

Curriculum Vitae

Name Karl Frederick Welke

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Doernbecher Children's Hospital
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Education

2001	M.S., concentration in Health Care Improvement	Center for the Evaluative Clinical Sciences Dartmouth Medical School, Hanover, NH
1994	M.D.	University of Illinois, College of Medicine Peoria, IL
1990	B.S.E., cum laude Engineering Science	University of Michigan, College of Engineering Ann Arbor, MI

Postdoctoral Training

2001-2004	Residency Thoracic Surgery	The University of Iowa Hospitals and Clinics Iowa City, IA (Mark D. Iannettoni, M.D., Douglas M. Behrendt, M.D.)
2001-2003	Research Fellowship Outcomes and Health Services Research	Graduate Training Program in Clinical Investigation The University of Iowa Hospitals and Clinics Iowa City, IA (Gary E. Rosenthal, M.D., Bradley N. Doebbeling, M.D.)
2000-2001	Fellowship Cardiothoracic Surgery	Dartmouth-Hitchcock Medical Center, Lebanon, NH (William C. Nugent, M.D.)
1994-2000	Residency General Surgery	Dartmouth-Hitchcock Medical Center, Lebanon, NH (Richard W. Dow, M.D.)
1996-1997	Research Fellowship Vascular Surgery	Dartmouth-Hitchcock Medical Center, Lebanon, NH (Jack L. Cronenwett, M.D.)

Licensure and Certification

2005 American Board of Thoracic Surgery

2004 Oregon Board of Medical Examiners
2002 American Board of Surgery
2001 Iowa Board of Medical Examiners
2000 New Hampshire Board of Medicine
1996 Vermont Board of Medical Examiners

Academic Appointments

2006-	Assistant Professor Cardiothoracic Surgery	Oregon Health and Science University Portland, OR
2004-2006	Instructor Cardiothoracic Surgery	Oregon Health and Science University Portland, OR
2001-2004	Fellow Associate Cardiothoracic Surgery	University of Iowa, College of Medicine Iowa City, IA
1999-2001	Instructor Surgery	Dartmouth Medical School Hanover, NH

Professional Positions

2004-	Staff Surgeon	Department of Veterans Affairs Medical Center Portland, OR
2004-	Staff Surgeon	Division of Cardiothoracic Surgery Oregon Health and Science University Portland, OR
2001-2002	Staff Surgeon	Department of Surgery The University of Iowa Hospitals and Clinics Iowa City, IA
1999-2000 1996-1997	Physician Surgical Service	Veterans Administration Hospital White River Junction, VT
1996-1999	Consultant, Reviewer	Medical Media Systems Involved in research, development and production of Preview Surgical Planning Software

Committee Assignment

2006-	Multi-Societal Database Committee for Pediatric and Congenital Heart Disease	The Congenital Heart Institute of Florida St. Petersburg, FL
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2006	Abstract Reviewer Congenital Heart Surgery	American College of Cardiology 56 th Annual Scientific Session
2005 -	Multi-Center Panel of Experts for Cardiac Surgical Outcomes	Children's Hospital Boston Boston, MA
2002 -	Access and Publications Task Force	The Society of Thoracic Surgeons
2001-2004	Quality and Performance Improvement Committee	University of Iowa Heart Care The University of Iowa Hospitals and Clinics
2000-2001	Medical Advisory Committee	Good Neighbor Health Clinic White River Junction, VT
1994-1996	Education Committee	Department of Surgery Dartmouth-Hitchcock Medical Center
1992-1994	Equal Opportunity/ Affirmative Action Committee	University of Illinois, College of Medicine
1991-1992	Evaluation Committee	University of Illinois, College of Medicine

Editorial Boards

2008	Ad Hoc Reviewer	American Heart Journal
2007	Ad Hoc Reviewer	Expert Review of Pharmacoeconomics and Outcomes Research
2006	Ad Hoc Reviewer	ASAIO Journal
2006	Ad Hoc Reviewer	World Journal of Surgery
2006	Ad Hoc Reviewer	JAMA
2005-	Ad Hoc Reviewer	Annals of Thoracic Surgery
2004, 2007	Ad Hoc Reviewer	Circulation
2004	Ad Hoc Reviewer	Journal of the American College of Cardiology
2003	Ad Hoc Reviewer	Journal of Psychosomatic Research

Awards and Honors

2006	William Williams, MD Young Investigator Award, 2 nd International Conference on Pediatric Mechanical Circulatory Support Systems and Pediatric Cardiopulmonary Perfusion, Toronto, ON, May 18-20, 2006
2004	Best clinical paper, Residents' and Fellows' Research Day, Department of Surgery, The University of Iowa Hospitals and Clinics, Iowa City, IA

- 2002 Best poster, Population Science, American Heart Association Scientific Sessions, Chicago, IL, November 17-20, 2002
- 2002 Fellow travel award, Fourth Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke
- 2002 Best clinical paper, Residents' and Fellows' Research Day, Department of Surgery, The University of Iowa Hospitals and Clinics, Iowa City, IA
- 1997 Best basic science paper, State award, Residents' paper competition American College of Surgeons, Region I Committee on Trauma
- 1993 King's College Scholarship
University of Illinois, College of Medicine
- 1993 Dr. Bertram A. Richardson Scholarship
University of Illinois, College of Medicine
- 1993 Avery Brundage Scholarship
University of Illinois
- 1991 Condit Fellowship Award
Carle Foundation Hospital, Urbana, IL
- 1989-1990 Academic All Big Ten Conference Team
Track and Field
- 1989 Academic All Big Ten Conference Team
Cross Country
- 1988-1990 Varsity Letter winner in Track and Field
University of Michigan
- 1988-1989 Varsity Letter winner in Cross Country
University of Michigan
- 1988 National Collegiate Athletic Association Championship qualifier
Cross Country
- ,

