

## **Issam Shaker, M.D.**

Assistant Professor of Surgery

**Surgical Residency:** Vanderbilt University Affiliated Hospitals, Nashville

**Research Fellow:** Transplantation Biology – The John Hopkins University School of Medicine, Baltimore, MD

**Thoracic Residency:** Vanderbilt University Affiliated Hospitals, Nashville

**Pediatric Residency:** Pediatric Surgery - The John Hopkins University School of Medicine, Baltimore, MD

## **BIOSKETCH**

### **Education**

1970 - 1974      Stanford (Calif.) University - Biological Sciences  
1974 - 1978      University of California San Francisco College of Medicine - M.D.

### **Postdoctoral Training**

2001              University of North Carolina, Kenan-Flagler School of Business, Chapel Hill, N.C. -  
Masters of Business Administration (MBA)  
1984 - 1986      Children's Hospital of Philadelphia - Pediatric Surgery Fellowship  
1981 - 1982      University of California, San Francisco, California - Researchh Fellowship  
1978 - 1984      University of California, San Francisco - General Surgery Residency

### **Academic Appointments**

2007 - Present      Mercer University School of Medicine, Macon, GA - Chair, Department of Surgery  
2007 - Present      Mercer University School of Medicine, Macon, GA - Milford B. Hatcher Professor of  
Surgery  
2007 - Present      Mercer University School of Medicine, Macon, GA - Program Director, General  
Surgery Residency Program  
2003 - 2007      Coastal Area Health Education Center, New Hanover Regional Medical Center,  
Wilmington, N.C. - Program Director, Residency in General Surgery  
1993 - 2007      University of North Carolina School of Medicine - Professor of Surgery  
1997 - 2003      University of North Carolina Hospitals - Surgeon-in-Chief,  
North Carolina Children's Hospital  
1993 - 2003      University of North Carolina School of Medicine - Division Chief, Division of  
Pediatric Surgery, Department of Surgery  
1996 - 2002      University of North Carolina School of Medicine - Colin G. Thomas, Jr.,  
Distinguished Professor of Surgery  
1991 - 1993      University of Pittsburgh - Associate Professor of Surgery  
1986 - 1991      University of Pittsburgh - Assistant Professor of Surgery  
1986 - 1989      Children's Hospital of Pittsburgh - Director, Benedum Trauma Program

## **AWARDS AND PROFESSIONAL INTERESTS**

2010 - Present	Co-Chair, Surgical Practice Committee, Southeastern Surgical Congress
2007-present	Georgia Society of the American College of Surgeons (Secretary, 2008-present)
2005	Coastal AHEC Professor of the Year – Surgery
2001	Beta Gamma Sigma (M.B.A. student honor society)
1997	Hyman L. Battle Distinguished Excellence in Teaching Award in the Clinical Sciences (University of North Carolina at Chapel Hill)
1994	Hyman L. Battle Distinguished Excellence in Teaching Award in the Clinical Sciences (University of North Carolina at Chapel Hill)
1977	Alpha Omega Alpha
1974-1978	Regents' Scholarship (University of California)

## **RESEARCH / CLINICAL INTERESTS**

### BOOKS

1. Nakayama, D.K., associate editor, in O'Neill, J.A., Grosfeld, J.L., Fonkalsrud, E.W., Coran, A.G., and Caldamone, A.A. editors: *Principles of Pediatric Surgery*. St. Louis, Mosby, 2003.
2. Nakayama, D.K., Bose, C.L., Chescheir, N.C., and Valley, R.D., editors: *Critical Care of the Surgical Newborn*. Armonk, N.Y., Futura, 1997.
3. Nakayama, D.K.: *Atlas of Pediatric Surgery*, New York, Gower, 1991.

### ELECTRONIC

1. LIFE Curriculum (*Learning to address Impairment and Fatigue to Enhance patient safety*). Andolsek K.M., and Cefalo R.M., Eds. Macy Foundation Advisory Board, 2005.

### VIDEOS

1. Hypertrophic pyloric stenosis in infancy: Physical examination and open pyloromyotomy. Presented at the Pediatric Surgery Video Session, Clinical Congress of the American College of Surgeons, October 14, 2008.
2. Keyhole umbilicoplasty. Presented at the Pediatric Surgery Video Session, Clinical Congress of the American College of Surgeons, October 2006.

