

CURRICULUM VITAE



WILLIAM RICHARD CLARK, M.D.

CURRENT POSITION

Vice President, Clinical Strategy and Therapy Development
Gambro Renal Products/Intensive Care
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PERSONAL INFORMATION

Family: Wife - Kathy Sands Clark, M.D.; Children - Caroline (13 yrs), William (10 yrs)
Birthdate: 1/22/60
Birthplace: Indianapolis, IN
Citizenship: USA

ACADEMIC APPOINTMENTS

Clinical Assistant Professor of Medicine
Indiana University of Medicine (Nephrology)
Indianapolis, IN (6/94 to present)

Affiliate Assistant Professor of Clinical Pharmacy
Purdue University School of Pharmacy and Pharmacal Sciences
West Lafayette, IN (12/95 to present)

Adjunct Assistant Professor of Biomedical Engineering
University of Kentucky College of Medicine
Lexington, KY (8/00 – present)

PROFESSIONAL TRAINING

Intern and Resident (7/88 to 6/91)
Department of Medicine
Indiana University School of Medicine, Indianapolis, IN

Fellow (7/91 to 6/94)
Department of Medicine, Division of Nephrology
Indiana University School of Medicine, Indianapolis, IN

EDUCATION

Purdue University School of Engineering, West Lafayette, IN
8/78 to 5/82 Degree: B.S. (cum laude)
Major: Chemical Engineering

Indiana University School of Medicine, Indianapolis, IN
8/82 to 6/86 Degree: M.D.

Purdue University Graduate School of Engineering, West Lafayette, IN
Degree: M.S. in Chemical Engineering (12/94)
Thesis: "Plasma Protein Adsorption to Highly Permeable Hemodialysis Membranes"

WORK EXPERIENCE

Ash Medical Systems (8/87 to 5/88)
Purdue Research Park, West Lafayette, IN

Baxter Healthcare Corporation, Renal Division (9/94 to 12/02)
Positions: Assistant Medical Director; Director of Hemodialysis Research
McGaw Park, IL

NxStage Medical, Inc. (1/03 to 4/04)
Position: Chief Medical Officer
Lawrence, MA

BOARD CERTIFICATION

National Board of Medical Examiners, 1989
American Board of Internal Medicine, 1991 (Internal Medicine)
American Board of Internal Medicine, 1994 (Nephrology)

PROFESSIONAL ORGANIZATIONS

American Society for Artificial Internal Organs
National Kidney Foundation

International Society of Nephrology
American Society of Nephrology
European Dialysis and Transplant Association
International Society for Artificial Organs
International Society of Blood Purification
International Society for Hemodialysis

ACADEMIC ACHIEVEMENTS/HONORARIES

National Merit Semi-finalist (1978)
Phi Eta Sigma (freshman honorary, 1979)
Tau Beta Pi (general engineering honorary, 1981)
Omega Chi Epsilon (chemical engineering honorary, 1981)

AWARDS

1. Charles E. Kenner Memorial Award (Outstanding Fellow, Department of Medicine, Indiana University School of Medicine, 1993)
2. Bernd Tersteegen Award (Deutsche Dialyse Gesellschaft niedergelassener Arzte e. V., 1996)

ACADEMIC SERVICE/SCIENTIFIC ACTIVITIES

1. Organizing Committee, International Conference on Continuous Renal Replacement Therapies (1995-present), San Diego, CA
2. Steering Committee (Membrane/Flux Subcommittee), HEMO Study, National Institutes of Health (1995-2002)
3. Member, AAMI Dialysis Standards Committee, 1998-2001
4. Member, Acute Dialysis Quality Initiative (ADQI) task force (2000-present)
5. Member, NIH/HCFR Task Force on Daily Dialysis (2001)
6. Member, European Uremic Toxin (UrTox) Work Group (2000-2002)
7. Board of Trustees, International Society for Artificial Organs, 1998-present
8. Executive Council, International Society of Blood Purification (2001-present)
9. Editorial Board: Home Hemodialysis International, Clinical Nephrology, Seminars in Dialysis, Blood Purification
10. Ad hoc manuscript reviewer: Lancet, Kidney International, Journal of the American Society of Nephrology, American Journal of Kidney Diseases, Blood Purification, Advances in Renal Replacement Therapy, ASAIO Journal, Clinical Nephrology
11. Abstract Review Committee (Clinical Nephrology/ESRD), American Society of Nephrology Annual Meeting 1996, 2000, 2002

