CURRICULUM VITAE

Richard Harry Feins, M.D.

Department of Surgery University of North Carolina at Chapel Hill 3040 Burnett-Womack Building; CB# 7065 Chapel Hill, NC 27599-7065

Phone: 919-966-3381 Fax: 919-966-3475

E-mail: rfeins@med.unc.edu

EDUCATION AND TRAINING

Resident, Cardiothoracic Surgery, University of Rochester, Rochester, N.Y., July 1980-June1982

Chief Resident, Surgery, University of Rochester, Strong Memorial Hospital, Rochester, N.Y., June 1979-July 1980

Resident, Surgery, University of Rochester, Strong Memorial Hospital, July 1976-June 1979

Intern, Surgery, University of Rochester, Strong Memorial Hospital, July 1973-June 1974

M.D., University of Vermont College of Medicine, September 1969-May 1973 B.S., Chemistry, Dartmouth College, Hanover, N.H., September 1965-June 1969

Board Certification

American Board of Thoracic Surgery, 1984, recertification 1994 and 2004 American Board of Surgery, 1981

Licensure

North Carolina 2005 New York 1976

PROFESSIONAL EXPERIENCE

Medical Director, Perioperative Services, UNC Hospitals, Chapel Hill, NC, July 2013-present

Professor of Surgery, Division of Cardiothoracic Surgery, School of Medicine, University of North Carolina, Chapel Hill, N.C., July 2005-present

Associate Professor of Surgery, University of Rochester School of Medicine and Dentistry, Rochester, N.Y., July 1997-June 2005

Chief, General Thoracic Surgery, Strong Memorial Hospital, Rochester, N.Y., July 1987-June 2005

Chairman, Thoracic Surgery, Park Ridge Hospital, Rochester, N.Y., July 1987-June 2005

Chairman, Thoracic Surgery, The Genesee Hospital, Rochester, N.Y., July 1997-June 2000

- Clinical Assistant Professor of Surgery, GFT Assistant Professor of Oncology, University of Rochester, July 1994-June 1997
- Assistant Professor of Surgery and Oncology, University of Rochester School of Medicine and Dentistry, July 1987-July 1994
- Clinical Assistant Professor of Surgery, University of Rochester School of Medicine and Dentistry, July 1982-June 1987
- Instructor in Surgery, University of Rochester School of Medicine and Dentistry, July 1976-June 1982
- General Medical Officer, United States Public Health Service, Indian Health Service, Gallup, N.M., July 1974-June 1976

HONORS AND AWARDS

- Listed in *Top Cancer Doctors in the United States for 2015*, Newsweek with Castle Connolly Medical Ltd. July 31, 2015.
- Outstanding Service Award given to UNC Thoracic Surgery in years 2009, 2010, 2012, 2014, 2015, 2016 while Dr. Feins was on faculty. (UNC Surgery interns vote each year to choose the service that is best in teaching by faculty, clinical opportunities, technical experience.
- Distinguished Academic Achievement Award, University of Vermont College of Medicine, May 31, 2013.
- Listed in U.S. News and World Report's *Top Doctors*, 2012, 2013.
- Winner, Friends of Nursing Award, UNC Health Care, Chapel Hill, NC, May 6, 2011 (part of Nursing Staff Recognition Week 2011).
- Listed in *America's Top Doctors*, Castle Connolly Medical, 2011.
- Elected member of Halsted Society (surgeons' honorary group limited to 75 members), September 2010.
- Fellow, UNC School of Medicine Academy of Educators, inducted May 18, 2010.
- Listed in *Best Doctors in America* (Best Doctors, Inc.). 2012-13, 2011-2012, 2010-2011, 2009-2010, 2008-2009, 2007-2008
- Listed in *Best Doctors in North Carolina*, Business North Carolina magazine, 2009, 2008, 2007, 2006.
- Teacher of Year, University of Rochester Dept. of Emergency Medicine, 1999
- Listed in Good Housekeeping's *Top Doctors*, 1997.
- Alpha Omega Alpha honorary society
- Co-Citizen of the Year, Pittsford, NY, 2001
- Honorary Life Member, New York State Congress of Parents and Teachers

BIBLIOGRAPHY

Books and Chapters

- Haithcock BE, Feins RH. Chapter 14, Pneumonectomy after Induction Therapy for Non Small Cell Lung Cancer. In: Ferguson MK, ed., Difficult Decisions in Thoracic Surgery: An Evidence-Based Approach. Springer-Verlag, London, 2014. pp. 177-185.
- Veeramachaneni NK, Feins RH. The use of esophageal stents. In: Cameron et al. Current Surgical Therapy, 10th ed., Elsevier Health Sciences, New York, 2010, pp. 49-54.
- Parsons AM, Feins RH. Tube thoracostomy. IN: Lewis MI, McKenna RJ Jr., Falk JA, Chaux GE, eds., <u>Medical Management of the Thoracic Surgery Patient</u>. Philadelphia: Saunders Elsevier, 2010, pp. 415-420.
- Haithcock BE, Lewis MI, McKenna RJ, Feins RH. Pleural effusions and complications. IN: Lewis MI, McKenna RJ Jr., Falk JA, Chaux GE, eds., <u>Medical Management of the Thoracic Surgery Patient</u>. Philadelphia: Saunders Elsevier, 2010, pp. 420-431.
- Shields TW, LoCicero J, Reed CE, Feins RH, eds. <u>General Thoracic Surgery</u>, 7th ed. Philadelphia: Lippincott Williams & Wilkins, 2009.
- Haithcock BE, Feins RH. Complications of pulmonary resection. IN: Shields TW, LoCicero J, Reed CE, Feins RH, <u>General Thoracic Surgery</u>, 7th ed., Vol. I. Philadelphia: Lippincott Williams & Wilkins, 2009. pp. 551-560.
- Fultz PJ, Feins RH. Radiologic evaluation of lung cancer. IN: Shields TW, LoCicero J, Reed CE, Feins RH, <u>General Thoracic Surgery</u>, 7th ed., Vol. II. Philadelphia: Lippincott Williams & Wilkins, 2009. pp. 1361-1374.
- Feins RH. Cooperative group clinical trials in the United States. In: Franco KL and Putnam JB, eds., <u>Advanced Therapy in Thoracic Surgery</u>. Hamilton, Ontario; London: B.C. Decker Inc., 1998, 155-161.

