TRANSACTIONS

AMERICAN LARYNGOLOGICAL ASSOCIATION

2008

VOLUME ONE HUNDRED TWENTY-NINTH

"DOCENDO DISCIMUS"

ONE HUNDRED TWENTY-NINTH ANNUAL MEETING

JW MARRIOTT, GRAND LAKES – ORLANDO

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C. GAELYN GARRETT, MD, EDITOR

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MINUTES OF THE EXECUTIVE SESSIONS

REPORT OF THE SECRETARY

The membership through prior to the May 2008 election included 129 Active members, 63 Emeriti members, 50 Corresponding members, 4 Honorary members, and 5 Associate members, for a total membership of 251 Fellows.

Drs. William B. Armstrong, Richard Hayden, Natasha Mirza, Vanessa Schweitzer, and Dana M. Thompson were elected to Active Fellowship; Dr. David E. Vokes was elected to Corresponding Fellowship and Drs. Edward Applebaum was elevated to Emeritus Status

After election of the nominees, the 2008 roster 132 Active members, 68 Emeriti members, 49 Corresponding members, 5 Honorary members, and Associate members, for a total membership of 259 Fellows.

These totals also reflect we were notified that 8 members are deceased prior to this report.

This first year that the Association inducted it inaugural category of Post-Graduate Members, Drs., Joel Blumin, Edward Damrose, J. David Garnett, Nazaneen Grant, Michal M. Johns II, Priya Krishna, Tanya Meyer, Catherine Rees, Libby Smith, and Phillip Song.

Respectfully submitted,
Marvin P. Fried, MD
Secretary

REPORT OF THE TREASURER

The Treasurer's report and financial statements were prepared by the ACS. The Treasurer stated that the relationship with the ACS continues to be successful

The dues statements for 2009 will be mailed in October. There is a number of fellows who are still delinquent so communication continues to bring those dues current. ACS separated the operating budget from the investment budget. We continue to look at ways in which operating expenses may be reduced. One has been the continuation of having the Winter Council Meeting via teleconference. Dr. Benninger suggested the Council continue to seek suggestions of increasing revenues from joint venture and or established a fund, as Dr. McGuirt's committee proposed last year. Dr. Crumley volunteered to assist in spearheading investment opportunities among the Fellowship .

Respectfully submitted,
Michael S. Benninger, MD
Treasurer

REPORT OF THE HISTORIAN-EDITOR

Transactions

The 2006 Transactions have been uploaded on the website and positive feedback pertaining to having access to electronic copies continues from Fellows. Each year that we provide accessibility of the Transactions, a savings of $8500 plus postage is realized. Unfortunately, we still experience delays in obtaining materials for inclusion in the 2007 Transactions. Again, this year, requests were made to all speakers to provide the administrator with a copy, preferably electronic, prior to the meeting. It is anticipated that the 2007 Transactions will be submitted to our webmaster by the end of May.

ALA Website

Again,this year, the traffic on the website continues to increase. During the last quarter of 2007 and the first quarter of 2008, there was an average of 1,028.65 hits per day. An average of 251.56 persons visited the site daily and spent 2.5 minutes logged on. There are, however, issues regarding the management of the site. There has been ongoing discussion with the webmaster regarding two action items from the 20007 Winter Council Meeting: (1) provide availability for inquiries on member locations for visitors who may seek a physician in a certain location and (2) to obtain data on which sites are visited the most; however, we have not been able to implement either due to the limitations of the service provider. It is our belief that the site is limited in what information can be uploaded and how visitors are directed to information. Therefore, it is the recommendation of the Editor/Historian and the Administrator that we should explore changing webmasters once the current contract expires.

Finally, Maxine continues to receive requests from fellows to update and add fellows' email addresses in the directory. We continue to encourage each fellow to review his/her member file on the site and update the information. We accomplished one of our goals by increasing the number on the distribution list which will allow information to be circulated more efficiently and cost effectively through email.

ALA Fellows Census

We were notified of the deaths of several fellows during our Winter Council meeting, including Emerti Fellows, Dr. Douglas Bryce, who passed on March 10, 2008 and Dr. Brian F. McCabe who passed on October 7, 2007 and Corresponding Fellow, Henry Shaw who passed on August 1, 2007.

Respectfully submitted,
C. Gaelyn Garrett, MD
Historian-Editor

RECIPIENTS OF THE DE ROALDES AWARD

1928 Chevalier L. Jackson
1931 D. Bryson Delavan
1934 Harris P. Mosher
1937 Lee Wallace Dean
1943 Ralph A. Fenton
1949 George M. Coates
1951 Arthur W. Proetz
1954 Louis H. Clerf
1959 Albert C. Furstenberg
1960 Dean M. Lierle
1961 Frederick T. Hill
1966 Paul H. Holinger
1970 Francis E. LeJeune
1973 Lawrence R. Boies
1976 Anderson E. Hilding
1979 Joseph H. Ogura
1982 John J. Conley

1985 John A. Kirchner
1985 Charles M. Norris
1987 Walter P. Work
1988 DeGraaf Woodman
1989 John F. Daly
1990 Joseph L. Goldman

1991 William W. Montgomery
1992 M. Stuart Strong
1993 Douglas P. Bryce
1994 Paul H. Ward
1995 Hugh F. Biller
1996 Byron J. Bailey
1997 George A. Sisson, Sr.
1998 Stanley M. Blaugrund
1999 Jerome C. Goldstein
2000 Thomas C. Calcaterra
2001 Eugene N. Myers
2002 Robin T. Cotton
2003 Gayle E. Woodson
2004 Robert H. Ossoff
2006 Stanley M. Shapshay
2007 W. Frederick McGuirt, Sr.
2008 Robert T. Sataloff

RECIPIENTS OF THE CASSELBERRY AWARD

1923 George Fetterolf and Herbert Fox
1928 Ralph A. Fenton and O. Larsell
1929 Richard A. Kern and Harry P. Schenck
1929 Edward H. Campbell
1931 Arthur W. Proetz
1934 Anderson C. Hilding
1936 Francis E. LeJeune and Joel J. Pressman
1939 H. Marshall Taylor and Brien T. King
1940 French K. Hansel
1941 Noah D. Fabricant
1946 Paul H. Holinger
1949 Henry B. Orton
1962 Hans von Leden
1966 John A. Kirchner and Barry D. Wyke
1968 Joseph H. Ogura
1985 H. Bryan Neel III
1987 Joseph J. Fata
1991 James L. Koufman
1993 Frank E. Lucente
1994 Ira Sanders
1998 Steven M. Zeitels
1999 Clarence T. Sasaki
2006 Kiminori Sato
2008 Randal C. Paniello

RECIPIENTS OF THE NEWCOMB AWARD

1941 Burt R. Shurly
1942 Francis R. Packard
1943 George M. Coates
1944 Charles J. Imperatori
1947 Harris P. Mosher
1948 Gordon Berry
1949 Gordon B. New
1950 H. Marshall Taylor
1951 John D. Kernan
1952 William J. McNally
1953 Frederick T. Hill
1954 Henry B. Orton
1955 Thomas C. Galloway
1956 Dean M. Lierle
1957 Gordon F. Harkness
1958 Albert C. Furstenberg
1959 Harry P. Schenck
1960 Joel J. Pressman
1961 Chevalier L. Jackson
1962 Paul H. Holinger
1963 Francis E. LeJeune
1964 Fred W. Dixon
1965 Edwin N. Broyles
1966 Lyman G. Richards
1967 Joseph H. Ogura
1968 Walter P. Work
1969 John A. Kirchner
1970 Louis H. Clerf
1971 Daniel C. Baker, Jr
1972 Alden H. Miller
1973 DeGraaf Woodman
1974 John J. Conley
1975 Francis W. Davison
1976 Joseph L. Goldman
1977 F. Johnson Putney
1978 John F. Daly
1979 Charles F. Ferguson
1980 Charles M. Norris
1981 Stanton A. Friedberg
1982 William M. Trible
1983 Harold G. Tabb
1984 Daniel Miller
1985 M. Stuart Strong
1986 George A. Sisson
1987 John S. Lewis
1988 Douglas P. Bryce
1989 Loring W. Pratt
1990 William W. Montgomery
1991 Seymour R. Cohen
1992 Paul H. Ward
1993 Eugene N. Myers
1994 Richard R. Gacek
1995 Mark I. Singer
1996 H. Bryan Neel III
1997 Haskins K. Kashima
1998 Andrew Blitzer
1999 Hugh F. Biller
2000 Robert W. Cantrell
2001 Byron J. Bailey
2002 Gerald B. Healy
2003 Steven D. Gray
2004 Charles W. Cummings
2005 Roger L. Crumley
2006 Charles N. Ford
2007 Robert H. Ossoff
2008 Gayle E. Woodson

RECIPIENTS OF THE GABRIEL F. TUCKER AWARD

1987 Seymour R. Cohen
1988 Charles F. Ferguson
1989 Blair Fearon
1990 Gerald B. Healy
1991 John A. Tucker
1992 Bruce Benjamin
1993 John N. G. Evans
1994 Joyce A. Schild
1995 Robin T. Cotton
1996 Haskins K. Kashima
1997 Lauren D. Holinger
1998 Philippe Narcy
1999 Bernard R. Marsh
2000 Trevor J. I. McGill
2001 Donald B. Hawkins
2002 James S. Reilly
2003 Ellen M. Friedman
2004 C. Martin Bailey
2005 William P. Potsic
2006 Amelia F. Drake
2007 Colin Barber
2008 Seth Pransky

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1988 Frank Netter
1989 Shigeto Ikeda
1990 Hans Littmann
1991 Arnold E. Aronson
1992 Michael Ter-Pogossian
1993 C. Everett Koop
1994 John C. Polanyi
1995 John G. Batsakis
1996 Ingo Titze
1997 Matina Horner
1998 Paul A. Ebert
1999 Bruce Benjamin
2000 M. Stuart Strong and Geza J. Jako
2001 Eugene N. Myers
2002 Catherine D. DeAngelis
2003 William W. Montgomery
2004 David Bradley
2005 Herbert Dedo
2006 Christy L. Ludlow
2007 John A. Kirchner
2008 Gerald B. Healy

RECIPIENTS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION RESIDENT RESEARCH AWARD

1990 David C. Green
1991 Timothy M. McCulloch
1991 Ramon M. Esclamado
1992 David H. Henick
1993 Gregory K. Hartig
1994 Sina Nasri
1995 Saman Naficy
1996 Manish K. Wani
1997 J. Pieter Noordzij
1998 Michael E. Jones
1999 Alex J. Correa
2000 James C. L. Li
2001 Andrew Verneuil
2002 Dinesh Chhetri
2003 Andrew Karpenko
2004 Ichiro Tateya
2005 Samir Khariwala
2007 Idranil Debnath
2008 David O. Francis

RECIPIENTS OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION YOUNG FACULTY RESEARCH AWARD

1991 Paul W. Flint
1992 Yasuo Hisa
1993 Jay F. Piccirillo
1994 Hans J. Welkoborsky
1995 Nancy M. Bauman
1997 Ira Sanders
1998 Kiminori Sato
2000 Steven Bielamowicz
2001 John Schweinfurth
2005 Dinesh Chhetri
2006 Suzy Duflo
2007 Tack-kyun Kwon
2008 Bernard Rousseau
2009 Tsunehisa Ohno

THE MEMORIAL AND LARYNGOLOGICAL RESEARCH FUNDS

The Council earnestly requests that Fellows of the Association give consideration to making a special bequest to these important funds, or to becoming a Benefactor.

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PRESIDENTIAL REFLECTIONS

MARSHALL STROME, M.D., M.S.
New York, NY

REFLECTIONS

Good morning. Welcome to what I hope it will be a memorable educational two days. As we all know, this is one of medicine's most challenging eras. We rest on an abyss between the past and an uncertain future. In no small measure our upcoming election could lead to mandates, changing not only our are governance but our way of life.

