

BIOGRAPHICAL SKETCH

NAME Sandhya Anand Lagoo-Deenadayalan	POSITION TITLE Associate Professor of Surgery with tenure
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EDUCATION/TRAINING			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY
B.J. Med.College and Univ.of Poona,India	M.B.B.S.	1981	Medicine
B.J. Med.College and Univ.of Poona,India	M.S. (Surg.)	1985	Gen. Surgery
M.D. Anderson Hosp.,Univ.of Texas, Houston, Texas.	Ph.D.	1990	Tumor Biology
American Board of Surgery, Philadelphia, PA	(Part 1&2)	2000/2001	Gen. Surgery
Duke University, Durham, NC	-	2000-2002	Minimally Invasive Surgery Fellowship

Positions and Honors

Professional Experience:

- Jan. 1982 - Dec. 1984 Resident in Surgery
Ruby Hall Clinic and Poona Medical Foundation, Pune, India.
- June 1985 - Aug. 1986 Lecturer in Surgery
Ruby Hall Clinic and Poona Medical Foundation, Pune, India.
- Sept.1986 - Aug. 1990 Graduate Research Assistant, Department of Tumor Biology,
M. D. Anderson Hospital, Houston, TX 77030.
- Sept.1990 - Feb. 1992 Transplantation Fellow, Department of Surgery,
University of Alabama at Birmingham, Birmingham, AL 35294.
- Mar. 1992 - Aug.1993 Research Assistant Professor, Department of Surgery,
University of Alabama at Birmingham, Birmingham, AL 35294
- Sept.1993 - June 1995 Assistant Professor (Research), Department of Surgery,
University of Mississippi Medical Center, Jackson, MS 39216
- July 1995 - June 1999 Resident in General Surgery, Department of Surgery,
University of Mississippi Medical Center, Jackson, MS 39216
- July 1999 - June 2000 Chief Resident in General Surgery, Department of Surgery,
University of Mississippi Medical Center, Jackson, MS 39216.
- July 2000 - June 2002 Endosurgery Fellow, Duke University, Durham, NC 27710
- July 2002 - June 2009 Assistant Professor of Surgery, Duke University, Durham, NC 27710
- July 2004 - present Senior Fellow, Center for Aging and Human Development,
Division of Geriatric Medicine, Dept. of Medicine, DUMC
- June 2009 - present Affiliate, Duke Global Health Institute, Durham, NC, 27710
- July 2009 - present Associate Professor of Surgery, Duke University, Durham, NC 27710
With tenure

Awards and Honors

- 1973 National Scholarship
- 2000 Best Teaching Resident Award

Other Experience and Professional Memberships

- 2000-Present Member, American College of Surgeons
- 2001-Present Member Society of American Gastrointestinal Endoscopic Surgeons
- 2002-Present Member American Geriatric Society
- 2005-Present Research Committee, Association of Women Surgeons
- 2005-Present Shock Society
- 2006-Present Geriatric Task Force, American College of Surgeon
- 2007-Present Association of Women Surgeons
- 2007-Present Society of Leukocyte Biology
- 2009-Present International Society of Surgery
- 2010-Present Global Initiative for Emergency and Essential Surgical Care

