

CURRICULUM VITAE – Andrew John Bierhals, MD, MPH

BORN: August 25, 1971; Natrona Heights, PA

CITIZENSHIP: USA

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PRESENT POSITION: Associate Professor of Radiology
Cardiothoracic Imaging
Mallinckrodt Institute of Radiology
Washington University School of Medicine, St. Louis, MO

EDUCATION:

Undergraduate
01/90-04/93 B.S. University of Pittsburgh

Graduate
08/94-06/96 MPH University of Pittsburgh
08/96-05/00 MD University of Pittsburgh

Postgraduate
06/00-06/01 Internship / Medicine Mercy Hospital of Pittsburgh
07/01-06/05 Residency / Radiology Mallinckrodt Institute of Radiology / BJC
07/05-06/06 Fellowship / Cardiothoracic Mallinckrodt Institute of Radiology
09/11 Patient Safety Executive Institute for Healthcare Improvement,
Development Program Cambridge, MA

ACADEMIC POSITIONS / EMPLOYMENT/COMITTEES:

2015 to Present Associate Professor Mallinckrodt Institute of Radiology
2011 to Present Assistant Director Mallinckrodt Institute of Radiology
Quality & Safety
2010 to Present WUSM Patient Washington University SOM
Safety Physicians Council

2010 to Present	Medical Director	Washington University SOM CCIR for Computed tomography
ACADEMIC POSITIONS / EMPLOYMENT/COMITTEES (cont.):		
2009 to Present	Director	Barnes-Jewish West County Cardiothoracic Imaging
2009 to Present	Human Subjects & Research (IRB)	Washington University SOM
2009 to Present	Credentialing Committee	Barnes Jewish West County
2008 to 2015	Assistant Professor	Mallinckrodt Institute of Radiology
2006 to 2007	Clinical Instructor	Mallinckrodt Institute of Radiology
1993 to 1996	Research Associate	University of Pittsburgh Medical Center

MEDICAL AND BOARD CERTIFICATION:

Missouri Medical License
 American Board of Radiology, Diplomat
 American College of Radiology, Certificate of Advanced Proficiency in Cardiac CT

MILITARY SERVICE:

MAJ, United States Army Reserve, MC (retired)
 Staff Radiologist, Womack Army Medical Center, Ft Bragg, NC; OEF 1/11 to 5/11
 OIC Radiology 345th CSH; Al Asad Airbase, Iraq; OIF 08
 Chief Radiology 345th CSH; Al Asad Airbase and COB Speicher, Tikrit, Iraq; OIF 08
 Staff Radiologist, Womack Army Medical Center, Ft Bragg, NC; OEF 11/06 to 3/07.

Awards: Army Service Ribbon
 Global War on Terrorism Service Medal
 Armed Forces Reserve Medal with "M" device (Second Award)
 National Defense Service Medal
 Army Commendation Medal (Second Award)
 Iraq Campaign Medal with Campaign Star
 Army Achievement Medal
 Army Reserve Components Achievement Medal (Second Award)

HONORS AND AWARDS:

1992-1994 University Scholar, University of Pittsburgh
 1993 Summa Cum Laude
 2000 Kurze Prize for Excellence in Neurosurgery and Clinical Neuroscience
 2005 RSNA Research Award for Outstanding Residents and Fellows
 2011-2015 Best Doctors, Inc. St. Louis, MO

EDITORIAL RESPONSIBILITIES:

Reviewer, American Journal of Radiology
 Reviewer, Journal of Thoracic Imaging
 Reviewer, RadioGraphics
 Reviewer, Academic Radiology
 Reviewer, International Journal of Cardiothoracic Imaging

PROFESSIONAL SOCIETIES AND ORGANIZATIONS:

2008-present American Heart Association, member
Abstract Reviewer for Annual Scientific Meeting 2009 -present

2006-present Society for Thoracic Radiology, Senior member
Member: Scientific Committee 2009-2012
Member: Standards Committee 2012-present
STR representative to ACR for committee to formulate Guidelines on Cardiac Scintigraphy

2005-present Society for Computed Body Tomography and MR, Member

2001-present American College of Radiology, member
Member: CPI Team (Chest)

2001-present American Roentgen Ray Society, member

2001-present Radiological Society of North America, member
Radiographics Panel (Cardiac) 2009 RSNA Annual meeting
Radiographics Panel (Cardiac) 2010 RSNA Annual meeting
Member: Exhibits Committee 2012- 2015
Radiographics Panel (Chest) 2014 RSNA Annual Meeting
Chair Chest Section: Exhibits Committee 2015 to Present

1996-present American Medical Association, member

RESEARCH SUPPORT: (*role, title, duration, amount*)**Government****NIH R01 HL131961** Stitzel (PI)

ANGPTL3 Deficiency and Atherosclerosis in Humans The goal of this project is to determine the vascular and metabolic effects of ANGPTL3 deficiency in individuals from both Mendelian families and population-based cohorts.