12. Program Committee, American Society for Artificial Internal Organs Annual Meeting (2000 and 2001)
13. Chair, Free Communications Session, American Society for Artificial Internal Organs Annual Meeting, 1997, 1998, 2000, and 2001
14. Chair, Symposium, Annual International Symposium on Daily Home Hemodialysis, 1998-2001
15. Chair, Clinical Nephrology Symposium: "Hemodialysis: Issues in Morbidity and Mortality", American Society of Nephrology Annual Meeting 2000
16. Chair, Free Communication Session: "Dialysis Adequacy and Modeling", American Society of Nephrology Annual Meeting 2000
17. Chair: "Research Advances in Artificial Kidney Membranes". North American Membrane Society Annual Meeting 2001
18. Chair, Symposium: "Maximizing Dialysis Efficiency: New Developments in Dialyzer Technology", American Society for Artificial Internal Organs Annual Conference 2001
19. Chair, Symposium: "New Hemodialysis-Related Technology". American Society for Artificial Internal Organs Annual Conference 2002
20. Chair, Symposium: "Middle Molecules". Annual Conference on Dialysis, 2002
21. Guest editor, Seminars in Dialysis: "Principles of Hemodialysis" series (2000-present)
22. Guest editor, Seminars in Dialysis: "Quantifying Dialysis Dose" special issue (2001)
23. Guest Editor, Artificial Organs: "Advances in the Dialytic Management of Acute Renal Failure" special issue (2003)
24. Visiting Professor, Veterans General Hospital, Taipei, Taiwan (Dec 11-13, 2001)
25. Visiting Professor, Instituto Nacional De Ciencias Medicas Y Nutricion Salvador Subirán, Mexico City, Mexico (August 19, 2003)

INVITED PRESENTATIONS:

1. Cleveland Clinic Foundation, Intensive Care Nephrology and Chronic Dialysis Update, Cleveland, OH: "Patient Needs and Dialytic Therapy Choice in the ICU ARF Setting." Presented May 12, 1995.
2. Association for the Advancement of Medical Instrumentation Annual Meeting, Anaheim CA. "Dialysis/Membrane Technology." Presented May 21, 1995.
3. Lapeyronie Hopital, Nephrology Service, Montpellier, France: "Membrane-Protein Interactions During Hemodialysis." Presented July 12, 1995.
4. Beth Israel Medical Center, Evolving Dialysis IV, New York, NY: "Protein Removal During High-Flux Hemodialysis." Presented October 20, 1995.
5. PanAmerican Society for Dialysis and Transplantation Annual Meeting, Mexico City, Mexico. "Hemofiltration," Presented November 2, 1995.