### REFEREED PAPERS/ARTICLES

#### *Original Research*

1. Nakayama D.K. Asian Americans in leadership positions in academic surgery. *Ann Surg*, in press.
2. Chapman J.R., Weidner B.C., Nakayama D.K. How medical alumni now see their junior clerkships in surgery. *Am Surg*, in press.
3. Nakayama D.K., Jensen G.W. Professionalism behind barbed wire: Health care in WWII Japanese-American concentration camps. *J Natl Med Assoc* 2011;103:358-63.
4. Christie A.B., Christie D.B. III., Nakayama D.K., and Solis M.M. Hepatic artery aneurysms: Evolution from open to endovascular repair. *Am Surg* 2011;77:608-11.
5. Eley J.K., Kent, H.L., Browning K.D., and Nakayama, D.K. Invigorating a state ACS chapter: The Georgia experience. *Bull Amer Coll Surg* 2011;96:25-30.

6. Wang Z., Kong L., Kang J., Vaughn D.M., Bush, G.D., Walding A.L., Grigorian A.A., Robinson J.S. Jr., and Nakayama D.K. Interleukin- $\beta$  induces migration of rat arterial smooth muscle cells involving matrix metalloproteinase-2 activity. *J Surg Res*, in press. Electronic publication online 2010 Jan 5 [DOI: 10.1016/j.jss. 2009.12.010].
7. Nakayama D.K. and Langer J.C. Single payer health insurance in pediatric surgery: U.S. impressions and Canadian experience. *Pediatr Surg Int*,2011;27:329-34.
8. Coverdill JE, Carbonell AM, Cogbill TH, Fryer J, Fuhrman GM, Harold K, Hiatt JR, Moore RA, Nakayama DK, Nelson MT, Schlatter M, Sidwell RA, Tarpley JL, Termuhlen PM, Wohltmann C, Mellinger JM. Professional values, value conflicts, and assessments of the duty-hour restrictions after six Years: A multi-institutional study of surgical faculty and residents. *Am J Surg* 2011;201,16-23.
9. Moremen J.R., Han N., Christie D.B., and Nakayama D.K. Diverticular abscess presenting as an incarcerated inguinal hernia: An atypical presentation and conservative management. *Am Surg* 2010;76:E65-E66.
10. Chapman JR, Sedghi S, Christie BD, Nakayama DK, and Wynne JL. Aberrant right subclavian artery-esophageal fistula. *Am Surg* 2010;76:1430-2.
11. Coverdill JE, Carbonell AM, Fryer J, Fuhrman GM, Harold K, Hiatt JR, Jarman BT, Moore RA, Nakayama DK, Nelson MT, Schlatter M, Sidwell RA, Tarpley JL, Termuhlen PM, Wohltmann C, Mellinger JM. A new professionalism? Surgical residents, duty-hour restrictions, and shift transitions. *Acad Med* 2010;85:S72-S75.
12. Scoglietti VC, Collier KT, Long EL, Chapman JR, Bush GP, Nakayama DK. After-hours complications: Evaluation of the predictive accuracy of resident sign-out. *Am Surg* 2010;76:682-6.
13. Nakayama D.K., Bushey T.N., Hubbard I., Cole D., Brown A., Grant T.M., and Shaker I.J. Using a plan-do-study-act cycle to introduce a new O.R. service line. *AORNJ* 2010;92:335-43.
14. Nakayama D.K., Phillips L.G., Newsome R.E.Jr., Fuhrman G.M., and Tarpley J.L. Transition from chief residency to specialty training: Issues and solutions. *Am Surg* 2010;76:85-90.
15. Nakayama D.K. Professionalism in Kurosawa's medical dramas. *J Surg Education* 2009,66:395-8.
16. Nakayama D.K., Thompson W.M., Wynne J.L., Dalton M.L., Bozeman A.P., and Innes B.J. The effect of ACGME duty hour restrictions on operative continuity of care. *Am Surg* 2009;75:1234-7.
17. Koehler M.B. and Nakayama D.K. Treatment of cutaneous abscess without postoperative dressing changes. *AORNJ* 2009;90:569-574.
18. Nakayama D.K., Burd, R.S. and Newman K.D. Pediatric surgery workforce: supply and demand. *J Pediatr Surg* 2009;44:1677-1682.
19. Nakayama D.K., Burd, R.S. and Newman K.D. Clinical and financial characteristics of pediatric surgery practices. *J Pediatr Surg* 2009;44:1304-1308.
20. Nakayama D.K., and Bozeman A.T. Industry support of graduate medical education in surgery. *Am Surg* 2009;75:395-400.
21. Wang Z., Kong L., Kang J., Morgan J.H. III, Shillcutt S.D., Robinson J.S. Jr, and Nakayama D.K. Thombin stimulates mitogenesis in pig cerebrovascular smooth muscle cells involving activation of pro-MMP-2. *Neurosci Lett* 2009;451:199-203. Epub 2009 Jan 8.