Journal Articles

Gardner AK, Scott DJ, Pedowitz RA, Sweet RM, Feins RH, Deutsch ES, Sachdeva AK. Best practices across surgical specialties relating to simulation-based training. Surgery 2015 Nov; 158(5):1395-402. Epub ahead of print July 11, 2015. PMID: 26169785

- Kuntz A, Torres LG, Feins RH, Webster RJ 3rd, Alterovitz R. Motion planning for a three-stage multilumen transoral lung access system. Rep U S. 2015 (Sept.-Oct.);2015:3255-3261. PMID: 26942041
- Swaney PJ, Mahoney AW, Remirez AA, Lamers E, Hartley BI, Feins RH, Alterovitz R, Webster RJ 3rd. Tendons, concentric tubes, and a bevel tip: Three steerable robots in one transoral lung access system. IEEE Int Conf Robot Autom 2015 (May):5378-5385. PMID: 26157600
- Lou X, Lee R, Feins RH, Enter D, Hicks GL Jr, Verrier ED, Fann JI. Training less-experienced faculty improves reliability of skills assessment in cardiac surgery. J Thorac Cardiovasc Surg 2014 (Dec);148(6):2491-6. PMID: 25308119
- Macfie RCL, Webel AD, Nesbitt JC, Fann JI, Hicks GL, Feins RH. "Boot camp" simulator training in open hilar dissection in early cardiothoracic surgical residency. Ann Thorac Surg 2014 (Jan);97(1):161-6. Epub ahead of print, Sept. 30, 2013. PMID: 24090574
- Joseph M, Jones T, Lutterbie Y, Maygarden SJ, Feins RH, Haithcock BE, Veeramachaneni NK. Rapid on-site pathologic evaluation does not increase the efficacy of endobronchial ultrasonographic biopsy for mediastinal staging. Ann Thorac Surg 2013 Aug; 96(2):403-10. PMID: 23731611 Epub May 31, 2013.
- Lee R, Enter D, Lou X, Feins RH, Hicks GL, Gasparri M, Takayam H, Young JN, Calhoon JH, Crawford FA, Mokadam NA, Fann JI. The Joint Council on Thoracic Surgery Education coronary artery assessment tool has high interrater reliability. Ann Thorac Surg 2013 Jun; 95(6):2064-9. PMID: 23706430
- Fann JI, Sullivan ME, Skeff KM, Stratos GA, Walker JD, Grossi EA, Verrier ED, Hicks GL Jr., Feins RH. Teaching behaviors in the cardiac surgery simulation environment. J Thorac Cardiovasc Surg 2013 (Jan.); 145(1):45-53. (Epub ahead of print, Oct. 22, 2012) PMID: 23098747
- Veeramachaneni NK, Feins RH, Stephenson BJ, Edwards LJ, Fernandez FG.

 Management of Stage IIIA non-small cell lung cancer by thoracic surgeons in

 North America. Ann Thorac Surg 2012 (Sept); 94(3):922-8. PMID: 22742842
- Fann JI, Feins RH, Hicks GL Jr., Nesbitt JC, Hammon JW, Crawford FA Jr.; Senior Tour in Cardiothoracic Surgery. Evaluation of simulation training in cardiothoracic surgery: The Senior Tour perspective. J Thorac Cardiovasc Surg 2012 Feb; 143(2):264-72. PMID: 22075060
- Ben-Or S, Feins RH, Veeramachaneni NK, Haithcock BE. Effectiveness and risks associated with intrapleural alteplase by means of tube thoracostomy. Ann Thorac Surg 2011 Mar; 91(3):860-3; discussion 863-4. PMID: 21353015

