# Richard S. Muther, M. D. CURRICULUM VITAE

| BUSINESS ADDR | ESS: 6530 Troost Avenue<br>Kansas City, MO 64131   |
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| BUSINESS PHON | E: (816) 361-0670  |
|               | CURRENT POSITIONS  |
| 1980-Present  | Founding Partner<br>Kidney Associates of Kansas City<br>6530 Troost Avenue Kansas City, MO 64131 |
| 1985-Present  | Medical Director<br>Dialysis Clinics, Inc Kansas City, MO  |
| 1985-2011     | Medical Director of Nephrology<br>Research Medical Center Kansas City, MO                        |
|               | EDUCATION  |
| 1967-1970     | University of Kansas; B.A.   |
| 1972-1975     | University of Kansas Medical Center; M. D.   |
| 1975-1976     | University of Kansas Medical Center<br>Straight Medicine Internship                              |
| 1976-1978     | University of Kansas Medical Center<br>Residency in Internal Medicine                            |
| 1978-1979     | University of Oregon Health Sciences Center<br>Portland, Oregon; Nephrology Fellowship           |

# APPOINTMENTS

| 1980 | Consulting Nephrologist, King Faisal Specialist    |
|------|--|
|      | Hospital and Research Center, Riyadh, Saudi Arabia |

1980-Present Volunteer Faculty: Goppert Family Care: Family Practice Residency Program

| 1982-2002    | Clinical Assistant Professor of Medicine<br>University of Kansas College of Health Sciences                                |
|--------------|--|
| 1983-1987    | Clinical Assistant Professor of Medicine<br>University of Missouri at Kansas City  |
| 1983-2002    | Clinical Assistant Professor of Medicine<br>University of Oregon Health Sciences Center<br>Portland, Oregon                |
| 1985-1986    | Director, Division of Nephrology, Department of Medicine<br>Truman Medical Center<br>University of Missouri at Kansas City |
| 1985-2011    | Medical Director, Nephrology<br>Research Medical Center<br>Kansas City, Missouri   |
| 1987-Present | Clinical Associate Professor of Medicine<br>University of Missouri at Kansas City School of Medicine                       |
| 1987-1989    | Chairman, Department of Medicine<br>Saint Joseph Health Center, Kansas City, MO  |
| 1990-Present | Volunteer Faculty: Kansas City College of Osteopathic Medicine   |
| 2003-Present | Governing Board, Midwest Transplant Network  |
| 2011-2012    | President, Governing Board, Midwest Transplant Network   |

# **COMMUNITY SERVICE**

| 1985-1996    | Samuel Rogers Health Center Kansas City, MO. Established and staffed a nephrology clinic for indigent patients. |
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| 1988         | Director of Clinics, Kansas City Southwest Clinical Society   |
| 1990         | President, Kansas City Southwest Clinical Society   |
| 2005-2014    | Medical mission to Dominican Republic.  |
| 2002-Present | Board of Directors, President, Midwest Transplant Network, Kansas City, Kansas                                  |
| 2001-2004    | Clinical Practice Committee, American Society Nephrology  |

# HONORS

| 1975 | Alpha Omega Alpha  |
|------|--|
| 1977 | Milton McGreevy Award; Most Outstanding Medical Resident<br>University of Kansas Medical Center    |
| 1982 | Fellowship, American College of Physicians   |
| 1983 | "Teacher of the Year", Goppert Family Care Center<br>Baptist Medical Center, Kansas City, Missouri |
| 1986 | "Staff Physician of the Year", Truman Medical Center<br>University of Missouri at Kansas City      |
| 2000 | Distinguished Service Award, Kansas City Southwest Clinical Society                                |
| 2006 | Fellowship, American Society of Nephrology   |
| 2009 | Exemplary Practice Award, Renal Physicians Association. (To Kidney Associates of Kansas City)      |
| 2009 | The Frist Physician Humanitarian Award, Research Medical Center                                    |
| 2013 | Suraj Ahuja MD Teacher of the Year Award, Research Family Medicine<br>Residency Program            |