6. PanAmerican Society for Dialysis and Transplantation Annual Meeting, Mexico City, Mexico. "Preliminary Results of NIH Adequacy Study." Presented November 3, 1995.
7. First Annual International Symposium on CRRT, San Diego, CA. "Prescription and Delivery of Adequate Extracorporeal Therapy in Acute Renal Failure," Presented November 9, 1995.
8. American Society for Artificial Internal Organs Annual Meeting, Washington, DC. "Dialysis Dose in Acute Renal Failure: Blood vs Dialysate-Side Modeling," Presented May 2, 1996.
9. Annual Asian Colloquium in Nephrology, Singapore. "The Importance of Dialysis Dose in Acute Renal Failure," Presented September 27, 1996.
10. Annual Asian Colloquium in Nephrology, Singapore. "Overview of the NIH Adequacy Trial," Presented September 27, 1996.
11. Annual Meeting of Deutsche Dialyse Gesellschaft niedergelassener Arzte e.V, Mannheim, Germany. "Plasma Protein Adsorption to Highly Permeable Dialysis Membranes," Presented November 15, 1996.
12. First Annual International Symposium on Dialysis Schedule in Hemodialysis and Peritoneal Dialysis, Perugia, Italy. "Inefficiency Factor of Intermittent Treatments and Dialysis Dose in Acute Renal Failure," Presented November 22, 1996.
13. Second Annual International Symposium on CRRT, San Diego, CA. "Extracorporeal Therapy Requirements for Patients with Acute Renal Failure," Presented February 9, 1997.
14. Third International Symposium on Daily Home Hemodialysis, Denver, CO. "Rationale for Ultra-Frequent Acute Hemodialysis," Presented February 17, 1997.
15. International Society for Artificial Organs Annual Meeting, Providence, RI. "Kinetics of Solute Removal During CRRT," Presented June 29, 1997.
16. European Dialysis and Transplant Association (EDTA) Annual Meeting, Geneva, Switzerland. "On-line monitoring of the delivery of the hemodialysis prescription." Presented September 22, 1997.
17. American Society of Nephrology Dialysis Forum, San Antonio, TX. "Solute Removal During CRRT." Presented November 1, 1997.
18. American Society of Nephrology Dialysis Forum, San Antonio, TX. "Monitoring and Assessment of Dialysis Dose in CRRT." Presented November 1, 1997.
19. Beth Israel Evolving Dialysis Annual Meeting. "Effect of Changes in Dialytic Frequency, Duration, and Flow Rates on Solute Kinetics and Effective Clearances." Presented December 5, 1997.
20. Fourth International Symposium on Daily Home Hemodialysis, Nashville, TN. "Hemodialysis Systems for Nocturnal and Continuous Hemodialysis." Presented February 24, 1998.
21. Third International Conference on CRRT, San Diego, CA. "Dialysis Dose Prescription and Delivery with CRRT." Presented March 5, 1998.

22. Dialysearzte Workshop, Prien, Germany. "Interaction Between Membrane Flux and Biocompatibility." Presented March 20, 1998.
23. First International Course of Critical Care Nephrology, Vicenza, Italy. "The Importance of the Dose of RRT in ARF." Presented May 22, 1998.
24. Severance Dialysis Symposium, Seoul, Korea. "Clinical Benefits of On-Line Hemodiafiltration." Presented June 21, 1998.
25. Annual Asian Colloquium in Nephrology, Kuala Lumpur, Malaysia. "New Dialysis Membrane Technology." Presented August 5, 1998.
26. American Society of Nephrology Postgraduate Course on ICU Nephrology, Philadelphia, PA. "Dialysis Dose in the ICU." Presented October 24, 1998.
27. National Conference on Dialysis: Advances in ESRD 1999, Tarpon Springs, FL. "Solute Kinetics and Therapy Quantification in Acute Renal Failure." Presented January 21, 1999.
28. National Conference on Dialysis: Advances in ESRD 1999, Tarpon Springs, FL. "Is the clinical effectiveness of single-use high-efficiency cellulosic dialyzers equivalent to that of reused high-flux dialyzers?" Presented January 21, 1999.
29. Renal Grand Rounds, Loyola Medical Center, Chicago, IL: "Extracorporeal Therapy of Acute Renal Failure". Presented February 4, 1999.
30. Fifth International Symposium on Daily Home Hemodialysis, Charlotte, NC. "Solute Kinetics in Relation to Dialysis Frequency, Duration, and Flow Rates." Presented March 1, 1999.
31. Fourth International Conference on CRRT, San Diego, CA: "Dialysis Dose Prescription and Delivery with Dialytic Techniques in Acute Renal Failure". Presented March 11 and 13, 1999.
32. Dialysearzte Workshop, Prien, Germany. "Membrane technology at the end of the century." Presented March 19, 1999.
33. Renal Grand Rounds, Johns Hopkins Medical Center, Baltimore, MD: "Dialytic Therapy of Acute Renal Failure". Presented March 26, 1999.
34. American Filtration and Separation Society Annual Meeting, Boston, MA: "The Effect of Reprocessing on the Effective Permeability of Highly Permeable Membranes". Presented April 7, 1999.
35. Philippine Society of Nephrology Annual Meeting, Manila, Philippines: "Dialysis Prescription and Kinetics in Acute Renal Failure". Presented April 16, 1999.
36. Fourth International Conference on Continuous Hemofiltration, Darmstadt, Germany: "CRRT Efficiency and Efficacy in Relation to Solute Size". Presented May 15, 1999.
37. ESRD Network 9/10 Nephrology Conference, Indianapolis, IN: "Technological Advances: Do They Help?" Presented May 19, 1999.
38. North American Annual Symposium on Dialysis and Transplantation, Kapalua, Hawaii. "Flux and Biocompatibility Characteristics of Hemodialysis Membranes". Presented July 19, 1999.