It is during periods such as this that I always look to insight from our lineage, the hippocratic oath from which each reading always seems to bring new meaning; the 80s with abundant revenues and research based academics; the 90s with rapidly advancing technology, better pharmacotherapeutics and subsequently dramatic advances in patient care which became the standard of care at a cost that both industry and the consumer became reluctant to shoulder. With the new millennium, the academic medical environment began to change dramatically in many centers in reaction to market forces and public opinion. RVUs became the buzz word and functioning at the 80% level, the mystical if not biblical number for efficiency.

Currently in some institutions a clinical 60-hour patient contact exposure work week is the starting point for a satisfactory performance review. Yet expectations still exist that teaching is important and research, although decreased in value for clinician's performance ratings, remains on the radar screen. The inconsistencies are obvious but for those who consciously or subconsciously choose not to see. With the seemingly never ending emphasis on the bottom line both teaching and research become endangered. Can't a faculty member be more productive in the operating theatre if less time is spent with a novice? If department chairs don't provide the needed time and resources required for junior faculty investigation, patient exposure and revenues clearly improve. Adding to the mix are surveys of our young colleagues showing them wanting more time for quality of life issues. Further, declining resident mandated work hours makes the educational mission ever more challenging. Are there solutions, I believe there are but clearly the way we function and our organizational and certifying bodies will have to be open to change. In this turbulent centric world, our destiny will be charted more so by our

handling of life's inevitable troughs than by its crests.

My remarks from this point forward will be both personal and global addressing our current dilemmas with some comment about our future. My reference frame reflects observations of behavioral patterns and experiences including errors, sharing of which will optimistically strike a chord amongst some.

First leadership matters and now more than ever. Real leaders evolve not as a product of back room politically driven organizational maneuvering or necessarily as a product of a business education. They have inate personal attributes enabling them to project a vision, share it and get others to buy into it. The number one characteristic that employees value most in leadership is honesty, black and white are clear and shades of grey don't exist. Gaining trust is essential and implicit in that is the consideration that closed door discussions remain behind closed doors. Old business dictums such as "never let them see you sweat" I believe to be incorrect. Sharing your concerns, struggles and the issues confronting you makes you human, buys understanding and encourages input which can only improve decision making. Who is hired and fired and the rationale involved will be observed as a window to expectations.

Central to the leadership paradigm is the clear articulation of a vision, then gaining institutional and departmental support. Mine was a research based, resident centric program with excellence at every faculty level. Success required an appropriate institutional financial commitment, recruiting a superb faculty, and the addition of a research year. It was in fact a significant cultural shift for what had been a strong clinical program. Is it doable today and is it still appropriate? I believe so but only in a few select centers where leadership acknowledges some centers of academic excellence, faculty accepts lower salary support and research is encouraged.

Over the past 15 years, there has been an all most universal shift in emphasis with finances becoming the focus for deans and hospital administrators. Research space is allocated to those with the dollars to support it. Deans taxation levels may increase out of necessity or productivity numbers may be expected to exceed rational work potentials. That may translate in to space contracture to lower overhead or worse if preselected goals are not met. Further, programs based in urban areas with an unfavorable payer mix often have difficulty remaining in the black. The solution rests in part with altered expectations. Smaller departments and those fiscally constrained will need to highlight just one area of excellence. Research dollars et cetera will be appropriately channeled to that entity. Other sections will have clinical personnel rounding out the program fulfilling RRC requirements. Programs with marginal or negative bottom lines are not necessarily a reflection of poor leadership. Location, institutional allocation of facility fees, deans taxes et cetera will have a direct impact which may be beyond the purview of the chair.

Candidly new fiscal relationships and understanding between hospital CEOs and deans will have to emerge if some programs are to continue to flourish. Direct cash infusions need not result but a reduction in overhead and/or medical school taxation as an acknowledgment of patient referral volume to hospital based services would clearly be a start.

Further outreach programs to the best and brightest community practitioners could form new alliances benefiting all concerned. Engaging community business leaders in far more then the recognition accorded by trustee appointments should lead to meaningful new coalitions.

Part of my mission statement involved the recruiting of an excellent faculty. All too often I hear far too many excuses for an inability to recruit and retain good faculty. Program location, dollar allocation, quality of life issues, or insufficient research funding are all cited as reasons which I flatly reject. The incumbent chair negotiated the contract and if the title or position was more meaningful than the commitment necessary for success, failure is almost always a certainty. The chairs commitment to faculty growth, to faculty ownership, to open discussions about salary support, to family time and caring about those who serve is the formula for success. A commitment to nothing short of excellence is what the best and brightest buy into. In short leadership matters. The chair is the ship's steward, not its owner. A dynamic program with a free exchange of ideas, with intellectual curiosity at its core is central to faculty retention and growth.

Resident centric was another mission derivative. Residents give us for the most part 1/6th of their lives at graduation. They choose us as much as we choose them and they are the products of our educational efforts. A formalized educational program, repeated twice during a residency including a written syllabus is an important teaching adjunct. They should have representation on all committees dealing with educational issues. Residents should have ready access to the chair and a comfort level in doing such. They represent the future of our specialty and are deserving of the very best that we have to offer. Yet are they really getting our best. Today's graduates more than ever are leaning towards office based practices where the remuneration for time spent is greater in most instances than the alternatives. Further although many programs have significant head and neck oncology exposure, most in the private sector never do it. Many of our trainees differentiate early and their final year of residency could be spent concentrating in their area of interest. In short a two-tier system, would shorten training for the general otolaryngologist and would be more than adequate, for an office based practice. For those sub specializing, the final year could be specialty directed with most not needing further fellowship training. Time sensitive and job specific considerations such as these need vetting and in some form implementation. The reward for our efforts have and will continue to be critical thinkers, excellent in patient care who have the potential to advance the science of our specialty. In select instances life long friendships will emerge.

With the current academic environment being as challenging as it ever has been, is imperative that you recognize that success will depend on understanding that you define the institution, the institution doesn't define you. A study completed during my Tenure at the Brigham revealed most patient referrals were physician rather than institutional in derivation. Within the current environment change is inevitable. Some

will be favorable and others less so. Responses will require introspection, in particular when potential self preservation may be at odds with faculty interests. Personal integrity and professionalism will always serve you best. Open discussion and dialogue may help but in the end the decisions may involve considerations of how much compromise one is willing to make to retain a given position. Large institutions don't necessarily return your dedication nor is it their role. Security is being good enough and secure enough to find a new position within a short time frame. Often, leaving for the right reason leads to more rewarding opportunity. Further there is no pot of gold at journeys end, yet if you believe as do I that "the journey is the destination" you will find joy in each day. If given the opportunity to do it all again it is the only way I would choose to live my life. Why? The academic mileau is cutting edge, intellectually challenging, offering the potential for discovery and for the fortunate few the opportunity to change the course of medicine. You see dreams don't die unless you let them and, an open, challenging, stimulating environment, can provide the nutrients like none other to foster their reality.

If I didn't spend a few phrases on family, I would be remiss as it means so much to me personally. With the challenges uncertainty and inherent frustrations we face on a daily basis, many according to recent studies have constant levels of anxiety. If life has meaning beyond the workplace, a balance can be achieved. Family has and always will be my first priority. It is a constant and coming home always has been the best part of my day. With luck, time invested in raising children provides much enjoyment during the formative years, and untold joy during adulthood. Given that perspective at a careers end, you know the best is yet to come. As leaders its incumbent upon us to help young faculty recognize the importance of family time. If they are happy at home more often than not time at work will be more productive.

So what of the abyss of which I spoke at the beginning of this talk. Success in the future personal, professional, social, political and financial will occur only if we are willing to adapt to the cultural and financial pressures of our era. Implicit is our willingness to give up centrism and narcissism, working as a body, incorporating much of what we have discussed today. We must work toward goals that are rationale and proactive. Family values, collegiality and a willingness to work together for the greater good will be requisite, with the overall consideration being that what we do will be for the sole purpose of bettering the lives of those we are privileged to serve, our patients. Short of such an effort we face the prospect of becoming wards of the state with our beloved profession as we know it an endangered species.

I foresee the need for a greater presence of an established construct in American medicine, as much as I do a third political party. It will bridge the academic and strictly private based constructs. Formulated after the Barrows Neurological Institute and the house group it would, however, encompass the totality of our specialty. Privately constructed of like-minded professionals with similar core training, it would attract the brightest and most talented with entrepreneurial and academic interests. Education would be at the post graduate level. Research will include basic science

leading to translational studies. Seed funding would come from the clinical effort ultimately with philanthropic and NIH support. Free of the governance of large institutions with the inherent resistance of multiple committees, clinically applicable developments could be more timely and potentially have a more profound impact. Organized like minded and trained physicians with self governance in today's world have the potential, I believe to contribute far more in a shorter time frame than the more traditional constructs.

In closing, I end with the following consideration: I always loved walking around Walden pond with my family, thinking about Thoreau. I share one of his passages with you that I most enjoy. “The master in the art of living makes little distinction between his work and his play, his labor and his leisure, his mind and his body, his education and his recreation. He hardly knows which is which. He simply pursues excellence in whatever he does whether he is working or playing. To him he is always doing both.”

PRESIDENTIAL CITATIONS
INTRODUCTION

Marshall Strome, MD, MS
New York, NY

It was more than challenging to select awardees as so many are deserving. I limited my selection to members of the ALA from the US. The necessity to have membership in the Triological Society with its thesis criteria is the foundation for membership in the ALA and by definition selects for scholarly activity. Each of the awardees is outstanding in their own way and all could have easily been guests of honor.

Presidential Citation

ANDREW BLIZTER, MD, DDS
New York, NY

Andrew Blitzer, M.D., D.D.S., F.A.C.S. is an internationally known Otolaryngologist with expertise in voice and swallowing disorders, nasal and sinus surgery, and head and neck and reconstructive surgery. Dr. Blitzer is also a pioneer and leading authority in neurolaryngology and the use of Botox (botulinum toxin) for conditions with excessive muscle function, muscle pain, tremor and muscle spasm including spasmodic dysphonia and facial lines and wrinkles. Dr. Blitzer is a graduate of the Mt. Sinai School of Medicine and the School of Dental and Oral Surgery of Columbia University. He completed his residency training at the Mt. Sinai Medical Center in New York City. For several years Dr. Blitzer was the Acting Chairman of the Department of Otolaryngology of the College of Physicians and Surgeons and Acting Director of the Otolaryngology Service of the Presbyterian Hospital. Dr. Blitzer is currently Professor of Clinical Otolaryngology and a Senior Attending Otolaryngologist and Director of the New York Center for Voice and Swallowing Disorders at the St. Luke's/ Roosevelt Hospital Center in New York.

Dr. Blitzer is the author of 14 text books including the definitive texts *Surgery of the Paranasal Sinuses, Neurologic Disorders of the Larynx, Office-Based Surgery in Otolaryngology, and Management of Facial Lines and Wrinkles.* Dr. Blitzer has been an extramural consultant to the National Institutes of Health and is a member of the special sensory and language study section.

Dr. Blitzer was, for 6 years, the Coordinator for Instruction Courses and Member of the Board of Directors of the American Academy of Otolaryngology-Head and Neck Surgery. He is also the President of the American Bronchoesophagological Association.

Dr. Blitzer lives in Manhattan and enjoys marathon running, skiing, photography, cooking, fly fishing, and making rustic furniture in his free time. For the past decade, Dr. Blitzer has been listed in the *Best Doctors in America (American Health), Best Doctors in New York (New York Magazine), Best Doctors in the New York Metropolitan Area (Castle and Connely), Who's Who in America, and Who's Who in Science and Technology.*

Presidential Citation

ROBERT H. OSSOFF, DMD, MD
Nashville, TN

My next recipient is an individual who needs no introduction as he is noted for literally jump starting the subspecialty of laryngology by establishing the first fellowship and developing innovative surgical approaches. Robert H. Ossoff is currently the Director of the Vanderbilt Bill Wilkerson Center for Otolaryngology and Communication Sciences and the Guy M. Maness Professor and Chairman of the Department of Otolaryngology at Vanderbilt University Medical Center in Nashville, TN. In addition, Dr. Ossoff is the Executive Medical Director of the Vanderbilt Voice Center.