Research Support

- 2007-2008 Heart Research Center, Oregon Health and Science University, "A population based perspective of long-term outcomes after surgical repair of congenital cardiac defects" \$15,000
- 2001-2002 NIH T32 NRSA Institutional Training Grant (HL 07121-27)
Iowa Cardiovascular Center Institutional Research Fellowship \$44,412

Memberships

Society of Thoracic Surgeons
World Society for Pediatric and Congenital Heart Surgery
Western Thoracic Surgical Association
University of Michigan Varsity "M" Club, Life member

Bibliography

Book Chapters

1. Welke K, Cronenwett JC. Lumbar sympathectomy for lower extremity cutaneous ischemic ulcers. In: Earnst CB, Stanley JC, editors. Current therapy in vascular surgery. 4th ed. St. Louis: Mosby; 2001, p. 483-6.
2. Welke KF. Benchmarks in cardiac surgery, databases and league tables. In: Langley SM, Ohri SK, Hickey EJ, editors. Frequently asked questions: cardiac surgery. (in press)

Journal Articles

1. Welke KF, Tarry WC, Wagner RJ, Kitzmiller TJ, Bech FR. Matrix metalloproteinase activation is associated with extracellular matrix synthesis following arterial injury. *Surg Forum* 1997;48:397-9.
2. Woodrum DT, Welke KF, Fillinger MF. Candida infection associated with a solitary mycotic common iliac artery aneurysm. *J Vasc Surg* 2001;34:166-8.
3. Welke KF, Stevens JP, Schults WC, Nelson EC, Beggs VL, Nugent WC. Patient characteristics can predict improvement in functional health after elective coronary artery bypass grafting. *Ann Thorac Surg* 2003;75:1849-55.
4. Welke KF, BootsMiller BJ, McCoy KD, Vaughn TE, Ward MM, Flach SD, Peloso PM, Sorofman BA, Tripp-Reimer T, Doebbeling BN. What factors influence provider knowledge of a congestive heart failure guideline in a national health care system? *Amer J Med Qual* 2003;18:122-7.
5. Hammel JM, Caldarone CA, Van Natta TL, Wang LX, Welke KF, Li W, Niles S, Barner E, Scholz TD, Behrendt DM, Segar JL. Myocardial apoptosis after cardioplegic arrest in the neonatal lamb. *J Thorac Cardiovasc Surg* 2003;125:1268-75.
6. Welke KF, Ferguson TB Jr., Coombs LP, Dokholyan RS, Murray CJ, Schrader MA, Peterson ED. Validity of the Society of Thoracic Surgeons National Adult Cardiac Surgery Database. *Ann Thorac Surg* 2004;77:1137-9.
7. Ward MM, Yankey JW, Vaughn TE, BootsMiller BJ, Flach SD, Welke KF, Pendergast JF, Perlin J, Doebbeling BN. Physician process and patient outcome measures for diabetes care: Relationships to organizational characteristics. *Med Care* 2004;42:840-50.
8. BootsMiller BJ, Yankey JW, Flach SD, Ward MM, Vaughn TE, Welke KF, Doebbeling BN. Classifying the effectiveness of Veterans Affairs guideline implementation approaches. *Amer J Med Qual* 2004;19:248-54.

9. Welke KF, Jacobs JP, Jenkins KJ. Evaluation of quality of care of congenital heart disease. *Semin Thorac Cardiovasc Surg Pediatr Card Surg Annu* 2005;8:157-67.
10. Slater M, Shen I, Welke K, Komanapalli C, Ungerleider R. Modification to the Ross procedure to prevent autograft dilatation. *Semin Thorac Cardiovasc Surg Pediatr Card Surg Annu* 2005;8:181-4.
11. Schelbert EB, Vaughan-Sarrazin MS, Welke KF, Rosenthal GE. Hospital volume and selection of valve type in older patients undergoing aortic valve replacement surgery in the United States. *Circulation* 2005;111:2178-82.
12. Kabra R, Welke KF, Kernstine KH, Field FJ, Thompson BH, Vats HS, Weintraub NL. Bacterial pericarditis due to group f streptococcus as a complication of esophagomediastinal fistula. *Ann Thorac Surg* 2005;79:2132-4.
13. Edwards FH, Welke KF, Levitsky S. Cardiac revascularization in specialty and general hospitals. *N Engl J Med* 2005;352:2754-6. (Letter)
14. Welke KF, Komanapalli C, Shen I, Ungerleider RM. Advances in congenital heart surgery. *Curr Opin Pediatr* 2005;17:574-8.
15. Schelbert EB, Rosenthal GE, Welke KF, Vaughan Sarrazin MS. Treatment variation in older black and white patients undergoing aortic valve replacement. *Circulation* 2005;112:2347-53.
16. Welke KF, Barnett MJ, Vaughan Sarrazin MS, Rosenthal GE. The limitations of hospital volume as a measure of quality of care for coronary artery bypass surgery. *Ann Thorac Surg* 2005;80:2114-20.
17. Welke KF. Exploring the volume-outcome relationship for off-pump coronary artery bypass graft procedures. *Ann Thorac Surg* 2006;81:553-4. (Invited Commentary).
18. Welke KF, Shen I, Ungerleider RM. Current assessment of mortality rates in congenital cardiac surgery. *Ann Thorac Surg* 2006;82:164-71.
19. Welke KF, Ungerleider RM. Mortality as an outcome for pediatric heart surgery. *ASAIO Journal*. 2006;52:552-555.
20. DiSesa VJ, O'Brien SM, Welke KF, Beland SM, Haan CK, Vaughan-Sarrazin MS, Peterson ED. Contemporary impact of state certificate-of-need regulations for cardiac surgery. An analysis using the Society of Thoracic Surgeons' national cardiac surgery database. *Circulation* 2006;114:2122-2129.
21. Subramanian U, Sutherland J, McCoy KD, Welke KF, Vaughn TE, Doebbeling BN. Facility-level factors influencing chronic heart failure care process performance in a national integrated health delivery system. *Med Care* 2007;45:28-45.