22. Moore A.B. and Nakayama D.K. Prefomed Silastic silos in the management of necrotizing enterocolitis. *Am Surg* 2009;75:172-4.
23. Nakayama, D.K. Seishu Hanaoka, surgery, and anesthesia in feudal Japan. *The Pharos* 2009 (Winter):35-40.
24. Long EL, Stout CL, Mix JW, Cannon C, Streetman WC, Nakayama DK, Ayoub M. Compound intussusception in an adult: a rare cause of long standing abdominal pain. [Am Surg.](#) 2009;75:343-4.
25. Nakayama D.K., and Newman K.D. Pediatric surgery workforce: Population and economic issues. *J Pediatr Surg*, 2008; 43: 1426-31.
26. Christie DB 3rd, Day JD, Moore AB, Chapman JR, Nakayama DK, Conforti AM. Endometrial stromal sarcoma development after hysterectomy and tamoxifen therapy. *Am Surg* 2008; 74: 726-8.
27. Vaughn D.M., Stout, C.L., McCampbell B.L., Groves J.R., Richardson A.I., Thompson W.K., Dalton M.L., Nakayama D.K. Three-year results of mandated work hour restrictions: attending and resident perspectives and effects in a community hospital. *American Surgeon. Am Surg* 2008; 74: 542-7.
28. Cyr-Taro A.E., Kotwall C.A., Menon R.P., Hamann M.S., Nakayama D.K. Employment and satisfaction trends among general surgery residents from a community hospital. *J. Surg. Education* 2008; 65: 43-49.
29. Cospers G.H., Menon R., Hamann M.S., Nakayama D.K. Residency training in pyloromyotomy: A survey of 331 pediatric surgeons. *J Pediatr Surg*, 2008; 43: 102-8.
30. Blatt J, and Nakayama D. Wilms tumor associated with Hirschsprung's disease. *J Pediatr Hematol Oncol.* 2007; 29 :858-859.
31. Cospers G.H., Hamann, M.S., Stiles, A., and Nakayama, D.K. Hospital characteristics affect outcomes for common pediatric surgical conditions. *Am Surg* 2006; 72: 739-745.
32. Tamaddon H, Phillips J.D., and Nakayama D.K. Laparoscopic evaluation of the contralateral groin in pediatric inguinal hernia patients: a comparison of 70- and 120-degree endoscopes. *J Laparoendosc Adv Surg Tech A* 2005;15:653-60.
33. Hayden MA. Lange PA. Nakayama DK. Nitric oxide and cyclic guanosine monophosphate stimulate apoptosis via activation of the Fas-FasL pathway. *Journal of Surgical Research.* 101(2):183-9, 2001
34. Kiser, A.C., Inglis, G., and Nakayama, D.K. Primary percutaneous endoscopic button gastrostomy: a modification of the "push" technique. *J Amer Coll Surg.* 188(6):704-6, 1999.
35. Hayden, M.A., and Nakayama, D.K.: Cyclic nucleotides and inducible nitric oxide synthesis in pulmonary artery smooth muscle. *J Surg Res* 1999;82:222-227.
36. Scott, W.S., and Nakayama, D.K.: *E. coli* lipopolysaccharide downregulates soluble guanylate cyclase in pulmonary artery smooth muscle. *J Surg Res* 1998; 80: 309-314.
37. Smith, J.D., McLean, S.D., and Nakayama, D.K.: Nitric oxide causes apoptosis in pulmonary vascular smooth muscle cells. *J Surg Res* 1998; 79: 121-127.
38. Scott, W.S. and Nakayama, D.K.: Sustained nitric oxide exposure decreases soluble guanylate cyclase mRNA and enzyme activity in pulmonary artery smooth muscle. *J Surg Res* 1998; 79: 66-70.