## **AWARDS / CLINICAL RESEARCH**

| 1979         | William H. Rorer, Inc.: Effects of Aspirin on Renal Function   |
|--------------|--|
| 2002-2006    | Dialysis Clinics Inc.: <u>Dialysis Risk Factor Intervention Trial</u> : Multiple Risk Factor Reduction in Chronic Dialysis Patients.   |
| 2004-2006    | Dialysis Clinics Inc.: Impact of N-Acetylcysteine and Isotonic Sodium<br>Bicarbonate on Postoperative Acute Renal Failure in Patients Undergoing<br>Cardiac Surgery  |
| 2010-2011    | The Effect of Heparin on HemodialyzerUtilization-A Pilot Study   |
| 2011-Present | Safety and Effects of Supplementation with Ergocalciferol on Erythropoietin Dosing in Hemodialysis Patients. Sub-Investigator.   |
| 2011-Present | Physiological Iron Maintenance in ESRD Subjects by Delivery of Soluble Ferric<br>Pyrophosphate via Hemodialysis: The PRIME Study. Sub-Investigator   |
| 2013         | A Therapeutic Equivalence Study Comparing the Efficacy and Safety of SQ<br>Epoetin (Hospira) and Epoetin Alpha (Amgen) in Patients with Chronc Renal<br>Failure Requiring Hemodialysis and Receiving Epoetin Maintennce Treatment. |

## **PROFESSIONAL ORGANIZATIONS**

Alpha Omega Alpha Kansas City Southwest Clinical Society Kansas City Society of Internists Jackson County Medical Society Missouri Medical Association American College of Physicians-Fellow American Federation for Clinical Research American Society of Nephrology International Society of Nephrology National Kidney Foundation Renal Physicians Association

## MEDICAL LICENSURE

- 1975 State of Kansas (#016820)
- 1978 State of Oregon (#11111)
- 1980 State of Missouri (#R4A05)

## CERTIFICATION

- 1978American Board of Internal Medicine
- 1980American Board of Internal Medicine-Nephrology
- 1987 American Board of Internal Medicine-Critical Care Medicine
- 1997, 2007 American Board of Internal Medicine-Critical Care Medicine Recertification

## **MEDICAL JOURNAL: PEER REVIEWER**

Annals of Internal Medicine Archives of Internal Medicine American Journal of Kidney Disease Kidney International

## PUBLICATIONS

- 1. Muther RS, Bennett WM. Diagnosis and management of acute renal failure. <u>Comprehensive Ther 5</u>:12-19, 1979.
- 2. McCarron DA, Krutzik S, Barry JM, Muther RS, Bennett WM. Post-transplant hyperparathyroidism: Retained control by serum Ca++. <u>Proc Europ Dialysis Transpl Assoc</u> 12:677-678, 1979.
- 3. McCarron DA, Krutzik S, Barry JM, Muther RS, Plant SB, Bennett WM. Vasodepressive effect of parathyroid hormone in post-transplant blood pressure regulation. Proc EDTA 16:679-680, 1979.
- McCarron DA, Bennett WM, Muther RS, Krutzik S. Post-transplantation hyperparathyroidism: Demonstration of retained control of parathyroid function by serum ionized calcium. <u>AM J Clin Nutrit</u> 30:1536, 1980.
- 5. Muther RS, Bennett WM. Antibiotic concentration in renal cysts. <u>Curr Chemother Infect</u> <u>Dis</u>, ASM Publications, Washington D.C. 1980 pp. 581-583.
- 6. Muther RS, Bennett WM. Clearance of 5-fluorocytosine and amphotericin B by peritoneal dialysis. <u>Proc Clin Dialysis Transpl Forum</u>. 9:100-101, 1980.
- 7. Muther RS, Bennett WM. Effects of aspirin on glomerular filtration rate in normal humans. <u>Ann Intern Med</u> 92:386-387, 1980.
- 8. Bennett WM, Gloper TA, Muther RS, McCarron DA. Efficacy of minoxidil in the treatment of severe hypertension in systemic disorders. <u>J Cardiovas Pharmacol</u> 2:S142-S148, 1980.
- 9. Muther RS, Bennett WM. Peritoneal clearance of amphotericin B and 5 fluorocytosine. Wester J Med 133:157-160, 1980.
- 10. Bennett WM, Muther RS, Parker RA, Feig P, Morrison G, Gloper TA, Singer I. Drug therapy in renal failure: Dosing guidelines for adults. <u>Ann Intern Med</u> 93: 62-89, 206-325, 1980.
- 11. Muther RS, Barry JM, Bennett WM. Successful Cadaveric renal transplantations after donor treatment with DMSO. <u>Transplantation</u> 29:507, 1980.