22. Welke KF, Ungerleider RM. Repair of tetralogy of Fallot with absent pulmonary valve syndrome. *Oper Tech Thorac Cardiovasc Surg* 2007;12:25-35.
23. Welke KF, Morris CD, King E, Komanapalli C, Reller MD, Ungerleider RM. A population-based perspective of long-term outcomes after surgical repair of partial atrioventricular septal defect. *Ann Thorac Surg* 2007;84:624-629.
24. Welke KF, Peterson ED, Vaughan-Sarrazin MS, O'Brien SM, Rosenthal GE, Shook GJ, Dokholyan RS, Haan CK, Ferguson TB Jr.. A comparison of cardiac surgery volumes and mortality rates between the Society of Thoracic Surgeons and Medicare databases from 1993 through 2001. *Ann Thorac Surg* 2007;84:1538-1547.
25. O'Brien, SM, Jacobs JP, Clarke DR, Maruszewski B, Jacobs ML, Walters HL III, Tchervenkov CI, Welke KF, Tobota Z, Stellin G, Mavroudis C, Hamilton JRL, Gaynor JW, Pozzi M, Lacour-Gayet FG. Accuracy of the Aristotle Basic Complexity Score for classifying the mortality and morbidity potential of congenital heart surgery operations. *Ann Thorac Surg* 2007;84:2027-2037.
26. Schelbert EB, Vaughan-Sarrazin MS, Welke KF, Rosenthal GE. Valve type and long term outcomes after aortic valve replacement in older patients. *Heart* 2008 (accepted)
27. Gammie JS, Haddad M, Milford-Beland S, Welke KF, Ferguson TB Jr., O'Brien SM, Griffith BP, Peterson ED. Atrial fibrillation correction surgery: Lessons learned from the Society of Thoracic Surgeons National Cardiac Database. *Ann Thorac Surg* 2008 (accepted)
28. Curzon, CL, Milford-Beland S, Li JS, O'Brien SM, Jacobs JP, Jacobs ML, Welke KF, Lodge AJ, Peterson E, Jagers J. Cardiac surgery in infants with low weight is associated with increased mortality: Analysis of the Society of Thoracic Surgeons Congenital Heart Database. *J Thorac Cardiovasc Surg* 2008 (accepted)
29. Lacour-Gayet F, Clarke DR, Jacobs JP, Jacobs ML, Pizarro C, Maruszewski B, Welke KF, O'Brien SM, Edwards FH, Mavroudis C. Proposal for an operative morbidity index in congenital cardiac surgery. *Cardiol Young* 2008 (accepted)
30. Welke KF, Dearani JA, Ghanayem NS, Beland, MJ, Shen I, Ebels T. Renal complications after congenital cardiac surgery: Consensus definitions from the Multi-Societal Database Committee for Pediatric and Congenital Heart Disease. *Cardiol Young* 2008 (accepted)
31. Ghanayem NS, Dearani JA, Welke KF, Beland, MJ, Shen I, Ebels T. Gastrointestinal complications associated with congenital cardiac surgery: Consensus definitions from the Multi-Societal Database Committee for Pediatric and Congenital Heart Disease. *Cardiol Young* 2008 (accepted)
32. Song HK, Grab J, O'Brien S, Welke KF, Edwards F, Ungerleider R. Gender differences in mortality after mitral valve surgery: Evidence for higher mortality in perimenopausal women. *Ann Thorac Surg* (submitted)

33. Welke KF, Diggs BS, Karamlou T, Ungerleider RM. Comparison of pediatric cardiac surgical mortality rates from national administrative data to contemporary clinical standards. *Ann Thorac Surg* (submitted)
34. Karamlou T, Diggs B, Person T, Ungerleider RM, Welke KF. National practice patterns for management of adult congenital heart disease: Operation by congenital surgeons decreases in-hospital mortality. *Hawley H. Seiler Resident's Competition Award. Ann Thorac Surg* (submitted)
35. Welke KF, Diggs BS, Karamlou T, Ungerleider RM. The relationship between hospital surgical case volumes and mortality rates in pediatric cardiac surgery: A national sample 1988-2005. *Ann Thorac Surg* (submitted)
36. Karamlou T, Diggs BS, Ungerleider RM, McCrindle BW, Welke KF. The rush to atrial septal defect closure: Is the introduction of percutaneous closure driving utilization? *J. Maxwell Chamberlain Memorial Paper for Congenital Heart Surgery and recipient of the Thoracic Surgery Directors Association Research Award. Ann Thorac Surg* (submitted)