- Tesche LJ, Feins RH, Dedmon MM, Newton KN, Egan TM, Haithcock BE, Veeramachaneni NK, Bowdish ME. Simulation experience enhances medical students' interest in cardiothoracic surgery. Ann Thorac Surg 2010 Dec; 90 (6):1967-73. PMID: 21095347
- Saynak M, Hubbs J, Nam J, Marks LB, Feins RH, Haithcock BE, Veeramachaneni NK. Variability in defining T1N0 non-small cell lung cancer impacts locoregional failure and survival. Ann Thorac Surg 2010 Nov; 90(5):1645-9. Discussion 1649-50. PMID: 20971280
- Chen Y, Pandya KJ, Hyrien O, Keng PC, Smudzin T, Anderson J, Qazi R, Smith B, Watson TJ, Feins RH, Johnstone DW. Preclinical and pilot clinical studies of docetaxel chemoradiation for Stage III non-small-cell lung cancer. Int J Radiat Oncol Biol Phys 2011 (Aug 1): 80(5); 1358-64. PMID: 20708854
- Hicks GL Jr., Gangemi J, Angona RE Jr., Ramphal PS, Feins RH, Fann JI. Cardiopulmonary bypass simulation at the Boot Camp. J Thorac Cardiovasc Surg 2011; 141(1):284-92. (Epub ahead of print, May 6, 2010) PMID: 20451929
- Fann JI, Calhoon JH, Carpenter AJ, Merrill WH, Brown JW, Poston RS, Kalani M, Murray GF, Hicks GL Jr, Feins RH. Simulation in coronary artery anastomosis early in cardiothoracic surgical residency training: The Boot Camp experience. J Thorac Cardiovasc Surg 2010 (May): 139(5);1275-81. (Epub ahead of print, Oct. 28, 2009) PMID: 19846125
- Markewich SD, Stanger RP, Lucas WJ, Feins RH, Kyle RW, Zvara DA. A novel mechanism causing bradycardia during right lung pleurodesis. 109(4):1352-3, 2009. PMID: 19762774
- Kohn GP, Galanko JA, Meyers MO, Feins RH, Farrell TM. National trends in esophageal surgery are outcomes as good as we believe? J Gastrointest Surg 13(11):1900-10, 2009. (Epub ahead of print, Sept. 16, 2009). PMID: 19760305
- Khandani AH, Funkhouser WK, Feins R, Socinski MA. Simultaneous FDG PET+Glut1+ lung and FDG PET-Glut1- subcarinal lymph node metastases from prostate cancer. Ann Nucl Med 23(6):595-7, 2009. PMID: 19437096
- Albain KS, Swann RS, Rusch VW, Turrisi AT 3d, Shepherd FA, Smith C, Chen Y, Livingston RB, Feins RH, Gandara DR, Fry WA, Darling G, Johnson DH, Green MR, Miller RC, Ley J, Sause WT, Cox JD. Radiotherapy plus chemotherapy with or without surgical resection for stage III non-small-cell lung cancer: a phase III randomised controlled trial. Lancet 374 (9687):379-86, 2009. PMID: 119632716
- Rosenzweig KE, Movsas B, Bradley J, Gewanter RM, Gopal RS, Komaki RU, Kong FM, Lee HK, Feins RH, Langer CJ. ACR appropriateness criteria on nonsurgical

- treatment for non-small-cell lung cancer: poor performance status or palliative intent. J Am Coll Radiol 6(2)(Feb):85-95, 2009. PMID: 19179235
- Chen Y, Pandya KJ, Feins R, Johnstone DW, Watson T, Smudzin T, Keng PD. Toxicity profile and pharmacokinetic study of a Phase I low-dose schedule-dependent radiosensititizing Paclitaxel chemoradiation regimen for inoperable non-small-cell lung cancer. In J Radiat Oncol Biol Phys 71(2):407-13, 2008. PMID: 18329456
- Riesenman PJ, Farber MA, Mauro MA, Selzman CH, Feins RH. Aortoesophageal fistula after thoracic endovascular aortic repair and transthoracic embolization. J Vasc Surg 46(4): 789-91, 2007.
- Costa DB, Li S, Kocher O, Feins RH, Keller SM, Schiller JH, Johnson DH, Tenen DG, Halmos B. Immunohistochemical analysis of C/EBP alpha in non-small cell lung cancer reveals frequent down-regulation in stage II and IIIA tumors: a correlative study of E3590. Lung Cancer 56(1): 97-103, 2007.
- Feins RH, Watson TJ. What's new in general thoracic surgery. J Am Coll Surg. 199(2):265-72, 2004.
- Hendrickson RJ, Killackey MT, Watson TJ, Johnstone DW, Feins RH. Image of the month. Small left apical pneumothorax, left tube thoracostomy, and a prominent right central pulmonary artery. Arch Surg. 139(9):1017-18, 2004.
- Fultz PJ, Harrow AR, Elvey SP, Feins RH, Strang JG, Wandtke JC, Johnstone DW, Watson TJ, Gottlieb RH, Voci SL, Rubens DJ. Sonographically guided biopsy of supraclavicular lymph nodes: a simple alternative to lung biopsy and other more invasive procedures. AJR Am J Roentgenol. 180(5):1403-9, 2003.
- Feins RH. Multi-modality treatment of non-small cell lung cancer. Surg Clin North Am. 82(3) 611-20, 2002. PMID: 12371588
- Fultz PJ, Feins RH, Strang JG, Wandtke JC, Johnstone DW, Watson TJ, Gottlieb RH, Voci SL, Rubens DJ. Detection and diagnosis of nonpalpable supraclavicular lymph nodes in lung cancer at CT and US. Radiology 222(1): 245-51, 2002.
- Chen Y, Pandya K, Keng PP, Feins R, Raubertas R, Sudzin T, Rosenblatt J, Okunieff P. Schedule-dependent pulsed paclitaxel radiosensitization for thoracic malignancy. Clinical Trial, Phase I. Am J Clin Oncol 24(5):423-7, 2001.
- Wain JC, Kaiser LR, Johnstone DW, Yang SC, Wright CD, Friedberg JS, Feins RH, Heitmiller RF, Mathisen DJ, Selwyn MR. Trial of a novel synthetic sealant in preventing air leaks after lung resection. Ann Thorac Surg 71(5):1623-8; discussion 1628-9, 2001.