- Parker RA, Elliott WC, Muther RS, Golper TA, Barry JM, Henderson SC, Bennett WM. Percutaneous aspiration biopsy of renal allografts employing ultra-sound localization. <u>Urology</u> 15:534-535, 1980.
- 13. Muther RS, Bennett WM. Antibiotic concentrations in simple renal cysts. <u>J Urol</u> 124:596, 1980.
- 14. Muther RS, McCarron DA, Bennett WM. Renal manifestations of sarcoidosis. <u>Arch Intern</u> <u>Med</u> 141:643-654, 1981.
- Muther RS, Bennett WM. Antibiotic concentrations in renal cysts. Proc. 11<sup>th</sup> Intnat. Congress Chemother and 19th Intersci Conf. Antimicrob Agents Chemother. <u>Curr</u> <u>Chemother</u> 1:581-582, 1980.
- 16. Muther RS, Bennett WM. Effects of dimethyl sulfoxide (DMSO) on renal function in man. JAMA 244:2081-2083, 1980.
- 17. Muther RS, McCarron DA, Bennett WM. Granlomatous sarcoid nephritis; A cause of multiple renal tubular abnormalities. <u>Clin Nephrol</u> 14:190-197, 1980.
- 18. Muther RS, Bennett WM. Drug therapy in renal failure. <u>Comprehensive Ther</u> 8 (5):44-57, 1982.
- 19. Muther RS, Krutzik S, Plant SB, McCarron DA. Ionized calcium and the In Vivo response of normal and hyperparathyroid glands to beta adrenergic agents (submitted for publication).
- 20. Muther RS, Potter D, Bennett WM. Effect of aspirin on glomerular filtration rate in normal humans: Role of sodium balance. <u>Ann Intern Med</u> 94:317-321, 1981.
- 21. Muther RS, McCarron DA, Bennett WM. Change in serum bicarbonate during acute EDTA infusions in post-transplant hyperparathyroidism. <u>Nephron</u> 30:36-38,1982.
- 22. Bennett WM, Muther RS. Lack of nephrotoxicity of intravenous dimethyl sulfoxide. <u>Clin</u> <u>Toxicol Pharmacol</u> 18:615-18, 1981.
- 23. Muther RS, Bennett WM. Cyst fluid antibiotic concentrations in polycystic kidney disease: Differences in proximal and distal cyst permeability. <u>Kidney Int</u> 20 (4) 519:522, 1981.
- 24. McCarron DA, Muther RS, Lenfesty B, Bennett WM. Parathyroid Hormone: A determinant of post-transplant BP regulation. <u>American Journal of Kidney Disease</u> 1:38-94, 1981.
- 25. Mc Carron DA, Muther RS, Lenfesty B, Bennett WM. Parathyroid function in persistent hyperparathyroidism: Relationship to gland size. <u>Kidney Int</u> 22:662-670, 1982.
- 26. Bennett WM, Bristol T, Weaver WJ, Muther RS. Lack of nephrotoxicity of DMSO in man and laboratory animals. <u>Ann N.Y. ACAD Sci</u> 411-43-47, 1983.