Abstracts

1. Yang W, Portnow D, Welke K, Block BB, Molitor SC. Current medical applications of thermography - a review. In: *Proceedings of the First World Congress of Biomechanics, University of California, San Diego, La Jolla, CA, August 30 - September 4, 1990. Vol II:343.*
2. Welke KF, Tarry WC, Wagner RJ, Kitzmiller TJ, Bech FR. Matrix metalloproteinase activation is associated with extracellular matrix synthesis following arterial injury. *Surgical Forum, American College of Surgeons 83rd Clinical Congress, Chicago, IL, October 12-17, 1997.*
3. Welke KF, Tarry WC, Wagner RJ, Kitzmiller TJ, Bech FR. Trauma induced intimal hyperplasia: the role of matrix metalloproteinases in the healing of arterial injury. *American College of Surgeons Region I Committee on Trauma Annual Meeting, Boston, MA, December 1997.*
4. Welke KF, Stevens JP, Schults WC, Nelson EC, Beggs VL, Baldwin JC, Nugent WC. Patient characteristics predict improvement in functional health after elective CABG. *Third Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke, Washington, DC, September 30 - October 1, 2001, Am Heart J 2002;144:44*
5. O'Connor GT, Leavitt BJ, Marrin CAS, Westbrook BM, Pipierro FV, Cohn WE, Surgenor SD, Welke KF, Ross CS. Who dies after cardiac surgery? *American Heart Association Scientific Sessions, Anaheim, CA, November 10-13, 2001, Circulation 2001;104(Suppl II):II-815-6.*

6. Foster T, Ogrinc G, Miller M, Stevens J, Wardell A, Welke K, Batalden P. Six competencies in search of a community: Reports from the appointing organizations to the Accreditation Council for Graduate Medical Education (ACGME). In: Proceedings of the Institute for Health Care Improvement 13th Annual National Forum on Quality Improvement in Health Care, Orlando, FL, December 9-12, 2001. M14:1.
7. Peloso PM, Carney-Doebbeling C, Vaughn TE, BootsMiller BJ, Welke KF, Letuchy E, Franciscus C, Woolson RF, Doebbeling BN. Predictors of screening for depression in a national sample. In: Selected Abstracts of the Veterans Administration Health Services Research and Development 20th Annual Meeting, Washington, DC, February 13-15, 2002. p. 55-6.
8. BootsMiller BJ, Welke KF, McCoy KD, Vaughn TE, Ward MM, Woolson RF, Doebbeling BN. Strategies that improved knowledge of the VA CHF practice guideline did not increase compliance. In: Selected Abstracts of the Veterans Administration Health Services Research and Development 20th Annual Meeting, Washington, DC, February 13-15, 2002. p. 59-60.
9. Vaughn TE, Welke KF, Ward, MM, McCoy KD, BootsMiller BJ, Woolson RF, Doebbeling BN. Organizational structures support implementation and adherence to VA clinical practice guidelines. In: Selected Abstracts of the Veterans Administration Health Services Research and Development 20th Annual Meeting, Washington, DC, February 13-15, 2002. p. 86-7.
10. Welke KF, McCoy KD, Vaughn T, BootsMiller BJ, Ward MM, Doebbeling BN. Which factors promote adherence to a congestive heart failure guideline in the VA national health care system? *J Gen Intern Med* 2002;17(Suppl I):217.
11. Hammel JM, Van Natta TL, Wang LX, Welke KF, Barner EW, Acarregui MJ, Scholtz TD, Segar JL, Caldarone CA. Cardioplegic arrest causes greater myocardial apoptosis in neonatal than mature lambs. Annual Meeting for the Midwest Pediatric Cardiology Society, Chicago, IL September 12-13, 2002.
12. Hammel JM, Van Natta TL, Wang LX, Welke KF, Barner EW, Acarregui MJ, Scholtz TD, Segar JL, Caldarone CA. Myocardial apoptosis after cardioplegic arrest in the neonatal lamb. Midwest Society for Pediatric Research Annual Meeting, Chicago, IL, September 25-28, 2002.
13. Hammel JM, Van Natta TL, Wang LX, Welke KF, Barner EW, Acarregui MJ, Scholz TD, Segar JL, Caldarone CA. Age-related susceptibility to myocardial apoptosis after cardioplegic arrest in neonatal and mature lambs. American Academy of Pediatrics National Conference and Exhibition, Boston, MA, October 18-23, 2002.
14. Hammel JM, Van Natta TL, Wang LX, Welke KF, Barner EW, Acarregui MJ, Scholz TD, Segar JL, Caldarone CA. Cardioplegic arrest causes greater myocardial apoptosis in neonatal than mature lambs. American Heart Association Scientific

Sessions, Chicago, IL, November 17-20, 2002, *Circulation* 2002;106(Suppl II):II-658.