- Schiller JH, Adak S, Feins RH, Keller SM, Fry WA, Livingston RB, Hammond ME, Wolf B, Sabatini L, Jett J, Kohman L, Johnson DH. Lack of prognostic significance of p53 and K-ras mutations in primary resected non-small-cell lung cancer on E4592: a laboratory ancillary study on an Eastern Cooperative Oncology Group prospective randomized trial of postoperative adjuvant therapy. J Clin Oncol 19(2)448-57, 2001.
- Feins RH. Neurologic complications in thoracic surgery. Chest Surg Clin N Am. 8(3) 633-43, 1998.
- Feins RH. Surgery for early stage non-small cell lung cancer. Semin Oncol 24(4):419-22, 1997. PMID: 9280221
- Feins RH, Johnstone DW, Baronos ES, O'Neil SM. Palliation of inoperable esophageal carcinoma with the Wallstent endoprosthesis. Ann Thorac Surg 62(6): 1603-7, 1996. PMID: 8957358
- Serletti JM, Feins RH, Carras AJ, Losee J, Johnstone DW, Herrera HR, Hicks GL Jr. Obliteration of empyema tract with deepithelialized unipedicle transverse rects abdominis myocutanous flap. J Thorac Cardiovasc Surg. 112(3): 631-6, 1996.
- Hazelrigg S, Boley T, Henkle Jr. Lawyer C, Johnstone D, Naunheim K, Keller C, Keenan R, Landreneau R, Sciurba F, Feins R, Levy P, Magee, M. Thoracoscopic laser bullectomy: a prospective study with three-month results. J Thorac Cardiovasc Surg 112(2):319-27, 1996.
- Lee AC, Wu CL, Feins RH, Ward DS. The use of fiberoptic endoscopy in anesthesia. Chest Surg Clin N Am 6(20): 329-47, 1996.
- Sarac TP, Riggs PN, Williams JP, Feins RH, Baggs R, Rubin P, Green RM. The effects of low-dose radiation on neointimal hyperplasia. J Vasc Surg. 22(1): 17-24,1995.
- Manzi SV, Fultz PJ, Sickel JZ, Feins R. Chest mass in a patient with leukemia with hemotypsis. Invest Radiol. 29(10): 940-3, 1994.
- Johnstone DW, Feins RH. Chylothorax. Chest Surg Clinc N Am. 4(3):617-28, 1994.
- Gibson SL, Foster TH, Feins RH, Raubertas RF, Fallon MA, Hilf R. Effects of photodynamic therapy on xenografts of human mesothelioma and rat mammary carcinoma in nude mice. Br J Cancer 69(3): 473-81, 1994.
- Rusch VW, Feins RH. Summary of current cooperative group clinical trials in thoracic malignancies. The Thoracic Intergroup. Ann Thorac Surg 57(1): 102-6, 1994. PMID: 8279873

- Feins RH. The role of thoracoscopy in the AIDS/immunocompromised patient. Ann Thorac Surgy 56(3): 649-50, 1993.
- McDonald S, Rubin P, Chang AY, Penney DP, Finkelstein JN, Grossberg S, Feins R, Gregory PK. Pulmonary changes induced by combined mouse beta-interferon (rMuIFN-beta) and irradiation in normal nice toxic versus protective effects. Radiother Oncol 26(3):212-8, 1993.
- Wahl FW, Feins RH, Alfieres G, Bixby K. Reinfusion of shed blood after coronary operation causes elevation of cardiac enzyme levels. Ann Thorac Surg 53(4): 625-7, 1992.
- Feins RH. Thoracic surgery participation in cooperative group studies of cancer therapy. Ann Thorac Surg 53(1): 9-10, 1992.
- Feins RH, Hilf R, Ross H, Gibson SL. Photodynamic therapy for human malignant mesothelioma in the nude mouse. J Surg Res 49(4): 311-4, 1990.
- Roedersheimer LR, Feins R, Green RM. Doppler evaluation of the pedal arch. Am J Surg 142(5): 601-4, 1981.
- Feins RH, Roedersheimer LR, Baumstark AE, Green RM. Predicted hyperemic angiography: A technique of distal arteriography in the severely ischemic leg. Surgery 89(2): 202-5, 1981.
- Roedersheimer LR, Feins H, Schwartz SI, DeWeese JA, Green RM. Comparison of platelet adherence and aggregation in modified human umbilical vein and autogenous vein grafts. Am J Surg 140(5): 591-65, 1980.
- Feins RH, Roedersheimer R, Green RM, DeWeese JA. Platelet aggregation inhibition in human umbilical vein grafts and negatively charged bovine heterografts. Surgery 85(4): 395-9, 1979.

Editorials, Letters, Commentary

- Feins RH. Invited commentary. Ann Thorac Surg 2013 Jun; 95(6):2063. PMID: 23706429
- Chitwood RH Jr., Spray TL, Feins RH, Mack MJ. Mission critical: thoracic surgery education reform. (Editorial) J Thorac Cardiovasc Surg 136(4):812-813, 2008. PMID: 18329456

- Chitwood RH Jr., Spray TL, Feins RH, Mack MJ. Mission critical: thoracic surgery education reform. (Editorial) Ann Thorac Surg 86(4):1061-2, 2008. PMID: 18805132
- Feins RH. Expert commentary: Cardiothoracic surgical simulation. J Thorac Cardiovasc Surg 135(3):485-6, 2008. PMID: 18329456
- Feins RH. Clinical trials in lung cancer: Truth, justice and the American way (Editorial). Ann Thorac Surg 70(4): 1139-41, 2000.