Investigator (Radiology)

04/01/2016 – 03/31/2021

\$516,488

Office of Naval Research N00014-15-C-5160 P. Bayly (PI)

High-resolution anatomical imaging, MR elastography and diffusion tensor imaging of the mini-pig

Investigator (Radiology)

11/1/2015 – 5/31/2016

\$173,299

NIH 1 R01 DC011311-01A1

Recurrent laryngeal nerve connective tissues as a factor in vocal cord paralysis

WU - PI (5% effort)

4/2012 to 3/2015

\$584,050

NIH 3 R01 AG010436

Physical Frailty in Urban African-Americans

Co-PI (Radiology) (5% effort)

5/1/2010 to 4/11/2012

NIH 1 U01 HL092040-01

RULE OUT MYOCARDIAL ISCHEMIA USING COMPUTED ASSISTED TOMOGRAPHY (ROMICAT II)

Co-Investigator

9/2009 to 6/30/2011

\$107,043

NIH R21 AG028128-01A1

Effect of Teriparatide [hPTH(1-34)] on Vascular & Valvular Calcification in Humans (PI: Rifkin)

Consultant (15% effort)

12/1/2006 to 12/2008

\$407,992

NIH/NHLB P50-HL084922

SCCOR, In Chronic Obstructive Pulmonary Disease (COPD)

Alveolar and Airway Mechanisms for COPD - Core C Imaging (PI: Holtzman)

Consultant (10% effort)

12/1/2006 to 11/30/2011

\$2,499,999

NonGovernment

Regeneron Stitzel (PI)

04/01/2016 – 03/31/2020

Metabolic characterization of humans with homozygous and heterozygous ANGPTL3 deficiency

Role: Radiology Investigator

Ethicon ESC-15-003 T. Crabtree (PI)

A Single-Center Retrospective Evaluation of Early Stage Lung Disease

CO-PI (Radiology)

07/01/2015-6/30/2016

\$50,000

Bracco Diagnostics, INC.

Protocol IOP-106

DEPICT (Detection of Pulmonary Embolism Comparing Isovue-370 and Visipaque 320

Using 64-Slice

Multidetector Computed Tomographic Angiography) (PI: Bhalla)

Co-Investigator

8/2006 to 1/2007

\$92,847

Institutional Grant

Mallinckrodt Institute of Radiology

Dual Source Cardiovascular CT Evaluation of Low Risk Chest Pain Patients in the

Emergency Department

Principle Investigator

\$5,000

**Institutional Grant
Barnes-Jewish Hospital**

The Treatment of Coronary Artery Calcifications with Sodium Thiosulfate in Chronic Hemodialysis Patients. (PI: Delmez)

Co-Investigator

\$100,000

CLINICAL TITLE AND RESPONSIBILITIES: (*current*)

Associate Professor of Radiology

Clinical duties include interpreting multiple radiographic modalities (e.g., CT, MRI, etc.) for various radiological services, such as emergency department, or cardiac/3D thoracic imaging. The coverage includes consulting with referring clinicians, previewing, reviewing and “light box” education of residents. Lastly, provide “on call” coverage for thoracic imaging – as a back up consultant for the radiology residents.

Director of Cardiothoracic Imaging at Barnes Jewish West County responsibilities include organizing cardiothoracic imaging performed at the hospital, working with the technical staff to optimize the imaging protocols to standardize the studies with Barnes Jewish Hospital. In order to provide a complete cardiothoracic service at BJWCH, organized and maintain a CT guided lung biopsy service at BJWCH.

Liaison for CT guided lung biopsies with the technical staff. Assist in maintaining and managing the thoracic biopsy service including development of workflow, implementing new “time out” procedures and educating technical staff.