15. Welke KF, Vaughan Sarrazin MS, Rosenthal GE. The peril of using hospital volume alone as a measure of quality of coronary artery bypass grafting. American Heart Association Scientific Sessions, Chicago, IL, November 17-20, 2002, *Circulation* 2002;106 (Suppl II):II-753.
16. Welke KF, Vaughan Sarrazin MS, Rosenthal GE. Is hospital volume a determinant of late survival after coronary artery bypass grafting? Fourth Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke, Washington, DC, October 12-14, 2002, American Heart Association Scientific Sessions, Chicago, IL, November 17-20, 2002, *Circulation* 2002;106(Suppl II):II-763.
17. Welke KF, Kazis LE, Flach SD, Appugliese DP, Yankey JW, Lee A, Doebbeling BN. Functional health predicts future intervention for coronary artery disease. American College of Cardiology 52nd Scientific Session, Chicago, IL, March 30 – April 2, 2003, *J Am Coll Cardiol* 2003;41(Suppl A):521A.
18. Flach SD, Welke K, McCoy K, BootsMiller BJ, Vaughn TE, Ward MM, Perlin J, Doebbeling BN. How can we improve compliance with a congestive heart failure guideline? Society of General Internal Medicine 26th Annual Meeting, Vancouver, B.C., April 30 – May 3, 2003, *J Gen Intern Med* 2003;18(Suppl I):282.
19. Welke KF, Vaughan Sarrazin MS, Rosenthal GE. Should volume influence patient choice of hospital for aortic valve replacement? American College of Cardiology 53rd Scientific Session, New Orleans, LA, March 7-10, 2004, *J Am Coll Cardiol* 2004;43(Suppl A):419A.
20. Kernstine KH, Busick NP, McLaughlin KA, Sarin RR, Welke KF, Thomas KW, Everett JE, Brown CK. In stage I nonsmall cell lung cancer (NSCLC), Does tumor size predict survival? The Society of Surgical Oncology 57th Annual Cancer Symposium, New York, NY, March 18-21, 2004, *Ann Surg Oncol* 2004;11:S128.
21. Hogue C, McMurry S, Muhlbaier L, Welke K, Ferguson T. Stroke risk after CABG surgery is not modified by the development of postoperative atrial fibrillation. Society of Cardiac Anesthesiologists 26th Annual Meeting and Workshops, Honolulu, HI, April 24-28, 2004, *Anesth Analg* 2004;98:SCA17.
22. Dokholyan RS, Welke KF, Ferguson TB Jr, Peterson ED. Variation exists in adherence to secondary prevention prescribing guidelines following CABG. Fifth Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke. Washington, DC, May 15-17, 2004. *Circulation* 2004;109:E271.
23. Welke KF, Vaughan Sarrazin MS, Rosenthal GE. Does hospital volume determine late survival after aortic valve replacement? Fifth Scientific Forum on Quality of

Care and Outcomes Research in Cardiovascular Disease and Stroke. Washington, DC, May 15-17, 2004. *Circulation* 2004;109:E253.

24. Schelbert E, Vaughan Sarrazin MS, Welke KF, Rosenthal GE. Relationship between hospital volume and use of bioprosthetic versus mechanical valves in aortic valve replacement in older patients. Fifth Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke. Washington, DC, May 15-17, 2004. *Circulation* 2004;109:E268-9.
25. Schelbert E, Vaughan Sarrazin MS, Welke KF, Rosenthal GE. Differences in the use of bioprosthetic and mechanical valves in older white and black patients undergoing aortic valve replacement. Fifth Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke. Washington, DC, May 15-17, 2004. *Circulation* 2004;109:E261.
26. Hoyer AW, Shen I, Ungerleider RM, Reed RD, Welke K, Pham PP, Sahn DJ, Balaji S. Dual-site versus single-site ventricular pacing in patients with single ventricle physiology. Heart Rhythm Society 26th Annual Scientific Sessions. New Orleans, LA, May 4-7, 2005. *Heart Rhythm* 2005;2:S325.
27. Subramanian U, Welke KF, McCoy K, Vaughn TE, Ward MM, Doebbeling BN. Physician process measures for chronic heart failure: Relationships to organizational characteristics. Society of General Internal Medicine 28th Annual Meeting, New Orleans, LA, May 11-14, 2005.
28. Welke KF, Dokhlyan RS, Vaughan Sarrazin MS, Rosenthal GE, Ferguson TB Jr., Peterson ED. A comparison of cardiac surgical volumes and mortality rates between the Society of Thoracic Surgeons and Medicare datasets 1993-2001. Sixth Scientific Forum on Quality of Care and Outcomes Research in Cardiovascular Disease and Stroke. Washington, DC, May 14-16, 2005. *Circulation* 2005;111:E313.
29. Welke KF, Barnett MJ, Vaughan Sarrazin MS, Rosenthal GE. The limitations of hospital volume as a measure of quality of care for coronary artery bypass surgery. American College of Surgeons – Oregon Chapter Annual Meeting. Sunriver, OR, July 1-2, 2005.
30. Welke KF, Shen I, Ungerleider RM. Pediatric cardiac surgery outcomes: Is the bar higher than we thought? Congenital Heart Surgeons Society Annual Meeting. Buenos Aires, Argentina, September 17-18, 2005.
31. Welke KF, Shen I, Ungerleider RM. Pediatric cardiac surgery outcomes: Is the bar higher than we thought? Southern Thoracic Surgical Association 52nd Annual Meeting. Orlando, FL, November 10-12, 2005.
32. Tripathy U, Komanapalli C, Welke KF, Shen I, Ungerleider RM. A modification of the Ross procedure to prevent autograft dilation. Southern Thoracic Surgical Association 52nd Annual Meeting. Orlando, FL, November 10-12, 2005.