Feins RH, guest editor. Thoracic endoscopy. Chest Surg Clin N Am 16(2), 1996.

Article in Press:

Feins RH, Burkhart HM, Conte JV, Coore DN, Fann JI, Hicks GL, Nesbitt JC, Ramphal PS, Schiro SE, Shen KR, Sridhar A, Stewart PW, Walker JD, Mokadam NA. Simulation-based training in cardiac surgery. Ann Thorac Surg 2016 (in press). (22 typed pages)

Abstracts

Published Abstracts

Medaiyese AA, Feins R, Aris R. Papillary cancer of ovarian origin presenting as large right-sided pleural effusion without discernable pelvic disease. (Abstract) Chest 130(4): 327S, 2006.

Unpublished Abstracts

- Feins RH, Burkhart HM, Conte JV, Coore DN, Fann JI, Hicks GL, Mokadam NA, Nesbitt JC, Ramphal PS, Schiro SE, Shen KR, Sridhar A, Stewart P, Walker JD. Simulation-based training in cardiac surgery for improved patient safety. Society of Thoracic Surgeons, Phoenix, AZ, Jan. 25, 2016.
- Mokadam NA, Fann JI, Burkhart HM, Nesbitt JC, Walker JD, Conte JV, Shen K, Coore DN, Ramphal PS, Hicks GL, Feins RH. Experience with the cardiac surgery simulation curriculum: Results of resident and faculty survey. (Poster) Society of Thoracic Surgeons, Phoenix, AZ, Jan. 23-27, 2016.
- Tesche LJ, Feins RH, Dedmon M, Newton K, Egan TM, Haithcock BE, Veeramachaneni NK, Bowdish M. Simulator experience enhances medical students' interest in cardiothoracic surgery. Society of Thoracic Surgeons, Fort Lauderdale, FL, Jan. 26, 2010.

Ben-Or S, Feins R, Veeramachaneni N, Haithcock B. Effectiveness and risk of complications associated with intrapleural Alteplase via tube thoracostomy. Southern Thoracic Surgical Association, Marco Island, FL, Nov. 6, 2009.

TEACHING RECORD

Visiting Professorships

- John and Joyce Benfield Visiting Lecturer in Thoracic Surgery, University of Chicago Department of Surgery, Chicago, IL. Oct. 3-5, 2012.
- O.T. Clagett Named Visiting Professor, Mayo Clinic, Rochester, MN. Lecture topic: How "good enough" became acceptable in surgical training. April 21, 2012.
- Ernest Wilkins Visiting Professor, Massachusetts General Hospital, Harvard Medical School, Boston, MA, Oct. 18-19, 2006.
- Visiting Professor in Surgery, Norman Snow Lectureship, University of Vermont, Burlington, VT, June 2001.
- Visiting Professor in Thoracic Surgery, Beth Israel Deaconess Medical Center, Boston, MA, November 2000.
- Visiting Professor in Thoracic Surgery, Department of Surgery, University of Virginia, Charlottesville, VA, September 2000.
- Visiting Professor in Thoracic Surgery, University of North Carolina at Chapel Hill, May 2000.
- Visiting Faculty, Postgraduate Course in Thoracic Surgery, Massachusetts General Hospital, Harvard Medical School, Boston, MA., May 21-22, 1998.
- Visiting Professor in Thoracic Surgery, Mayo Clinic, Rochester, MI, 1998.
- Visiting Professor in Thoracic Surgery, Columbia Presbyterian Hospital, New York, N.Y., March 24-25, 1993.

Teaching

Co-director and faculty member, Thoracic Surgery Resident Boot Camp (sponsored by Thoracic Surgery Directors Association), Chapel Hill, NC. Sept. 17-20, 2015; Sept. 11-14, 2014; July 25-28, 2013; July 27-29, 2012; July 14-17, 2011; July 8-11, 2010; July 31-Aug. 2, 2009; July 31-Aug. 3, 2008.

Lung nodule (MS III Lecture Series) – July 29, 2008; April 1, 2008; Jan. 15, 2008.

UNC Intern Boot Camp – June 19-20, 2008.

Student Career Day (UNC Medical School) – Feb. 25, 2008.

- Associate director, Thoracic Surgery Residency Program, University of Rochester School of Medicine and Dentistry, 1991-2005
- Director, University of Rochester Thoracoscopy Course, Sept 21-23, 1992, and May 22-24, 1993.

Presentations

International:

- Cardiothoracic Residency Training in the United States, Royal Australasia College of Surgeons, Melbourne, Australia, March 29, 2012.
- Deliberate Practice in Surgical Training, Royal Australasia College of Surgeons, Melbourne, Australia, March 30, 2012.
- Clinical trials in lung cancer, 12th World Congress for Bronchology, Boston, MA, June 2002.
- IIB or not IIB, treatment options and outcomes, 96th International Conference, American Thoracic Society, Toronto, Ontario, Canada, May 2000
- The role of thoracoscopy in the AIDS/immunocompromised patient. 1st International Symposium of Thoracoscopic Surgery, Society of Thoracic Surgeons, San Antonio, TX, January 22-23, 1993.
- Comparison of photodynamic therapy of human malignant mesothelioma and R3230AC mammary adenocarcinoma in the nude mouse. International Photodynamic Association, 3rd Biennial Meeting, Buffalo, NY, July 18, 1990.