- Muther RS. Drug interference with renal function tests. <u>Am Jour Kidney Dis</u> 3:118-120, 1983.
- 28. Pulliam JP, Mundis RJ, Muther RS. Piroxicam (Feldene) predisposes to chemotherapy induced acute uric acid nephropathy. <u>Arthritis and Rheumatism</u> 27 (1): 116-117, 1984.
- Reid GM, Muther RS. Nitroprusside-induced acute azotemia. <u>Am J Nephrology</u> 7:313-315, 1987.
- 30. Nelson PW, Muther RS, Reid GM, Vandeputte K, Cross DE. Transplantation of an ABO: A2 kidney into an ABO:O HLA identical living related recipient.
- 31. Muther RS, Murray M, Bennett WM. Assessing university of Nephrology training as preparation for community consultative practice. <u>Academic Medicine</u> 1989; 64:677-680.
- Muther RS, Parker T, Emmot B, Dickmeyer J. Can Disease Management Improve Vascular Access Outcomes in Hemodialysis Patients? <u>Nephrology, Dialysis and Transplant</u> December 2000.
- 33. Manley HJ, Drayer DK, McClaren M, Bender W, Muther RS. Medication Record Discrepancies in an Outpatient Medical Record: Frequency, Type and Potential Impact on Patient Care at an Hemodialysis Clinic. Pharmacotherapy 2003;23:231-239
- Manley HJ, McClaren ML, Overbay DK, Wright MA, Reid GM, Bender WL, Neufeld TK, Hebbar S, Muther RS. Factors Associated with Medication-Related Problems in Ambulatory Hemodialysis Patients. Am J Kidney Disease 2003;41:386-393
- 35. Manley HJ, Drayer DK, Muther RS. Medication-Related Problem Type and Appearance Rate in Ambulatory Hemodialysis Patients. BMC Nephrology 2003;4:10
- 35. Manley HJ, Overbay DK, Muther RS, Reid GM, Bender WL, Neufeld TK, Hebbar S. A Multidisciplinary Approach to Cardiovascular Morbidity and Mortality in Ambulatory Hemodialysis Patients: Dialysis Risk Factor Intervention Trial (DRFIT).

#### CHAPTERS

- Muther RS, Bennett WM. Drug metabolism in renal failure. In <u>Contemporary Issues in</u> <u>Nephrology:</u> <u>Chronic Renal Failure</u>, edited by B.M. Brenner and J.H. Stein, Churchill Livingston, 1981.
- Bennett WM, Wikre CG, Muther RS. Movement of organic molecules into cysts. In <u>Chronic Renal Disease</u>, edited by N. Cummings and S. Klar, Plenum, New York, p. 89-93, 1985.

- Muther RS, Reid GM, Bennett WM. Treatment of Hypertension in Patients with Renal Disease in <u>The Kidney and Hypertension</u>, edited by Kaplan NM, Brenner BM and Laragh JH; Raven Press, 1987.
- 4. Muther RS. Acute renal failure in the critical care unit In <u>Critical Care Medicine Review</u> for Internal Medicine Based Intensivits, edited by R. W. Taylor and R. P. Dellinger. Society of Critical Care Medicine, 1989.
- 5. Muther RS, Acute Renal Failure: Acute Azotemia in the Critically III, in <u>Critical Care</u>, edited by Civetta JM, Taylor RW and Kirby RR: J.B. Lippincott, 2nd Edition, 1992.
- 6. Reid GM and Muther RS. Chronic Renal Failure in <u>Critical Care</u>, edited by Civetta JM, Taylor RW, and Kirby RR; J. B. Lippincott, 2nd Edition, 1992.
- 7. Muther RS, Acute Renal Failure. In <u>Critical Care</u>, ed. By Civetta JM, Taylor RW and Kirby RR. J. B. Lippincott, 3<sup>rd</sup> Edition, 1997.
- 8. Hebbar S and Muther RS. Renal Replacement Therapies. In <u>Critical Care</u> ed. By Civetta JM, Taylor RW and Kirby RR.Third edition. Lippincott-Raven, 1997.
- 9. Reid GM and Muther RS. Chronic Renal Failure. In <u>Critical Care</u>, ed. by Civetta JM, Taylor RW, Kirby RR. Third edition. Lippincott-Raven, 1997.

