

CURRICULUM VITAE

GRETCHEN L. WELLS, MD, PhD, FACC

Professor of Internal Medicine-Cardiology

University of Kentucky

Gill Heart and Vascular Institute

900 South Limestone

Wethington Building

Lexington, KY

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EDUCATION:

- | | |
|------|--|
| 1984 | Birmingham-Southern College
Birmingham, AL
B.S., Chemistry |
| 1989 | University of Alabama
Birmingham, AL
Ph.D., Medical Genetics |
| 1994 | University of Alabama School of Medicine
Birmingham, AL
M.D. |

POSTDOCTORAL TRAINING:

- | | |
|-----------|--|
| 1989 | Consultant, Molecular Genetics
Laboratory of Medical Genetics
University of Alabama in Birmingham
Birmingham, AL |
| 1989-1990 | Postdoctoral Fellowship
Department of Obstetrics and Gynecology
University of Alabama School of Medicine
Birmingham, AL |
| 1994-1995 | Internship, Internal Medicine
Wake Forest University School of Medicine
Winston-Salem, NC |
| 1995-1997 | Residency, Internal Medicine
Wake Forest University School of Medicine
Winston-Salem, NC |
| 1997-2000 | Fellowship, Cardiology
Wake Forest University School of Medicine
Winston-Salem, NC |
| 2010-2011 | Hedwig Van Ameringen Executive Leadership in
Academic Medicine® (ELAM) Program for Women |

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2016 AHA 42nd Ten-Day Seminar on the Epidemiology and
Prevention of Cardiovascular Disease

PROFESSIONAL LICENSURE:

1994 State of North Carolina
No. 95-01453
2015 Commonwealth of Kentucky
No. 48359

SPECIALTY CERTIFICATION:

1997 Internal Medicine
2000 Cardiovascular Diseases
2009 Recertified, Cardiovascular Diseases
2014 Echocardiography

ACADEMIC APPOINTMENTS:

2000-2007 Assistant Professor
Internal Medicine-Cardiology
Wake Forest University School of Medicine
Winston-Salem, NC

2007-2013 Associate Professor
Internal Medicine-Cardiology
Wake Forest School of Medicine
Winston-Salem, NC

2009 – 2012 Associate Dean for Admissions
Wake Forest School of Medicine
Winston-Salem, NC

2013-2015 Professor
Internal Medicine-Cardiology
Wake Forest School of Medicine
Winston-Salem, NC

2015-present Adjunct Professor
Internal Medicine-Cardiology
Wake Forest School of Medicine
Winston-Salem, NC

2015-present Thomas Whayne Endowed Professor in Women's Heart
Health
University of Kentucky
Lexington, KY

PROFESSIONAL APPOINTMENTS AND ACTIVITIES:

Adjunct Appointments

Comprehensive Cancer Center
Wake Forest University Health Sciences

Maya Angelou Research Center on Minority Health
Wake Forest University Health Sciences
Adjunct Faculty

Women's Health Center of Excellence
Associate Faculty
Wake Forest School of Medicine

College of Nursing
University of Kentucky
Faculty

Editorial Boards:

Congestive Heart Failure

Abstract Reviewer

American College of Cardiology, 2005
American Heart Association, 2007
American Heart Association, 2008

Journal Reviewer

Age and Aging
American Journal of Cardiology
Congestive Heart Failure
Echocardiography
JACC Heart Failure
Journal of ECT

Maternal Mortality Review Committee, State of Kentucky
2018-present

Publications and Presentations Committee
Women's Health Initiative, 2018-present

Women's Health Initiative Scientific Innovations Committee
Southeastern Region, 2019-present

INSTITUTIONAL SERVICE

Congestive Heart Failure Core Measures Committee, Co- Chair
North Carolina Baptist Hospital

Institutional Review Board
Wake Forest University Health Sciences
2005-2008

Wake Forest University School of Medicine Admissions Committee
2005-2008
2009-2012

Faculty Appeals Committee
Wake Forest University School of Medicine
2007-2009

Women's Health Center of Excellence Departmental Liaison
2008-2015

Women's Health Service Line Steering Committee
Wake Forest University Health Sciences
2008,
2014-2015

Faculty Executive Council – Ex officio
2009-2012

Student Promotions and Progress Committee – Ex officio
2009-2012

Undergraduate Medical Education Committee- Ex officio
2009-2012

WFUBMC Council for Inclusion and Diversity
2009-2012

Educational Informatics Advisory Committee
2010-2012

Women's Health Center of Excellence Research Committee
2011-2015

Student Professionalism and Academic Review Committee (SPARC)
Vice Chair, 2012-2013
Chair, 2013-2014