38. International Faculty of Artificial Organs (INFA) Intensive Course on Artificial Membranes in Medical Applications, Warsaw, Poland. "Factors Determining Effective Solute Removal During Hemodialysis". Presented August 28, 1999.
39. Annual Meeting of the Mexican Society of Nephrology, Huatulco, Mexico. "Biocompatibility in Hemodialysis". Presented September 9, 1999.
40. Stuart Kleit Symposium, National Kidney Foundation of Indiana, Merrillville, IN. "Continuous Renal Replacement Therapy in the Management of Acute Renal Failure". Presented September 24, 1999.
41. American Society of Nephrology Clinical Symposium Therapy Options in Acute Renal Failure, Miami, FL. "The Case for CRRT". Presented November 6, 1999.
42. American Society of Nephrology Postgraduate Course on CRRT, Miami, FL. "Removal of middle and large size solutes by CRRT". Presented November 4, 1999.
43. Fourth International Congress on Uraemic Toxicity, Vienna, Austria. "Comparison of uremic toxin removal by glomerular filtration and continuous, semi-continuous, and intermittent renal replacement therapies". Presented November 23, 1999.
44. Annual Membrane Technology Conference, Newton, MA: "Hemodialysis: Where To?". Presented December 7, 1999.
45. International Conference on Dialysis: Advances in ESRD 2000, Tarpon Springs, FL. "Effect of blood-side and dialysate-side mass transfer resistance on small solute removal in hemodialysis". Presented January 13, 2000.
46. Annual Conference on Dialysis Vascular and Venous Access, Aspen, CO. "Dialytic Therapy Options in Acute Renal Failure". Presented February 26, 2000.
47. Sixth International Symposium on Daily Home Hemodialysis, San Francisco, CA. "Overview of Mass Transfer in Hemodialysis". Presented February 28, 2000.
48. Fifth Annual International Symposium on CRRT, San Diego, CA: "Factors Influencing Effective Solute Removal in CRRT". Presented March 2, 2000.
49. International Symposium on Intensive Care and Emergency Medicine, Brussels, Belgium. "Solute Removal Mechanisms in CRRT". Presented March 22, 2000.
50. Eighth Asian Pacific Congress of Nephrology, Taipei, Taiwan. "Recent Advances in Hemodialysis and Impact on Outcomes". Presented March 28, 2000.
51. First Annual International Symposium on Pediatric CRRT, Miami, FL. "Determinants of Solute Removal in CRRT". Presented June 24, 2000.
52. Annual Scientific Meeting of the American Society of Artificial Internal Organs, New York, NY. "Dialysis Membranes". Presented June 28, 2000.
53. Annual Scientific Meeting of the American Society of Artificial Internal Organs, New York, NY. "Renal Support Choices in the Critically Ill Patient: When, How, and Why". Presented June 30, 2000.
54. North American Annual Symposium on Dialysis and Transplantation, Kapalua, Hawaii. "Dialytic Therapy Options in Acute Renal Failure". Presented July 5, 2000.