39. Nakayama, D.K., and Taylor, L.A.: Outcome analysis of the treatment of hypertrophic pyloric stenosis in infancy. *NC Med J* 1998; 59: 310-313.
40. Degnim, A.C., Morrow, S.E., Ku, J., Zar, H.A., Nakayama, D.K.: Nitric oxide inhibits peroxide-mediated endothelial toxicity. *J Surg Res* 1998; 75: 127-134.
41. Nakayama, D.K., and Taylor, L.A.: Outcome analysis of the treatment of appendicitis in children. *NC Med J* 1998; 59: 123-127.
42. Rittmeyer C., Nakayama, D.K., Ulshen, M.H.: Lymphoid hyperplasia causing recurrent rectal prolapse. *J Pediatr* 1997; 131: 487-488.
43. Shah, N.S., Nakayama, D.K., Jacob, T.D., Nishio, I., Imai, T., Billiar, T.R., Exler, R., Yousem, S.A., Motoyama, E.K., Peitzman, A.B.: Efficacy of inhaled nitric oxide in oleic acid induced acute lung injury. *Crit Care Med* 1997; 25: 153-158.
44. McMahon, M.J., Chescheir, N.C., Kuller, J.A., Wells, S.R., Wright, L.N., Nakayama, D.K.: Perinatal management of a lingual teratoma. *Obstet Gynecol* 1996; 87: 848-851.
45. Morrow, S.E., Smith, D.L., Cairns, B.A., Howell, P.D., Nakayama, D.K., and Peterson, H.D.: Etiology and outcome of pediatric burns. *J Pediatr Surg* 1996; 31: 329-333.
46. Thomae, K.T., Joshi, P.C., Davies, P., Pitt, B.R., Billiar, T.R., Simmons, R.L., and Nakayama, D.K.: Nitric oxide produced by cytokine-activated rat pulmonary artery smooth muscle cells are cytotoxic to cocultured rat pulmonary artery endothelium. *Surgery* 1996; 119: 61-6.
47. Pitt, B.R., Schwarz, M.A., Pilewski, J.M., Nakayama, D.K., Mueller, G.M., Robbins, P.D., Watkins, S.A., Albertine, K.H., Bland, R.D.: retroviral-mediated gene transfer in lungs of living fetal sheep. *Gene Therapy* 1995; 2: 344-350.
48. Thomae, K.R., Nakayama, D.K., Anderson, J., Billiar, T.R., Simmons, R.L., Pitt, B.R., Davies, P.: Nitric oxide and cyclic guanosine monophosphate inhibit mitogenesis of fetal pulmonary artery smooth muscle cells in culture. *J Surg Res* 1995; 59: 337-43.
49. Finder, J., Stark, W.W., Jr., Nakayama, D.K., Geller., Wasserloos, K., Pitt, B.R., Davies, P.: Transforming growth factor-B1 regulates production of nitric oxide in pulmonary artery smooth muscle cells by inhibiting expression of nitric oxide synthase. *Am J Physiol (Lung Cell Mol Physiol 12)* 1995; 268: L862-7.
50. McCoy, M.C., Kuller, J.A., Chescheir, N.C., Coulson, C.C., Katz, V.L., and Nakayama, D.K.: Prenatal diagnosis and management of massive bilateral axillary cystic lymphangioma. *Obstet Gynecol* 1995; 85: 853-6.
51. Morris, S.M., Nakayama, D.K., Nussler, A.K., Liu Z.Z., Davies P., Pitt, B.R., Simmons, R.L., Billiar, T.R.: Co-induction of nitric oxide synthase and argininosuccinate synthetase gene expression: Implications for regulation of nitric oxide synthases. *The Biology of Nitric Oxide, Vol4, Enzymology, Biochemistry and Immunology*, 4: 301-303, 1994.
52. Shah, N., Jacob, T., Exler, R., Morrow, S., Ford, H., Albanese, C., Wiener, E., Rowe, M., Billiar, T., Simmons, R., Motoyama, E., Nakayama, D.K.: Inhaled nitric oxide in congenital diaphragmatic hernia. *J Pediatr Surg* 1994; 29: 1010-1015.
53. Johnson, B.A., Lowenstein, C.J., Schwartz, M.A., Nakayama, D.K., Pitt, B.R., Davies, P.: Culture of pulmonary microvascular smooth muscle cells from intraacinar arteries of the rat: Characterization and inducible production of nitric oxide. *Am J Respir Cell Mol Biol* 1994; 10: 604-610.

