

Curriculum vitae

SHAMUS R. CARR, MD, FACS

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Division of Thoracic Surgery
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Birth date: May 2, 1973

Education: 1991-1995 B.S. University of Southern California
Biomedical Engineering
1995-1999 M.D. Dartmouth Medical School
(now known as: Geisel School of Medicine)

Appointments:

2004-2005 Assistant Instructor in Surgery,
Department of General Surgery
Hospital of the University of Pennsylvania

2005-2006 Instructor in Surgery,
Department of General Surgery
Hospital of the University of Pennsylvania

2011-2014 Assistant Professor (Clinical) of Surgery
Division of Cardiothoracic Surgery
University of Utah

2011-2014 Investigator
Thoracic Oncology
Huntsman Cancer Institute

2012-2014 Adjunct Assistant Professor
Department of Radiology
University of Utah

2014-present Assistant Professor of Surgery
Division of Thoracic Surgery
University of Maryland School of Medicine

Postgraduate Training and Fellowship Appointments:

- 1999-2000 Intern in General Surgery, Eisenhower Army Medical Center
Fort Gordon, GA
- 2000-2002 Resident in General Surgery, Thomas Jefferson University Hospital
Philadelphia, PA
- 2002-2004 Research Fellow, Division of Thoracic Surgery
Thomas Jefferson University Hospital, Philadelphia, PA
- 2004-2006 Resident in General Surgery, University of Pennsylvania
Philadelphia, PA
- 2009-2011 Resident in Cardiothoracic Surgery
Department of Cardiothoracic Surgery
Heart, Lung, and Esophageal Surgical Institute
University of Pittsburgh Medical Center, Pittsburgh, PA
- 2010 Fellow in Thoracic Surgery
May-June Division of Thoracic Surgery
Memorial Sloan-Kettering Cancer Center
New York, NY
- 2014 F. Griffith Pearson Fellow
American Association of Thoracic Surgery
Memorial Sloan-Kettering Cancer Center

Hospital and Administrative Appointments:

- 2006-2009 Department Head, General Surgery
US Naval Hospital, Guam
- 2008-2009 Chairman, Credentials Committee
US Naval Hospital, Guam
- 2008-2009 Medical Director, Intensive Care Unit
Chairman of Specialty Care Committee
US Naval Hospital, Guam
- 2012-2014 Co-Director of Thoracic Oncology
Huntsman Cancer Institute
Salt Lake City, UT
- 2012-2014 Program Leaders Committee
Huntsman Cancer Institute
Salt Lake City, UT

2014-present Associate Chief, Division of Thoracic Surgery
University of Maryland Medical System
Baltimore, MD

Clinical Practice

2006-2009 Staff Surgeon, Department of General Surgery; US Naval Hospital, Guam

2011-2014 Surgeon, Division of Cardiothoracic Surgery, University of Utah

2011-2014 Surgeon, Huntsman Cancer Institute, Salt Lake City, Utah

2011-2014 Staff Surgeon, VA Medical Center, Salt Lake City, Utah

2014-present Surgeon, Division of Thoracic Surgery, University of Maryland Medical Center

2014-present Surgeon, Thoracic Surgery, University of Maryland Upper Chesapeake Medical Center, Bel Air, Maryland

2014-present Surgeon, Thoracic Surgery, University of Maryland St. Joseph Medical Center, Towson, Maryland

2014-present Surgeon, Thoracic Surgery, University of Maryland Midtown, Baltimore, Maryland

2015-present Staff Surgeon, VA Medical Center, Baltimore, Maryland

2015-present Surgeon, Thoracic Surgery, Union Hospital, Elkton, Maryland

Board Certification

2006 American Board of Surgery (ABS#51632)

2012 American Board of Thoracic Surgery (ABTS#7826)

Military Service:

Dec 1995 Ensign, United States Navy Reserve

July 1996 Officer Indoctrination School, Newport, Rhode Island

June 1999 Lieutenant, United States Navy Reserve

Apr 2000 Combat Casualty Care Course, Fort Sam Houston, Texas

 Triage and care of mass casualty situations in wartime.