55. European Dialysis and Transplant Society Annual Meeting (Satellite Symposium), Nice, France: "Dialytic Removal of Low-Molecular Weight Proteins". Presented September 18, 2000.
56. Mexican Society of Nephrology Annual Meeting, Guadalajara, Mexico: "Advances in Hemodialysis". Presented October 6, 2000.
57. American Society of Nephrology Post-Graduate Course on Hemodialysis, Toronto, Canada: "Overview of Mass Transfer in Hemodialysis". Presented October 11, 2000.
58. American Society of Nephrology Annual Meeting, Toronto, Canada, Invited Mini-lecture: "Effect of Membrane Characteristics on Flux, Biocompatibility, and Adequacy in Hemodialysis". Presented October 13, 2000.
59. Annual Dialysis Conference, New Orleans, LA. "Membrane Processes in Hemodialysis: Diffusion, Convection, Adsorption". Presented February 28, 2001.
60. Sixth Annual International Symposium on CRRT, San Diego, CA: "Vascular access, membrane, and circuit issues in CRRT". Presented March 8, 2001.
61. NIH/HCFA Task Force on Daily Dialysis, Bethesda, MD: "Industry Roundtable: Baxter Perspective". Presented April 11, 2001.
62. National Kidney Foundation Clinical Nephrology Meetings, Orlando, FL. "Determination of Hemodialysis Adequacy in Acute Renal Failure". Presented April 17, 2001.
63. North American Membrane Society (NAMS) Annual Conference, Lexington, KY. "Membrane determinants of solute removal in hemodialysis". Presented May 18, 2001.
64. Second International Course on Critical Care Nephrology, Vicenza, Italy. "Prescription of Adequate Renal Replacement Therapy in Acute Renal Failure". Presented May 24, 2001.
65. Second International Course on Critical Care Nephrology, Vicenza, Italy. "Membranes and Filters for CRRT". Presented May 24, 2001.
66. American Society of Nephrology Post-Graduate Course on CRRT, San Francisco, CA: "Solute Control and Dose in CRRT". Presented October 13, 2001.
67. American Society of Nephrology Post-Graduate Course on CRRT, San Francisco, CA: "CRRT Technique: Principles and Operating Characteristics". Presented October 13, 2001.
68. Cleveland Clinic Foundation, Nephrology Update 2001, Cleveland, OH: "Dialysis Membrane Technologies: How Are They the Same and How Are They Different?" Presented November 6, 2001.
69. Veterans General Hospital (Visiting Professorship), Taipei, Taiwan: "Quantification of Hemodialysis". Presented December 11, 2001.
70. Veterans General Hospital (Visiting Professorship), Taipei, Taiwan: "Kinetics of Solute Removal in Different Dialysis Therapies". Presented December 12, 2001.
71. Veterans General Hospital (Visiting Professorship), Taipei, Taiwan: "Renal Replacement Therapy in Acute Renal Failure". Presented December 13, 2001.

72. Renal Grand Rounds, Columbia University School of Medicine, New York, NY: "Kinetics of Solute Removal in Different Dialysis Therapies". Presented February 11, 2002.
73. Annual Course on Pediatric Dialysis, Tampa, FL: "The Biology of Dialysis". Presented March 1, 2002.
74. Annual Dialysis Conference, Tampa, FL. "Understanding Diffusion, Convection, and Adsorption in Dialysis". Presented March 3, 2002.
75. Annual Dialysis Conference, Tampa, FL. "Dialysis Membrane Properties Influencing the Balance Between Middle Molecule Removal and Albumin Loss". Presented March 5, 2002.
76. Annual Dialysis Conference, Tampa, FL. "Design and Membrane Characteristics of Hemodialyzers". Presented March 5, 2002.
77. Annual International Symposium on CRRT, San Diego, CA: "Dose Prescription and Delivery with Dialytic Techniques". Presented March 14, 2002.
78. Annual International Symposium on CRRT, San Diego, CA: "Effect of Modality, Membrane, and Operation Characteristics on Dose". Presented March 16, 2002.
79. Annual International Symposium on CRRT, San Diego, CA: "Dose of Dialysis: How Should it be Measured and Prescribed?". Presented March 16, 2002.
80. NANT Annual Symposium, Pittsburgh, PA: "Industry Review: What's New in Dialysis?". Presented April 7, 2002.
81. University of Chicago Renal Grand Rounds, Chicago, IL: "Renal Replacement Therapy in Acute Renal Failure". Presented April 11, 2002.
82. National Kidney Foundation Hemodialysis Course, Chicago, IL: "CRRT: Baxter's Perspective". Presented April 15, 2002.
83. ANNA Annual Symposium, Orlando, FL: "Beyond Clearance and Ultrafiltration: The Dialyzer Membrane and its Effects on Dialysis Patients". Presented May 24, 2002.
84. First International Course on Hemodialysis Technology, Vicenza, Italy. "Membranes for Dialysis: Composition, Structure, and Function." Presented June 21, 2002.
85. Nephrology Grand Rounds, Mayo Clinic, Rochester, MN. "Dialysis Dose in Acute Renal Failure". Presented August 6, 2002.
86. Invited Lecture, Mayo Clinic, Rochester, MN. "New Developments in Hemodialysis Membranes". Presented August 6, 2002.
87. Kidney Dialysis Foundation (KDF) State-of-the-Art Nephrology Course, Singapore: "Dialytic Management of Acute Renal Failure". Presented September 24, 2002.
88. Japanese Society for Artificial Organs, Sapporo, Japan: "Metabolic Control and Treatment Dose in Acute Renal Replacement Therapies". Presented October 3, 2002.
89. American Society of Nephrology Post-Graduate Course on Hemodialysis, Philadelphia, PA: "Determinants of Diffusive Solute Transport". Presented October 30, 2002.