Medical Director
Cardiac Care Unit and Inpatient Cardiology Services
Wake Forest Baptist Health
2012-2015

Compensation Committee
Section on Cardiology
Wake Forest Baptist Health
2014-2015

Institutional Review Board
CCTS
University of Kentucky
2015-2018

University Senate (elected from College of Medicine)
University of Kentucky
2019-present

PROFESSIONAL MEMBERSHIPS:

1993	Tinsley Randolph Harrison Society
2001	Fellow, American College of Cardiology Geriatric Cardiology Section
2001	American Heart Association Clinical Cardiology Council Council on Lifestyle and Cardiometabolic Health
2001	American Society of Echocardiography
2009	Cardiology and Oncology Partnership A select group of international leaders in cardiology and oncology to develop guidelines for diagnosis and treatment of cardiovascular disease in the cancer patient
2013-2016	National Alumni Advisory Board Hedwig Van Ameringen Executive Leadership in Academic Medicine® (ELAM) Program for Women
2016-present	Kentucky Chapter-American College of Cardiology Lexington Councilor
2017-present	William C. Little Society

HONORS AND AWARDS:

Master Teacher Award, Department of Internal Medicine (2005, 2006, 2009, 2013)

Friends of Students Award, Wake Forest School of Medicine Class of 2006

Best Doctors in America® (annually since 2009)

PROFESSIONAL INTERESTS:

Heart disease in women
Noninvasive cardiology
Psychologic factors affecting heart disease

PAST GRANT HISTORY:

The Endocrine Society Summer Fellowship (1989)

Carey Phillips Student Travel Fellowship of the Caduceus Club (1994)

Southern Medical Association (1996)

Co-Investigator
"Pregnancy-Associated Cardiomyopathies"
ATPM/CDC/ATSDR Cooperative Agreement
2002-2004 (9.25% and 8.4%)
\$64,531

Site Investigator, Medical Treatment Arm
"Surgical Treatment for Ischemic Heart Failure" (STICH)
National Institutes of Health
2002-2005 (2%)

Site Principal Investigator
"A Multicenter, Randomized, Double-Blind, Double-Dummy Parallel Group Study
to Compare Effects of Coreg CR and Coreg IR on Ejection Fraction in Subjects
with Stable Chronic Heart Failure
Trial" (COMPARE)
University of California-San Diego
2006-2008 (Study closure)

Co-Investigator
"Vascular Stiffness and Pulmonary Congestion" (PREDICT)
National Institutes of Health (5 R01 HL076438-01A1)
2007-2009 (3%)
\$656,728

Principal Investigator
Cross Campus Collaborate Research Program
"Effect of Exercise Training in Patients Receiving Anthracycline Drugs: A Pilot Study"
2008-2009
\$16,200

Principal Investigator
Sex Differences in gene expression pattern in human heart failure
Penny Warren Award for Cardiovascular Health and Disease Research in Women
\$10,000

BIBLIOGRAPHY:

Chapters in Books:

1. Wells G, Little WC. Therapy of diastolic dysfunction in hypertension and hypertrophic cardiomyopathy. In: Braunwald E, Fauci AS, Isselbacher KJ, Kasper DL, Hauser SL, Longo DL, Jameson JL, eds., *Harrison's Principles of Internal Medicine Online/Advances in Cardiology*. McGraw Hill 238:2002: 1-6.
2. Wells G, Little WC. The role of neurohormones and peripheral vasculature. In: Smiseth OA, Tendara M, eds. *Diastolic Heart Failure*. Springer London, 2008: 71-79.

Journal Articles:

1. **Wells G**, Azziz R. 21-Hydroxylase late-onset adrenal hyperplasia: Mutation at codon 281 is not ubiquitous. *Fertil Steril* 1990; 54:819-823.
2. Azziz R, **Wells G**, Acton R, Zacur H. Pseudogene/functional gene ratio in late onset 21-hydroxylase deficient adrenal hyperplasia. *Am J Obstet Gynecol* 1990; 162:633-638.
3. Azziz R, **Wells G**, Zacur H, Acton R. Abnormalities of 21-hydroxylase gene ratio and adrenal steroidogenesis in hyperandrogenic women with an exaggerated 17-hydroxyprogesterone response to acute adrenal stimulation. *J Clin Endocrinol Metab* 1991; 73:1327-1331.
4. **Wells G**, Acton R, Azziz R. Concordance of 21-hydroxylase gene ratio, human leukocyte antigen haplotyping and adrenal testing results in a family with late-onset adrenal hyperplasia. *J Repro Med* 1993; 38:615-620.
5. **Wells G**. Obstetrics, gynecology and clinical genetics in Sweden. *Ala Med Alumni Bull* 1994; 26:36.
6. **Wells G**, Barker S, Finley S, Colvin E, Finley W. Congenital heart disease in Down syndrome infants. *South Med J* 1994; 87:724-727.
7. **Wells G**, Herrington D. The heart and estrogen/progestin replacement study: What have we learned and what questions remain? *Drugs & Aging* 1999; 15:419-422.