Oct 2004 Lieutenant Commander, United States Navy

July 2006 to Staff Surgeon and Department Head, US Naval Hospital, Guam

June 2009

July 2009 Honorable Discharge, United States Navy

Licensure:

Pennsylvania	MD418012	Exp: 12/31/2016
Utah	8054539-1205	Exp: 1/31/2018
Maryland	D0078550	Exp: 9/30/2016

National Committees:

2009-2011	Thoracic Surgery Resident Association Executive Committee
2010-2011	Thoracic Surgery Resident Association Executive Committee, Vice President
2011-2012	Council on Quality, Research, and Patient Safety Operating Board, Society of Thoracic Surgeons
2012-2014	Radiation Therapy Oncology Group (RTOG) Lung Cancer Committee, Surgical subcommittee
2012-2014	Southwestern Oncology Group, Lung Committee
2012-2014	Southwestern Oncology Group, Surgery Committee

Awards, Honors and Membership in Honorary Societies:

1988	Eagle Scout
1990	Harvard Book Prize
1990	Rensselaer Medal for Math and Science
1991-1995	Dean’s Scholarship, University of Southern California
1991-1995	Research Scholarship, University of Southern
1992	Alpha Lambda Delta, University of Southern California
1995	Senior Award, Varsity Water Polo, University of Southern California
1996-1999	AFHPSP Scholarship Winner, Dartmouth Medical School
2000	Resident Research Award, Eisenhower Army Medical Center
2002	Resident Teaching Award
2002	Chest 2002: <i>Winner Best Poster in Category</i>
2003	Chest 2003: <i>Winner Best Poster in Category</i>
2004	Presentation – Philadelphia Academy of Surgeons Annual Meeting
2004	Fellowship – American Society of Artificial Internal Organs
2004	Presentation – American College of Surgeons 90 th Annual Clinical Congress
2008	Navy and Marine Corps Achievement Medal
2009	Navy and Marine Corps Commendation Medal
2011	Highest Total Test Score, TSDA In-Service Exam
2014	F. Griffith Pearson Fellow - American Association of Thoracic Surgeons Graham Foundation
2014	<i>Castle Connolly</i> – America’s Top Doctors, Thoracic Surgery
2015	<i>Castle Connolly</i> – America’s Top Doctors, Thoracic Surgery

Memberships in Professional and Scientific Societies

American College of Surgeons – Fellow
 The Society of Thoracic Surgeons – Member
 International Association for the Study of Lung Cancer – Member
 Society of Surgical Oncology – Fellow
 Society for Surgery of the Alimentary Tract – Member

General Thoracic Surgery Club – Member
Society of American Gastrointestinal and Endoscopic Surgeons – Member
International Society for Minimally Invasive Cardiothoracic Surgery – Member

Grants

Completed Principal Investigator: Shamus R. Carr, MD
Lung Cancer Screening Awareness
Utah Cancer Action Network
July 1, 2013-June 30, 2014
\$5,000
Goal: A public outreach program from Huntsman Cancer Institute that will educate healthcare providers on new lung cancer screening guidelines for high-risk patients. Funds will be used to create and promote educational materials for provider use, including an education video, screening information, and posters.

Clinical Studies

Local Principal Investigator: RTOG 0839 – Randomized Phase II Study of Pre-Operative Chemoradiotherapy +/- Panitumumab (IND#110152) Followed by Consolidation Chemotherapy in Potentially Operable Locally Advanced (Stage IIIA, N2+) Non-Small Cell Lung Cancer

Course Director

Nov 2013 Screening and Diagnosis of Lung Cancer for Primary Care Physicians
Huntsman Cancer Institute
Salt Lake City, UT
4 hours of CME offered
50 Registrants

Course and Curriculum Development

2011-2014 Thoracic Surgery Journal Club - Division of Cardiothoracic Surgery
Monthly review of pertinent, up to date articles in thoracic surgery for all thoracic surgery residents. Curriculum is a repeating 24-month cycle update bi-annually.