National:

- TSDA cardiac surgery simulation curriculum. (Course for thoracic residency faculty, taught with N.A. Mokadam, University of Washington.) Society of Thoracic Surgeons, Phoenix, AZ, Jan. 27, 2016.
- Simulation based adverse event training in cardiothoracic surgery. Eastern Cardiothoracic Surgical Society. Palm Beach, FL. Oct. 16, 2015.
- AHRQ Cardiac Surgery Simulation Grant. Joint Council on Thoracic Surgery Education meeting, American Association for Thoracic Surgery, Minneapolis, May 8, 2013.
- ACS-AEI Postgraduate Course, Houston, Texas, Sept. 16, 2011
- The use of simulation in cardiothoracic training. Society of Thoracic Surgeons/AATS Tech-Con 2010. Fort Lauderdale, FL. Jan. 23, 2010.

- Clinical Trials in Lung Cancer: Truth, Justice and the American Way. General Thoracic Surgical Club, Tucson, AZ, March 2000
- Neoadjuvant treatment of esophageal cancer. 9th Annual Meeting, General Thoracic Surgical Club, Palm Springs, CA, 1998.
- Current status of video-assisted thoracic surgery (thoracic surgery postgraduate course). 82nd Clinical Congress, American College of Surgeons, 1996.
- Decortication of empyema VATS vs. open (thoracic surgery postgraduate course). 82nd Clinical Congress, American College of Surgeons, 1996.
- Indications for thoracoscopy. STS/AATS Thoracoscopy Course, University of Maryland, Towson, MD, April 18-19, 1993.
- Surgery for emphysema (moderator). General Thoracic Surgical Club, Phoenix, AZ, March 1993.
- Palliation by laser and brachytherapy. Lung Cancer for the Non-Oncologist Conference, Chicago, IL, August 14, 1992.
- Thoracic trauma. American Lung Association Pulmonary Critical Care Seminar, Syracuse, N.Y., October 17, 1990.

Regional:

- Panelist, surgical health quality forum (discussion of core requirements for surgical quality improvement including ongoing training, transparency and exchange of expertise and resources). American College of Surgeons, University of North Carolina, Chapel Hill, NC. Feb. 19, 2014.
- Simulation in cardiothoracic surgery. North Carolina Society of Perfusionists, 2013 Educational Seminar, Chapel Hill, NC. Oct. 5, 2013.
- Neoadjuvant therapy for lung cancer. Durranse-Waring Chest Conference, Colorado Thoracic Society, Breckenridge, CO, March 1999.
- Facing the challenges of non-small cell lung cancer. Institute for Continuing Healthcare Education, Jacksonville, FL, January 1999.
- Multi-specialty treatment in the management of lung cancer. First Annual Update in Oncology, Olean, NY, November 12, 1994.
- Video-assisted thoracic surgery. The Upstate Society of Thoracic Surgeons Annual Meeting, Buffalo, NY, September 30-October 1, 1994.

- Laser bronchoscopy. Upstate New York Chapter, AORN. Rochester, NY, April 16, 1994.
- Neo-adjuvant therapy in surgery. Non-Small Cell Lung Cancer: Perspectives on Early and Locally Advanced Disease. Rush-Presbyterian-St. Luke's Medical Center, Rush Cancer Institute Section of Medical Oncology, Chicago, IL. November 5, 1993.
- Surgical treatment of lung cancer. Annual meeting, New York Chapter of the American College of Chest Physicians, Cooperstown, NY, September 25, 1992.
- Management of lung cancer. Pulmonary Day Conference, Central New York Academy of Medicine, Utica, NY, March 15, 1990.
- Photodynamic therapy for human malignant mesothelioma in a nude mouse model. New York State Chapter of American College of Chest Physicians, Louisville, KY, November 1989.

Local:

- Teaching through simulation. AOE Basic Teaching Skills Curriculum, Academy of Educators, UNC School of Medicine, Chapel Hill, NC, Oct. 18, 2012.
- Deliberate practice to surgical practice: Training the elite surgeon. UNC Department of Surgery Grand Rounds, Chapel Hill, NC, April 13, 2011.
- Cardiothoracic surgery education. UNC Medical Student Surgery Interest Group. Chapel Hill, NC. Nov. 2009.
- Comprehensive integrated training in cardiothoracic surgery: Change you really can believe in. Department of Surgery Grand Rounds, Chapel Hill, NC, March 11, 2009.
- Novel approaches in the early detection of lung cancer. AHEC lecture/CME conference, Nash General Hospital, Rocky Mount, NC, June 20, 2007.
- Treatment of endobronchial lung cancer: Laser, stents and brachytherapy. Surgery Grand Rounds, UNC Hospitals, Chapel Hill, NC, June 13, 2007.
- Interventional bronchoscopy 2007. Surgery Grand Rounds. UNC Hospitals, Chapel Hill, NC, Dec. 20, 2006.
- Comprehensive treatment for lung cancer. Wake AHEC Internal Medicine Grand Rounds, WakeMed Hospital, Raleigh, NC, July 25, 2006.