As assistant director of quality and safety, attend all department and sectional quality meetings. Work with the BJH staff in on quality and safety issues including development of policies and procedures. Specifically, I have been addressing issues with regard to communications of results to clinician; including development of workflow with Medicine department to improve communication, assist in the review and purchase of electronic notification system.

TEACHING TITLE AND RESPONSIBILITIES: (*current*)

Associate Professor of Radiology

Responsibilities include preparing and presenting lectures for resident and medical student lectures including residents from other departments. In addition, responsible mentoring radiology residents including reviewing their performance on clinical services and directing them with development as radiology residents. Prepare and present lectures to faculty of other departments at the University (e.g., Grand Rounds, Pulmonary Chest Conference). Conduct original research and support other faculty in research to be published, or presented at national or international conferences or meetings.

Resident Mentor duties include meeting with mentee residents throughout the academic year to provide guidance, and review progress towards completion of the program. Provide additional educational tutelage for residents requiring additional assistance. Other resident educational activities include the annual participation in resident's mock board examination.

Cooperate with other departments enhance their understanding of imaging, such that worked with the medicine residency to develop a recurring radiology presence at intern report to meet their needs of radiology training and our residents needs to be involved in the education process. Also, participate on a recurring annual basis in the education of anesthesiology residents.

LECTURES:

National and International Presentations

1. **Bierhals AJ**, Meltzer CC, Crumrine PK, Scheuer ML, Hanwell L, Adelson PD. The cost effectiveness of positron emission tomography in the pre-surgical evaluation of intractable epilepsy. American Society of Neuroradiology. May 25, 1999; San Diego, CA, USA.
2. **Bierhals AJ**, Meltzer CC, Crumrine PK, Scheuer ML, Hanwell L, Roberts MP, Adelson PD. Cost-effectiveness and utility analysis of positron emission tomography in the evaluation of intractable epilepsy: A clinical perspective. American Society of Neuroradiology, April, 2000; Atlanta, GA, USA.
3. **Bierhals AJ**. Preliminary evaluation of 3-dimensional and axial computed tomography in the diagnosis and treatment planning of chronic pulmonary embolism: A comparison with conventional pulmonary angiography. Society for Thoracic Radiology, April 2004; Rancho Mirage, CA, USA.
4. **Bierhals AJ**. The effects of multi-detector computed tomography reconstruction algorithms on the calculation of percentage emphysema. 1st World Congress for Thoracic Imaging; Florence, Italy; May 6-11, 2005.
5. **Bierhals AJ**. Imaging of the Heart Valves, Pre- & Post-op on CT, MRI, Fluoroscopy. Society of Thoracic Radiology, March 2007; Red Rock, NV, USA.
6. **Bierhals AJ**. Coronary CTA mentored case review. ARRS. Washington, DC; April 2008.
7. **Bierhals AJ**. Visiting Professor – University of Mississippi. Lecture: Basics of Coronary CTA. May 2008. Jackson MS, USA.
8. **Bierhals AJ**. Visiting Professor – University of Mississippi. Lecture: Interstitial Lung Disease. April 2009. Jackson MS, USA.
9. **Bierhals AJ**. Visiting Professor and Research Day Moderator. Lecture: CT and MRI Evaluation of the Heart Valves. University of New Mexico. Albuquerque, NM, USA.
10. **Bierhals AJ**. Physics of Coronary CT Angiography. ARRS Symposia -- Cardiac CT Angiography: A Practical Approach. February 5-6, 2010; Phoenix, AZ.
11. **Bierhals AJ**. Scientific Session II: Diffuse Lung Diseases – Moderator. Society of Thoracic Radiology, March, 2010; San Diego, CA, USA.
12. **Bierhals AJ**. Pre and postoperative evaluation of the aorta and aortic valve. Society of Thoracic Radiology, March, 2010; San Diego, CA, USA. Society of Thoracic Radiology, March, 2010; San Diego, CA, USA.