33. Schelbert E, Vaughn-Sarrazin M, Welke K, Rosenthal G. Renal disease, valve type, and outcomes after aortic valve replacement in older patients. American Heart Association Scientific Sessions, Dallas, TX, November 13-16, 2005.
34. Boshkov LK, Person TD, Welke K, Martchenko J, Shen I, Ungerleider R. Abnormal platelet function is common in pediatric congenital cardiac surgery patients. American Society of Hematology 47th Annual Meeting and Exposition, Atlanta, GA, December 10-13, 2005. *Blood* 2005;106:2182.
35. Welke KF, Shen I, Ungerleider RM. A current assessment of mortality rates in congenital cardiac surgery. *Cardiology* 2006: 9th Annual Update on Pediatric Cardiovascular Disease, State-of-the-Art Management of the Neonate and Infant with Cardiac Disease. Scottsdale, AZ, February 8-12, 2006.
36. Schelbert E, Vaughn-Sarrazin M, Welke K, Rosenthal G. Valve type and longterm outcomes after aortic valve replacement in older patients. American College of Cardiology 55th Scientific Session, Atlanta, GA, March 11-14, 2006.
37. Welke KF, Shen I, Ungerleider RM. Repair of tetralogy of Fallot with absent pulmonary valve. Southern Thoracic Surgical Association 53rd Annual Meeting. Tucson, AZ, November 8-11, 2006.
38. Welke KF, Morris CD, King E, Komanapalli C, Shen I, Reller MD, Ungerleider RM. A population-based perspective of long-term outcomes after surgical repair of partial atrioventricular canal. Southern Thoracic Surgical Association 53rd Annual Meeting. Tucson, AZ, November 8-11, 2006.
39. O'Brien, SM, Clarke DR, Jacobs JP, Maruszewski B, Jacobs ML, Walters HL III, Tchervenkov CI, Welke KF, Tobota Z, Stellin G, Mavroudis C, Hamilton JRL, Gaynor JW, Pozzi M, Lacour-Gayet FG. Accuracy of the Aristotle Basic Complexity Score for classifying the mortality and morbidity potential of congenital heart surgery procedures. Society of Thoracic Surgeons 43rd Annual Meeting, San Diego, CA, January 29-31, 2007.
40. Curzon, CL, Milford-Beland S, Li JS, O'Brien SM, Jacobs JP, Jacobs ML, Welke KF, Lodge AJ, Peterson E, Jagers J. Cardiac surgery in infants with low weight at time of surgery: a multi-center analysis of mortality. American Association for Thoracic Surgery 87th Annual Meeting, Washington, DC, May 5-9, 2007.
41. Gammie JS, Haddad M, Milford-Beland S, Welke KF, Ferguson TB Jr., O'Brien SM, Peterson ED, Griffith BP. Does concomitant atrial fibrillation ablation increase the risk of mitral valve surgery? Analysis of a contemporary North American experience reported to the Society of Thoracic Surgeons National Cardiac Database. International Society for Minimally Invasive Cardiothoracic Surgery 10th Anniversary Scientific Meeting, Rome, Italy, June 6-9, 2007.

42. Welke KF, Shen I, Ungeleider RM. Repair of tetralogy of Fallot with absent pulmonary valve. American College of Surgeons 93rd Annual Clinical Congress. New Orleans, LA, October 7-11, 2007.
43. Karamlou T, Diggs B, Person T, Ungerleider RM, Welke KF. National practice patterns for management of adult congenital heart disease: Operation by congenital surgeons decreases in-hospital mortality. Congenital Heart Surgeons' Society 2007 Annual Meeting, Chicago, IL, October 28-29, 2007.
44. Song HK, Grab J, O'Brien S, Welke KF, Edwards F, Ungerleider R. Gender differences in mortality after mitral valve surgery: Evidence for higher mortality in perimenopausal women. Southern Thoracic Surgical Association 54th Annual Meeting, Bonita Springs, FL, November 8-10, 2007.
45. Welke KF, Diggs BS, Karamlou T, Ungerleider RM. Pediatric cardiac surgical mortality rates from national administrative data (1988-2003) do not reflect highest achievable outcomes. Southern Thoracic Surgical Association 54th Annual Meeting, Bonita Springs, FL, November 8-10, 2007.
46. Karamlou T, Diggs B, Person T, Ungerleider R, Welke K. National practice patterns for management of adult congenital heart disease: Operation by congenital surgeons decreases in-hospital mortality. Hawley H. Seiler Resident's Competition Award. Southern Thoracic Surgical Association 54th Annual Meeting, Bonita Springs, FL, November 8-10, 2007.
47. Karamlou T, Diggs BS, Ungerleider RM, McCrindle BW, Welke KF. The rush to atrial septal defect closure: Is the introduction of percutaneous closure driving utilization? J. Maxwell Chamberlain Memorial Paper for Congenital Heart Surgery and recipient of the Thoracic Surgery Directors Association Research Award. Society of Thoracic Surgeons 43rd Annual Meeting, Fort Lauderdale, FL, January 28-30, 2008.
48. Welke KF, Diggs BS, Karamlou T, Ungerleider RM. Overall hospital surgical case volumes and raw mortality rates inaccurately assess quality in pediatric cardiac surgery. Society of Thoracic Surgeons 43rd Annual Meeting, Fort Lauderdale, FL, January 28-30, 2008.
49. You J, Mejak B, Giacomuzzi C, Heller E, Ungerleider R, Welke K. Routine mechanical ventricular assist following the Norwood procedure improved cerebral perfusion. *Cardiology 2008: 11th Annual Update on Pediatric Cardiovascular Disease, New and Evolving Concepts and Practices*. Scottsdale, AZ, February 6-10, 2008. *Cardiol Young* 2008;18. (accepted)
50. Karamlou T, Diggs B, Person T, Ungerleider RM, Welke KF. National practice patterns for management of adult congenital heart disease: Operation by congenital surgeons decreases in-hospital mortality. *Cardiology 2008: 11th Annual Update on Pediatric Cardiovascular Disease, New and Evolving Concepts and Practices*. Scottsdale, AZ, February 6-10, 2008. *Cardiol Young* 2008;18. (accepted)