90. American Society of Nephrology Annual Meeting, Philadelphia, PA, Invited presentation for “Novel Alternatives to Hemodialysis” symposium: “An Overview of Solute Removal in Non-Diffusive Modalities”. Presented November 3, 2002.
91. International Conference on Dialysis: Advances in ESRD 2003, Miami, FL: “Acute Dialysis Quality Initiative (ADQI) Introduction and Definition of Acute Renal Failure.” Presented January 30, 2003.
92. Annual International Symposium on CRRT, San Diego, CA: “CRRT>SLED>IHD: True or False”. Presented March 8, 2003.
93. National Kidney Foundation Clinical Nephrology Meetings, Dallas, TX. “Assessing Kidney Function in the Patient with Acute Kidney Failure”. Presented April 3, 2003.
94. Keystone ESRD Conference, Orlando, FL. “Daily Dialysis: The Options”. Presented May 2, 2003.
95. Keystone ESRD Conference, Orlando, FL. “Treatment of Acute Renal Failure”. Presented May 2, 2003.
96. Network 9/10 Annual Meeting, Indianapolis, IN: “Impact of the HEMO and ADEMEX Studies on Clinical Practice”. Presented May 15, 2003.
97. National Kidney Foundation of Maine Annual Meeting, Portland, ME: “Hemofiltration in the Management of Acute and Chronic Renal Failure”. Presented September 6, 2003.
98. National Kidney Foundation of Illinois Annual Meeting, Chicago, IL: “Alternative Modalities for the Management of Renal Failure”. Presented September 14, 2003.
99. Midwest CRRT Symposium, Indianapolis, IN: “Dialysis Dosing in the Intensive Care Unit”. Presented October 2, 2003.
100. American Society of Nephrology Post-Graduate Course on Peritoneal Dialysis, San Diego, CA: “Determinants of Diffusive and Convective Solute Transport”. Presented November 12, 2003.
101. Third Symposium on Extra-renal Therapy in Intensive Care, Paris, France: “Are All Dialysis Methods Equivalent in Dose Delivery?” Presented December 4, 2003.
102. Third Symposium on Extra-renal Therapy in Intensive Care, Paris, France: “Non-conventional Renal Replacement Therapy in ARF” Presented December 5, 2003
103. International Society for Hemodialysis: Ultrafiltration and Beyond Symposium, San Antonio, TX: “Hemofiltration – Is It Better than Hemodialysis? Presented February 7, 2004.
104. National Kidney Foundation of Singapore, NephroAsia 2004, Singapore: “Polymers and Membranes in Haemodialysis”. Presented February 12, 2004.
105. National Kidney Foundation of Singapore, NephroAsia 2004, Singapore: “Large Molecular Weight Uremic Toxins: Clinical Implications and Modalities for Removal”. Presented February 12, 2004.
106. National Kidney Foundation Spring Clinical Meeting, Chicago, IL: “Fundamentals of Hemodialysis and Hemofiltration”. Presented April 29, 2004.