13. **Bierhals AJ.** Scientific Session IV: Technology Moderator. Society of Thoracic Radiology, March, 2010; San Diego, CA, USA. Society of Thoracic Radiology, March, 2010; San Diego, CA, USA.
14. **Bierhals A.** Cardiac (CT/MR imaging: left ventricular anatomy and function) – Session Moderator. RSNA, November, 2010; Chicago, IL, USA.
15. **Bierhals A.** Cardiac (CT/MR imaging: cardiomyopathies II) – Session Moderator. RSNA, November, 2010; Chicago, IL, USA.
16. **Bierhals AJ.** Communication of radiation dose exposure and risk to referring physicians and patients. Society of Thoracic Radiology, March, 2011; Bonita Springs, FL, USA.
17. **Bierhals AJ.** Scientific Session III: Technology - Moderator. Society of Thoracic Radiology, March, 2011; Bonita Springs, FL, USA.
18. **Bierhals AJ.** CT Radiation Dose. What it Means to the Patient? How do we minimize the impact? Grand Rounds. Womack AMC. Ft. Bragg, NC, USA.
19. **Bierhals AJ.** Scientific Session III: Technology – Moderator. Society of Thoracic Radiology, March, 2012; Huntington Beach, CA, USA.
20. **Bierhals AJ.** Workshop (Cardiac) – Moderator. Society of Thoracic Radiology, March, 2012; Huntington Beach, CA, USA.
21. **Bierhals AJ.** Cardiac Valves and Function. RSNA Refresher Course: Cardiac CT Mentored Case Review: Part II (In Conjunction with the North American Society for Cardiac Imaging) (An Interactive Session). RSNA, November, 2012; Chicago, IL, USA.
22. **Bierhals AJ.** Pre-operative evaluation for TAVR. NASCI. October, 2013; Atlanta, GA, USA.
23. **Bierhals AJ.** Cardiac Valves and Function. RSNA Refresher Course: Cardiac CT Mentored Case Review: Part II (In Conjunction with the North American Society for Cardiac Imaging) (An Interactive Session). RSNA, November, 2013; Chicago, IL, USA.
24. **Bierhals AJ.** Functional Lung Imaging Workstation Demonstration. STR: Quantitative Imaging of the Lung Symposium. March 15, 2014 San Antonio, Texas.
25. **Bierhals AJ.** LVAD Imaging: More than just looking for Infection. Society for Thoracic Radiology. March 2014; San Antonio, TX.
26. **Bierhals AJ.** Cardiac Imaging. XV CONGRESO INTERNACIONAL DE DIAGNOSTICO POR CÓRDOBA, June 2014. Córdoba, Argentina.
27. **Bierhals AJ.** Cardiac CT Radiation Dose Reduction Methods. NASCI. September, 2014; New Orleans, LA, USA.
28. **Bierhals AJ.** Cardiac Valves and Function. RSNA Refresher Course: Cardiac CT Mentored Case Review: Part II (In Conjunction with the North American Society for Cardiac Imaging) (An Interactive Session). RSNA, November, 2014; Chicago, IL, USA.
29. **Bierhals AJ.** Aortic Valvular Pathology. NASCI. September, 2015; San Diego, CA, USA.
30. **Bierhals AJ.** Cardiac Valves and Function. RSNA Refresher Course: Cardiac CT Mentored Case Review: Part II (In Conjunction with the North American Society for Cardiac Imaging) (An Interactive Session). RSNA, November, 2015; Chicago, IL, USA.

Regional Presentations

1. **Bierhals, AJ.** Imaging of Heart Valves. Thoracic Surgery Grand Rounds. November, 2006. Washington University School of Medicine.