- Comprehensive treatment for lung cancer 2006. Coastal AHEC Internal Medicine Grand Rounds. New Hanover Regional Medical Center, Wilmington, NC, July 19, 2006.
- Advances in the treatment of lung cancer MTOP 10 years later. Grand Rounds, Moses Cone Hospital, Greensboro, NC, Dec. 9, 2005.
- Progress in the treatment of lung cancer MTOP 10 years later. Surgery Grand Rounds, UNC Hospitals, Chapel Hill, NC, Nov. 16, 2005.
- Training, certification and recertification of the cardiothoracic surgeon of the future. Grand Rounds, Strong Memorial Hospital, Rochester, NY, February 2005.
- What's new in thoracic surgery, St. Luke's-Roosevelt Hospital Cancer Symposium, New York, NY, May 2004.
- Lung cancer Who gets it? Why? What are the treatments? What is a clinical trial? University of Rochester Cancer Center Speakers Series, Rochester, NY, May 29, 1996.
- Facing the challenges of non-small cell lung cancer/Innovations in combined modality treatment. Columbus, OH, March 1996.
- Surgical treatment of non-small cell lung cancer. Aultman Hospital Cancer Center, Canton, OH, 1996.
- Thoracoscopy. Managing Respiratory Problems Conference, Rochester, NY, November 19, 1992.
- The early diagnosis and emergency management of chest injuries in the patient with multisystems trauma. Surgical Attendings and Residents Conference, Strong Memorial Hospital, Rochester, NY, November 26, 1991.
- New approaches to the surgical management of lung cancer. Managing Respiratory Problems Conference, Greece, NY, November 26, 1991.
- The treatment of endobronchial cancer. Medical Staff Conference, Tompkins Community Hospital Outreach Programs, Ithaca, NY, September 13, 1991.
- Hemoptysis. Managing Respiratory Problems Conference, Greece, NY, November 29, 1990.
- New approaches to surgical treatment of lung cancer. First URSA Reunion Weekend-Scientific Presentations. University of Rochester, Rochester, NY, June 30, 1990.
- Lasers in thoracic surgery. University of Rochester Hogan Club. University of Rochester Medical Center, Rochester, NY, April 3, 1990.

Photo-therapy in treatment for thoracic malignancies. Radiation Oncology Grand Rounds, Strong Memorial Hospital, Rochester, N.Y., 1990.

Lung cancer. Greece Arcadia High School, Rochester, NY, March 9, 1990.

Surgical management of pleural disease. University of Rochester Continuing Professional Education Program, Rochester, NY, November 30, 1989.

RESEARCH

Current:

1 R18 HS020451-01 (Feins, PI) 05/01/2011 – 04/30/2016 * 1.80 cal months Agency for Healthcare Research and Quality \$1,049,298 (NCE) Improved patient safety by simulator based training in cardiac surgery

Goal: This multi-institution project will study whether resident physicians who are learning cardiothoracic surgery can become safer surgeons by using surgery simulators to acquire skills before they operate on people.

Role: PI

AHEC Innovation Grant (Feins, PI) 7/1/2015-6/30/2016 No salary support North Carolina Area Health Education Centers (AHEC) \$35,161

Remote video-assisted simulation training

Goal: This study will demonstrate the potential of an innovative approach to standardizing, conducting, evaluating and maximizing high-quality simulation-based training to teach surgery skills through the use of remote interactive video mentoring. The training will be done at six institutions in North Carolina that train general surgery residents.

Role: PI

Completed:

1 R21 EB017952-01 (Alterovitz, PI) 09/30/2013-08/31/2015 0.96 cal months NIH/National Institute of Biomedical Imaging and Bioengineering \$414,371 (total direct costs)

Multi-lumen steerable needles for transoral access to lung nodules

Goal: Develop robotic set of concentric nested titanium tubes that can be deployed from bronchoscope to allow physicians to accurately reach areas of the lung.

Role: Investigator

TSFRE Educational Simulation Research Grant (Feins, PI) 7/1/2009 – 6/30/2010 Thoracic Surgery Foundation for Research and Education

Thoracic resection simulation \$18,000 (No salary support)

This project will design an improved second-generation simulator for teaching skills for open and thoracoscopic lung resections. It will create a curriculum for this simulator, including a handbook; modify metrics used to assess technical skill within the simulated environment; evaluate transferability of skills; and determine and report the real cost of teaching in a simulated environment.

GSK1572932a (Feins, PI) 12/03/2008-12/02/2011 (0.6 calendar) GlaxoSmithKline, Inc. (Grant administered by Lineberger Center at UNC)

Annual direct costs: \$13.316*

A double-blind, randomized, placebo-controlled Phase III study to assess the efficacy of recMAGE-A3 + AS15 Antigen-Specific Cancer Immunotherapeutic as adjuvant

^{*}Two one-year no-cost extensions.

therapy in patients with resectable MAGE-A3-positive Non-Small Cell Lung Cancer

The primary objective of this Phase III study is to demonstrate the clinical efficacy of recMAGE-A3 + AS15 versus placebo in NSCLC after complete surgical resection.

(Funds received depend on patient enrollment)

TSFRE Educational Simulation Research Grant (Feins, PI) 7/1/2009 – 6/30/2010 Thoracic Surgery Foundation for Research and Education

<u>Thoracic resection simulation</u> \$18,000 (No salary support)

This project will design an improved second-generation simulator for teaching skills for open and thoracoscopic lung resections. It will create a curriculum for this simulator, including a handbook; modify metrics used to assess technical skill within the simulated environment; evaluate transferability of skills; and determine and report the real cost of teaching in a simulated environment.