Dr. Ossoff, a native of Beverly, Massachusetts, received his M.D. degree from Tufts University School of Medicine in 1975, after earning a DMD degree in 1973 from its School of Dental Medicine. His residency training in Otolaryngology – Maxillofacial Surgery at Northwestern University School of Medicine was completed in 1980 followed by fellowship training in Head and Neck Oncology.

Bob is a Fellow of the ALA, the American College of Surgeons, American Head and Neck Society, the Triological Society, and an active member of the ABEA. He has held many leadership positions including President of the Society of University Otolaryngologists, the Association of Academic Departments of Otolaryngology-Head and Neck Surgery, Vice President of the Southern Section of the Triological Society and as President of the ALA in 2005. Additionally, he served two terms as Editor-in-Chief of *Lasers in Surgery and Medicine.*

Dr. Ossoff has been the recipient of

numerous awards for his dedication and promotion of our subspecialty including Presidential Citations from the Triological Society, AAO-HNS, ASLMS, and the ALA. He was recognized as the Guest of Honor by the ABEA, the Southern Section of the Triological Society, and the ALA. He is currently a member of the Board of Directors of the Triological Society where he is also on the Council of the Triological Society as its Director of Continuing Medical Education. Dr. Ossoff also received the Distinguished Service Award of the American Academy of Otolaryngology-Head and Neck Surgery Foundation in 1998 and in 2004.

He is married to the former Lynn Spilman lists his hobbies as biking, boating, skiing, fishing and photography.
I am honored to present this Presidential Citation to my wonderful friend and colleague, Robert H. Ossoff.

Presidential Citation

SCOTT E. STROME, MD
Baltimore, MD

This next recipient is indeed very special to me. As a colleague, I have watched his career advanced and as a father, I am extremely proud that he decided to become an otolaryngologist. As the youngest department chairman in the country, Scott Strome is a full professor of otolaryngology and immunology. He has a large immunology research lab, established his own Biotech company based on his 6 patents and is on several prestigious NIH committees.

Dr. Strome is a graduate of Dartmouth College and Harvard Medical School. He performed his OTO-HNS residency at the University of Michigan and subsequently completed a fellowship in head and neck reconstruction with Richard Hayden, MD. Following his fellowship training, Dr. Strome joined the Department of OTO-HNS at the Mayo Clinic College of Medicine, where he served as a practicing Head & Neck Oncologist and grew his research program under the mentorship of Lieping Chen, MD, PhD. In 2005, Dr. Strome was recruited to the University of Maryland School of Medicine as Professor and Chairman of the Department of Otorhinolaryngology-Head & Neck Surgery. Scott also has a secondary appointment in the Department of Microbiology and Immunology and is the Director of the Tumor Immunology and Immunotherapy Program in the Marlene and Stewart Greenebaum Cancer Center. He is actively engaged in clinical practice, education and translational research.

Dr. Scott Eric Strome represents the future and I enthusiastically present this Presidential Citation to him.

INTRODUCTION OF THE GUEST OF HONOR

MARVIN P. FRIED, MD
New York, NY

Dr. Fried excels in education and has been more than instrumental in helping to develop simulators that hone resident skills prior to patient contact.

Dr. Fried is a New York native, and graduate of City College of New York 1965. He received the New York City Jonas Salk Award and Scholarship from New York City College. He graduated Tufts University School of Medicine in 1969, followed by training in Otolaryngology at Washington University School of Medicine, where he also served as a Fellow of the National Institute of Neurologic Disease and Stroke. In 1999, he became Professor of Otolaryngology and University Chairman, Albert Einstein College of Medicine and Montefiore Medical Center. He also has served as the Program Director for the Otolaryngology Residency Program at Harvard Medical Center, and now at AECOM.

His awards include first place award for Basic Research in Otolaryngology as a Resident from the American Academy of Ophthalmology and Otolaryngology (1975), the Edmund Prince Fowler Award for Basic Science Research from the Triologic Society in1984, the Honor Award of the

Dr. Fried has had numerous national positions, including member of the Audit Committee of the American Academy of Otolaryngology-Head and Neck Surgery Foundation, as well as Chairman of its Laser Safety Committee. He has been president of

the SUO-HNS, ASLMS and currently serves as President of the American Rhinologic Society, and Secretary of the ALA. He has also served on numerous committees for other organizations, such as, the American Society for Head and Neck Surgery, and the ABEA.

Dr. Fried is on the Editorial Board of The Archives of Otolaryngology-Head and Neck Surgery, The Laryngoscope, Ear Nose and Throat Journal, The Journal of Clinical Laser Medicine and Surgery, Lasers in Surgery and Medicine, and The Annales d'Oto-Laryngologie et de Chirurgie Cervico Faciale. He is also a manuscript reviewer for a number of other journals.

I am proud to present this Guest of Honor Award to one of my closest friends, Dr. Marvin Fried.

INTRODUCTION OF THE GUEST OF HONOR

CLARENCE. T. SASAKI, MD
New Haven, CT

Dr. Clarence Sasaki uncovered some of the most meaningful research data relating to laryngeal function and swallowing in the last century. His career began in the laboratory, but he moved to the operating room and then around the world to learn new surgical skills and techniques for treating head and neck cancer. Thanks to his efforts over the past three decades, cancer patients now benefit from a wider array of surgical options that improve outcomes and limit disability and disfigurement.

Dr. Sasaki, currently serving as the Director of the Head and Neck Tumor Board, is the Charles W. Ohse Professor of Surgery and the Chief of Otolaryngology - Head and Neck Surgery at the Yale School of Medicine. He received his BA from Pomona College in 1962 and his MD from Yale in 1966. He completed his residency at the Yale-New Haven Medical Center in 1973.

As a surgeon, Sasaki became intrigued by European techniques that weren't being used in this country. In 1978, he went to Milan to work with Ettore Bocca, MD, and brought back a procedure known as a functional neck dissection that has become the standard of care that allows for the removal of only the diseased tissue while preserving the arteries, veins and major nerves of the head and neck.

He continued to hone his skills at the University of Zurich, where in 1982 he learned skull base surgery techniques from Ugo Fisch, MD, and in 1986 at London's St. Mary's Hospital, where he worked with plastic surgeon Dai Davies, MD.

Dr. Sasaki has developed Yale's Head and Neck Cancer Program and is considered one of the most active surgeons at the Yale-New Haven Medical Center with a widely-based referral practice for tumors of the sinuses, ear, throat and neck.

He is active in our subspecialty associations and societies including the ALA as a Council Member, the SUO, AADO, ABEA, Triological Society and the AHNS.

I am honored to have Dr. Sasaki serve as a Guest of Honor.

PRESENTATION OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION AWARD TO GERALD B. HEALY, MD

ROBERT H. OSSOFF, DMD, MD

This year's recipient of the American Laryngological Association Award is no stranger to any of us. In fact, he has been actively involved with the ALA since 1983 and has been very instrumental to the growth of our Association. Gerald B. Healy served as President of the American College of Surgeons (ACS) in 2007 and the first otolaryngologist to serve as the chair of the College's Board of Regents and other noteworthy positions with the College.

Dr. Healy is the Gerald B. Healy Chair in Otolaryngology and professor of otology and laryngology at Harvard Medical School, and the otolaryngologist-in-chief, at Children's Hospital, in Boston. Dr. Healy is a native of Boston, MA, and of Boston College. He earned a medical doctorate from Boston University where he also served an internship, surgical residency and residency in otolaryngology at Boston University Medical Center. Dr. Healy has held many leadership positions in organized surgery. He was director of the American Board of Otolaryngology and served as its executive vice-president for six years. and was a member of the board of directors of the American Academy of Otolaryngology—Head and Neck In addition, Dr. Healy was president of ASPO, the ABEA, Triological Society and the ALA.

Dr. Healy has also devoted his professional life to several significant research endeavors.

His research interests have included the effect of interferon on recurrent respiratory papillomatosis, for which he received a National Institutes of Health contract and Interferon Foundation funding for a multi-center study and the prevention of otitis media in infants and children, for which he received a research grant from the National Institute of Neurological and Communication Disorders and Stroke/National Institute on Deafness and other Communication Disorders.

As a colleague and friend, I can think of no better recipient than Gerald and it is my great pleasure to this the 2008 American Laryngological Association Award to Dr. Gerald Healy.

PRESENTATION OF THE GABRIEL F. TUCKER AWARD TO SETH PRANSKY, MD

MICHAEL S. BENNINGER, MD

Gabriel Tucker Sr. was a tireless teacher, clinical investigator, photographer and a dynamic individual. He pioneered the development of many new instruments for foreign body removal and for examination and treatment of the larynx, lung and esophagus. His reputation was known worldwide.

Gabriel Tucker Jr. regarded his own discoveries in the Laryngeal Development Laboratory to be his most important contributions to medicine. His identification of the elliptical cricoid cartilage was the first of several discoveries that contributed so much to our present understanding of subglottic stenosis.

The Tucker family established this award through its initiative and generosity, to honor an individual of noted achievement on the subject of pediatric laryngology. This award commemorates two individuals, father and son, who made major contributions not only to pediatric laryngology, but to laryngology and bronchoesophagology in general. This medal stands as a tribute and a tradition within the ALA. It is an acknowledgment of contributions made in the past and a challenge for future pediatric otolaryngologists.

Dr. Seth Pransky is the Director, Department of Pediatric Otolaryngology of the Children's Specialists of San Diego and a clinical Assistant professor of UC San Diego. He earned his medical degree from Washington University in St. Louis.

His postgraduate training included a residency in otolaryngology from the University of Pennsylvania and a fellowship in pediatric otolaryngology at Children's Hospital Medical Center in Washington, D.C. He has been very active in a number of national organizations including the American Academy of Otolaryngology-Head and Neck Surgery, The American Society of Pediatric Otolaryngology and the American Academy of Pediatrics. He has become well renowned for his interest in the pediatric airway and laryngeal papillomas.

It is with great pleasure that on behalf of the ALA I can present the Gabriel F. Tucker Award to Seth Pransky.

INTRODUCTION OF THE STATE OF THE ART LECTURER GERALD S. BERKE, MD

MARSHALL STROME, MD, MS, FACS

Our State of the Art Lecturer has played an active role in the ALA since he became an Active Fellow in 1993. Dr. Gerald Berke is chief of Head and Neck Surgery at the University of California – Los Angeles. He received his MD from the University of Southern California and trained as a resident under Dr. Paul Ward at UCLA School of Medicine, and received the Shirley Baron Award from the Western Section of the Triological Society. He has served as co-chairman for an NIDCD Strategic Research Plan. He is a past vice-president of the Western Section of the Triological Society and a past president of the ALA. He currently serves on the Board of Directors of the ABOto.

Dr. Berke is considered by his peers to be an international authority on laryngeal physiology. He has personally been well funded by these agencies both for his laryngeal vibration studies and voice quality measures and for his current work in free flap reconstruction in the treatment of patients with head and neck carcinoma. Dr. Berke's studies have produced the foundation for an extraordinarily productive voice laboratory dedicated to the assessment of laryngeal function. His research, using a canine model of phonation has contributed much to our understanding of the voice

He is either an editorial consultant or board member of numerous of the distinguished Head and Neck Surgery journals and is a reviewer both for VA Merit Review Grants as well as for the NIH/NIDCD RFA Centers of Excellence Grants. He has authored more than 65 presentations, book chapters and peer reviewed publications.

In addition, he highly recognized as a song writer and musician.