2. **Bierhals, AJ.** Cardiac CT and MRI: The Current State of Affairs. CME Presented at Barnes West County, June 18, 2009.
3. **Bierhals, AJ.** Lung Cancer Screening. CME Presented at Barnes West County, September 1, 2009.
4. **Bierhals, AJ.** Management of Lung Nodules: When to Stop and When to Go. CME Presented at Barnes West County, October 14, 2009.
5. **Bierhals, AJ.** When is Less More: CT Radiation Doses, Patient Risks and Method to Limit Patient Risks? CME Presented at Barnes West County, February 25, 2010.
6. **Bierhals AJ.** *"To Scan or Not to Scan? That is the Controversial Question"*. Community Outreach Presentation. Jewish Community Center. Creve Coeur, MO, USA.
7. **Bierhals, AJ.** Current Advances in Cardiothoracic Imaging. Grand Rounds. Barnes Jewish West Country. April 14, 2010. St. Louis, MO, USA.
8. **Bierhals, AJ.** Application and Utilization of Cardiac CT and MRI. CME Presented at Barnes West County, June 24, 2010.
9. **Bierhals AJ.** Read with the experts. IMAGES TO OUTCOMES X. Cardiovascular Imaging - Nuclear Cardiology and Beyond. August 21, 2010. Washington University School of Medicine.
10. **Bierhals AJ.** Over-reads and Communications to Healthcare Teams. Washington University Defense Counsel Seminar. Washington University. October 25, 2010.
11. **Bierhals AJ.** Cardiac CT perfusion imaging. IMAGES TO OUTCOMES XI. Cardiovascular Imaging - Nuclear Cardiology and Beyond. August 13, 2011. Washington University School of Medicine.
12. **Bierhals, AJ.** Follow-up and Work-up of the Pulmonary Nodule. CME Presented at Barnes West County, August 18, 2011.
13. **Bierhals AJ,** Gropler R. IMAGES TO OUTCOMES XII. Cardiovascular Imaging - Nuclear Cardiology and Beyond. August 4, 2012. Course Chair. Washington University School of Medicine.
14. **Bierhals AJ.** " Radiology: It's More Than Just X-Rays ". Community Outreach Presentation. Jewish Community Center. Creve Coeur, MO, USA.
15. **Bierhals, AJ.** Radiation risk in Radiology. CME Presented at Barnes West County, November 1, 2012.
16. **Bierhals AJ,** Gropler R. IMAGES TO OUTCOMES XII. Cardiovascular Imaging - Nuclear Cardiology and Beyond. September 2013. Course Chair. Washington University School of Medicine.
17. **Bierhals AJ,** Preoperative Computed Tomography in Preparation for Valve Replacement Surgery . Recent Advances in the Management of Valvular Heart Disease. Ritz-Carlton St. Louis; November 2, 2013.
18. **Bierhals, AJ.** *BJH CME October 2013. Cardiac MRI and CT: What, When and Why in the diagnosis of Cardiac Disease?*
19. **Bierhals, AJ.** *BJH CME* March 2014. Lung Cancer: Nodule Detection to Sterotactic Radiation
20. **Bierhals, AJ** Grand Rounds, BJC, Parkland. May 2014. Advanced Cardiovascular Imaging.
21. **Bierhals AJ,** Gropler R. IMAGES TO OUTCOMES XII. Cardiovascular Imaging - Nuclear Cardiology and Beyond. September 2014. Course Chair. Washington University School of Medicine.

22. **Bierhals AJ**, Computed Tomography in the Evaluation of Aortic Pathology . Recent Advances in the Management of Valvular Heart Disease. Ritz-Carlton St. Louis; October 15, 2014.