## BOOKS

1. Muther RS, Barry JM and Bennett WM. Manual of Nephrology B.C. Decker, 1990

#### LETTERS

- 1. Muther RS, Porter GA, Bennett WM. Effects of aspirin on renal function. Ann Intern Med 90-274-275, 1979.
- 2. Muther RS, Bennett WM. A case of three kidneys. Nephron 26:101, 1980.
- 3. Muther RS, Bennett WM. Effects of aspirin on glomerular filtration rate. Relation to sodium balance. Nephron 28:100, 1981.

## **INVITED PRESENTATIONS**

- 1. Missouri Society of Medical Technologists, Kansas City, Missouri. March, 1981.
- 2. American Urologic Association Allied, Kansas City, Missouri. September 25, 1981.
- 3. Kansas City Southwest Clinical Society, Traveling Medical Education Course, Crested Butte, Colorado. March 20-27, 1982.
- 4. Fluid and Electrolyte Abnormalities in Renal Failure and Renal Pharmacology: Sponsored by Missouri Kidney Program, Kansas City, Missouri. April 6, 1982.
- 5. American Association of Medical Assistants. "Obesity in America: A Radical Medical Approach". Kansas City, Missouri. April 20, 1982.
- 6. National Kidney Foundation, Council on Renal Nutrition. Chicago, Illinois, December 11, 1982. "Drug Therapy in Renal Failure".
- 7. National Kidney Foundation, Clinical Dialysis and Transplant Forum, Chicago, Illinois, December 11, 1982. "Drug Interference with Renal Function Tests".
- 8. Kansas City Southwest Clinical Society, Traveling Medical Education Course, Copper Mountain, Colorado. March 16-23, 1985.
- 9. Kansas City Southwest Clinical Society; Current Management in Critical Care: "Acute Renal Failure". Kansas City, Missouri. March 13-14, 1986.
- 10. Kansas City Southwest Clinical Society; Current Management in Critical Care: "Renovascular Hypertension". Kansas City, Missouri. April 23-24, 1987.
- 11. Society of Critical Care Medicine, Baylor College of Medicine; Critical Care Medicine Board Review Course: "Acute Renal Failure". Houston, Texas, August 30, 1987.
- 12. Society of Critical Care Medicine, Baylor College of Medicine; Critical Care Medicine Board Review Course: "Acute Renal Failure in the Critical Care Unit". Houston, Texas, August 27, 1989.
- 13. Ed Bixby Seminar for Postgraduate Medical Education. "A Nephrologist's View of Renal Transplantation". Kansas City, Missouri, October 6, 1989.
- 14. Kansas City Southwest Clinical Society: Current Management in Critical Care: "Osmolar Problems in Critically Ill Patients". Kansas City, Missouri, April 6, 1990.
- Kansas City Southwest Clinical Society: Current Management in Critical Care: "Recognition and Management of Electrolyte Disorders in Critically Ill Patients". Kansas City, Missouri, April 6, 1990.

- 16. Task Force on Anemia in Renal Failure. "Use of Erythropoietin Alpha in a Private Practice Setting". American Society of Nephrology, Washington, D.C. December 6, 1990.
- 17. Kansas City Southwest Clinical Society: Current Management in Critical Care: "Hyperosmolar Disorders in the Critically Ill". Kansas City, Missouri, May 2, 1991.
- 18. Kansas City Southwest Clinical Society: Current Management in Critical Care: "Severe Acid-Base Disorders", Kansas City, Missouri, May 2, 1991.
- 19. Kansas City Southwest Clinical Society: Fluid, Electrolyte and Acid-Base Workshop. Fall Clinical Conference, November, 1991.
- 20. Society of Critical Care Medicine: Multidisciplinary Critical Care Review Course. Acute Renal Failure. Atlanta, Georgia, August 19, 1993.
- 21. Society of Critical Care Medicine: Multidisciplinary Critical Care Review Course, Dialysis/CAVH. Atlanta, Georgia, August 19, 1993.
- 22. Kansas City Southwest Clinical Society: Fluid, Electrolyte and Acid-Base Workshop. Fall Clinical Conference, November 4, 1993.
- American College of Chest Physicians & Critical Care Medicine: A Concise Review: "Acute Renal Failure", June 9, 1995. Beverly Hills, CA and September 15, 1995, Atlanta, GA.
- American College of Chest Physicians. Critical Care Medicine. A Concise Review. "Disorders of Calcium, Magnesium, and Potassium". June 9, 1995, Beverly Hills, CA and September 15, 1995, Atlanta, GA.
- 25. Society of Critical Care Medicine: Multidisciplinary Critical Care Board Review Course. "Acute Renal Failure". Minneapolis, MN, August 23, 1996.
- 26. Society of Critical Care Medicine: Multidisciplinary Critical Care Board Review Course: "Acid-Base Disorders". Minneapolis, MN. August 23, 1996.
- 27. Kansas City Southwest Clinical Society: Fall Clinical Conference. "Fluid Electrolyte and Acid-Base Workshop". October 24, 1996.
- 28. American Academy of Family Practice. Home Study Self-Assessment Audio Tapes. "Acute Renal Failure". May, 1995.
- 29. American Academy of Family Practice. Home Study Self-Asses sment Audio Tapes. "Chronic Renal Failure". June, 1995.
- 30. Kansas City Southwest Clinical Society: Current Management in Critical Care. "Acute Renal Failure". May1, 1997.