Modified: 4/19/2010

STATE OF THE ART LECTURE

SOME INTERESTING AND CLINICAL RESEARCH LARYNGOLOCIAL OBSERVATIONS

GERALD S. BERKE, MD

It is interesting to note that the cell bodies in the brain stem of the nucleus ambiguous are not randomly distributed within the brain stem, but group together to form a somatotopic organization of the foci.[1] For example, the cell bodies in the nucleus ambiguous, which project to the thyroarytenoid muscle exist about 1-mm above the obex in the nucleus ambiguous. In addition, there is also another group of cell bodies that project primarily to the PCA muscle. This finding no doubt has some relationship to the ability of humans to control the intrinsic laryngeal muscles individually. Furthermore, if we follow the recurrent laryngeal nerve distally after it comes off the vagus nerve, you will find that in its proximal portion there is a random distribution of axons; however, as the nerve is examined more distally a somatotopic distribution also begins to occur. This was demonstrated by Gacek back in 1975.[2] In 1989 Nguyen et al [3] published a paper entitled "Anatomical Intralaryngeal Anterior Branch Study of the Recurrent Laryngeal Nerve" and discussed the possibility of selective reinnervation of the larynx based upon its intralaryngeal nerve supply. Of interest was that the author cited a paper by Roger Crumley discussing the use of the phrenic nerve to reinnervate the PCA muscle.[4]

Of note, is that the muscular process of the arytenoid serves as the focal point to which

all the intrinsic laryngeal muscles insert with which to control the various motor functions of the larynx. Not surprisingly then, the recurrent laryngeal nerve as it enters the larynx runs close to the muscular process as it gives off branches to the intrinsic laryngeal muscles. The intralaryngeal anatomy of the RLN demonstrates that, although some variability exists, the intralaryngeal nerve supply of the RLN enters the larynx in the posterior portion near the tracheoesophageal groove. It immediately gives off innervation branches to the posterior cricoarytenoid muscle. The nerve then travels cranially giving off a branch that runs underneath the PCA muscle

to innervate the interarytenoid muscle. At the level of the muscular process, the nerve turns anteriorly and sends off a small branch to innervate the lateral cricoarytenoid muscle and then ends in a stellate configuration in the thyroarytenoid muscle, but no doubt also gives branches to the medial portion of the thyroarytenoid muscle, sometimes called the vocalis muscle and also to the unnamed muscle above the ventricle, which contracts the false vocal cord.

This neuromuscular anatomic sub-architecture is of course intimately related to the physiology of the organ. For example, the nervous supply to the PCA muscle, which one might call the posterior division of the RLN, produces dilatation of the glottis, whereas the continuation of the nerve anteriorly causes for the most part closure of the glottis.[5] More importantly, it also serves the purpose of allowing individuals to control the distal thyroarytenoid muscle contractions separately from the forces that just adduct the arytenoid (lateral cricoarytenoid and interarytenoid muscles).[6] When the thyroarytenoid muscle contracts, the modulus of the vocal fold increases and this has a profound affect on the vibratory characteristics of the larynx during phonation.[7] Thus the separation of cell bodies in the nucleus ambiguous allows for individual variation in phonatory posture of the larynx and quality of the sound produced.

It is interesting to note that the branches of the recurrent laryngeal nerve, after entering the larynx, can be identified and accessed surgically in several different ways. The first is through a small inferiorly based window in the thyroid cartilage.[8] The posterior margin of the window lies just anterior to the inferior cornu of the thyroid cartilage near the oblique line and the anterior margin is located about half way to the inferior tubercle and its superior margin at approximately the mid point of the thyroid notch to the inferior border of the thyroid cartilage. After creating the inferiorly based window, if the perichondrium is similarly reflected inferiorly usually surrounded by a small amount of protective adipose tissue, the intralaryngeal/recurrent laryngeal nerve can be found. This anterior branch to the thyroarytenoid and lateral cricoarytenoid muscles can be identified running from the posterior inferior portion of the window in a superior anterior direction. The nerve can be accessed through this window and is of course amendable to reinnervation or lysis in order to alter neuromuscular function. For example, we have used this approach to alter the neuromuscular characteristics and reinnervate the thyroarytenoid muscle on patients with spasmodic dysphonia or to reinnervate the TA for isolated muscle atrophy.

The other way of accessing the intralaryngeal branches of the recurrent laryngeal nerve is to rotate the larynx 90 degrees so that one has access to the posterior cricoid and reflect out the piriform sinus mucosa such as one would perform during a total laryngectomy. The recurrent laryngeal nerve can almost always be identified entering the larynx approximately 1-cm posterior to the inferior cornu of the thyroid cartilage. Just as it enters the larynx, it immediately gives off innervation to the

posterior cricoarytenoid muscle and then runs parallel to the posterior laminal border of the thyroid cartilage and turns anteriorly just below the musculature process of the arytenoid to innervate the thyroarytenoid muscle and lateral cricoarytenoid muscles. As stated previously, the nerve as it enters the larynx divides into a branch, which essentially causes glottal dilatation and another branch, which essentially causes adduction of laryngeal intrinsic musculature.

This dichotomy of the RLN was demonstrated in 1992 by Green et al [9] who were able to produce true physiologic motion and avoid synkinesis after section of the recurrent laryngeal nerve by sectioning it distal to its division into the anterior and posterior divisions and then also re-anastomosing the nerve distal to this branching point. Why was this thought to occur? Following neurotmesis, axons degenerate back to cell bodies in the brain stem; however, axon tubes from each motor cell remain intact and guide axon regeneration. Thus, selective reinnervation occurs when nerve anastomosis is performed after a nerve branch divides to its specific motor end plate(s).

Of course, there are a number of problems with selective laryngeal reinnervation. First, the branching pattern demonstrates variability. Example: the branching pattern to the LCA muscle can come off the main trunk or can come off the branch to the thyroarytenoid muscle. It is a very small nerve, which may actually even be several nerve branches. Some other problems with selective reinnervation include some branches that are very short, such as the branch to the PCA muscle; however, it is possible to lengthen the PCA branch by just following back its perineurium and separating out the epineurial fascicles.[10] Finally, some terminal divisions of the RLN innervate more than one muscle group. For example, the terminal anterior branch eventually goes to the TA, vocalis and false vocal cord muscles. These sub-branches would be very difficult to individually isolate and selectively reinnervate.

There are, however, some fortuitous anatomical relationships that do exist. First and foremost, after the PCA branch divides off, all the fibers are adductory. Second, significant anatomical variation is not common and usually demonstrates a similarity between individuals. Lastly, as demonstrated by being able to identify the anterior TA branch through a posteriorly based cartilage window, fiber depth and position are generally conserved in the larynx. In looking at the PCA muscle, one can see that the nerve to the PCA falls into three basic anatomical subcategories. However, 90% of individuals fall into a subcategory, which would permit selective reinnervation of the PCA muscle.[11]

As an example of selective reinnervation, one can discuss reinnervation of the PCA using the posterior laryngeal approach described above, for bilateral vocal cord paralysis.

1. First, one must identify a driver for the PCA muscle. Prospective driver candidates have been the superior laryngeal nerve [12](which is known to fire both in phonation as well as respiration), the phrenic nerve,[4] and also the ansa cervicalis nerve.[13]

2. One would need to separate the adductor and abductor nerve functions. This can be accomplished by cutting the anterior branch off the main trunk of the nerve after it enters the larynx and then reinnervating the main trunk with a driver. This will in effect force all the fibers to grow into the PCA muscle. Remember, that since the nerve to the interarytenoid comes off very close to the PCA

branch, it is necessary to sever the nerve to the interarytenoid muscle as it enters the muscle near the back of the larynx. One might also consider reinnervating the adductor portion of the RLN to prevent atrophy of the intrinsic muscles and provide tone. We have successfully used this technique in five patients with bilateral vocal cord paralysis. A sixth patient had her paralysis for over 5 years and did not successfully reinnervate and had to undergo posterior laser cordotmy. In all patients but one, the external branch of the superior laryngeal nerve was used to reinnervate the PCA muscle. In one patient who had undergone thyroid surgery, the external branch of the superior laryngeal nerve was injured and in this patient the ansa cervicalis nerve was used to reinnervate the PCA muscle; however, the ansa cervicalis is primarily a nerve of swallowing and speaking. In this one patient, it was noticed that while the patient developed increased abductory tone during rest, when the patient phonated the reinnervated arytenoids moved laterally and larynx actually dilated in a somewhat paradoxical manner. This finding definitely demonstrated the ability to uniquely reinnervate the PCA muscle; however, it also demonstrates that the ansa cervicalis nerve is contraindicated as a driver in PCA reinnervation. This patient was initially treated with Botox shots to the adductor muscles to improve glottal dilatation but is now starting to breath without stridor and without requiring additional injections. This case raises the question of plasticity and what plasticity might actually entail. In this case, it seems as though this patient is gradually "learning" to use the ansa cervicalis nerve to control laryngeal dilatation during inspiration. Certainly, more work needs to be done in this area.

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INTRODUCTION OF THE THIRTY-FOURTH DANIEL C. BAKER, JR. MEMORIAL LECTURER CHARLES N. FORD, MD

MARSHALL STROME, MD, MS, FACS

Charles N. Ford is currently Professor of Surgery in the Division of Otolaryngology where he served as Chair 1995-2007. His area of clinical and research focus is laryngology and voice disorders. His research program evolved through promotion of objective voice evaluation and videostroboscopy in clinical practice and the introduction of bioimplants for vocal fold restoration. That initial work with collagen injections stimulated widespread interest in bioimplantable materials for vocal fold injection leading to the use of natural soft tissue injectables, extracellular matrix components and acellular matrices. Recently he is collaborating with researchers in the application of tissue engineering methods to restoring vocal folds. Historically, he co-edited the first American textbook on Phonosurgery in 1990 covering the relevant advances in laryngology. His curriculum vita reflects numerous eponymous lectures nationally and he has been a frequent invited lecturer abroad. He received the Presidential Citation and James Newcomb Award for outstanding contributions to the literature in laryngology from the American Laryngological Association. He served on the planning committee for the American College of Surgeons' Leadership course, and his national leadership positions include Past-president of the American Broncho-Esophagological Association and the Society of University Otolaryngologists -Head and Neck Surgeons. At University of Wisconsin he was elected to the Academic Planning Committee and the Faculty Senate. At the UW Hospital he is Past President of the Medical Staff, Chairman of the Medical Board, Chairman of the Operating Room Committee. He is a Senior Examiner for the American Board of Otolaryngology currently. He has served as a reviewer for NIH grants, he regularly reviews for over 12 medical journals and serves on 5 Editorial Boards including Laryngoscope and the Journal of Voice.

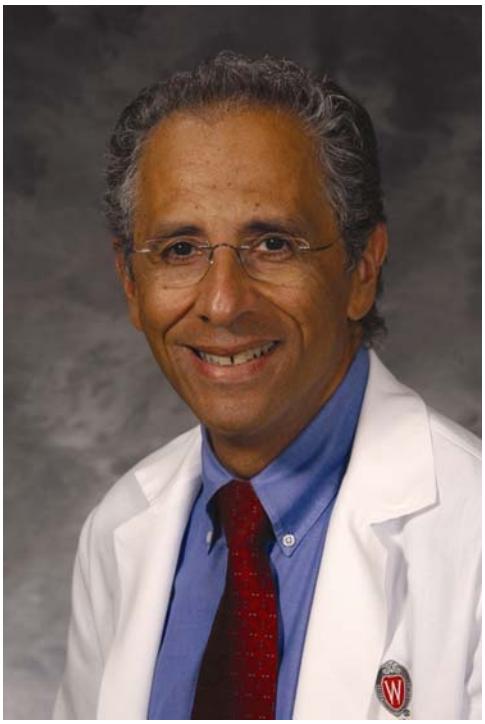
It gives me great pleasure to present to you, our Daniel C. Baker Jr. Lecturer, Dr. Charles N. Ford.

Modified: 4/19/2010

THIRTY-FOURTH DANIEL C. BAKER, JR. MEMORIAL LECTURE
PARADIGMS AND PROCESS IN VOCAL FOLD RESTORATION

Charles N. Ford, MD

We rely on paradigms to provide structure for scientific and medical investigation, to verify theories, and to solve problems. In his book How Doctors Think, Groopman reveals how physicians approach diagnostic challenges through learned algorithms that determine both our perception and interpretation of data. We selectively accept expected information, while perhaps ignoring other relevant information. He calls such cognitive cherry-picking "confirmation bias". Laryngologists recall that 20 years ago laryngopharyngeal reflux (LPR) was infrequently recognized. Yet once our algorithm changed it became so over-diagnosed that other plausible causes for laryngitis were often overlooked. Francis Moore aptly observed: "*You see what you look for and you look for what you know*".