Peer-reviewed Publications

1. Andrew S. Barbas, John C. Haney, Brandon V. Henry, Mitchell T. Heflin, **Sandhya A. Lagoo**: Development and implementation of a formalized geriatric surgery curriculum for general surgery residents *Gerontology & Geriatrics Education*. In Press.
2. Tong J Gan, MD, Pierre Diemunsch, MD, PhD, Ashraf S. Habib, MB, FRCA, Anthony Kovac, MD, Peter Kranke, MD, PhD, MBA, Tricia A. Meyer, PharmD, MS, FASHP, Mehernoor Watcha, MD, Frances Chung, FRCPC, Shane Angus, AA-C, M.S, Christian C. Apfel, MD, PhD, Sergio D. Bergese, MD, Keith A. Candiotti, MD, Matthew TV Chan, MB BS, FANZCA, Peter J. Davis, MD, Vallire D. Hooper, PhD, RN, CPAN, FAAN, **Sandhya Lagoo-Deenadayalan**, MD, PhD, Paul Myles, MD, Greg Nezat, CRNA, PhD, Beverly K. Philip, MD, Martin R. Tramer, MD, DPhil. Consensus Guidelines for the Management of Postoperative Nausea and Vomiting. *Anesthesia & Analgesia*. 2014;118:85–113.
3. Paul J Speicher, **Sandhya A Lagoo-Deenadayalan**, Anthony N Galanos, Theodore N Pappas, and John E Scarborough. Expectations and outcomes in patients with do-not-resuscitate orders undergoing emergent surgical management of bowel obstruction. *JAMA Surg*. 2013 Jan; 148(1):23-8.
4. Lidsky ME, Marosky-Thacker JK, **Lagoo-Deenadayalan SA**, Scarborough JE. Advanced age is an independent predictor for increased morbidity and mortality after emergent diverticulitis surgery. *Surgery* 2012 Sep; 152(3):465-72.
5. Cohen RR, **Lagoo-Deenadayalan SA**, Heflin MT, Sloane R, Eisen I, Thacker JM, Whitson HE. Exploring predictors of complication in older surgical patients: a deficit accumulation index and the Braden scale. *J Am Geriatr Soc* 2012 Sep; 60(9):1609-15.
6. Scarborough JE, Pappas TN, Bennett KM, **Lagoo-Deenadayalan S**. Failure-to-pursue rescue: explaining excess mortality in elderly emergency general surgical patients with preexisting “do-not-resuscitate” orders. *Ann Surg*. 2012 Sep; 256(3):453-61.
7. Barbas AS, Turley RS, Ceppa EP, Reddy SK, MD2, Blazer DG, Clary BM, MD, Pappas TN, MD, Tyler DS, White RR, MD, **Lagoo SA**. Comparison of the use of multi-modality therapy and outcomes between young and elderly patients undergoing surgical resection of pancreatic cancer. *Journal of the American Geriatric Society*, 2012 Feb;60(2):344-50
8. Reddy SK, Barbas AS, Turley RS, Gamblin TC, Geller DA, Marsh JW, Tsung A, Clary BM, **Lagoo-Deenadayalan SA**. Major liver resection in elderly patients: a multi-institutional analysis. *J Am Coll Surg* 2011; May; 212(5):787-95.