- 31. Kansas City Southwest Clinical Society: Current Management in Critical Care. "Hypertensive Crises". May 1, 1997
- 32. American College of Chest Physicians. National Critical Care Medicine Board Review Course. "Acute Renal Failure", June 29-July 3, 1997, San Diego, CA and, September 5-9, 1997 New York, NY.
- 33. American College of Chest Physicians. National Critical Care Medicine Board Review Course. "Disorders of Calcium, Magnesium and Potassium", June 29-July 3, 1997, San Diego, CA and, September 5-9, 1997 New York, NY.
- 34. Society of Critical Care Medicine: Multidisciplinary Critical Care Board Review Course. "Acute Renal Failure", August 13-17, 1997. Chicago, IL.
- 35. Kansas City Southwest Clinical Society: Fall Clinical Conference. "Fluid, Electrolyte and Acid-Base Workshop", October 24, 1997.
- 36. Bixby Institute, Research Medical Center: "Prevention of Chronic Renal Failure: Slowing the Progression to ESRD", February 13, 1998. Kansas City, MO
- 37. Kansas City Southwest Clinical Society: Current Management in Critical Care. "Lifethreatening Acid –Base Disorders", April 30, 1998.
- 38. Kansas City Southwest Clinical Society: Current Management in Critical Care. "Disorders of Calcium, Magnesium and Potassium", April 30, 1998.
- 39. Society of Critical Care Medicine: Multidisciplinary Critical Care Board Review. "Acute Renal Failure and Renal Replacement Therapy", August, 1998. Chicago, IL.
- 40. American College of Chest Physcians: Critical Care Board Review Course. "Acute Renal Failure" and "Disorders of Calcium, Magnesium and Potassium". September, 1998. Washington D.C.
- Missouri Academy of Family Practice Annual Meeting. "Prevention of Chronic Renal Failure: Delaying the Onset of ESRD" and "Lifethreatening Acid Base Disorders". November, 1998. Branson, MO.
- 42. Society of Critical Care Medicine: Third Annual Refresher Course. "Acute Renal Failure" and "Lifethreatening Acid Base Disturbances". January 22-23, 1999. San Francisco, CA.
- 43. Kansas Academy of Family Physician's Annual Meeting and Scientific Session. "How To Prevent End Stage Renal Disease". June 17, 1999. Wichita, KS.
- 44. ACCP, SCCM Combined Critical Care Course. "Acute Renal Failure", "Electrolyte Disorders", "Acid Base Workshop" and "Fluid and Electrolyte Workshop". August 1999. Orlando, FL.