Confirmation bias is not new. It was 1610 when Galileo demonstrated the first telescope to leading astronomers. Though a remarkable technological advance, the device was dismissed by the authorities, who reported: "*Galileo the mathematician of Padua came to Bologna with that spyglass through which he sees four fictitious planets. I have as witnesses most excellent men and most noble doctors who all acknowledged that the instrument deceived*." A higher level of resistance to scientific advance occurs when a proposed new theory clashes with accepted scientific paradigms, societal mores, or religious beliefs. Acknowledged as a founder of scientific method, Galileo's confirmation of the Copernical theory that the sun is the center of the universe, was brutally criticized. Despite his careful avoidance of religious references, he was subjected to a prolonged inquisition, concluding in 1633 with the verdict: "*We say, pronounce, sentence, and declare that you, Galileo, have rendered yourself according to the Holy Office vehemently suspected of heresy, namely of having held and believed a doctrine which is false and contrary to the Devine and Holy Scripture: that the sun is the center of the world and does not move from east to west, and the earth moves and is not the center of the world, and that one may hold and defend as probable an opinion after it has been*

declared and defined contrary to Holy Scripture." Four centuries later, we still struggle with changes that threaten accepted patterns of scientific thought. Thomas Kuhn introduced the concept of paradigms to describe scientific advances in his Structure of Scientific Revolutions. He stated that commitment to a common set of rules and standards is essential to "normal science". It is that which, based on past scientific achievements, the scientific community accepts for a time as the foundation for its further practice. Progress in normal science can only proceed when the scientific community buys into a constellation of shared commitments, theoretical beliefs, techniques, instruments, metaphysics, and values. Classic examples include texts such as Newton's Opticks and Franklin's Electricity that profoundly influenced succeeding generations of scientists. When phenomena stubbornly refuse to be explained by existing paradigms, a tension develops between desire for innovation and the necessary caution of most scientists. Kuhn coined the term "paradigm shift" to reflect the result of a scientific revolution where a new theory is incompatible with the established paradigm and ultimately replaces it. This gives rise to an entirely new "disciplinary matrix" --a term Kuhn later felt was more descriptive than "paradigm". He chose *disciplinary* to reflect the common commitment to scientific method and *matrix* to encompass a whole comprised of orderly parts, including common taxonomy, symbols, beliefs and values.

The concept of a paradigm shift has been substantially overused in science, business, and popular culture over the last 40 years. Most advances in science are not paradigm shifts. Rather, they occur within the accepted disciplinary matrix. Forces driving scientific advances include imagination, information, and technology. Major advances can occur through orderly **steps**, a puzzle-solving **leap,** or fundamental **divergence** --possibly leading to a new paradigm. Even when evolving from the prevailing disciplinary matrix, many significant advances are met with resistance and rejected by the religious, political, or scientific community. While criticism and rejection can have a stifling effect in the province of politics and religion, challenge, verification and revision are essential to scientific advancement. Let us look at familiar examples of how biological science has advanced through steps, leaps, and divergence as a framework for discussing our progress in vocal fold restoration.

Steps

Ten years ago, University of Wisconsin's James Thomsen succeeded in isolating isolation of embryonic stem cells from human blastocysts. He grew these cells in culture and demonstrated that after *in vitro* proliferation, they retained the potential to form trophoblasts and derivatives of all three embryonic germ layers. Even though this work represented a linear step forward in established stem cell research, the implications for possible use of these pluripotent cells in treating diseases like Parkinson's and Alzheimer's attracted great interest. With increased scrutiny, embryonic stem cell research evoked a level of religious and political controversy, only recently mollified by promising work demonstrating induction of similarly pluripotent stem cells by genetically modifying fibroblasts from adult skin.

Leap

Twenty-five years ago, Barry Marshall and Robin Warren submitted a paper demonstrating that *H. pylori* caused gastric ulcers. It was rejected by the Australian Gastroenterology Society. Undeterred, Marshall intentionally consumed *H. pylori*, developed ulcers, and then achieved complete relief with antibiotic treatment. Others replicated these results, and by 1990

the World Congress of Gastroenterology recommended antibiotics in the first line of therapy for ulcers. Although this was a scientific leap forward for which Marshall and Warren eventually received a Nobel Prize in 2005, recognition was delayed. This was in part because traditional staining techniques had failed to reveal bacteria in past studies, but more likely because of the entrenched dogma that acid caused ulcers. A sinister explanation for delay in implementation was later raised when a curious coincidence was noted: It was the same year (1994) when the NIH acknowledged that eradication of *H. pylori* with antibiotics could cure ulcers, that patents on Tagamet® and Zantac® expired.

Divergence

In 1858, Charles Darwin and Alfred Wallace presented this idea to the Linnaean Society: "*As many more individuals of each species are born than can possibly survive; and as, consequently, there is a frequently recurring struggle for existence, it follows that any being, if it vary however slightly in any manner profitable to itself, under the complex and sometimes varying conditions of life, will have a better chance of surviving, and thus be naturally selected*." This divergence from traditional thinking formed the basis for Darwin's Origin of Species. Although he carefully avoided using the term "evolution", it was his phrase "*light will be thrown on the origin of man and his history*" that sparked controversy. The Linnaean Society president summarized the session by saying that there had been no revolutionary discoveries disclosed that year. Dublin's esteemed professor Houghton dismissed Darwin's writing stating: "*…all that was new in them was false, and what was true was old"*. Darwin won over many of the younger scientists with this divergence, but it took a scientific revolution for the paradigm shift to eventually occur.

Progress in vocal fold restoration over the past century has been marked by many steps, an occasional leap, and a recent divergence that seems to be leading towards a new paradigm. Improved technology, refinement of information on vocal fold structure and function, and recognized shortcomings of available solutions have provided the stimulus. For a long time, investigations of new injectable materials for vocal fold augmentation fit into a disciplinary matrix dominated by the concept of providing bulk to a paralyzed vocal fold. In 1911, Bruning reported the first vocal fold injection using paraffin. Fifty years later Arnold introduced injectable Teflon --a major step forward that provided an apparently safe way to restore vocal fold bulk and glottic competence. He also defined parameters that served as benchmarks of a disciplinary matrix still guiding some current day investigations: a suitable injectate should (1) be well-tolerated by the host, (2) pass easily through an injector device, and (3) persist over time. Teflon met these criteria, successfully restoring vocal fold bulk, glottic competence, and voice restoration. Over time, clinical and laboratory studies revealed granuloma formation and Teflon particle migration. Like the Bologna astronomers, some experienced practitioners remained unimpressed. While histological studies showed a consistent host response with foreign body granuloma formation, they maintained that these granulomas were usually asymptomatic and did not pose a problem for their patients. Practitioners also denied that particle migration occurred even though distant migration of Teflon particles was rigorously demonstrated in periurethral-injected primates and later in lymph nodes of dogs that had undergone vocal fold injections. With the emergence of videostroboscopy and objective voice evaluation tools, many of the voice results were found to be suboptimal. Such evidence

was initially greeted with skepticism. After all, if the patient went from being aphonic to having a serviceable voice that sounded fine to the surgeon, what was the use of all these instrumental measures!

In the continued search for an ideal implant within Arnold's paradigm, a series of inorganic substances have been used to restore vocal fold contour. These steps have progressed from early alloplastic Teflon variations like silicone and bioplastique, to the most recent polyacrylamide hydrogel and the hydroxyl apatite suspension Radiesse. Technical advances include new approaches for in-the-office injections and improved accuracy of placement. Studies on vocal fold phonatory dynamics helped surgeons in reestablishing a more efficient vocal fold contour. In the meantime, two significant areas of investigation would lead to critical leaps forward. The first was inspired by rigorous descriptive work on functional vocal fold histology, and the second by recognition of the key role of extra cellular matrix (ECM) in vocal fold oscillation.

Minoru Hirano's seminal description of the layered structure of vocal folds led us to attempt targeted injection of bovine collagen into the collagen-rich plane of deep lamina propria 25 years ago. While this implant clearly met Arnold's criteria of being easily injected (even through a 27 gauge needle) and well tolerated (exhibiting no foreign body reaction), persistence proved unpredictable. This modest leap forward introduced the first in an evolving list of bioimplants that would grow to include other collagen preparations, fat, fascia, and acellular dermal matrix. These materials introduced new criteria for an ideal implant by adding basic goals for a bioimplant. It would need to exhibit porosity to allow ingrowth of vasculature and cells, and eventually it should be replaced with host tissue.

Steve Gray provided the impetus for the second leap forward by analyzing and describing the acellular components of the extracellular matrix (ECM). Complemented by the work of Titze, Chan, Thibeault and others, he demonstrated the rheological properties of ECM so critical to vocal fold oscillation. He described how interstitial proteins (proteoglycans and glycoproteins) play a major role in ECM viscosity and hydration. Because of its key role in preventing scarring and maintaining normal vocal fold visco-elastic properties, hyaluronic acid (HA) became the focal point of numerous investigations. Researchers continue working to develop HA hydrogels that might supply a sustained source of HA. The cosmetic industry relentlessly produces lucrative yet potentially useful new HA-containing products like Restylane and Perlane. In our laboratories, Thibeault and others are working to develop a product uniquely suitable to the biomechanical strains of vocal folds. Currently, Carbylan-GSX appears superior to others in restoring vocal fold visco-elastic properties and suppressing scar tissue formation. Their goal is to come up with biomaterials that are not just fillers, but smart products capable of responding optimally to the vocal fold environment.

We are now well into a divergence in our thinking about restoring vocal folds as we embrace the emerging field of regenerative medicine. Instead of simply replacing vocal fold tissues with implants and grafts of uncertain fate, our revised aim is to predictably regenerate normal tissue. Vocal folds, like any engineered tissue, require three ingredients: cells, a scaffold, and signaling molecules. These interact in an integrated series of events including cellular proliferation, migration, differentiation, and

morphogenesis. Conventional cell culture techniques are used to grow cells in an artificial environment to form colonies of cells. Without direction, these cells are clueless. They require signals to grow into desired tissues. *In vivo* cells receive directions from mechanical, electrical, structural, and chemical stimuli. The structural component of the interaction is the scaffold. In developing a 3-dimensional construct with cells, scaffold, and growth factors, the scaffold acts as a temporary ECM, helping cells to organize appropriately. Cellular interaction with the scaffold is facilitated by protein-based molecules --growth factors. In the *ex vivo* model, bioreactors can be used to simulate the mechanical forces anticipated in the body. A team of engineering students, collaborating with researchers in our labs, has developed a prototype designed to replicate the biomechanical forces of functioning vocal folds.

In recent years there have been reports of cells, scaffolds, and growth factors being injected into vocal folds. To provide appropriate cells, our research team has developed six immortalized lines of human vocal fold fibroblasts. We have also worked with different biomaterials including collagen, hyaluronic acid hydrogels, and acellular human derived dermal preparations as scaffolds. While working with us Shigeru Hirano first demonstrated the capacity of hepatocyte growth factor (HGF) to induce deposition of hyaluronic acid and reduce scarring in injured vocal folds.