BIBLIOGRAPHY: *(number and list chronologically, ending with most recent)*

Peer Reviewed Manuscripts

1. Prigerson HG, Maciejewski PK, Reynolds CF 3rd, **Bierhals AJ**, Newsom JT, Fasiczka A, Frank E, Doman J, Miller M. Inventory of Complicated Grief: a scale to measure maladaptive symptoms of loss. *Psychiatry Res* 1995 Nov 29;59(1-2):65-79.
2. **Bierhals AJ**, Prigerson HG, Fasiczka A, Frank E, Miller MD, Reynolds CF 3rd. Gender differences in complicated grief among the elderly. *Omega - Journal of Death & Dying*. 32(4), 1995, 303-317.
3. Prigerson HG, **Bierhals AJ**, Kasl SV, Reynolds CF 3rd, Shear MK, Day N, Beery LC, Newsom JT, Jacobs S. Traumatic grief as a risk factor for mental and physical morbidity. *Am J Psychiatry* 1997 May;154(5):616-23.
4. Prigerson HG, **Bierhals AJ**, Kasl SV, Reynolds CF 3rd, Shear MK, Newsom JT, Jacobs S. Complicated grief as a disorder distinct from bereavement-related depression and anxiety: a replication study. *Am J Psychiatry* 1996 Nov;153(11):1484-6.
5. Prigerson HG, Shear MK, **Bierhals AJ**, Zonarich DL, Reynolds CF 3rd. Childhood adversity, attachment and personality styles as predictors of anxiety among elderly caregivers. *Anxiety* 1996;2(5):234-41.
6. Prigerson HG, Shear MK, Newsom JT, Frank E, Reynolds CF 3rd, Maciejewski PK, Houck PR, **Bierhals AJ**, Kupfer DJ. Anxiety among widowed elders: is it distinct from depression and grief? *Anxiety* 1996;2(1):1-12.
7. Prigerson HG, Shear MK, **Bierhals AJ**, Pilkonis PA, Wolfson L, Hall M, Zonarich DL, Reynolds CF 3rd. Case histories of traumatic grief. *Omega - Journal of Death & Dying*. 35(1), 1997, 9-24.
8. Beery LC, Prigerson HG, **Bierhals AJ**, Santucci LM, Newsom JT, Maciejewski PK, Rapp SR, Fasiczka A, Reynolds CF 3rd. Traumatic grief, depression and caregiving in elderly spouses of the terminally ill. *Omega - Journal of Death & Dying*. 35(3), 1997, 261-279.
9. Gorse K, Mickey CA, **Bierhals A**. Conditioning injuries associated with artificial turf in two preseason football training programs. *Journal of athletic training*. 32(4), Oct/Dec 1997, 304-308.
10. Schlernitzauer M, **Bierhals AJ**, Geary MD, Prigerson HG, Stack JA, Miller MD, Pasternak RE, Reynolds CF 3rd. Recruitment methods for intervention research in bereavement-related depression. Five years' experience. *Am J Geriatr Psychiatry* 1998 Winter;6(1):67-74.
11. Prigerson HG, Bridge J, Maciejewski PK, Beery LC, Rosenheck RA, Jacobs SC, **Bierhals AJ**, Kupfer DJ, Brent DA. The Influence of Traumatic Grief on Suicidal Ideation among Young Adults. *Am J Psychiatry*. Dec 1999; 156: 1994.
12. Chen JH, **Bierhals AJ**, Prigerson HG, Kasl SV, Mazure CM, Jacobs S. Gender differences in the effects of bereavement-related psychological distress in health outcomes. *Psychol Med* 1999 Mar;29(2):367-80.

13. Jacob RE, Chang YV, Choong CK, **Bierhals A**, Zheng Hu D, Zheng J, Yablonskiy DA, Woods JC, Gierada DS, Conradi MS. 19F MR imaging of ventilation and diffusion in excised lungs. *Magn Reson Med*. 2005 Sep; 54(3):577-85.
14. Gierada D, Pilgram T, Whiting B, Hong C, **Bierhals A**, Kim T, Bae K. Comparison of standard and low radiation dose CT for emphysema quantification. *AJR* 2007; 188: 42-47.
15. Lin S, **Bierhals A**, Lewis J. Best Cases from the AFIP: Metastatic Renal Cell Carcinoma. *RadioGraphics* 2007; 27: 1801-1807.
16. Zheng S, Ash-Bernal R, **Bierhals A**, de las Fuentes L, Spence K, Slatopolsky E, Dávila-Román V, Delmez J. Coronary Artery Calcium Scores by MDCT in African-Americans Hemodialysis Patients: Correlation with Fetuin-A Levels. *Journal of American Society of Nephrology*, Volume 18, Oct. 2007, P. 506A.
17. Bhalla S, Javidan-Nejad C, **Bierhals AJ**, Woodard PK, Gutierrez FR. CT in the Evaluation of Congenital Heart Disease in Children, Adolescents, and Young Adults. *Curr Treat Options Cardiovasc Med*. 2008 Sep; 10(5):425-32.
18. Woodard PK, Bhalla S, Javidan-Nejad C, **Bierhals A**, Gutierrez FR, Singh GK. Cardiac MRI in the management of congenital heart disease in children, adolescents, and young adults. *Curr Treat Options Cardiovasc Med*. 2008 Sep;10 (5):419-24.
19. Zheng S, de las Fuentes L, **Bierhals A**, Ash-Bernal R, Spence K, Slatopolsky E, Davila-Roman V, Delmez J. Relation of Serum Fetuin-A Levels to Coronary Artery Calcium in African-American Patients on Chronic Hemodialysis. *Am J Cardiol* 2009;103:46-49.
20. Cummings K, Bhalla S, Javidan-Nejad C, **Bierhals A**, Gutierrez F, Woodard P. A Pattern-based Approach to Assessment of Delayed Enhancement in Nonischemic Cardiomyopathy at MR Imaging. *RadioGraphics*, Jan 2009; 29: 89 - 103.
21. Ho ML, Bhalla S, **Bierhals A**, Gutierrez F. MDCT of partial anomalous pulmonary venous return (PAPVR) in adults. *J Thorac Imaging*. 2009 May; 24(2):89-95.
22. Gierada DS, Woods JC, **Bierhals AJ**, Bartel ST, Ritter JH, Choong CK, Das NA, Hong C, Pilgram TK, Chang YV, Jacob RE, Hogg JC, Battafarano RJ, Cooper JD, Meyers BF, Patterson GA, Yablonskiy DA, Conradi MS. Effects of diffusion time on short-range hyperpolarized (3)He diffusivity measurements in emphysema. *J Magn Reson Imaging*. 2009 Oct; 30(4):801-8.
23. Gierada DS, **Bierhals AJ**, Choong CK, Bartel ST, Ritter JH, Das NA, Hong C, Pilgram TK, Bae KT, Whiting BR, Woods JC, Hogg JC, Lutey BA, Battafarano RJ, Cooper JD, Meyers BF, Patterson GA. Effects of CT Section Thickness and Reconstruction Kernel on Emphysema Quantification: Relationship to the Magnitude of the CT Emphysema Index. *Acad Radiol*. 2009 Nov 18.
24. Gierada DS, Woods JC, **Bierhals AJ**, et al. Effects of diffusion time on short-range hyperpolarized (3)He diffusivity measurements in emphysema. *J Magn Reson Imaging* 2009;30:801-808.
25. Cellini C, Hunt SR, Fleshman JW, Birnbaum EH, **Bierhals AJ**, Mutch MG. Stage IV Rectal Cancer with Liver Metastases: Is There a Benefit to Resection of the Primary Tumor? *World J Surg* 2010. Feb 23.
26. Pilgram TK, Quirk JD, **Bierhals AJ**, Yusen RD, Lefrak SS, Cooper JD, Gierada DS. Accuracy of emphysema quantification performed with reduced numbers of CT sections. *AJR* 2010 Mar;194(3):585
27. Gierada D, Woods JC, Jacob RE, **Bierhals AJ**, Chang YL et al. Emphysema: Quantification in Inflation-Fixed Lungs Using Low-Dose CT and ³He MR Imaging. *J Comput Assist Tomogr* 2010 Sep-Oct;34(5):773-9.