9. Zenilman ME, Chow WB, Ko CY, Ibrahim AM, Makary MA, **Lagoo-Deenadayalan S**, Dardik A, Boyd CA, Riall TS, Sosa JA, Tummel E, Gould LJ, Segev DL, Berger JC. New developments in geriatric surgery. *Curr Probl Surg*. 2011 Oct;48(10):670-754.
10. Hadeed JG, Walsh MD, Pappas TN, Pestana A, Tyler DS, Levinson H, Mantyh C, Jacobs DO, **Lagoo-Deenadayalan SA**, Erdmann D. Complex abdominal wall hernias: a new classification system and approach to management based on review of 133 consecutive patients. *Ann Plast Surg* 2011 May; 66(5):497-503.
11. Pan H, Ding E, Mai H, Datto M, Lagoo A, **Lagoo-Deenadayalan SA**. SMAD4 is required for development of maximal endotoxin tolerance. *Journal of Immunology* 2010 May 15; 184 (10):5502-9.
12. Li Y, Howell, EA, Lagoo AS, Kuchibhata M, Pan H, Cohen HJ, **Lagoo SA**. Differential gene expression of IRAK-1 and IRAK-M in peripheral blood mononuclear cells of young and aged rats following preconditioning with endotoxin. *Shock*, 2009, 31(1):55-63.
13. Ali NA, Eubanks WS, Stamler JS, Gow AJ, **Lagoo-Deenadayalan SA**, Villegas L, El-Moalem HE, Reynolds JD. A method to attenuate pneumoperitoneum-induced reductions in splanchnic blood flow. *Ann of Surgery* 2005; 241(2):256-61.
14. Clary EM, Manson RJ, **Lagoo S**, Pappas TN, Eubanks S. Percutaneous cervical oesophageal cannulation in the dog for performance of prolonged oesophageal pH and manometric studies. *Lab Animal* 2005;39(4):435-41.
15. Villegas L, **Lagoo-Deenadayalan SA**, Schwartz T, Athar N, Greene R, Eubanks WS. Robotically Assisted Laparoscopic Roux-en-Y Hepatico-jejunostomy. *JSLs* 2004;8(3):239-44.
16. Kalady MF, McKinlay R, Olson JA, Pinheiro J, **Lagoo S**, Park A, Eubanks S. Laparoscopic Adrenalectomy for Pheochromocytoma: A comparison to aldosteronoma and incidentaloma. *Surgical Endosc* 2004;18(4):621-5.
17. **Lagoo SA**, Pappas TN. Laparoscopic repair for perforated ulcer. *Ann.Surg.*2002, Mar. 235(3): 320-321
18. **Lagoo SA**, McMahan RL, Kakihara M, Pappas TN, Eubanks S. The sixth decision regarding the perforated duodenal ulcer. *J Society of Laparoendos Surg* 2002;6:359-368.
19. Villegas L, Garcia-Oria M, McRae R, McMahan R, **Lagoo S**, Clary EM, Eubanks S. Three-dimensional computerized axial manometry (CAM) of the canine lower esophageal sphincter with and without fundoplication. *Surg Endos* 2001; 15:S170.
20. Bennett W A, **Lagoo-Deenadayalan SA**, Whitworth NS, Stopple JA, Barber WH, Hale E, Brackin MN, Cowan BD. First trimester human chorionic villi express both immunoregulatory and inflammatory cytokines: a role for interleukin-10 in regulating the cytokine network of pregnancy. *Am J Reproductive Immunol* 1999; 41:70-78.
21. Rinehart BK, Terrone DA, **Lagoo-Deenadayalan S**, Barber WH, Hale EA, Martin JN, Jr, Bennett WA. Expression of the placental cytokines tumor necrosis factor alpha, interleukin 1 beta, and interleukin 10 is increased in preeclampsia. *Am J Obstet Gynecol* 1999;181:915-20.
22. Bennett WA, **Lagoo-Deenadayalan SA**, Stopple JA, Barber WH, Hale E, Brackin MN, Cowan BD. Cytokine expression by first-trimester human Chorionic villi. *Am J Reproductive Immunol* 1998;40:309-318.
23. Lorenz HM. Lagoo AS, **Lagoo-Deenadayalan SA**, Kalden JR, Hardy KJ. Epitope-specific signaling through CD45 on T-lymphocytes leads to cAMP synthesis in monocytes after ICAM-1 dependent cellular interaction. *Eur J Immunol* 1998; 28:2300-2310.
24. Bennett WA, **Lagoo-Deenadayalan S**, Whitworth NS, Brackin MN, Hale E, Cowan BD. Expression and production of interleukin-10 by human trophoblast: relationship to pregnancy immunotolerance. *Early Pregnancy*. 1997 Sep;3(3):190-8.
25. Chakravarti B, **Lagoo-Deenadayalan S**, Parker JS, Whitfield DR, Lagoo A, Chakravarti DN. *In vivo* molecular analysis of cytokines in a murine model of ocular onchocerciasis. I. Up-regulation of IL-4 and IL-5 mRNAs and not IL-2 and IFN gamma mRNAs in the cornea due to experimental interstitial keratitis. *Immunol Lett*. 1996 Dec 1;54(1):59-64.