Up to this point, we have seen steady advances in vocal fold restoration. Our disciplinary matrix has embraced scientific advances resulting from data expansion, technological breakthroughs, and improved awareness of the role of ECM in vocal fold function. Tissue engineering to achieve regeneration, rather than passive implantation, represents a divergence in how we achieve vocal fold restoration. Scientists and clinicians are generally comfortable with the concept of regenerative medicine, and concerns over potential use of embryonic stem cells have been muted. But, a paradigm shift is on the horizon. In his 2003 address to the National Academy of Sciences, UW genomics professor David Schwartz described the emerging "New Biology" resulting from rapid advances in three data-driven scientific domains: (1) statistics, mathematics, and computer science, (2) physical sciences –physics, chemistry, and engineering, and (3) biological sciences and genetics. We have grown accustomed to thinking about genes, but we can now consider whole genomes –in fact many genomes spanning different populations and species. We can look more closely at single cells, and with developments like mass spectrometry we can see amazing things such as individual proteins. In applying this to the vocal fold restoration, we see the potential of proteomics and genomics in allowing us to focus on the entire complement of vocal fold genes and proteins. Moving away from a paradigm focused on a few key ECM proteins (like collagens, elastins, and HA) or myosin heavy chains in muscle, we are moving towards a new "systems biology" paradigm. In this new paradigm, proteomic science complements genomic science in using data from high through-put biological studies to examine the many post-translational events influencing shape and function that are not predicted from DNA sequence data alone. In our labs, Welham's proteome study is looking at the entire complement of proteins in the vocal fold. This approach serves as a window to large-scale representation of the functional output of vocal folds in heath and disease, reflecting the impact of environmental factors on their protein structure and function. In summary, our work in vocal fold restoration reflects established patterns of scientific advancement.

We have taken some steps and provided what might be considered a leap forward. Now we are fully engaged in a divergent pathway through regenerative medicine that will embrace a "new biology" paradigm. The future will demand much greater cooperation and interdisciplinary synergy.

I want to acknowledge our scientific research team who are largely responsible for the work I've presented. Our senior investigators Drs. Bless, Connor, Jiang, Thibeault, and Welham are shown with some of the many students and post-doctoral fellows who have participated in our labs. It is their imagination, dedication, and ongoing efforts that hold the greatest promise for our continued progress towards achieving a more optimal solution to vocal fold restoration. Finally, I would like to thank Marshal Strome, Marvin Fried, and the entire ALA Council for providing me the opportunity to present this Daniel C. Baker Lecture.

SCIENTIFIC SESSIONS

Vocal Fold Epithelial Response to Inflammatory Stimuli

Mahalakshmi Sivasankar, PhD; Charity Nofzigger, MS;
Bonnie Blazer-Yost, PhD

Vocal fold epithelia are exposed to myriad inflammatory stimuli including airborne viruses, bacteria, and allergens. Vocal folds may also be exposed to serosal inflammatory agents secondary to mucosal lesions. The purpose of this study was to examine whether vocal fold epithelia detect and defend against inflammation. Porcine vocal fold epithelia (N = 12) were exposed to either inflammatory agents or non-inflammatory placebo. Trachea and false folds served as experimental and negative controls. Protein assays and electrophysiological measures were utilized to quantify extent of epithelial response to inflammatory stimuli. A 30 minute exposure to luminal inflammatory stimuli activated protein kinase, and significantly raised signal transduction proteins levels and epithelial resistance. To our knowledge this is the first study to examine nature of vocal fold epithelial defense to inflammatory agents, and is of clinical and theoretical relevance. The application of current findings to pharmacological treatment of vocal fold inflammation will be discussed.

Vibratory Asymmetries in Patients: High-Speed Videoendoscopy and Stroboscopy

Heather S. Bonilha, PhD, CCC-SLP;
Terri Treman Gerlach, PhD, CCC-SLP;
Joanna Piasecki Whiteside, MSP, CFY-SLP;
Dimitar D. Deliyski, PhD

Visualization of the vocal fold structure and function is imperative for accurate diagnoses and optimal treatment for persons with voice disorders. With the advent of commercial high-speed Videoendoscopy (HSV) systems, an increased amount of variation has been appreciated in diagnostically relevant features. Symmetry is a particularly important diagnostic feature since it has been shown to be a sensitive indicator of mass and tension differences in the vocal folds. This study presents findings from the assessment of symmetry from stroboscopy, HSV playback, digital kymography and mucosal wave kymography playback recorded from persons with voice disorders. Our prior normative findings for both habitual and pressed phonation provide a comparison for discussing the results from persons with voice disorders. Statistically significant differences were found between the kymographic HSV playbacks and stroboscopy, as well as between the vocally-normal and patient recordings. The results suggest that HSV playbacks are more sensitive to asymmetries than stroboscopy.

Revision Surgery for the Superficial Injection of Calcium Hydroxylapatite

Neil N. Chheda, MD; Clark A. Rosen, MD
Peter C. Belafsky, MD, PhD; C. Blake Simpson, MD;
Gregory N. Postma, MD

Various techniques are used to treat glottal insufficiency including re-innervation, laryngeal framework surgery and injection laryngoplasty. Calcium hydroxylapatite is commonly used and is both a safe and effective material for injection augmentation. This material is the first long-lasting augmentation material that can be delivered via a fine gauge needle. However, the needle size allows for the accidental superficial injection of calcium hydroxylapatite. We present 6 patients (age range: 19-75) with glottal insufficiency treated with calcium hydroxylapatite injection who experienced this significant complication. All patients underwent revision surgery with 100% experiencing subjective and objective improvement. Methods to prevent this complication during initial injection will be reviewed. The acute and chronic operative management of superficial injection will be presented.

Stellate Cells in the Human Child Vocal Fold

Kiminori Sato, MD, PhD; Tadashi Nakashima, MD

Vitamin A-storing stellate cells (SCs) in the macula flava (MF) of the human vocal fold mucosa (VFM) are hypothesized to be involved in the metabolism of extracellular matrices (EM). In the present study, SCs in the child VFM were examined histologically. Three normal human child vocal folds were used. The SCs were stellate and dense in the children's MF. They had cytoplasmic processes, and lipid droplets were seen in their cytoplasm. There were vesicles along the periphery of the cytoplasm, and newly released amorphous materials were seen on the cell surface. There were reticular, collagenous and elastic fibers around the SCs. Most of the SCs showed CD44 (a cell surface receptor for hyaluronic acid) expression, and a large amount of hyaluronic acid was present around SCs. SCs in the children's MR constantly synthesized EM in the stage of VFM development. SCs in the MR were inferred to be involved in the development of human VFM.

Laryngeal Transplantation in the Setting of Cancer: A Rat Model

Taha Z. Shipchandler, MD; Robert R. Lorenz, MD;
Aysenur Meric Teker, MD; Walter T. Lee, MD;
Olivia Dan, BA; Marshall Strome, MD, MS

Introduction: Traditional immunosuppressive regimens make laryngeal transplantation in cancer patients prohibitive due to the increased risk of recurrence. The purpose of this study was to examine the effects of everolimus on tumor growth in laryngeal transplanted and non-transplanted rats.
Methods: Cancer cells were injected intravenously into rats prior to laryngeal transplantation. Rats were divided based on 4 differing immunosuppressive regiments. Lung surface metastases counts and numerical transplantation rejection scores were recorded.
Results: Median number of lung surface metastases in transplanted rats and laryngeal allograft rejection scores (scale 7-30) were respectively: 1) everolimus: 25, 14 2) control (i.e. no immunosuppression): 85, 25, 3) everolimus + tacrolimus: 1300, 8, 4) tacrolimus: 1650, 13. Rats receiving everolimus alone showed a statistically significantly decrease in pulmonary surface metastases.
Conclusion: Everolimus significantly decreases tumor growth while providing immunosuppressive effects in a combined laryngeal transplantation and cancer model when compared to controls and other immunosuppressive agents.

Extracellullar Matrix Gene Expression after Latrogenic Vocal Fold Injury in a Rat Model

Bernard Rousseau, PhD; Ping Jiang Ge, MD;
Tsunehia Ohno, MD; Lesley C. French, MD;
C. Gaelyn Garrett, MD; Robert H. Ossoff, DMD, MD

The vocal fold lamina propria is maintained by the synthesis and degradation of extracellular matrix components. In the current study, we report the extracellular matrix and inflammatory mediator gene expression in unwounded and wounded rabbit vocal fold 2, 4, 8, 24, 48 and 72 hours after iatrogenic injury. Using real-time reverse transcribed polymerase chain reaction, we measured messenger-RNA expression of interleukin-1β, interleukin-10, transforming growth factor-β1, tumor necrosis factor-α, collagen type-I, III, fibronectin, hyaluronan synthase-2, -3, epidermal growth factor, matrix metalloproteinase-1, -9, and CD-44 from 70 vocal fold specimens. One-way analysis of variance was used to investigate differences in molecular expression levels across time. Results revealed time dependent changes for 11 of the 13 genes investigated. These genes are now being investigated in a rabbit phonation model to determine the cellular and tissue responses to experimental induced phonation, maintenance of the vocal fold lamina propria, and development of pathology.

Scientific Sessions

Regeneration of Aged Vocal Fold: First Human Case Treated with Fibroblast Growth Factor

Shireru Hirano, MD, PhD; Yo Kishimoto, MD;
Atsushi Suchiro, MD; Shin-ichi Kanemaru, MD, PhD

Aged vocal folds are characterized by atrophy of the mucosa, which caused dysphonia and is difficult to treat. We have revealed a therapeutic potential of basic fibroblast growth factor (bFGF) for tissue regeneration of the aged vocal fold using in vitro and animal models. Human study protocol was approved by IRB, and we report here the first human case who has been treated with bFGF therapy. Ten microgram of bFGF was locally injected in the left vocal fold of a 63-year-old male with atrophied vocal folds under topical anesthesia. The atrophy of the vocal fold was improved 1 month after the injection, and glottic gap disappeared. Aerodynamic and acoustic parameters also showed remarkable improvement. This case suggests the effectiveness of bFGF application for regeneration of aged vocal folds.

Treatment Responsiveness of the Singing Voice Handicap Index

Seth P. Cohen, MD, MPH; David Witsell, MD, MHS;
Leda Scearce, MM, MS, CCC-SLP;
Gina Vess, MA, CCC-SLP;
Caroline Banka, MS, CCC-SLP

Introduction: To examine the responsiveness of the previously validated Singing Voice Handicap Index (SVHI) to treatment related changes in patients' singing voice.
Methods: 19 singing patients at a tertiary voice clinic prospectively completed the Voice Handicap Index (VHI) and SVHI at their initial presentation, prior to voice therapy, and at treatment completion.
Results: Patients had lower SVHI scores post-therapy compared to the initial and pre-therapy SVHI scores and no difference between the initial and pre-therapy SVHI scores (ANOVA on Ranks, $p = 0.004$; Dunn's method for multiple comparison, $p < 0.05$ for initial versus post-therapy SVHI and pre- versus post-therapy SVHI, $p > 0.05$ for initial versus pre-therapy SVHI). The Spearman correlation of the VHI difference with the SVHI difference before and after treatment was 0.66 ($p = 0.004$).
Conclusion: The SVHI measures changes in patients' singing vocal health status resulting from treatment and correlates with other validated instruments.

Unilateral Vocal Fold Immobility: A 5-Year Review of Etiology, Intervention and Outcomes

Kaalan Johnson, MD; Melissa Pineda, MD;
John Sinacori, MD

Introduction: Unilateral Vocal Fold Immobility (UVFI) may arise from a variety of etiologies and cause significant symptoms. We reviewed our institutional experience to elucidate relevant etiologies and outcomes.
Methods: A 5-year retrospective review in an academic, tertiary care laryngology practiced. Identified records were examined for data including dysphonia, etiology, interventions, and pre- and post-intervention Voice-Related Quality of Life (V-RQOL) scores.
Results: Forty-four records reviewed. The median age was 56 and follow-up 12 months. Initial procedures included Cymetra® injections in 59% and silastic medialization in 34.9%. Subjective improvements were noted with dysphonia in 76.2% and dysphagia in 26.9%. Improved V-RQOL scores found (mean immediate pre-op, best post-op, and improvements, respectively) for bilateral Cymetra injections (50.5, 80.7, 30.2), left silastic medialization (37.5, 77, 39.5), and right silastic medialization (59.7, 70, 10.3).
Conclusions: Injection laryngoplasty and silastic medialization procedures are effective treatments for UVFI. V-RQOL scores correlate well with subjective findings.