- 45. Kansas City Southwest Clinical Society: Master Clinician Series. "Fluid, Electrolyte And Acid Base: Clinical Problems." October 28, 1999. Overland Park, KS.
- Society of Critical Care Medicine: Refresher Course. "Electrolyte Disorders" February 11, 2000. Orlando, FL
- ACCP, SCCM Combined Critical Care Course. "Acute Renal Failure", "Electrolyte Disorders", "Acid Base Workshop" and "Fluid and Electrolyte Workshop". September 2000, Pittsburgh, PA.
- 48. Kansas City Southwest Clinical Society, Fall Clinical Conference. Prevention of ESRD. October 26, 2000, Overland Park, KS.
- ACCP, SCCM Combined Critical Care Course. "Acute Renal Failure", "Electrolyte Disorders", "Acid Base Workshop" and "Fluid and Electrolyte Workshop". August, 2001, Orlando, FL.
- 50. Kansas City Southwest Clinical Society: Master Clinician Series. "Fluid and Electrolytes: Clinical Problems." November 1, 2001. Overland Park, KS.
- 51. Society of Critical Care Medicine: Fifth Annual Refresher Course. Renal Replacement Therapy in the Intensive Care Unit. January 26, 2002. San Diego, CA.
- 52. Kansas City Southwest Clinical Society: Current Management in Critical Care. "Acid Base Disorders in the Critically Ill" May 3, 2002, Overland Park, Kansas
- ACCP, SCCM Combined Critical Care Course. "Acute Renal Failure", "Electrolyte Disorders", "Acid Base Workshop" and "Fluid and Electrolyte Workshop". August 17-20, 2002, Chicago, Illinois
- 54. The Second International Conference on Critical Care Medicine: Cairo University Critical Care. "Acute Renal Failure", "Disorders of Sodium and Water Balance", "Critical Acid Base Disorders". October 14-18, 2002, Cairo, Egypt.
- 55. Society of Critical Care Medicine: Fifth Annual Refresher Course. Prevention and Management of Acute Renal Failure. January 28, 2003. San Antonio, TX
- 56. American College of Chest Physicians, Critical Care Board Review 2003. "Acute Renal Failure", "Electrolyte Disorders", "Acid-Base Workshop". August, 2003. Scottsdale, AZ
- 57. Society of Critical Care Medicine, Multidisciplinary Critical Care Review. "Acute Renal Failure", "Electrolyte Disorders", "Acid Base Workshop". September 2003. Chicago, IL
- 58. National Kidney Foundation of Kansas and Western Missouri, Early Kidney Disease Update. "Chronic Kidney Disease: Strategies for Avoiding Dialysis". April 16, 2004

- 59. Kansas City Southwest Clinical Society: Current Management in Critical Care. "Fluid and Electrolytes in the Critically Ill" May 7, 2004, Overland Park, Kansas
- Orear Institute for Postgraduate Studies, Recent Advances in Medicine. "Chronic Kidney Disease: Slowing the Progression to ESRD", "Things We Do to Harm Kidneys". June24-25, 2004. Kansas City, MO
- 61. American College of Chest Physicians, Critical Care Board Review 2004. "Acute Renal Failure", "Electrolyte Disorders", "Acid-Base Workshop". August, 2004. Orlando, FL
- 62. Missouri Academy of Family Physicians, 57<sup>th</sup> Annual Scientific Assembly. "Approach to Fluid and Electrolyte Disorders". June 4, 2005
- 63. American College of Chest Physicians, Critical Care Board Review 2005. "Acute Renal Failure", "Electrolyte Disorders", "Acid-Base Workshop" "Fluid and Electrolyte Workshop". August, 2005. Scottsdale, AZ
- 64. Society of Critical Care Medicine, Multidisciplinary Critical Care Review. "Electrolyte Disorders". August 19, 2005. Chicago, IL
- 65. American College of Chest Physicians, Fellows Conference "Acute Renal Failure". October 29, 2005. Montreal, Quebec, Canada
- 66. Kansas City Southwest Clinical Society: Master Clinician Series "Fluid and Electrolyte Workshop October 27, 2005, Overland Park, Kansas
- 67. Kansas City Southwest Clinical Society: Current Topics in Clinical Medicine. "Chronic Kidney Disease as a Cardiovascular Risk Factor", "Things We Do that Harm Kidneys", Prevention of Acute Renal Failure", March 13, 2006, Copper Mountain, CO
- 68. Orear Institute for Postgraduate Studies: Recent Advances in Medicine. "Chronic Kidney Disease and Cardiovascular Risk", June 30, 2006, Kansas City, MO
- 69. Society of Critical Care Medicine: Multiprofessional Critical Care Review Course. "Acute Renal Failure in the ICU", July 21, 2006, Chicago, IL
- American College of Chest Physicians, Critical Care Board Review 2006. "Acute Renal Failure", "Electrolyte Disorders", "Acid-Base Workshop" "Fluid and Electrolyte Workshop". August 26-29, 2006. Orlando, FL
- 71. Kansas City Southwest Clinical Society: Master Clinician Series "Acid Base Disorders" November 3, 2006, Overland Park, Kansas
- 72. Kansas City Southwest Clinical Society: Current Management in Critical Care. "Fluid and Electrolytes in the Critically Ill" April 13, 2007, Overland Park, Kansas