8. **Wells G**, Little WC. Treatment and prognosis of congestive heart failure in the elderly. *Cardiol Rev* 2000; 17:27-32.
9. **Wells G**, Herrington D. The HERS Study: what have we learned and what questions remain? *N Ethics J* 2000; 39-42.
10. **Wells G**, Gilliam J, Kitzman DW. A technique for performing transesophageal echocardiography in patients with Zenker's diverticulum. *Echocardiography* 2000; 17:447-449.
11. **Wells G**, Little WC. Current treatment and future directions in heart failure. *Curr Opin Pharmacol* 2002; 2:148-153.
12. **Wells G**, Little WC. Heart failure: 20 years of progress. *Cardiol Rev* 2004; 21:14-17.
13. **Wells G**. PDxMD Cardiology. *Congest Heart Fail* 2004; 10:62-63.
14. Cox DE, Farmer L, Hoyle JR, **Wells GL**. Significance of nonsustained ventricular tachycardia during dobutamine stress echocardiography. *Am J Cardiol* 2005; 96:1293-1298.
15. **Wells GL**: Commentary: congestive heart failure patient factors in the device era. *Congest Heart Fail* 2006; 12:341-342.
16. Nelson MR, **Wells GL**. A case of traumatic tricuspid valve regurgitation due to blunt chest trauma. *J Am Soc Echocardiog* 2007; 20:198,e4-e5.
17. Belford P, Davis J, **Wells GL**. A case of prosthesis-patient mismatch complicating pregnancy. *Am J Perinatol* 2007; 24:241-242, 2007.
18. **Wells G**, Little WC. Peripartum cardiomyopathy presenting as diastolic heart failure. *Congest Heart Fail* 2008; 14:52-53.
19. Daniel K, **Wells G**, Stewart K, Moore B, Kitzman DK. Effect of aldosterone antagonism on exercise tolerance, Doppler diastolic function, and quality of life in older women with diastolic heart failure. *Congest Heart Fail* 2009; 15:1-7.
20. Twomley K, **Wells G**. Peripartum cardiomyopathy: A current review. *Journal of Pregnancy* 2010; Article ID 149127.
21. **Wells G**. A Cardiologist Revisits ECT: Editorial Comment. *Journal of ECT* 2011; 23:181-182.
22. **Wells G**, Morris P. Incidence and Prognosis of Atrial Fibrillation in Patients with Sepsis. *Cardiol Res* 2011; 2: 293-297.
23. El-Haddad H, Robinson E, Swett K, **Wells GL**. Prognostic implications of type 2 myocardial infarctions. *World J Cardiovasc Dis* 2012; 2:237-241.
24. Hidalgo S, Albright CA, **Wells GL**. A Case of Trastuzumab associated cardiomyopathy presenting as an acute coronary syndrome. *Case Rep Cardiol* 2013, Article ID 473979,