An In-Vivo Phonation Model Using the Ferret to Assess Phonosurgical Interventions

Gerardo Lopez-Guerra, MD; Jim Kobler, PhD;
Hyoungshin Park, PhD; James Heaton, PhD;
Steven M. Zeitels, MD

A novel method for magnified videostroboscopy in live ferrets was designed to assess vocal-fold interventions (i.e. injection procedures). Eighty-four consecutive trials in 45 male ferrets were done before and after scarring and/or augmentation. Subsequent to anesthesia and suspension laryngoscopy, a specially-designed 18-gauge needle was introduced transorally and passed subglottally piercing the trachea ~1cm below the glottis. The tip was brought out through the skin and attached to a humidified air source. A small flange retained the needle in the airway permitting spontaneous respiration. The arytenoids were adducted with microforceps and videostroboscopic recordings of airflow-induced phonation were made using a stroboscope-coupled operating microscope. Aerodynamic pressure and acoustic data were also acquired. The ferrets tolerated the procedures without complications enabling repeated in-vivo phonation. By assessing vocal-fold vibrations before and after surgical interventions, this small-animal model provided a clear advantage over excised-larynx testing. This is valuable given present and future Phonosurgical injectable implant-materials.

Artificial Manipulation of Voice in the Human by an Implanted Stimulator

Michael Broniatowski, MD; Sharon Grundfest-Broniatowski, MD;
Nina S. Zobenica, MSE; Dustin J. Tyler, PhD

Traditional approaches influencing voice quality (e.g., anatomical and chemical denervation for spasmodic dysphonia, surgical medialization for paralysis) have ignored the dynamic nature of the larynx. We report here the first attempt to manipulate voice using an implanted stimulator to systemically control vocal fold adduction. Devices placed for aspiration in three subjects retaining speech after stroke, cerebral palsy and multiple sclerosis, were used to stimulate recurrent laryngeal nerves with 42 Hz, 52-200 μsec pulses of incremental amplitudes during phonation with the tracheostomy tube occluded. Vocal fold adduction increased with stimulation strength ($p < .05$). Speech was analyzed with the VoxMetria® program. We found highly significant differences for fundamental frequency ($p < .007$), jitter ($p < .004$), and shimmer ($p < .005$), between natural and stimulated voice (aah and eeh) when using higher charges. Dynamic vocal fold manipulation appears promising in terms of versatility lacking with static approaches to voice control.

Anterior-Posterior Positioning of Medialization Thyroplasty: Effects on Acoustic and Aerodynamic Parameters in an Excised Canine Larynx Model

Lukasz Czerwonka, BS; Charles N. Ford, MD;
Anthony T. Machi, MD; Jack J. Jiang, MD, PhD;
Glen E. Leverson, PhD

It is assumed that medialization thyroplasty prostheses designed for maximal displacement of the posterior glottis produce the best results; however, there is little objective data on prosthesis design and some evidence that posterior medialization may offer little additional benefit while increasing the risk of complications. An excised canine larynx model of medialization thyroplasty in the setting of unilateral vocal fold paralysis was used to investigate how variations in the anterior-posterior position of the prosthesis affect acoustic and aerodynamic parameters. The result showed overall favorable changes with posterior medialization to glottal area, airflow, acoustic intensity, signal to noise ratio, jitter and shimmer. Although these changes were statistically significant, there was great inter-larynx variability and the phonation threshold pressure generally rose with posterior placement, as did the force necessary to medialize the vocal fold. The results highlight the importance of intra-operative voice assessment and provide valuable information on prosthesis design and adjustment.

Control of Vocal Fold Cover Stiffness by Laryngeal Muscles

Dinesh Chhetri, MD; Gerald S. Berke, MD;
Ali Lotfizadeh, BS; Eric Goodyer, MSc

Viscoelastic change of the vocal folds is important in neuromuscular control of voice production. The shear modulus of the vocal fold cover layer was studied using a linear skin rheometer with a suction probe. In an ex vivo human larynx, lateral cricoarytenoid muscle and cricothyroid muscle activity was simulated with gradual tension of arytenoid adduction sutures and stepwise cricothyroid approximation, respectively. In an in vivo canine larynx, thyroarytenoid and cricothyroid muscles were stimulated by graded current applied to the recurrent laryngeal nerve (RLN) the superior laryngeal nerves (SLN), respectively. In the ex vivo larynx, the shear modulus increased to 1.5 times baseline value with arytenoid adduction and five times with cricothyroid approximation. In the in vivo larynx, it increased 1.5 times with RLN stimulation and 2.5 times with SLN stimulation. While both RLN and SLN stimulation increase cover stiffness, cricothyroid muscle activity results in the most dramatic increase.

Bio-Engineered Scaffold with Fibroblasts for Tracheal Regeneration in Rabbit Model

Wataru Okano, MD; Yukio Nomoto, MD; Teruhisa Suzuki, MD;
Tatsuo Nakamura, MD; Koichi Omori, MD

Purpose: The purpose of this study is to evaluate the bio-engineered scaffold with fibroblasts for tracheal regeneration in rabbit model. Methods: We developed the bio-engineered scaffold which consisted of polypropylene mesh, collagen sponge and collagenous gel with fibroblasts. Thebio-engineered scaffolds were implanted in the tracheal defect of rabbits, while the scaffolds without fibroblasts were implanted in the control. The regenerated tracheas were histologically examined. Results: Fourteen days after implantation, the intra-luminal surface was mostly covered by the columnar cuboidal ciliated epithelium in the bio-engineered model, while the surface was mostly covered by stratified squamous epithelium without the columarciliated epithelium in the control. The thickness of the regenerated epithelial layer in bio-engineered model was larger than that in the control. Conclusion: This study indicates that fibroblasts in the bio-engineered scaffold had the stimulatory effect of accelerating the epithelial regeneration in rabbit models.

Measurement of the Cricoid Cartilage Dimensions for the Cricoid Implantation

Hyun-Woo Shin, MD; Myung-Whun Sung, MD;
Kwang Hyun Kim, MD; Tack-Kyun Kwon, MD

We developed an endoscopic arytenoid adduction procedure using a cricoid implant in previous animal study. In this study, we measured actual size of the cricoid cartilage and degree of ossification in human. One hundred and forty laryngeal computed tomographs with thin section scan obtained at Seoul National University Hospital were reviewed. Under standardized window setting, the height of the cricoid cartilage, the thickness of marrow space and cortex were measured. Mean height of the cricoid was 14.6 mm (7.5 – 22.5) in women and 20.5 mm (15.0-27.5) in men. Mean thickness of the marrow of the cricoid was 3.17mm (0-4.75) and 5.13 mm (3.42-7.60) respectively. This study shows that the human adult cricoid cartilage has enough marrow space for the implantation and an individualized application of the cricoid implantation is necessary according to the size of the marrow space.

Morphological and Functional Characteristics of Human Vocal Fold Fibroblast Cells

Xia Chen, MD, PhD; Susan Thibeault, PhD

To date, normal human vocal fold fibroblasts (hVFF) cell lines are unavailable commercially and are very difficult to acquire. We were able to develop 3 normal hVFF primary cell lines from donors aged 21 (21T) 59 (59T) and 79 (79T) years. The purpose of this study was to examine and compare the morphologic and proliferation characteristics and gene expression of these lines. The 21T line maintained atypical spindle shape until passage 14 whereas 59T and 79T changed morphology to wider, shorter cells at passage 7. Proliferation rates were constant for the 21T lines through passage 14, 59T and 79T half life was passage 7. Gene expression levels for fibronectin, collagen I, collagen IV, procollagen I and elastic remained constant between lines through 14. This study demonstrates that hVFF have limited proliferative capacity, differing morphology depending upon the age of the donor and similar gene expression levels.

Bilateral Endoscopic Medial Arytenoidectomy: Objective Results

Adi Fever-Primov, MD; Stephane Hans, MD, PhD;
Lise Crevies-Buchman, MD, PhD;
Dana Hartl, MD, PhD; Daniel Brasnu, MD*

To evaluate the acoustic and aerodynamic outcomes of endoscopic medial arytenoidectomy (ELMA) for bilateral vocal fold paralysis (VHFP), four female patients with BVFP (latrogenic, n=3, neoplastic, n=1) without tracheostomy were evaluated prospectively. All had dyspnea on mild exertion. Acoustic measurements (fundamental frequency, jitter, shimmer, harmonics to noise ratio), phonatory outflow, subglottic pressure, laryngeal resistance, spirometric airflows and voice handicap index (VHI) were measured pre- and 3 months post-operatively. All patients reported subjective improvement in breathing. The VHI was not modified. Acoustic parameters were not significantly altered. A trend was noted for increased phonatory airflow, and for a decrease in subglottic pressure, glottic resistance and vocal efficiency (p=.068 for each parameter). Spirometric parameters did not change significantly. ELMA is a safe and effective procedure for the preservation of voice in BVFP. The subjective improvement was not confirmed by the objective aerodynamic measurements, however.

Diagnosis and Management of Laryngotracheal Stenosis: A 10-Year Review

Rose C. Stavinoha, MD; Tapan Padhya, MD;
Yash Patil, MD; Ren Chen, MD, MPH;
Thomas McCaffrey, MD, PhD

Objectives: Laryngotracheal stenosis is a difficult problem with a variety of management options. We sought to review our experience with reference to mitomycin C.
Methods: We retrospectively reviewed a series of 103 patients treated for laryngotracheal stenosis between 1996 and 2006 at an academic, tertiary referral center with respect to presentation, treatments, and outcomes.
Results: 66 female and 37 male patients were treated by endoscopic dilation +/- mitomycin C, tracheal resection, and laryngotracheoplasty. Stenoses less than 1cm were successfully treated with dilation alone (p=.0002) while longer stenoses were better managed by major reconstruction (p=.0012). Mitomycin C did not decrease the number of interventions or the need for a major intervention.
Conclusions: Patients undergoing treatment for laryngotracheal stenosis often require multiple procedures. Major and minor interventions each play an important role in treatment depending on the severity of the stenosis.

Functional MRI Study of Vestibular Cortex with Caloric Stimulation and Eye Tracking

Fenglei Xu, PhD, MD; Lining Feng, PhD, MD; Kenneth M. Grundfast, MD
Dae-shik Kim, PhD; Erb Kelley; Ethan Bortniker;
Alphi Elackattu, MD; Zhi Wang, MD

A preliminary study has been done using functional MRI in to identify the locus of brain activity in human subjects with caloric stimulation. One-shot continuous cold water irrigation was used in healthy volunteers. The time course of the reaction was determined by the reported subjective sensation of vertigo and the objective finding of nystagmus recorded with an eye tracking device. The results showed that single-run stimulation could induce a strong, rapid reaction without head elevation. The occurrence of nystagmus could be distinctly identified in subject with eyes opened in a darkened room. f-MRI brain activations were detected in the cerebral cortex mostly around the lateral sulcus. Data analysis implies that unilateral caloric stimulation may produce either excitation or suppression between the right and left pathways. This study suggests that single-run cold water caloric stimulation combined with use of an eye tracking system can be used in f-MRI associated vestibular study.

Inflammatory Response and Collagen Turnover Following Pulsed Dye Laser Treatment of Vocal Folds and Vocal Fold Fibroblast Cells

Lin Ya; Jingxian Zhang, PhD; Masaru Yamashita, MD, PhD;
Seth H. Dailey, MD; Nathan V. Welham, PhD

The 585-nm pulsed dye laser (PDL) is commonly utilized for the treatment of vascular and epithelial vocal fold lesions; however, there are anecdotal reports that it may improve scar outcomes, perhaps by altering extracellular matrix (ECM) turnover, in certain patients. The purpose of this study was to evaluate the effects of PDL treatment on a selected group of inflammatory and procollagen/collagens genes in normal rat vocal folds, and vocal fold fibroblast cells. Vocal folds and fibroblasts were treated with 5-50J/cm^2 PDL fluence and harvested at four time points. The mRNA expression profiles of TGF-ß1, COX-2, IL-Iß, IL-6, MMP-8, MMP-13, Procollagen I and Procollagen III were examined using real time (RT-PCR. Our results indicated a stable inflammatory response alongside alterations in procollagen/collagenase expression, suggesting that PDL treatment does alter gene expression in fibroblasts within the vocal fold ECM.