28. Gierada, D.S., Woods, J.C., **Bierhals, A.J.** Effects of diffusion time on short-range hyperpolarized ³He diffusivity measurements in emphysema *Journal of Magnetic Resonance Imaging*, 30(3): 768.
29. Mathews SJ, de Las Fuentes L, Podaralla P, Cabellon A, Zheng S, **Bierhals A**, Spence K, Slatopolsky E, Davila-Roman VG, Delmez JA. Effects of sodium thiosulfate on vascular calcification in end-stage renal disease: a pilot study of feasibility, safety and efficacy. *Am J Nephrol* 2011; 33 (2):131-8.
30. Bartel ST, **Bierhals AJ**, Pilgram TK, Hong C, Schechtman KB, Conradi SH, Gierada DS Equating quantitative emphysema measurements on different CT image reconstructions. *Med Phys*. 2011 Aug;38(8):4894-902.
31. **Bierhals AJ**. Quantification of Myocardial Perfusion Utilizing Computed Tomography. *Curr Cardiovasc Imaging Rep* (2012) 5:151–157.
32. Badiyan SN, **Bierhals AJ**, Olsen JR, Creach KM, Garsa AA, Dewees T, Bradley JD, Robinson CG. Stereotactic body radiation therapy for the treatment of early-stage minimally invasive adenocarcinoma or adenocarcinoma in situ (formerly bronchioloalveolar carcinoma): a patterns of failure analysis. *Radiat Oncol*. 2013 Jan 3;8(1):4.
33. Bruchas RR, de Las Fuentes L, Carney RM, Reagan JL, Bernal-Mizrachi C, Riek AE, Gu CC, **Bierhals A**, Schootman M, Malmstrom TK, Burroughs TE, Stein PK, Miller DK, Dávila-Román VG. The St. Louis African American health-heart study: methodology for the study of cardiovascular disease and depression in young-old African Americans. *BMC Cardiovasc Disord*. 2013 Sep 8;13:66.
34. Tiwari AK, **Bierhals A**, Wang JS. An uncommon cause of post-prandial nausea and vomiting. Superior mesenteric artery syndrome. *Gastroenterology*. 2013 Sep;145(3):520, 698.
35. Seifert ME, de las Fuentes L, Rothstein M, Dietzen DJ, **Bierhals AJ**, Cheng SC, Ross W, Windus D, Dávila-Román VG, Hruska KA. Effects of phosphate binder therapy on vascular stiffness in early-stage chronic kidney disease. *Am J Nephrol*. 2013;38(2):158-67.
36. **Bierhals AJ**, Rossi S, Bhalla A, Woodard P, Bidillo J, Gutierrez. Segmental Analysis of Congenital Heart Disease: Putting the "Puzzle" Together. *IJCTI* 2014; 30(6): 1161-1172
37. Williams MJ, Ayyalasomayajula A , Behkam R, **Bierhals AJ**, Jacobs ME, Edgar JD, Paniello R, Barkmeier-Kraemer J, Vande Geest JP. A computational study of the role of the aortic arch in idiopathic unilateral vocal fold paralysis. *Journal of Applied Physiology* Published 4 December 2014; DOI: 10.1152/jappphysiol.00638.2014.
38. Herberton GA, Nassif M, **Bierhals AJ** et al. Sarcopenia is Associated with Increased Risk in Patients undergoing Left Ventricular Assist Device Implantation. *ASAIO*. (in press).
39. **Bierhals AJ**. Cardiac Masses. *Advances In Cardiovascular Imaging*. (in press).
40. Lee VS, Carmen M, Halabi CM, Hoffman E, Carmichael N, Ignaty Leshchiner I, Lian CG, **Bierhals AJ**, Dana Vuzman D, Mecham RP, Frank NY, Stitzel NO. Loss of function mutation in LOX causes thoracic aortic aneurysm and dissection in humans. *PNAS* (in press).
41. Itih A, **Bierhals AJ**, Kachiroo P, Boston US, Eghtesady P. Strategic LVAD Implant Simulation by Computed Tomography for a two year old toddler with Dilated Cardiomyopathy. *ATS*. (under review)

