

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

Joseph R. Custer, 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.D.	1972	University of Minnesota
B.A.	1968	University of Minnesota

Professional Record:

1990-Present	Associate Professor of Pediatrics and Communicable Diseases, University of Michigan
1984-1990	Assistant Professor of Pediatrics and Communicable Diseases, University of Michigan
1979-1983	Instructor in Pediatrics, Harvard Medical School

Summary of Evaluation:

Teaching: Dr. Custer has received numerous accolades throughout his career from the medical students, residents and notably, Critical Care fellows whom he has taught. By establishing the Pediatric Critical Care Medicine (PCCM) Fellowship Program, Dr. Custer has impacted the careers of numerous trainees. Included among the graduates of this successful training program are three current members of the division's faculty as well as division chiefs at several academic centers. In his recent tenure Dr. Custer has compiled a "Mini-Course" on PICU (Pediatric Intensive Care Unit) Physiology which he provides over the course of the year during PCCM Fellows' Conference which has been highly valued by our fellows. He is universally evaluated as a tremendous bedside teacher by both PCCM fellows as well as the residents rotating through the PICU. He is particularly adept at teaching procedures, particularly endotracheal intubation, central venous catheter placement and bronchoscopy. This reputation as a respected teacher extends beyond the University of Michigan as reflected by the numerous invited teaching roles he has had including: being invited faculty for the Pediatric Critical Care Medicine Board Preparation course sponsored by Children's National Medical Center, and as author of the critical care-based chapters on "Shock" and "Pediatric Procedures" in the most recent edition of the ABP-sponsored, *Primary Pediatric Care* edited by R.A. Hoekelman. Finally, he has been a member of the planning committee and faculty of the educational courses provided by the University's Extracorporeal Life Support Organization over the past 15 years. In this capacity he has been a part of the curricular program run by the Extracorporeal Membrane Oxygenation (ECMO) Service here that is responsible for training nearly all of the personnel who run ECMO

support at institutions throughout the country. Through this activity and as reflected in his evaluations, Dr. Custer is both a passionate and exemplary teacher.

Research: During this most recent tenure, Dr. Custer's research focus has evolved. As reflected in his publication record, much of his focus has been on important clinical observations that have greatly impacted patient care in the Pediatric Intensive Care Unit (PICU). He has published extensively on the successful application of ECMO support in both the medical and cardiothoracic surgical patient population. Later, he was part of the research team describing the role of renal replacement therapy as an increasingly important adjunct in pediatric critical care and how it impacted provision of nutritional support via parenteral nutrition. As a further example of the clinical research impacting daily patient care in the PICU, he helped devise a performance improvement strategy for preventing accidental extubations in the PICU which has become one of the main outcome measures reported to JCAHO (Joint Commission on Accreditation of Healthcare Organizations) by PICU's for quality assurance purposes. Finally, he was part of the collaborative team comprised of the bone marrow transplant investigators and PICU group that reported the first successful application of anti-TNF therapy with etanercept in children with idiopathic pneumonia syndrome-induced lung injury which plagues the BMT (bone marrow transplant) population. Thus, throughout this phase, Dr. Custer has been a steady participant in clinical research which has had dramatic effects on the day to day care practice in the PICU.

With regards to his most recent scholarly activity, Dr. Custer has taken on the tremendous challenge of developing a palliative care program for those children whose illnesses can no longer be cured. To this end, Dr. Custer had first pursued and now provides education and training in this challenging area. Dr. Custer was a key planning member and closing plenary speaker for the first National Meeting on Pediatric Palliative Care. He has published on this facet of care and is a co-investigator of an RO3 grant to examine the spiritual needs of bereaved parents. In the future of the program, Dr. Custer will play a key educational and mentoring role with the opportunity to create important curricular programs for all staff with the long-term goal of creating a fellowship program in Pediatric Palliative Care at Mott Hospital.

Recent and Significant Publications:

Sadowski R, Dechert RE, Bandy KP, Juno J, Custer JR, Moler FW, Bratton SL: Reducing unplanned extubations in a pediatric intensive care unit: A five-year experience. *Pediatrics* 114:628-632, 2004.

Haefner S, Bratton SL, Annich GM, Bartlett RH, Custer JR: Intermittent prone positioning in pediatric patients receiving extracorporeal membrane oxygenation for respiratory failure. *Chest* 123:1589-1594, 2003.

Yannik G, Hellerstedt B, Custer J, Hutchinson R, Kwon D, Ferrara J, Uberti J, Cooke K, Etanercept for idiopathic pneumonia syndrome after HSCT. *Biology of Blood and Marrow Transplantation* 8:395-400, 2003.