51. Ungerleider RM, Headings J, Welke KF, Shen I, Slater M, Song H. A modification to the Ross procedure that may eliminate late autograft dilatation. *Cardiology* 2008: 11th Annual Update on Pediatric Cardiovascular Disease, New and Evolving Concepts and Practices. Scottsdale, AZ, February 6-10, 2008. *Cardiol Young* 2008;18. (accepted)
52. Headings J, Ungerleider R, Welke K. ICU practice patterns for intensive care management of adults following congenital heart surgery. *Cardiology* 2008: 11th Annual Update on Pediatric Cardiovascular Disease, New and Evolving Concepts and Practices. Scottsdale, AZ, February 6-10, 2008. *Cardiol Young* 2008;18. (accepted)
53. Welke KF, O'Brien SM, Peterson ED, Ungerleider RM, Jacobs ML, Jacobs JP. How size matters: The complex relationship between pediatric cardiac surgical case volumes and mortality rates in a national clinical database. American Association for Thoracic Surgery 88th Annual Meeting, San Diego, CA, May 10-14, 2008. (accepted)
54. Puskas JD, Lattouf OM, O'Brien SM, Welke KF, Petersen E, Ferguson B. Risk-adjusted outcomes after off-pump versus on-pump coronary artery bypass among patient subgroups of differing coronary anatomy. American Association for Thoracic Surgery 88th Annual Meeting, San Diego, CA, May 10-14, 2008. (accepted)
55. Ungerleider RM, Headings J, Welke KF, Minette M, Shen I, Langley S. A modification to the Ross procedure that may eliminate late autograft dilatation. Western Thoracic Surgical Association 34th Annual Meeting, Kona, HI, June 25-28, 2008. (submitted)
56. Clarke DR, O'Brien SM, Jacobs JP, Jacobs ML, Lacour-Gayet FG, Welke KF, Maruszewski B, Tobota Z, Miller WJ, Mavroudis C, Edwards FH. A new chapter in outcome analysis for congenital heart surgery: Empirically based stratification of mortality risk. Western Thoracic Surgical Association 34th Annual Meeting, Kona, HI, June 25-28, 2008. (submitted)
57. Karamlou T, Diggs BS, Ungerleider RM, Welke KF. The disturbing dichotomy of female gender in grown-up congenital heart disease: Higher in-hospital mortality and lower resource utilization. Western Thoracic Surgical Association 34th Annual Meeting, Kona, HI, June 25-28, 2008. (submitted)
58. Song HS, Diggs BS, Ungerleider RM, Welke KF. Improved quality and cost effectiveness of coronary artery bypass grafting in the United States from 1988-2005. Western Thoracic Surgical Association 34th Annual Meeting, Kona, HI, June 25-28, 2008. (submitted)
59. Welke KF, Diggs BS, Karamlou T, Langley SM, Ungerleider RM. Mortality rate is not a valid indicator of quality differences between pediatric cardiac surgery programs. Western Thoracic Surgical Association 34th Annual Meeting, Kona, HI, June 25-28, 2008. (submitted)

60. Karamlou T, Diggs BS, Ungerleider RM, Welke KF. Evolution of treatment options and outcomes for hypoplastic left heart syndrome over an 18-year period. Western Thoracic Surgical Association 34th Annual Meeting, Kona, HI, June 25-28, 2008. (submitted)
61. Reece TB, Welke KF, O'Brien SM, Gammie JM, Grover FL. The Ross procedure: A vanishing operation in adults. Western Thoracic Surgical Association 34th Annual Meeting, Kona, HI, June 25-28, 2008. (submitted)

Electronic Media

1. Tripathy U, Komanapalli C, Shen I, Welke KF, Ungerleider R. A modification of the Ross procedure to prevent autograft dilation. 2006 (video)
<http://www.ctsnet.org/sections/clinicalresources/videos/index.html>
2. Welke KF, Shen I, Ungerleider RM. Repair of tetralogy of Fallot with absent pulmonary valve. 2007 (video)
http://www.ctsnet.org/realmedia/vidgal/vg2006_welke.swf

Special Presentations

1. Intimal hyperplasia. Grand Rounds, Concord Hospital, Concord, NH, November 1997.
2. Trauma induced intimal hyperplasia: the role of matrix metalloproteinases in the healing of arterial injury. American College of Surgeons Region I Committee on Trauma Annual Meeting, Boston, MA, December 1997.
3. Patient characteristics predict improvement in functional health after elective CABG. Northern New England Cardiovascular Disease Study Group Spring Meeting, Eastern Maine Medical Center, Bangor, ME, May 2001.
4. Reporting of cardiac surgery process measures and outcomes data. Iowa Society of Thoracic Surgeons Fall Meeting, Cedar Rapids, IA, September 27, 2001.
5. Thoracic outlet syndrome and congenital deformities of the thoracic cage. Division of Cardiothoracic Surgery Teaching Conference, The University of Iowa Hospitals and Clinics, Iowa City, IA, October 29, 2001.
6. Get started in health care improvement. Quality and Performance Improvement Chairpersons Committee Fall Meeting, The University of Iowa Hospitals and Clinics, Iowa City, IA, November 8 and 13, 2001.
7. Treatment options for non-small cell lung cancer. Division of Cardiothoracic Surgery Teaching Conference, The University of Iowa Hospitals and Clinics, Iowa City, IA, November 19, 2001.