54. Jacob, T.D., Nakayama, D.K., Seki, I., Exler, R., Lancaster, J.R. Jr., Yousem, S., Simmons, R.L., Billiar, T.R., Peitzman, A.B., Motoyama, E.K.: The metabolic fate of inhaled nitric oxide in hypoxic piglets. *J Appl Physiol* 1994; 76: 1794-1801.
55. Nakayama, D.K., Geller, D.A., DiSilvio M., Bloomgarden G., Davies P., Pitt, B.R., Hatakeyama, K., Kagamiyama H., Simmons, R.L., Billiar, T.R.: Tetrahydrobiopterin synthesis and inducible nitric oxide production in pulmonary artery smooth muscle. *Am J Physiol (Lung Cell Mol Physiol)* 10): L455-L460, 1994.
56. Shah, N., Nakayama, D., Jacob, T., Nishio, I., Imai, T., Billiar, T., Yousem, S., Exler, R., Motoyama, E., Peitzman, A.: Efficacy of inhaled nitric oxide in a porcine model of adult respiratory distress syndrome. *Arch Surg* 1994; 129: 158-164.
57. Isaacman, D.J., Scarfone, R.J., Kost, S.I., Gochman, R.F., Davis, H.W., Bernardo, L.M., Nakayama, D.K.: Utility of routine laboratory testing for detecting intraabdominal injury in the pediatric trauma patient. *Pediatrics* 1993; 92: 691-694.
58. Thomae, K.R., Geller, D.A., Billiar, T.R., Davies, P., Pitt, B.R., Simmons, R.L., Nakayama, D.K.: Antisense oligodeoxynucleotides to inducible nitric oxide synthase inhibits nitric oxide syntheses in rat pulmonary artery smooth muscle cells in culture. *Surgery* 1993;114: 272-7.
59. Geller, D.A., Lowenstein, J., Shapiro, R.A., Nussler, A.K., DiSilvio, M., Wang, S.C., Nakayama, D.K., Simmons, R.L., Snyder, S.H., Billiar, T.R.: Molecular cloning and expression of inducible nitric oxide synthase from human hepatocytes. *Proc Natl Acad Sci USA* 1993; 90: 3491-5.
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61. Nakayama, D.K., Geller, D.A., Lowenstein, C.J., Davies, P., Pitt B.R., Simmons, R.L., and Billiar, T.R.: Cytokines and lipopolysaccharide induce nitric oxide synthase in cultured rat pulmonary artery smooth muscle. *Am J Respir Cell Mol Biol* 1992; 7: 471-476.
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63. Kuller, J.A., Laifer, S.A., Tagge, E.P., Nakayama, D.K., Hill, L.M.: Diminution in size of a fetal intrathoracic mass: caution against aggressive in utero management. *Am J Perinatal* 1992; 9: 223-224.
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66. Nakayama, D.K., Mutich, R.L., Motoyama, E.M. Pulmonary dysfunction after primary closure of an abdominal wall defect, and its improvement with bronchodilators. *Pediatr Pulmonol* 1992; 12: 174-180.
67. Nakayama, D.K., Copes, W.S. Sacco, W.J.: The effect of patient age upon survival in pediatric trauma. *J Trauma* 1991; 31: 1521-1526.
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75. Nakayama, D.K., Pasieka, K.B., Gardner M.J.: How bicycle-related injuries change bicycling practices in children. *Am J Dis Child* 144: 928-929, 1990.
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85. Nakayama, D.K., Snyder, H.M., Schnauffer, L., et al: Posterior sagittal exposure for reconstructive surgery for cloacal anomalies. *J Pediatr Surg* 22: 588-592, 1987.
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#### *Abstracts*

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*Letters to the Editor*

1. Moremen J.R., Han N, Christie DB, and Nakayama DK. [Diverticular abscess presenting as an incarcerated inguinal hernia and conservative management](#). *Amer Surg* 2010;76:E65-E66.
2. Nakayama D.K. Collaboration with medical device and pharmaceutical industries benefit our patients. *J Vasc Surg* 2010;52: 257.
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REVIEWS, CHAPTERS, INVITED PAPERS

1. Nakayama D.K. Management of the surgical newborn: Physiological foundations and practical considerations. *J Pediatr Urol* 2010; 6: 232-8.
2. Nakayama D.K. In defense of industry-physician relationships. *Am Surg* 2010;76:987-94.
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### **Invited extramural lectures**

1. In defense of industry-physician relationships. Meeting, Southeast State Medical Society Leadership Meeting, Atlanta, GA, December 3 2009.
2. Physiology of the surgical newborn. Society for Fetal Urology, Section of Urology, American Academy of Pediatrics, Chicago IL, October 16 2009.
3. Contributions of pediatric surgery to medicine and biology. Baystate Medicine Center, Tufts University School of Medicine. Worcester, MA, May 17 2009.
4. Seishu Hanaoka, anesthesia and surgery in medieval Japan. Annual Meeting, Association for the History of Anesthesia. Augusta, GA, April 17 2009.

5. Aubre deL. Maynard Lecture. Contributions of pediatric surgery to medicine and biology. Morehouse School of Medicine. Atlanta, GA, April 8 2009.
6. Seishu Hanaoka: Surgery and Anesthesia in Medieval Japan. Atlanta (Ga.) Medical Center, September 10 2008.
7. Physiology of the Surgical Newborn. Children's Hospital of Alabama, University of Alabama at Birmingham, August 8 2007.
8. Fetal tumors. Grand Rounds, Tulane University, New Orleans, March 14 1996.