Course Lectures

2012-2014 Instructor, SURG: Surgery Clerkship, 1 credit hour, University of Utah

Lectures by Invitation:

Oct 2015 Genetics of Lung Cancer: The Tip of the Iceberg
University of Maryland School of Medicine
A Practical and Interactive State-of-the-Art Summary
Thoracic Oncology 2015 CME course
Baltimore, MD

Oct 2015 Minimally Invasive Surgery: Hype, Hope, Who Cares?
University of Maryland School of Medicine
A Practical and Interactive State-of-the-Art Summary
Thoracic Oncology 2015 CME course

Baltimore, MD

- Oct 2015 Esophageal Surgery: Developments or Controversies
University of Maryland School of Medicine
A Practical and Interactive State-of-the-Art Summary
Thoracic Oncology 2015 CME course
Baltimore, MD
- Oct 2015 Malignant Pleural Effusions
University of Maryland School of Medicine
A Practical and Interactive State-of-the-Art Summary
Thoracic Oncology 2015 CME course
Baltimore, MD
- Oct 2015 Chest Wall Tumors: Standards, Controversies, and a Bear
University of Maryland School of Medicine
A Practical and Interactive State-of-the-Art Summary
Thoracic Oncology 2015 CME course
Baltimore, MD
- Nov 2013 VATS Lobectomies
Huntsman Cancer Institute
Screening and Diagnosis of Lung Cancer for Primary Care Physicians
Mini-Symposium CME course
Salt Lake City, UT
- Nov 2013 Lung Cancer Screening Update: How, Who, and Why?
Huntsman Cancer Institute
Screening and Diagnosis of Lung Cancer for Primary Care Physicians
Mini-Symposium CME course
Salt Lake City, UT
- Mar 2013 “HIPEC for Metastatic Tumors to the Chest”
University of Pittsburgh Medical Center
Regional Perfusion Videoconference
- Sept 2012 “Lung Cancer: From Here to There...”
University of Utah
Department of Surgery Grand Rounds
Salt Lake City, UT
- Apr 2012 “Lung Cancer – Just Screen It!”
AORN, Northern Utah Chapter
Bi-Monthly Meeting
Salt Lake City, UT

Editorial Experience

BMC Cancer – Associate Editor

Reviewer Experience

Journal of Thoracic and Cardiovascular Surgery

Journal of Surgical Research

Journal of the American College of Surgeons

UpToDate

Bibliography:

Carr SR, Dinsmore RC, Wilkinson NW. Idiopathic Spontaneous Intraperitoneal Hemorrhage: A Clinical Update on Abdominal Apoplexy in the Year 2001. *American Surgeon* 2001; 67(4): 374-6.

Friedberg JF, Skema C, Burdick J, Yodh AG, **Carr SR**, Culver JP. A novel technique for light delivery through branched or bent anatomic structures. *JTCVS* 2003; 126(6): 1963-1967.

Carr SR, Rao AS, Goldstein SD, et al. Mucinous cystadenoma and synchronous carcinoid of the appendix causing intussusception. *Contemporary Surgery* 2004; 60(9): 424-7.

Pechet TV, **Carr SR**, Collins JE, Cohn HE, Farber JL. Arterial invasion predicts early mortality in stage I non-small cell lung cancer. *Ann Thorac Surg* 2004; 78(5): 1748-1753.

Carr SR, Cowan SW, Zeltsman D, Friedberg JS. Malignant pleural and pericardial effusions. In *Lung Cancer: Principles and Practice, 3rd ed.* Pass HI et al., eds. pp. 794-804. Lippincott Williams & Wilkins, 2005.

Carr SR, Friedberg JS. Malignant effusions. In *Oncology: An Evidence-Based Approach.* Chung AE et al., eds. pp. 1518-25. Springer-Verlag, 2005.

Carr SR, Pechet TTV. Solitary Pulmonary Nodule. 4 Thorax. ACS Surgery Online. Souba WW, Fink MP, Jurkovich GJ et al. Eds. WebMD Inc., New York 2006.
<http://www.acssurgery.com/April 2006>

Carr SR, Cantor JP, Rao AS, Lakshman TV, Friedberg JS. Peritoneal perfusion with oxygenated perfluorocarbon augments systemic oxygenation. *Chest* 2006; 130(2): 402-11.