Other:

Role of Il-6 in growth of human malignant mesothelioma

Dose-responsive and time-responsive pathologic changes in trachea and bronchus following high-dose rate brachytherapy, as seen in the rabbit model

Bronchial mucosal tolerance following high dose rate endobronchial brachytherapy: Clinical and laboratory correlate in late complication assessment of fatal hemoptysis

Laboratory-clinical correlative studies in non-small cell lung cancer (ECOG 4592) Laser bullectomy in the treatment of emphysema (U of Rochester IRB #5717) Health effects of airborne toxicants

Thoracoscopy in the treatment of thoracic malignancies, co-principal investigator (RFA-1993)

Chemoprevention for lung cancer with 13 Cis Retinoic Acid – surgical principal investigator

Neoadjuvant therapy in the treatment of Stage IIIa (N₂) lung cancer, ECOG (Int 0139) Neoadjuvant therapy in the treatment of esophageal cancer – ECOG surgical principal investigator (Int 0115)

Toxicity of photodynamic therapy on tissue in the thoracic cavity, 1989

Relationship of elevation of cardiac enzymes in patients receiving reinfusion of shed blood, 1987

Treatment of human malignant mesothelioma with photodynamic therapy in nude mice. Basic science grant – University of Rochester, 1987-1990.

PROFESSIONAL SERVICE

National, International:

ACS Journal – editorial board

- American Association for Thoracic Surgery: Advisory Subcommittee of the AATS Education Committee, 2004-2010; 76th Annual Meeting, Postgraduate Course in Thoracic Surgery, Program Chairman, May 3, 1998.
- American Board of Thoracic Surgery: Chairman, Sept. 2007-Sept. 2010; Vice Chairman, 2005-2007; Executive Committee, 2005-2010; In-service Exam Co-Chairman, 2004; Director, 1999-present; Ad Hoc Oral Examination Committee, 1997-98
- American College of Chest Physicians member; member, Advisory Council for Cardiothoracic Surgery
- American College of Radiology Radiation Therapy Oversight Committee Lung Cancer
- American College of Surgeons member; Advisory Council for Cardiothoracic Surgery, 2007-2010
- American Council of Radiology member, Radiation Therapy Oversight Committee/Lung Cancer, 2007-present
- American Medical Association member
- American Thoracic Society, Committee on Pretreatment Evaluation of Lung Cancer, 1996
- *Annals of Thoracic Surgery* consultant
- General Thoracic Surgical Club, Executive Committee, 1994-97; Program Committee, 1997
- International Association for the Study of Lung Cancer member
- Joint Council for Thoracic Surgical Education Board of Directors (Aug. 2008-Jan. 2010); Integrated 6 Curriculum Committee (2009-present); Simulation Committee (2009-present); I-6 Assessment Committee (2009-present).
- Journal of Thoracic and Cardiovascular Surgery consultant
- National Thoracic Surgery Oncology Intergroup, Chairman, 1993-97
- National Cancer Institute GI Intergroup, 1991-2000; Lung Cancer Group, 1991-2000

Residency Review Committee for Thoracic Surgery, 2003-2007

Robert J. Ginsberg Clinical Trials Meeting, Program Director, 2002-present

SESATS VII Examination Committee – Thoracic Surgery Section, 1997

SESATS VI Examination Committee – Thoracic Surgery Section, 1994

- Society of Thoracic Surgeons: Council on Health Care Policies, 2007-present; Board of Directors, 2006-present; Co-chair, Task Force for STS University, 2005-present: Chair, Program Committee of Annual Meeting, 2004; Membership Committee, chairman, 1997; Ad Hoc Committee to Evaluate Lung Reduction Procedures, 1996; National Database Committee, 1996.
- Southern Thoracic Surgical Association Chair, Post Graduate Program Committee, 2011-present
- Thoracic Surgery Directors Association, Associate Director, 1997-2005; Senior Tour Training Program (Jan. 24-15, 2011).
- Thoracic Surgery Foundation for Research and Education, member, Board of Directors, 2008-present

Regional:

Eastern Cooperative Oncology Group: Thoracic Surgery Committee, 1987-2000, Committee Chairman, 1993-2000; GI Core Committee, 1994-2000

Local:

University of North Carolina:

Co-Director, Learning Institute of North Carolina (LINC), 2012-present

UNC Department of Surgery, Peer Review Committee, 2011-present

UNC Department of Surgery, Faculty Development Committee, 2007-present

- UNC Hospitals/Lineberger Cancer Research Center Member, Clinical Research Program, 2006-present
- UNC Hospitals/Lineberger Cancer Research Center Cyberknife Team, 2007-present
- North Carolina Cancer Hospital Executive Committee, 2006-present; Regional Strategies Working Group
- UNC Hospitals Co-Director, Multidisciplinary Thoracic Oncology Program, 2006present

Division of Cardiothoracic Surgery, UNC School of Medicine – Interviews for Cardiothoracic Surgery Residents – annually.

<u>University of Rochester:</u>

Rochester Academy of Medicine

Rochester General Hospital – Laser Usage Committee, 1987

Strong Memorial Hospital – Laser Usage Committee, 1987-2005

Upstate Society for Thoracic Surgeons

University of Rochester Medical Faculty Group – Practice Management Committee, Chairman; Steering Committee, member.

University of Rochester Medical Center – Case Management Committee, member.

University of Rochester Cancer Center: Cancer Center Implementation Team, member, 1996; Co-chairman, Lung Group, 1994-96; Co-chairman, Aerodigestive Clinical Research Group; Video Assisted Thoracic Surgery Study Group, member, 1992.

University of Rochester Medical Center – Case management committee, member.