2013. doi:10.1155/2013/473979.
25. Feldman AM, Mann DL, She L, Bristow MR, Maisel A, McNamara D, Wagner D, Walsh R, Jackson DL, Wos S, Lang I, **Wells G**, Drazner M, Schmedtje J, Pauly D, Dupree C, Di Maio M, Kron I, DiDonato M, Velazquez EJ, Lee KL. The prognostic significance of biomarkers in predicting outcome in patients with coronary artery disease and left ventricular dysfunction: results of the Biomarker Sub-Study of the Surgical Treatment for Ischemic Heart Failure (STICH) Trials. *Circ Heart Fail.* 2013; 6:461-472.
 26. Juneau D, Hermann D, **Wells GL**. Penetrating trauma resulting in ventricular septal defect. *World Journal of Cardiovascular Diseases.* 2014; 4:77-80.
 27. **Wells G**. Women and heart disease/Genetics. *Audio-Digest Internal Medicine.* 2014; Volume 61:42, November 14, 2014.
 28. Shrestha S, Juneau D, Hermann D, **Wells GL**. Apical ballooning syndrome: Recent insights from a consecutive series of 104 patients. *Health.* 2015; 7: 9-13.
 29. **Wells G**, Whayne TF. Prognosis for women with multivessel coronary artery disease. *Angiology* 2016; 67:705-708.
 30. **Wells G**, Whayne TF. Sex differences in cardiovascular risk factors. *Current Vascular Pharmacology* 2016; 14(5):452-457.
 31. Whayne TF, **Wells G**, Messerli A. Editorial: Prognostic implications of coronary collaterals in transmural infarct-related percutaneous coronary interventions. *Angiology* 2019; 70:193-196.
 32. Honigberg MC, Elkayam U, Rajagopalan N, Modi K, Briller JE, Drazner MH, **Wells GL**, McNamara DM, Givertz MM for the IPAC Investigators. Electrocardiographic findings in peripartum cardiomyopathy. *Clinical Cardiol* 2019; doi: 10:1002/clc.23171.
 33. Manson JE, Aragaki AK, Bassuk SS, Chlebowski RT, Anderson GL, Roussouw JE, Howard BV, Thomson CA, Stefanick ML, Kaunitz AM, Crandall CJ, Eaton CB, Henderson VW, Liu S, Luo J, Rohan T, Shadyab AH, **Wells, G**, Wactawski-Wende J, Prentice RL. Menopausal Estrogen-Alone therapy and Health Outcomes in Women With and Without Bilateral Oophorectomy. *Ann Intern Med* 2019; doi: 10.7326/M19-0274.

Abstracts/Scientific Exhibits/Presentations:

Abstracts/Scientific Exhibits:

1. Azziz R, **Wells G**, Acton R, Zacur H. Pseudogene/functional gene ratio in late onset 21-hydroxylase deficient late onset congenital adrenal hyperplasia (LOCAH). *Society for Gynecologic Investigation*, No. 427, 1989.
2. **Wells G**, Carroll A, Finley W. The significance of sex chromosome aneuploidy in women with recurrent spontaneous abortions. *Alabama Academy of Sciences, Section 9 Health Sciences*, No. 20, 1989.
3. **Wells G**, Azziz R, Hodge T. Use of polymerase chain reaction (PCR) for the amplification of the

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- 21-hydroxylase gene in late onset congenital adrenal hyperplasia (LOCAH). Society for Gynecologic Investigation, No. 305, 1989.
4. **Wells G**, Zacur H, Azziz R. 21-Hydroxylase gene ratio abnormalities in hyperandrogenic women with mildly abnormal 17-hydroxyprogesterone response to adrenal stimulation. The Endocrine Society, No. 425, 1990.
 5. Rissmiller RW et al. DLCO and DL/VA difference in patients with congestive heart failure. American Thoracic Society. Abstract No. 3308, 2001.
 6. Updaw R, Passmore L, Pierce C, Ross A, Mitten-Long D, **Wells G**, Morris P. Fluid resuscitation volume for septic shock patients was not decreased for echocardiogram-determined left ventricular (LV) systolic dysfunction patients when managed with Early Goal Directed Therapy (EGDT). American College of Chest Physicians. Abstract No. 5561, 2007. (Dr. Updaw was the recipient of the ACCP Young Investigator's Award).
 7. Kochenderfer JM, **Wells GL**, Cantley LK. Long-term follow-up of a case of low-output thyrotoxic cardiomyopathy demonstrating incomplete reversal of cardiomyopathy. The Endocrine Society. Abstract No. 852573, 2009.
 8. Deng H, Kitzman D, Hundley G, Hoyle J, **Wells G**, Burgess P, Ohara T, Meng M, Kon N, Pu M. What is the best method to assess mitral valvular obstruction after mitral annuloplasty? J Am Coll Cardiol; 57 (suppl) E1352,2011
 9. **Wells G**, Hermann D, Juneau D, Shrestha S. The effect of hormone replacement therapy on left ventricular myocardial relaxation. J Am Coll Cardiol 2014; 63 (suppl) A1260-166.
 10. Sugahara M, McNamara D, Rajagopalan N, Briller J, Damp J, **Wells G**, Drazner M, Baluwet L, Cooper L, Gorscan J. Global longitudinal strain at presentation is prognostic of subsequent left ventricular recovery in patients with peripartum cardiomyopathy. J Am Coll Cardiol 2016; 67. Presentation Number: 1239M-03.
 11. **Wells G**, Fisher MB, Du G. Lower optimism is associated with heart failure readmissions. AHA Epidemiology, Prevention, Lifestyle and Cardiometabolic Health, Abstract P 347, 2019

National and International Presentations:

Society for Gynecologic Investigation Annual Meeting, "Pseudogene/Functional Gene Ratio in 21-Hydroxylase Deficient Late Onset Congenital Adrenal Hyperplasia (LOCAH)", "Use of Polymerase Chain Reaction (PCR) for the Amplification of the 21-Hydroxylase Gene in Late Onset Congenital Adrenal Hyperplasia (LOCAH)", San Diego, CA, 1989.