Salinas NL, **Carr SR**, Han D, Mahmoud NN. A surprising twist to an old problem: Sigmoid volvulus in a 19 year-old man. *American Surgeon* 2007; 73(3): 284-6.

Friedberg JS, **Carr SR**. Surgical Management of Malignant Mesothelioma. In *Mastery of Cardiothoracic Surgery, 2nd ed.* Kaiser LR, Kron IL, and Spray TL, eds. pp. 262-70. Lippincott Williams & Wilkins, Philadelphia 2007.

- Carr SR.** Motor Vehicle Collisions. In *Churchill's Pocketbook of Major Trauma*. Brooks A, Mahoney PF, and Hodgetts TJ, eds. pp. 236-8. Elsevier, Philadelphia 2007.
- Carr SR.** Motorcycle Collisions. In *Churchill's Pocketbook of Major Trauma*. Brooks A, Mahoney PF, and Hodgetts TJ, eds. pp. 239-40. Elsevier, Philadelphia 2007.
- Carr SR,** Luketich JD. Minimally invasive esophagectomy: An update on the options available. *Minerva Chir* 2008; 63(6): 481-95.
- Barillo DJ, Cancio LC, Stack RS, **Carr SR**, Broger KP, Crews DW, Renz EM, Blackburne LH. Deployment and operation of a transportable burn intensive care unit in response to a burn multiple casualty incident. *Am J Disaster Medicine* 2010; 5(1): 5-13.
- Carr SR,** Jobe BA. Esophageal preservation in the face of high-grade dysplasia and superficial cancer. *Semin Thorac Cardiovasc Surg* 2010; 22(2):155-64.
- Carr SR.** Giant Paraesophageal Hernias. In *TSRA Review of Cardiothoracic Surgery, 1st ed.* Mery CM and Turek JW, eds. pp.126-9. Chicago 2011.
- Sarkaria IS, **Carr SR**, MacIver RH, Whitson BA, Joyce DL, Stulak J, Mery CM, Guitron J, Singh RR, Mettler B, Turek JW. The 2010 Thoracic Surgery Residents Association Workforce Survey Report: A View from the Trenches. *Ann Thorac Surg* 2011; 92(6): 2062-71.
- Carr SR,** Awais O, Luketich JD. Redo Surgery for Failed Antireflux Surgery. In *Cardiothoracic Surgery Review*. Franco KL and Thourani VH, eds. pp 1401-5. Lippincott Williams & Wilkins, Philadelphia 2012.
- Carr SR,** Schuchert MJ, Pennathur A, Wilson DO, Siegfried JM, Luketich JD, Landreneau RJ. Impact of tumor size on outcomes following anatomic lung resection for stage 1A non-small cell lung cancer based on current staging system. *JTCVS* 2012; 143(2): 390-7.
- Hoppo T, **Carr SR,** Jobe BA. Gastroesophageal Reflux Disease and Hiatal Hernia (Including Paraesophageal). In *Maingot's Abdominal Operations, 12th ed.* Zinner MJ and Ashley SW, eds. pp. 319-51. McGraw-Hill, New York 2013.
- Stinchcombe TE, **Carr SR,** Loo BW. Multiple primary lung cancers. In: *UpToDate*, Ross ME (Ed), UpToDate, Waltham, MA, 2013.
- Carr SR,** Friedberg JS. Surgical Management of Malignant Mesothelioma. In *Mastery of Cardiothoracic Surgery, 3rd ed.* Kaiser LR, Kron IL, and Spray TL, eds. pp. Lippincott Williams & Wilkins, Philadelphia, 2014.
- Carr SR,** Friedberg JS. Pleurectomy versus Radical Pleuropneumonectomy for Malignant Pleural Mesothelioma. In *Difficult Decisions in Thoracic Surgery, 3rd ed.* Ferguson MK, ed. pp. 647-57. Springer, London, 2014.