8. Cardiac surgery process measures and outcomes data in Iowa. Iowa Society of Thoracic Surgeons Winter Meeting, Des Moines, IA, December 18, 2001.
9. Quality improvement in health care: how to develop and implement an improvement program. Invited lecture, Seminar in Clinical Research, Graduate Training Program in Clinical Investigation, Department of Internal Medicine, University of Iowa College of Medicine, Iowa City, IA, January 17, 2002.
10. Malignant diseases of the mediastinum. Division of Cardiothoracic Surgery Teaching Conference, The University of Iowa Hospitals and Clinics, Iowa City, IA, January 28, 2002.
11. Heart transplantation: economics, access, and ethics. Invited lecture, Health Economics 06E:113:001, Henry B. Tippie College of Business, The University of Iowa, Iowa City, IA, February 26, 2002.
12. Quality improvement in health care: how to develop and implement an improvement program. Grand Rounds, Center for Disabilities and Development, The University of Iowa Hospitals and Clinics, Iowa City, IA, March 1, 2002.
13. Hiatal and paraesophageal hernias. Division of Cardiothoracic Surgery Teaching Conference, The University of Iowa Hospitals and Clinics, Iowa City, IA, March 25, 2002.
14. Does the volume outcomes relationship in cardiac surgery persist beyond 30 days? Residents' and Fellows' Research Day, Department of Surgery, The University of Iowa Hospitals and Clinics, Iowa City, IA, May 10, 2002.
15. Understanding variation in cardiac surgery process measures and outcomes data. Iowa Society of Thoracic Surgeons Spring Meeting, Iowa City, IA, June 27, 2002.
16. Mitral Stenosis. Division of Cardiothoracic Surgery Teaching Conference, The University of Iowa Hospitals and Clinics, Iowa City, IA, July 22, 2002.
17. Quality improvement in health care. Invited lecture, K30 Preceptored Research Didactic – Introduction to Patient Oriented Research 050:228:001, College of Medicine, The University of Iowa, Iowa City, IA, August 7, 2002.
18. Cardiac surgery process measures and outcomes data. How are we doing? Iowa Society of Thoracic Surgeons Winter Meeting, Des Moines, IA, January 22, 2003.
19. The case for measuring health status in cardiothoracic surgery. Division of Cardiothoracic Surgery Teaching Conference, The University of Iowa Hospitals and Clinics, Iowa City, IA, March 10, 2003.

20. The peril of using hospital volume alone as a measure of quality of coronary artery bypass grafting. Research Day, Department of Surgery, The University of Iowa Hospitals and Clinics, Iowa City, IA, April 25, 2003.
21. STS data and quality improvement. Iowa Society of Thoracic Surgeons 2003 Educational Symposium, West Des Moines, IA, April 25-26, 2003.
22. Should volume influence patient choice of hospital for aortic valve replacement? Research Day, Department of Surgery, The University of Iowa Hospitals and Clinics, Iowa City, IA, March 12, 2004.
23. Cardiopulmonary bypass. Fellows' Conference, Division of Pediatric Cardiology, Oregon Health and Science University, Portland, OR, March 4, 2005.
24. Adult Ross: Shall we do it? 10th Vail Symposium on Pediatric Cardiac Diseases, Vail, CO, March 13-16, 2005.
25. Surgical aspects of coronary artery disease. Invited lecture, Clinical Medicine IV PAST 514, School of Medicine, Oregon Health and Science University, Portland, OR, April 22, 2005.
26. Benchmarking outcomes for infant heart surgery. American Society of Extra-Corporeal Technology 2005 Pediatric Perfusion Conference, Portland, OR, July 14-17, 2005.
27. Cardiopulmonary bypass basics. Fellows' Conference, Division of Pediatric Cardiology, Oregon Health and Science University, Portland, OR, August 26, 2005.
28. Current management of infective endocarditis: Timing of surgery. The Fourth World Congress of Pediatric Cardiology and Cardiac Surgery, Buenos Aires, Argentina, September 18-22, 2005.
29. Adult congenital heart disease. Oregon Health and Science University Cardiac Surgery Symposium, Portland, OR, October 22, 2005.
30. Surgical aspects of coronary artery disease. Invited lecture, Clinical Medicine IV PAST 514, School of Medicine, Oregon Health and Science University, Portland, OR, May 11, 2006.
31. Principles, practices, and outcomes of CPB in neonates and infants: Assessment of mortality rates. The Second International Conference on Pediatric Mechanical Circulatory Systems and Cardiopulmonary Perfusion, Toronto, ON, May 18-20, 2006.
32. Tetralogy of Fallot with absent pulmonary valve. American College of Cardiology 56th Scientific Session, New Orleans, LA, March 24-27, 2007.

33. Cardiopulmonary bypass. Fellows' Conference, Division of Pediatric Cardiology, Oregon Health and Science University, Portland, OR, August 22, 2007.
34. Division of Cardiothoracic Surgery, Oregon Health and Science University, Portland, OR, October 15, 2007.
35. Valve options. Fellows' Conference, Division of Pediatric Cardiology, Oregon Health and Science University, Portland, OR, November 21, 2007.
36. How do we normalize outcome measures to that we can comprehend results? Invited lecture. The 4th International Conference on Pediatric Mechanical Circulatory Support Systems and Pediatric Cardiopulmonary Perfusion, Portland, OR, May 22-24, 2008.