"The Genetics of 21-Hydroxylase Deficiency", Departmental Rounds-Department of Obstetrics and Gynecology. Linköping University, Linköping, Sweden, 1994.

American College of Cardiology; Co-Chair, Original Contributions Session, "Exercise Tolerance in Heart Failure", Orlando, FL, 2001.

Cardiovascular Disease Disparities: Translating Research into Practice, Maya Angelou Research Center on Minority Health, National Conference 2005, Winston-Salem, NC, "Women and Heart Disease"

American College of Cardiology; Co-Chair, Original Contributions Session, Orlando, FL, "Coronary Revascularization and Heart Failure", 2005.

American Heart Association, Moderator, "Biomarkers and Left Ventricular Function", Orlando, FL, 2007.

Team Echocardiography, The Heart of Cardiovascular Medicine; "Adults with Congenital Heart Disease"; "Endocarditis, Masses, Systemic Illness and the Heart", Hilton Head, SC, 2007.

American College of Cardiology, "Meet the Experts" Case Presenter, "Diastolic Heart Failure", New Orleans, LA, 2007.

37th Annual Emery C. Miller Medical Symposium, "Update in the Management of CHF", "Update in Valvular Heart Disease", Myrtle Beach, SC, 2007.

3rd Annual "The Beat Goes On", "Primer of Congenital Heart Disease for the Echocardiologist: What You May Encounter in General Cardiology Practice", "Illustrative Cases: Prosthetic Valve Abnormalities, Mitral Valve Disease", Orlando, FL, 2008.

8th Annual North Carolina Women's Health Symposium "The Role of Aspirin and Stains in Cardiovascular Disease: 2014 Update" Greensboro, NC, April 4, 2014.

Cardiology Grand Rounds, Carolinas Health Care, Charlotte, NC "Scared to Death: Insights into Heart Disease in Women" May 8, 2014.

43d Annual Emery C. Miller Medical Symposium "Pre-operative Cardiac Risk Assessment," "Cardiovascular Disease in Women," "Scared to Death: Apical Ballooning Syndrome" Myrtle Beach, SC. July 24, 2014.

"Transesophageal echocardiography: Principles and Point of care Testing"
American Institute of Ultrasound Medicine (AIUM). Winston-Salem, NC. November 15, 2014.

North Carolina Chapter of the American College of Cardiology "Scared to Death: The Potential Role of Estrogen in the Development of Heart Failure in Women" Cary, NC. February 21, 2015.

"Let's Talk About Sex – and the Heart." Internal Medicine Grand Rounds. University of Kentucky. March 18, 2016.

"Women and Heart Disease." The Very Latest in Cardiovascular Medicine and Surgery. Keeneland, Lexington, Kentucky. April 23, 2016.

"Heart Disease – Does Sex Matter? An Overview of Cardiovascular Disease in Women." Kentucky Chapter, American College of Physicians Scientific Meeting 2017, September 29, 2017.

"Update in Valvular Heart Disease-Current Status and Future Trends." Session Chair. 2017 Kentucky American College of Cardiology Annual Meeting. Louisville, Kentucky. October 7, 2017.

"Update on Heart Disease in Women." The Very Latest in Cardiovascular Medicine and Surgery. UK Albert B. Chandler Hospital. Lexington, Kentucky. April 14, 2018.

Optimism Interventions to Reduce Heart Failure.” Women’s Health Initiative Annual Investigator Meeting. Chicago, IL May 3, 2018.

“Heart Failure in Women: Is It Different from Men?” Keynote address for University of Kentucky College of Nursing 2018 Heart Failure Symposium. May 31, 2018.

“Hypertension in Pregnancy.” Midwest Women in Cardiology Symposium. St. Louis, MO. September 15, 2018.

“Ischemia with Non-Obstructive Coronary Artery Disease” 3d Annual William C. Little Symposium. Winston-Salem, NC. October 27, 2018

“Microvascular Disease and Myocardial Ischemia with Non-Obstructive Coronary Atherosclerosis” 2nd Annual Midwest Women in Cardiology Symposium. Louisville, KY. June 1, 2019.