

Mark Steven Barlow, M.D.

Current Practice

Private practice in Houston, Texas with operative and surgical privileges at two area community hospitals and two area ambulatory surgery centers. Clinical assistant professor at the University of Texas Medical Branch, involved in resident training.

Hospital/Surgery Center Affiliations

Houston Methodist Clear Lake Hospital (Houston, TX)

Active Plastic Surgery Staff with full operative and admitting privileges, 2005
Past Chair of the Department of Surgery
Past Secretary of the Medical Staff

Clear Lake Regional Medical Center (Webster, TX)

Active Plastic Surgery Staff with full operative and admitting privileges, 2005
Section Chief for Plastic Surgery

Houston Methodist Ambulatory Surgery Center (Houston, TX)

Full privileges for outpatient surgery, 2005

PS Surgery Center (Houston, TX)

Full privileges for outpatient surgery, 2021

Postgraduate Training

University of Texas Medical Branch (Galveston, TX)

Resident in integrated plastic surgery program. Administrative Chief Resident in Plastic Surgery 2004-2005.
Residency completed June 2005.
Surgical internship completed June 2001.

Education

University of Texas at Medical School at Houston (Houston, TX)

MD awarded June 2000.

Massachusetts Institute of Technology (Cambridge, MA)

Doctoral program in Department of Materials Science and Engineering. Research focused on the combination of a collagen-based dermal equivalent with cultured keratinocytes for skin regeneration. All grafting experiments were performed in a porcine model. In addition, computer modeling of cutaneous heat transfer was conducted with a Cray XMP supercomputer using a finite element program to predict thermal injury.

University of Colorado (Boulder, CO)

Doctoral program in Aerospace Engineering. Research focused on computer modeling of space structures and design of a high-bandwidth actuator for precision control of space structures.

Massachusetts Institute of Technology (Cambridge, MA)

SM (Master's Degree) in Aeronautics and Astronautics awarded February 1992.
Thesis title: "Modeling and Ground Modal Identification of Space Structures."

University of Texas (Austin, TX)

BS with Honors in Aerospace Engineering awarded May 1989.

Honors and Scholarships

NASA Space Flight Awareness Award for Shuttle-Mir Phase 0, 1999

Environmental Awareness Scholarship (UTMSH), 1998

NASA Award for Scientific Achievement (MIT), 1991

NASA Group Award for Outstanding Performance and Achievement (MIT), 1991

Nominated for the Student Leadership Award of the Ex-Students' Association (UT), 1989

Engineering Foundation Scholarship (UT), 1988-1989

Friends of Alec Scholarship (UT), 1987-1988

Earnest and Virginia Cockrell Scholarship (UT), 1985-1987

Dean's List (UT), 1985-1989

Honor Societies

Sigma Xi

National Scientific Honor Society, 1991

Curriculum Vitae: Mark Steven Barlow, M.D.

Sigma Gamma Tau

Tau Beta Pi

Golden Key

Outstanding College Students of America

Alpha Lambda Delta

National Aerospace Honor Society, 1988

National Engineering Honor Society, 1987

National Honor Society, 1986

National Honor Society, 1986

National Freshman Honor Society, 1986

Engineering Experience

Dynacs Engineering (Houston, TX)

February 1997 – June 2000

Position: Structural Dynamics Engineer

Part-time engineering support for International Space Station with emphasis on structural modeling and environment prediction. Programming includes C, FORTRAN, NASTRAN and Matlab. Time commitment averages 10 hours per week.

Northrop-Grumman (Houston, TX)

September 1994 - June 1996

Position: Structural Dynamics Engineer

Responsible for NASTRAN analyses to support Space Station Microgravity AIT including eigensolutions, transient time simulations and controlled articulation simulations (both open- and closed-loop) using NASTRAN. Contributed to novel fluid dynamics simulations for laboratory and radiator fluid loops to assess their impact on microgravity requirements.

Massachusetts Institute of Technology (Cambridge, MA)

September 1992 - November 1992

Position: Engineering Consultant

Responsible for design and computer analysis of components for a variable-geometry wing to be tested in the subsonic wind tunnel at NASA Langley. Structural modeling performed with ADINA on M.I.T.'s Cray.

Space Services of America, Inc. (Houston, TX)

Summers 1988, 1989

Position: Engineering Intern, Staff Engineer

Responsibilities included structural analysis and vehicular development of small launch vehicles. Due to the small size of this company, duties were varied and ranged from propulsion analyses to structural design.

