safety. Dr. Annich seems to embody the role of senior leader within the Division of Critical Care, a necessity for the creation of a healthy ICU environment and preservation of the highest levels of patient care.”

Reviewer E: “Within the pediatric intensive care community, she is widely regarded as an outstanding teacher of the theory and practice of critical care medicine....Dr. Annich was ranked as one of the Top Resident Teachers in the Department six times, and in 2012, she received the Department Faculty Teaching Award.”

Reviewer F: “Her research in extracorporeal circuit design related to non-thrombogenic materials is truly landmark and has established her as an international leader in this area, as noted by her invited speaker invitations and participation in key organizations such as the Extracorporeal Life Support Organization, and her participation as an editor on key journals in both ECLS and PCCM.”

Summary of Recommendation:

Dr. Gail Annich is a highly valued, highly accomplished senior member of the Department of Pediatrics. She is a dedicated leader within her specialty, the department, the institution and beyond. I am pleased to recommend Gail M. Annich, M.D. for promotion to professor of pediatrics and communicable diseases, with tenure, Department of Pediatrics and Communicable Diseases, Medical School.



James O. Woolliscroft, M.D.

Dean

*Lyle C. Roll Professor of Medicine*

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