Mukhopadhyay A, Berrett KC, Kc U, Pop S, **Carr SR**, Witt B, Bhutkar A, Oliver TG. Sox2 cooperates with Lkb1 loss in a mouse model of squamous cell lung cancer. *Cell Reports* 2014; 8:1-10.

Friedberg JS, **Carr SR**. Photodynamic Therapy in the Management of Pleural Tumors. In *Adult Chest Surgery*. Sugarbaker DJ et al, eds. McGraw-Hill, New York, 2015.

Van Raemdonck D, Decaluwé H, De Leyn P, **Carr SR**, Friedberg J. Segmentectomy for Primary Lung Cancer. In *Adult Chest Surgery*. Sugarbaker DJ et al, eds. McGraw-Hill, New York, 2015.

Carr SR, Akerley W, Hashibe M, Cannon-Albright LA. Evidence for a Genetical Contribution to Non-Smoking-Related Lung Cancer. *Thorax* 2015; 70(11):1033-9.

Carr SR. Lung. In *Metastatic Bone Disease: Essentials for the Orthopedic Surgeon*. Randall RL, ed. Springer, London, 2016.

Carr SR, Friedberg JS. Results After Intraoperative Therapy in Malignant Pleural Mesothelioma. In *Malignant Pleural Mesothelioma: Present Status and Future Directions*. Mineo TC, ed. Bentham Books, The Netherlands. – In Press.

Carr SR, Friedberg JS. Tracheostomy. In *Shield's General Thoracic Surgery, 8th ed.* LoCicero J et al, eds. Lippincott Williams & Wilkins, Philadelphia – In Press.

Burrows WM, Donahue JM, Wilson MK, Martin LW, Battafarano R, **Carr SR**. Open Transthoracic Repair is Ideal for Type III/IV Paraesophageal Hiatal Hernias: A Modern Series of 96 Consecutive Patients. *Ann Thorac Surg* – submitted for publication.

Carr SR, Pechet TTV, Farber JL. The Pathogenesis of Spontaneous Pneumothorax. *Am J Surg Pathol* – submitted for publication.

Abstracts

Friedberg JS, Skema CS, Burdick J, Yodh AG, Horan AD, **Carr SR**, Culver JP. Altering the Optical Properties of the Bronchial Tree Permits Illumination of an Entire Lung for Photodynamic. Pennsylvania Association of Thoracic Surgeons. October 2002. Miami, FL

Friedberg JS, Metz JM, Stevenson J, **Carr SR**, Zhu T, Mick R, Smith D, Culligan MJ, Miles J, Glatstein E, Hahn SM. Increased survival and local control is observed for patients with stage 3B non-small cell lung cancer (NSCLC), secondary to malignant pleural effusions and gross pleural carcinomatosis, in a phase II trial combining surgery and photodynamic therapy (PDT). *Chest* 2002. November 2002. San Diego, CA

Friedberg JS, Skema CS, Burdick J, Yodh AG, Horan AD, **Carr SR**, Culver JP. Altering the Optical Properties of the Bronchial Tree Permits Illumination of an Entire Lung for Photodynamic. 83rd Annual AATS Meeting. May 2003. Boston, MA

Carr SR, Cowan SW, Friedberg JS. Artificial lung in a porcine model - using peritoneal perfusion with perfluorocarbon. Resident Research Day Thomas Jefferson University Hospital. June 2003. Philadelphia, PA

Carr SR, Cowan SW, Friedberg JS. Artificial lung in a porcine model - using peritoneal perfusion with perfluorocarbon. Chest 2003. October 2003. Orlando, FL

Carr SR, Cowan SW, Friedberg JS. Peritoneal perfusion with oxygenated neat perfluorocarbons can increase arterial oxygenation in a porcine model. Annual Resident Paper Competition of the Philadelphia Academy of Surgery. February 2004. Philadelphia, PA

Collins JE, Cantor JP, Friedberg JS, **Carr SR**. Can Porfimer Sodium Be Utilized As A Fungicidal Agent When Combined With Photodynamic Therapy In The Treatment of *Aspergillus fumigatus*? Laser 2004. April 2004. Dallas, TX