Publications

Patrick CW, Xheng B, Wu X, Gurtner G, Barlow M, Kountz C, Chang D, Schmidt M, Evans GRD. "Muristerone A-Induced Nerve Growth Factor Release from Genetically Engineered Human Dermal Fibroblasts for Peripheral Nerve Tissue Engineering." *Tissue Eng* 2001 Jun;7(3):303-311.

Orgill DP, Butler C, Regan JF, Barlow MS, Yannas IV, Compton CC. "Vascularized collagen-glycosaminoglycan matrix provides a dermal substrate and improves take of cultured epithelial autografts." *Plast Reconstr Surg* 1998 Aug;102(2):423-9.

Orgill DP, Solari MG, Barlow MS, O'Connor NE. "A finite-element model predicts thermal damage in cutaneous contact burns." *J Burn Car Rehabil* 1998 May-Jun;19(3):203-9.

Crawley EF, Barlow MS, van Schoor MC, Masters B, Bicos AS. "Measurement of the modal parameters of a space structure in zero gravity." *AIAA Journal of Guidance, Control, and Dynamics*, May-June, 1995, pp. 385-394.

Crawley EF, Barlow MS, van Schoor MC. "Variation in the modal parameters of space structures." *AIAA Journal of Spacecraft and Rockets*, 1994.

Doebbling SW, Hemez FM, Barlow MS, Peterson LD, Farhat C. "Selection of experimental modal data sets for damage detection via model update." *Proceedings of the 34th AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference*, La Jolla, CA, April, 1993.

Bicos AS, Crawley EF, Barlow MS, van Schoor MC, Masters B. "Modal parameters of space Structures in 1g and 0g." *Proceedings of the Aerospace Design Conference*, AIAA 93-1115, February, 1993.

Doebbling SW, Hemez FM, Barlow MS, Peterson LD, Farhat C. "Damage detection in a suspended scale model truss via model update." *Proceedings of the 11th International Modal Analysis Conference*, Kissimmee, FL, February, 1993.

Crawley EF, Barlow MS, van Schoor MC. "Variation in the modal parameters of space structures." *AIAA Paper No. 92-2209*, presented at the 33rd AIAA/ASME/ASCE/AHS Structures, Structural Dynamics and Materials Conference, Dallas, TX, April, 1992.

Barlow MS, Crawley EF. "The dynamics of deployable truss structures in zero-gravity: the MODE STA results." *Space Engineering Research Center Report No. 1-92*, January, 1992.

Presented Abstracts

Barlow MS, Patel K, Snyder N, Zhao J, Hegggers JP, Gould LJ, Phillips LG. "Effect of lavage volume on bacterial count reduction in contaminated wounds." Presented at the Plastic Surgery Research Council 49th Annual Meeting, June, 2004.

Curriculum Vitae: Mark Steven Barlow, M.D.

Barlow MS, Ritterbush LS, Butler CE, Compton CC, Yannas IV, Orgill DP. "Treatment of full-thickness wounds with a collagen-glycosaminoglycan matrix combined with cultured autologous keratinocytes." Presented at the American Burn Association Annual Meeting, April, 1994.

Butler CE, Barlow MS, Ritterbush LS, Yannas IV, Compton CC, Orgill DP. "Full-thickness porcine wounds utilize a keratinocyte-seeded collagen-GAG membrane to form a bilayered differentiated skin." Presented at the Plastic Surgery Research Council 39th Annual Meeting, June, 1994.

Crawley EF, Barlow MS, van Schoor MC, Masters B, Bicos AS. "Zero-gravity measurement of the modal parameters of space structures." Presented at the 43rd Congress of the International Astronautical Federation, Washington, D.C., August, 1992.

van Schoor MC, Webster M, Barlow MS, Crawley EF. "The on-orbit identification of nonlinear systems." Presented at the 2nd USAF/NASA Workshop on System Identification and Health Monitoring of Precision Space Structures, Pasadena, CA, March, 1990.

Societies and Associations

American Society of Plastic Surgeons, 2005-present

Diplomate of the American Board of Plastic Surgery, 2007 with recertification in 2017

Houston Society of Plastic Surgeons, 2005-present

American Medical Association, 1997-2010

Texas Medical Association, 1997-present

Resident member: Council on Legislation (2003-2005), Committee on Health Service Organizations (2004-2005), Committee on Educational Scholarship & Loans (2004-2005)

Galveston County Medical Association, 2000-2005

Harris County Medical Association, 1997-2000,2005-present

American Medical Students Association, 1997

Experimental Aircraft Association, 1988, 2007-present

Interests

Flying, experimental aircraft, model aircraft, tennis, reading