107. Third International Course on Critical Care Nephrology, Vicenza, Italy. "Consensus and Recommendations from ADQI: Membranes, Techniques, and Operational Characteristics". Presented June 4, 2004.
108. Third International Course on Critical Care Nephrology, Vicenza, Italy. "Which Treatment for ARF in the ICU: CRRT". Presented June 4, 2004.
109. Third International Course on Critical Care Nephrology, Vicenza, Italy. "Membranes and Filters for CRRT". Presented June 4, 2004.
110. Da Fundacao Pro-Renal Symposium, Curitiba, Brazil: "Short Daily vs Nocturnal Hemodialysis". Presented July 16, 2004.
111. American Society of Nephrology Post-Graduate Course on Hemodialysis, St. Louis, MO: "Determinants of Diffusive and Convective Solute Transport". Presented October 27, 2004.
112. Annual Conference on Dialysis, Tampa, FL: "Uremic Toxins". Presented February 27, 2005.
113. Annual Conference on Dialysis, Tampa, FL: "Laboratory and Clinical Studies of Efficiency of Various Volumes of HDF". Presented March 2, 2005.
114. National Kidney Foundation Spring Clinical Meeting, Washington, DC: "Dialysis Prescription in Acute Kidney Disease: Frequency vs Dose". Presented May 6, 2005.
115. Hong Kong Society of Nephrology Annual Meeting, Hong Kong, China: "Determinants of Treatment Dose in CRRT". Presented September 10, 2005.
116. Hong Kong Society of Nephrology Annual Meeting, Hong Kong, China: "Factors Influencing the Outcome of Patients Treated with CRRT". Presented September 11, 2005.
117. American Society of Nephrology Post-Graduate Course, Philadelphia, PA: "Factors Influencing Dialytic Mass Transfer". Presented November 8, 2005.
118. University of Utah, Nephrology Grands Rounds, Salt Lake City, UT: "Dialytic Management of ARF in the ICU". Presented December 7, 2005.
119. Annual Conference on Dialysis, San Francisco, CA: "Uremic Toxins". Presented February 25, 2006.
120. Annual Conference on Dialysis, San Francisco, CA: "The Wide Spectrum of Uremic Toxins". Presented February 27, 2006.
121. Conference on Continuous Blood Purification, Nanjing, China: "Determinants of Dose in CBP therapy". Presented May 13, 2006.
122. Kidney Disease Foundation State-of-the-Art Nephrology Course, Singapore: "Update on Hemodialysis Adequacy Trials". Presented September 10, 2006.
123. Kidney Disease Foundation State-of-the-Art Nephrology Course, Singapore: "New Dialysis Technologies". Presented September 10, 2006.
124. Kidney Disease Foundation State-of-the-Art Nephrology Course, Singapore: "Dialytic Management of Acute Renal Failure in the ICU". Presented September 10, 2006.

125. World Congress of Internal Medicine, Taipei, Taiwan: "Extracorporeal Ultrafiltration in Refractory Congestive Heart Failure". Presented November 13, 2006.

PUBLICATIONS:

Manuscripts:

1. HJ Moynihan, C Lee, WR Clark, NH-L Wang: Urea Hydrolysis by immobilized urease in a fixed-bed reactor. *Biotechnology and Bioengineering* 1989;24:951-963.
2. WR Clark, MH Murphy, KJ Alaka, BA Mueller, SO Pastan, WL Macias. Urea kinetics in continuous hemofiltration. *ASAIO J* 1992;38:664-667.
3. BA Mueller, WR Clark, MA Kraus, WL Macias: Vancomycin and tobramycin clearances in continuous hemofiltration. *Ann Pharmacother* 1993;27:1285-1286.
4. WR Clark, BA Mueller, KJ Alaka, WL Macias: A comparison of metabolic control by continuous and intermittent therapies in acute renal failure. *J Am Soc Nephrol* 1994;4:1413-1420.
5. WR Clark, WL Macias, BA Molitoris, NHL Wang: β_2 -microglobulin membrane adsorption: equilibrium and kinetic characterization. *Kidney Int* 1994;46:1140-1146.
6. WR Clark, WL Macias, BA Molitoris, NHL Wang: Plasma protein adsorption to highly permeable hemodialysis membranes. *Kidney Int* 1995;48:481-487.
7. WL Macias, WR Clark: Azotemia control by extracorporeal therapies in patients with acute renal failure. *New Horizons* 1995;3:688-698.
8. WL Macias, KJ Alaka, MH Murphy, ME Miller, WR Clark, BA Mueller: Impact of the nutritional regimen on protein catabolism and nitrogen balance in patients with acute renal failure. *JPEN* 1996;20:56-62.
9. WR Clark, BA Mueller, MA Kraus, WL Macias: Solute control in acute renal failure: Prescription and delivery of adequate extracorporeal therapy. *Semin Dial* 1996;9:133-139.
10. WL Macias, WR Clark: Acid-base balance in continuous renal replacement therapy. *Sem Dial* 1996;9:145-151.
11. G Bottoms, J Fessler, E Murphey, M Johnson, H Latshaw, B Mueller, WR Clark, W Macias: Efficacy of convective removal of plasma mediators of endotoxic shock by continuous venovenous hemofiltration. *Shock* 1996;5:149-154.
12. WR Clark, BA Mueller, MA Kraus, WL Macias: Solute control by extracorporeal therapies in acute renal failure. *Am J Kid Dis* 1996;28 (Supl3):S21-S27.
13. WR Clark, MV Rocco, AJ Collins: Quantification of hemodialysis: Analysis of methods and relevance to clinical outcome. *Blood Purif* 1997;15:92-111.
14. MK Scott, WL Macias, MA Kraus, WR Clark, MA Carfagna, BA Mueller: Intradialytic vancomycin administration: dialysis membrane effects. *Pharmacotherapy* 1997;17:256-262.