Odetola FO, Bhatt-Mehta V, Zahraa J, Moler FW, Custer JR: Cisatracurium infusion for neuromuscular blockade in the pediatric intensive care unit: A dose-finding study. *Pediatric Critical Care Med* 3:250-254, 2002.

Bartlett RH, Roloff DW, Custer JR, et al: Extracorporeal life support-The University of Michigan experience. *JAMA* 283:904-908, 2000.

Service: Dr. Custer's clinical responsibilities have been primarily as staff attending in the PICU. In this setting, Dr. Custer remains the stalwart clinical leader of the division in providing the highest level of critical care to this fragile population. There is no question that people in the PICU setting have complete confidence in his ability to care for the sickest of children. In addition to his notable clinical expertise in managing cardiac and respiratory pathophysiology that are so common in this setting, he remains a national resource for assistance with and questions related to the clinical use of Extracorporeal Membrane Oxygenation (ECMO) support. Under his former leadership, he created an environment in which the critical care faculty collegially interacts with the myriad of surgical and medical subspecialists in providing optimal care to their patients who inhabit the ICU.

Dr. Custer's additional clinical responsibilities include his participation on the Palliative Care Program. In this capacity, he provides approximately 20 Palliative Care consults per year which includes daily rounding on each patient for an average duration of five days. In the last half of 2004, he provided coverage for both the Arbor Hospice and Angela Hospice. As this program evolves internally, it is anticipated that Dr. Custer will maintain very active participation in this clinical program, especially in mentoring junior faculty participating on this team in the clinical/consultant setting.

Outside the University, Dr. Custer is active on a number of community boards reflecting his strong commitment to the community at large. These positions include: The Board of Braveheart Center, Northville Michigan; the Advisory Board of Ann Arbor Autism Foundation; Member of the Michigan Alliance for Pediatric Palliative Services (MAPPS); Member of the Michigan Hospice and Palliative Care Organization Task Force and Chair of its Consumer Education Sub-committee.

External Review:

Reviewer A: "He has been the Director of the Division of Pediatric Critical Care Medicine and has established a nationally recognized pediatric critical care medicine fellowship program....Dr. Custer is an outstanding teacher....Dr. Custer has mentored many critical care medicine fellows who have gone on to academic and/or clinical careers."

Reviewer B: "More than quantity of publications and authorship position, the quality of Dr. Custer's publications is outstanding with virtually all of his original publications appearing in major clinical journals with high impact...Dr. Custer's scholarly output in this area clearly demonstrates that he has had a major impact in the way pediatric critical care is delivered throughout this country and the world...his accomplishments unquestionably merit promotion to Professor at any first rank medical school with which I am familiar."

Reviewer C: "As such he was the founding director of the PICU at the University of Michigan that is nationally seen as one of the leading intensive care programs....Dr. Custer is one of the people who have had a significant impact on the maturation of pediatric critical care in

this country....His future investment in Pediatric Palliative and Hospice Care should be supported and applauded.”

Reviewer D: “Joe’s contributions at national and international meetings, in leadership roles in the Extracorporeal Life Support Organization and other groups and his assistance with publications outlining the experiences at Michigan with a variety of ECMO patient groups and circumstances have all served as guideposts...Under his tutelage, many new clinicians in the field have been trained and now help form the leadership of many other Pediatric ICU’s.”

Reviewer E: “Dr. Joseph Custer is recognized by the international medical community as a leading clinical researcher in the field of extracorporeal membrane oxygenation and continuous venovenous [sic] hemofiltration. His clinical research has extensively contributed to rationalize the artificial support of the failing organs....I am absolutely certain that his promotion would be a great step to the worldwide reputation [of] the University of Michigan.”

Reviewer F: “Dr. Custer has made some important contributions through the use of ECMO in children with acute respiratory failure outside the newborn. He and the other members of the team at the University of Michigan have made very important contributions to our understanding of the benefits and the potential limitations of this therapy, in which they are recognized as world leaders. I would regard this as his most important contribution to pediatric critical care medicine.”

Reviewer G: “Dr. Custer is an excellent teacher, and serves as a distinguished role model in the clinical arena....Dr. Custer is well-known and respected by his colleagues both locally and nationally....It would be an extreme privilege to have some one of Dr. Custer’s caliber and expertise working with us at [this hospital].”

Summary of Recommendation:

I am pleased to recommend Joseph R. Custer, M.D., for promotion to Professor of Pediatrics and Communicable Diseases. He remains the consummate academic critical care physician in providing exceptional clinical care to critically ill children, outstanding teaching and procedure training to students, residents and fellows, and pursuing his academic passion in pediatric palliative care and the needs of bereaved parents. The totality of these accomplishments with his commitment to the advancement of pediatric critical care at the University of Michigan make him an outstanding candidate for promotion to Professor.



Allen S. Lichter, M.D., Dean
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of Radiation Oncology*

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