Carr SR, Cantor JP, Collins JE, Sims TD, Friedberg JS. Development of a murine model of localized aspergillosis. 24th Annual Meeting of the Surgical Infection Society. May 2004. Indianapolis, IN

Carr SR, Cowan SW, Friedberg JS. Peritoneal perfusion with oxygenated perfluorocarbons can increase arterial oxygenation in a porcine model. 50th Annual ASAIO Meeting. June 2004. Washington, DC

Carr SR, Cantor JP, Cowan SW, Friedberg JS. Utilizing the peritoneum for gas exchange with oxygenated perfluorocarbons. American College of Surgeons 90th Annual Clinical Congress. October 2004. New Orleans, LA.

Carr SR, Santomauro MG, de Baca ME, Farber JL, Pechet TTV. The pathogenesis of spontaneous pneumothorax in smokers. Chest 2004. October 2004. Seattle, WA.

Friedberg JS, Cantor JP, **Carr SR**, Rodriguez E, Stripp D, Stevenson JP, Zhu T, Smith D, Culligan MJ, Dimofte A, Glatstein E, Hahn SM. Metastatic non-lung cancer carcinomas and sarcomas treated with photodynamic therapy – a Phase II study. Chest 2004. October 2004. Seattle, WA.

Cantor JP, **Carr SR**, Rao AS, Friedberg JS. Gastric perfusion with perfluorocarbon results in significant systemic oxygenation in a large animal model. Society of Critical Care Medicine 34th Critical Care Congress. January 2005. Phoenix, AZ.

Cantor JP, **Carr SR**, Rao AS, Collins JE, Friedberg JS. An artificial lung in a large animal model – using gastric and peritoneal perfusion with oxygenated perfluorocarbons. AATS 85th Annual Meeting. April 2005. San Francisco, CA.

Cantor JP, **Carr SR**, Rao AS, Friedberg JS. Endoscopic Techniques to Use the Stomach and Peritoneal Cavity as an “Artificial Lung”. SAGES 2005. April 2005. Ft. Lauderdale, FL.

Lakshman TV, Collins JE, **Carr SR**, Sims T, Cantor JP, Rao AS, Friedberg JS. A novel technique for identifying pulmonary airleaks. SAGES 2006. April 2006. Dallas, TX.

Carr SR, Schuchert MJ, Oostdyk AM, Shah R, Wilson DO, Luketich JD, Landreneau RJ. Impact of tumor size on outcomes following anatomic lung resection for stage 1A non-small cell lung cancer based on current staging system. WTSA 36th Annual Meeting. June 2010. Ojai, CA.

Sakaria IS, **Carr SR**, MacIver RH, Whitson BA, Joyce DL, Stulak J, Mery CM, Guitron J, Singh RR, Mettler B, Turek JW. Results of the 2010 Thoracic Surgery Residents Association (TSRA) Workforce Survey: A View from the Trenches. STS 47th Annual Meeting. January 2011. San Diego, CA.

Cannon-Albright LA, **Carr SR**, Akerley W. Evidence for a genetic contribution to non-smoking-related lung cancer. AACR Annual Meeting. April 2014. San Diego, CA.

Burrows W, Donahue J, Wilson M, Martin L, **Carr SR**. Modern Series of 94 Consecutive Patients Undergoing Transthoracic Repair of Type III/IV Paraesophageal Hernias. STS 52nd Annual Meeting. January 2016 Phoenix, AZ.

Video/Web/Podcast

Carr SR. e-Cigarettes: The Real Deal. University of Utah Health Sciences Radio. Available: <https://soundcloud.com/u-of-u-health-care/ecigarettes-the-real-deal>

Carr SR. Non-Smoking causes of lung cancer. University of Utah Health Sciences Radio. Available: <http://healthcare.utah.edu/the-scope/?id=13274732&page=7>.

Patents

Friedberg JS, **Carr SR**. Systemic Oxygenation via Gastric Perfusion with Perfluorocarbon (PFC). U.S. Patent No. US20060263302. Washington, DC: U.S. Patent and Trademark Office.