15. ED Murphey, JF Fessler, GD Bottoms, H Latshaw, M Johnson, BA Mueller, WR Clark, WL Macias: Effects of continuous venovenous hemofiltration on cardiopulmonary function in a porcine model of endotoxin-induced shock. *Am J Vet Res* 1997;58:408-413.
16. WR Clark, BA Mueller, MA Kraus, WL Macias: Extracorporeal therapy requirements for patients with acute renal failure. *J Am Soc Nephrol* 1997;8:804-812.
17. WR Clark: BA Mueller, MA Kraus, WL Macias: Dialysis prescription and kinetics in acute renal failure. *Adv Ren Replace Ther* 1997;4:64-71.
18. WR Clark: Effect of intermittent hemodialysis on metabolic control in acute renal failure. *Home Hemodialysis International* 1997;1:28-31.
19. WR Clark, BA Mueller, MA Kraus, WL Macias: The role of renal replacement therapy quantification in acute renal failure. *Am J Kidney Dis* 1997;30 (Suppl 4):S10-S14.
20. MK Scott, BA Mueller, WR Clark: Vancomycin mass transfer characteristics of high flux cellulose dialyzers. *Nephrol Dial Transplant* 1997;12:2647-2653.
21. WR Clark, C Ronco: Renal replacement therapy in acute renal failure: Solute removal mechanisms and dose quantification. *Kidney Int* 1998;53 (Suppl 6):S133-S137.
22. WR Clark, BA Mueller, MA Kraus, WL Macias: Quantification of creatinine kinetic parameters in patients with acute renal failure. *Kidney Int* 1998;54:554-560.
23. LW Henderson, WR Clark: Modeling and the middle molecule. *Semin Dial* 1998;11:228-230.
24. WR Clark, PJ Soltys: Extracorporeal systems for renal replacement therapy in acute renal failure. *Home Hemodialysis International* 1998;2:30-33.
25. WR Clark, BA Mueller, MA Kraus, WL Macias: Renal replacement therapy quantification in acute renal failure. *Nephrol Dial Transplant* 1998;13 (suppl 6):86-90.
26. MK Scott, BA Mueller, WR Clark: Dialyzer-dependent changes in solute and water permeability with bleach reprocessing. *Am J Kidney Dis* 1999;33:87-96.
27. WR Clark, JK Leyboldt, LW Henderson, BA Mueller, MK Scott, EF Vonesh. Quantifying the effect of changes in the hemodialysis prescription on effective solute removal with a mathematical model. *J Am Soc Nephrol* 1999;10:601-610.
28. KM Sowinski, SR Abel, WR Clark, BA Mueller: Effect of gender on the pharmacokinetics of ofloxacin. *Pharmacotherapy* 1999;19:442-446.
29. WR Clark, BA Mueller, MK Scott, S Bander: Low-molecular weight protein removal by high-flux dialyzers: Basic mechanisms and effect of reprocessing. *Semin Dial* 1999;12:349-354.
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