Books and Book Chapters and Affiliations:

1. Bhalla S and **Bierhals A**. MDCT for Chronic PE. *Cardiopulmonary Imaging. Categorical Course Syllabus* (McAdams HP, Reddy G, eds). American Roentgen Ray Society, 2005, New Orleans, LA.
2. Bhalla S, Javidan-Nejad C, Cummings KW, **Bierhals AJ** (eds). *Cases in Radiology: Chest Imaging Cases*. Oxford University Press, 2012, New York.
3. **Bierhals A J**. *Advances in Cardiovascular Imaging*. Section Editor. Springer. 2015
4. Duncan JR & **Bierhals AJ**. *Medical Imaging (Ch 15)*. In The Washington Manual of Patient Safety and Quality Improvement (Fondah E, Lane M & Vannucci A eds.) 2016.
5. **Bierhals A J**. *Advances in Cardiovascular Imaging*. Section Editor. Springer. 2016 (in press)
6. **Bierhals AJ** & Woodard PK. *Acute Coronary Syndromes (Ch 15) The Evidence-based Emergency Imaging* (Cronin, P ed.). (in press).

Invited Publications

1. Hutter A, Schwite K, **Bierhals AJ**, McKinstry RC. Brain Neoplasms: Epidemiology, Diagnosis and Current & Future Prospects of Cost-Effective Imaging. *Neuroimaging Clinics of North America* 13(2), 2003.
2. **Bierhals AJ**, Woodard PK. *Cardiac Imaging*. In Medina S. ed. *Outcomes Based Radiology*. Springer, New York, 2006.
3. **Bierhals AJ**, Hidalgo A, Gutierrez FG. Coronary CTA Practical Applications. *Revista Peruana de Radiologia* 11: 3-9, 2007.
4. **Bierhals AJ**, Woodard PK. *Cardiac Imaging*. In Medina S. ed. *Outcomes Based Radiology*. 2nd edition, Springer, New York, 2011.

Videotapes

1. Feb. 26, 2010 – CT scans and cancer risk. Barnes-Jewish Hospital Podcasts. www.barnesjewish.org/video/podcast.ashx?sid=1&libraryid=4
2. Nov. 7, 2012 – What are the radiation risks from x-rays. Interview with Kay Quinn, KSDK Healthbeat Reporter. www.ksdk.com/.../What-are-the-radiation-risks-from-x-rays