- 73. Midwest Medical Directors Association, "Cardiovascular Complications of Chronic Kidney Disease", May 18, 2007, Kansas City, MO
- 74. Society of Critical Care Medicine: Multiprofessional Critical Care Review Course. "Acute Kidney Injury", August 4, 2007, Chicago, IL
- 75. American College of Chest Physicians, Critical Care Board Review 2007. "Acute Kidney Injury", "Electrolyte Disorders", "Acid-Base Workshop" "Fluid and Electrolyte Workshop". August 26-29, 2007. Phoenix, AZ
- Renal Physicians Association, Fall Fellows Workshop. "Finding your niche: Perspectives on Private Practice Employment Opportunities in Nephrology". Friday September 7, 2007, Kansas City, MO
- 77. National Kidney Foundation of Kansas and Western Missouri. "Statins and CKD: The Effect of Lipids and Lipid Lowering Therapy on the Progression and CV Complications of CKD". April 4, 2008, Kansas City, MO
- 78. Society of Critical Care Medicine: Multiprofessional Critical Care Review Course. "Acute Kidney Injury", August 8, 2008 Chicago, IL
- American College of Chest Physicians, Critical Care Board Review 2007. "Acute Kidney Injury", "Electrolyte Disorders", "Acid-Base Workshop" "Fluid and Electrolyte Workshop". August 26-29, 2008. Orlando, FL
- 80. Society of Critical Care Medicine: Multiprofessional Critical Care Review Course. "Acute Kidney Injury", July 17, 2009, San Francisco, CA
- American College of Chest Physicians, Critical Care Board Review 2007. "Acute Kidney Injury", "Electrolyte Disorders", "Acid-Base Workshop" "Fluid and Electrolyte Workshop" August 25-26, 2009, Phoenix, AZ
- 82. Bixby Institute: 2010 Kansas City Hoeper Diabetes Symposium. "Diabetic Nephropathy" April 9, 2010, Overland Park, KS
- 83. Kansas City Southwest Clinical Society: Current Management in Critical Care. "Acute Renal Failure and Renal Replacement Therapy" April 30, 2010, Overland Park, KS
- 84. Kansas City Southwest Clinical Society: Current Clinical Topics in Medicine. "CKD: Prevention of ESRD" and "CKD: Prevention of Cardiovascular Disease" March 14, 2011, Breckenridge, CO
- Orear Institute for Postgraduate Studies: Recent Advances in Medicine. "Kidneyovascular Disease: The risk if cardiovascular disease in patients with CKD", June 24, 2011, Kansas City, MO

- 86. Orear Institute for Postgraduate Studies: Recent Advances in Medicine. "CKD: Delaying or Preventing ESRD", June 24, 2011, Kansas City, MO
- 87. Kansas City Southwest Clinical Society: 89<sup>th</sup> Annual Fall Clinical Conference, Cardiovascular Risk of Chronic Kidney Disease. November 3, 2011, Kansas City, MO
- 88. Fluid, Electrolytes and Acid-Base: The ICU Cliff Notes. Kansas City Southwest Clinical Society: Current Management in Critical Care May 3, 2013, Kansas City, MO

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