26. Bennett WA, **Lagoo-Deenadayalan S**, Brackin MN, Hale E, Cowan BD. Cytokine expression by models of human trophoblast as assessed by a semiquantitative reverse transcription-polymerase chain reaction technique. *Am J Reprod Immunol*. 1996 Nov;36(5):285-94.
27. Lagoo AS, George JF, Naftel DC, Griffin AK, Kirklin JK, **Lagoo-Deenadayalan S**, Hardy KJ, Savunen T, McGiffin DC. Semiquantitative measurement of cytokine messenger RNA in endomyocardium and peripheral blood mononuclear cells from human heart transplant recipients. *J Heart Lung Transplant*. 1996 Feb;15(2):206-17.
28. **Lagoo-Deenadayalan SA**, Lagoo AS, Lemons JA, Lorenz HM, Bass JD, McDaniel DO, Hardy KJ, Barber WH. Donor-specific bone marrow cells suppress lymphocyte reactivity to donor antigens and differentially modulate Th1 and Th2 cytokine gene expression in the responder cell population. *Transplantation Immunology* 1995;3(2): 124-34.
29. Hauser CJ, **Lagoo-Deenadayalan SA**, Lagoo AS, Hale E, Hardy KJ, Barber WH, Bass JD, Poole GV. TNF- α gene expression by human peritoneal macrophages is suppressed by extra-abdominal trauma. *Arch Surg* 1995;130:1186-1191.
30. Hauser CJ, **Lagoo-Deenadayalan SA**, Lagoo AS, Hale E, Hardy KJ, Barber WH, Bass JD, Poole GV. Human peripheral mononuclear cells do not show pro-inflammatory patterns of cytokine transcription in early trauma. *Shock* 1995;4:247-250.
31. Beagley KW, K. Fujihashi, Lagoo AS, **Lagoo-Deenadayalan SA**, Black CA, Murray AM, Sharmanov AT, Yamamoto M, McGhee JR, Elson CE, Kiyono H. Differences in intraepithelial lymphocyte T cell subsets isolated from murine small versus large intestine. *J Immunol* 1995;154:5611-5619.
32. Kriegsmann J, Keyszer GM, Geiler T, Lagoo AS, **Lagoo-Deenadayalan S**, Gay RE, Gay S. Expression of E-selectin messenger RNA and protein in rheumatoid arthritis. *Arthritis Rheum*. 1995 Jun;38(6):750-4.
33. Lagoo, A. S., J. H. Eldridge, **S. A. Lagoo-Deenadayalan**, C. A. Black, B. U. Ridwan, K. J. Hardy, J. R. McGhee, and K. W. Beagley. Peyer's Patch CD8 $_{+}$ Memory T Cells Secrete T Helper Type 1 and Type 2 Cytokines and Provide Help for Immunoglobulin Secretion. *Eur J Immunol* 1994;24:3087-3092.
34. McDaniel DO, Naftilan J, Hulvey K, Shaneyfelt S, Lemons JA, **Lagoo-Deenadayalan S**, Hudson S, Diethelm AG, Barber WH. Peripheral blood chimerism in renal allograft recipients transfused with donor bone marrow. *Transplantation*. 1994 Mar 27;57(6):852-6.
35. Lagoo AS, **Lagoo-Deenadayalan S**, Lorenz HM, Byrne J, Barber WH, Hardy KJ. IL-2, IL-4, and IFN-gamma gene expression versus secretion in superantigen-activated T cells. Distinct requirement for costimulatory signals through adhesion molecules. *J Immunol*. 1994 Feb 15;152(4):1641-52.
36. **Lagoo-Deenadayalan SA**, A. S. Lagoo AS, Barber WH, Hardy KJ. A Standardized approach to PCR-based semiquantitative analysis of multiple cytokine gene transcripts from small cell samples. *Lymphokine and Cytokine Res* 1993;12:59-67.
37. **Lagoo-Deenadayalan SA**, Lagoo AS, Hardy KJ, Grimm EA. Tumor recognition and lytic competence of IL-2 activated lymphocytes: regulation of both antibody-independent and -dependent cellular cytotoxicity via P75 IL-2 receptor. *Lymphokine and Cytokine Res* 1992;11:207-213.

Research Support

Ongoing Research Support

1. CRIT Lagoo (Co-PI) Chief Resident \$ 100,000 7/2012 -
Funding Immersion Training 6/2014
2. The American Geriatric Society/John A. Hartford Foundation Project
Lagoo (PI) 7/1/2008 – 6/30/2014
Geriatrics for Specialists Initiative: The goal is to educate surgery residents about care of
the geriatric patient and encourage clinical geriatric research.

Completed Research Support

1. Dennis Jahnigen Foundation Grant, American Geriatric Society.
Lagoo(PI) 7/1/2002 - 6/30/2005
Effect of Aging on the Immune Response to Surgical Stress
2. 5R21AG024208-02
Lagoo (PI) 7/1/2007 - 6/30/2010
Aging and Immune Response in Sepsis: The project was designed to evaluate the cell
signaling pathways in endotoxin tolerance and the occurrence of tolerance in aged animals.