Initial Geographic Presentation of Glottal Dysplasia

Yonatan Lahav, MD; Steve Feinberg, MD; James A. Burns, MD;
Steven M. Zeitels, MD

Glottal dysplasia is likely the most common laryngeal disease with a discernable lesion, however, investigations describing its *initial* geographic presentation are rare. To examine this, 43 patients were identified who did not have significant prior treatment or glottal cancer. Twenty-five patients had bilateral disease so that there were 68 vocal folds with precancerous dysplasia. The phonatory mucosa was the dominant disease site in all; the epicenter was on the superior surface in 47/68 and medial surface in 2/68. The arytenoid mucosa was involved in 7/68 vocal-folds. Sixteen of 43 patients had direct anterior commissure involvement and 0/43 had interarytenoid mucosal disease. This investigation established the commonly-held principle that glottal dysplasia primarily occurs in phonatory mucosa. Given the frequent occurrence and recurrence of glottal dysplasia, treatment goals should focus on disease control to prevent malignant degeneration while preserving the subepithelial superficial-lamina-propria necessary for mucosal pliability.

Radiofrequency Ablation of Oral Cavity Squamous Cell Carcinoma in a Hamster Model

Heather Coffman, MD; Steven Tinling, PhD;
Brian Poirier, MD; Peter C. Belafsky, MD, PhD

Introduction: Radiofrequency ablation (RFA) has been utilized as a minimally invasive treatment option for multiple different tumors. There has been little investigation of RFA for head and neck cancer.
Purpose: To evaluate the ability of RFA to treat squamous cell carcinoma (SCCA) of the oral cavity.
Methods: Fifteen hamsters were painted with dimethylbenz[a]anthracene in the buccal cheek pouch three times a week for 15 weeks. 19 oral SCCAs were treated with two courses of RFA. Pre and post RFA biopsy specimens were evaluated.
Results: Five invasive SCCAs were treated. Three displayed invasive SCCA and 2 regressed to dysplasia. Nine tumors were treated for carcinoma-in-situ (CIS). Post-treatment histopathology revealed CIS in 1, invasive SCCA in 3, dysplasia in 1, and no evidence of dysplasia or carcinoma in 4.
Conclusion: Treatment of oral SCCA with RFA is feasible. The limitations of this animal model and future areas of investigation will be discussed.

The Correlation Between Intraglottal Vorticity and Higher Frequencies in Symmetric vs. Asymmetric Vocal Fold Motion

Sid Khosla, MD; S. Murugappan, PhD
R. LakhamRaju, MS; E.J. Gutmark, PhD

Introduction: Decreasing the closing speed of the vocal folds can reduce higher frequencies, resulting in reduced intelligibility. Our aim was to study the correlation between higher frequencies and the intraglottal Vorticity (which contributes to rapid closing by producing transient negative intraglottal pressures).
Method: Using 6 excised canine larynges (3 with symmetric and 3 with asymmetric, periodic vocal fold motion), Intraglottal Vorticity was measured using Particle Imaging Velocimetry.
Results: There is a strong correlation between intraglottal vorticity, and acoustic energy in the higher frequencies; in periodic asymmetric motion, the vorticity and higher frequencies are both reduced.
Conclusions: For unilateral vocal fold paralysis, these findings suggest why periodic, asymmetric motion, may produce an abnormal voice. Further study will help determine when and why reinnervation, as opposed to medialization, may result in better voice quality.

MEMORIALS

Henry Shaw was a pre-eminent otolaryngologist and head and neck surgeon. He was born in Stafford on 16 March 1922, the son of Benjamin Henry Shaw, a physician, psychiatrist, artist and fisherman, and Adelaide née Hardy, who became a JP and Staffordshire County councillor. His father came from a distinguished Anglo-Irish family with one relative an army surgeon at Waterloo, another in the 32nd Foot in the same campaign; George Bernard Shaw was an ancestor.

Educated at Summer Fields School, Oxford, and Eton College, Henry Shaw read medicine at Oxford University and the Radcliffe Infirmary, where he held junior appointments. Perhaps influenced by R G Macbeth and G Livingstone, otolaryngologists at Oxford, he became registrar and senior registrar at the Royal National Throat, Nose and Ear (RNTNE) Hospital and Guy's Hospital, London. He was appointed to a Hunterian professorship at the College (1951).

After a fellowship and residency at the Sloan Memorial Hospital, New York (1953 to 1954), Henry Shaw was appointed assistant director of the professorial unit and senior lecturer at the RNTNE Hospital and the Institute of Laryngology and Otology. During this time he spent a further year in New York as senior resident at the Bellvue Hospital. In 1962 he was appointed consultant ENT surgeon to the RNTNE Hospital. This appointment was combined with a consultancy at the Royal Marsden Hospital, an honorary consultancy to St Mary's Hospital and the post of ENT surgeon to the Civil Government and St Bernard's Hospital, Gibraltar. In addition he was civilian consultant ENT surgeon to the Royal Navy. He retired in 1988.

Henry Shaw's professional life was devoted to the care of those suffering from cancer of the head and neck. His appointments at the Royal Marsden and RNTNE Hospital enabled him to lead the field in this aspect of otolaryngology. He wrote many publications, lectured nationally and internationally, and became a founder member and treasurer of the Association of Head and Neck Oncologists of Great Britain, president of the section of laryngology, Royal Society of Medicine, member of council, executive committee and professional care committee of the Marie Curie Cancer Care Foundation and a member of the Armed Services Consultant Appointment board.

During the Second World War Henry Shaw served as a surgeon lieutenant in the RNVR. He continued in the Royal Naval Reserve, advancing to surgeon lieutenant commander. He was awarded the Volunteer Reserve Decoration in 1970.

Henry Shaw was a gentlemanly person who achieved a great deal in a quiet way. He was never happier than when sailing boats of any kind. His long family association with St Mawes in Cornwall (where he eventually retired) enabled him to indulge fully in this hobby. He married Susan Patricia Head (née Ramsey) in 1967. They had no children of their own, but he gained a stepson and stepdaughter. The marriage was dissolved in 1984 and he married Daphne Joan Hayes (née Charney) in 1988, from whom he gained a further two stepdaughters. He died on 1 August 2007.

MEMORIALS

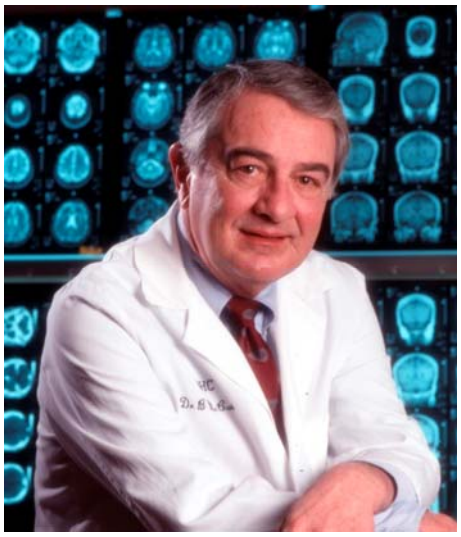
Dear Fellows:

It is with deep regret that I inform you of the passing of Brian F. McCabe, M.D., on October 7, 2007 in Iowa City, Iowa, following a lengthy illness. A Funeral Mass was held at St. Mary's Catholic Church in Iowa City on Tuesday, October 9th.

Dr. McCabe became an Active Fellow of the ALA in 1966 and was elevated to Emeritus Status in 1992.

A native of Detroit, Michigan, Dr. McCabe attended the University of Detroit Jesuit High School prior to joining the Navy in 1943 as a medical corpsman. He later attended the University of Detroit where he received his B.A. degree. He graduated from the University of Michigan School of Medicine, Ann Arbor in 1954 where he also completed his residency in Otolaryngology. He later joined the faculty there. In 1964 Dr. McCabe was appointed Chairman of the Department of Otolaryngology at the University of Iowa Carver College of Medicine where he remained until his retirement and elevation of Professor Emeritus in 1996. To show appreciation of his dedication to the many faculty, residents, and medical students, a great honor was bestowed upon him with the naming of the Brian F. McCabe Distinguished Chair in Otolaryngology – Head and Neck Surgery.

Throughout his career, Dr. McCabe wrote and published extensively. He was considered a pioneer in ear surgery. For many years, he served as the editor of *The Annals,* an international journal for otolaryngology. Dr. McCabe was active in many national and international medical society and boards, including serving as President of the American Otologic Society



and as a senior examiner for the American Board of Otolaryngology. Throughout his 40+ years in the medical field, he received numerous awards. He also organized a group of physicians who traveled to several Chinese cities to present lectures and surgical techniques at the request of the Chinese Medical Association in 1980, 1981, and 1983. After retirement, Dr. McCabe enjoyed sailboat racing and sailing with his family on Lakes Michigan and Huron. He was an avid reader and word-smith as well as enjoyed working crossword puzzles.

In addition to his many professional accomplishments, Dr. McCabe was a dedicated husband, father, and grandfather. He leaves as his survivors, his loving wife of 56 years, Yvonne; his son, Brian Jr. and family; daughter, Bevin; other family; numerous friends and colleagues.

At the request of Dr. McCabe and his family, memorial contributions may be to the Alzheimer's Association, 225 N. Michigan Ave., 17th Floor, Chicago, IL 60601-7638. All donations should specify "research."

MEMORIALS

Dear Fellows:

It is with regret that I inform you of the passing of Dr. Douglas Bryce, an Emeritus Fellow, on March 10, 2008 at the age of 91 years old.

Dr. Bryce served as Chair of the Department of Otolaryngology - Head & Neck Surgery, University of Toronto from 1966 to 1982. He was clearly a pioneer head and neck surgeon, educator and leader who had a distinguished career. After his military service, he was the first graduate of the Toronto ORL program and then joined the staff of Toronto General Hospital, becoming the first full time Professor of Otolaryngology in 1966, a position he held until 1982.

Under his stewardship the Department doubled in size, turning out 6 graduates a year and formalized a post residency fellowship program. He was responsible for recruiting clinicians and scientists who created the pre-eminent Canadian Department of the day. Trainees, Fellows and staff went on to head many Departments in Canada and abroad. At the end of the Bryce era the Department of Otolaryngology was well known and respected throughout the world. In all, 89 residents graduated and 52 fellows were trained in the Bryce era.

Dr. Bryce will always be remembered for the 1974 seminal conference he organized on all aspects of Laryngeal cancer that was published and is often referred to 34 years later. During his stellar career, he pioneered a technique of laryngotracheal reconstruction, which was often the consequence of car accidents in the pre-seat belt era.

Dr. Bryce served as President of the American Laryngological Association in 1985. An Emeritus Professor of Otolaryngology at the University of Toronto, Dr. Bryce was also an Honorary MD at Linkoping University, Honorary Fellow of the Royal Colleges of Surgeons of Edinburgh and Ireland, Past President of the Canadian Society of Otolaryngology - H&N Surgery, the American Head and Neck Society, Past Vice President of the Eastern Section of the Triological Society and the American Academy of ORL-HNS.

Douglas was predeceased by his loving wife of 64 years, Elizabeth. He will be sadly missed by his children: Peter (Heather), Bonnie (Hoot), Douglas (Helen) and Alison (Jeff); grandchildren; great-grandchildren; and his many friends and colleagues.

A celebration of his life was held on Friday, March 14, 2008 at the Metropolitan United Church in Toronto.

OFFICERS 1879 - 2008

Presidents

1879	Louis Elsberg	1922	Emil Mayer	1966	Joel J. Pressman
1880	J. Solis-Cohen	1923	J. Payson Clark	1967	Lawrence R. Boies
1881	F. I. Knight	1924	Lee Wallace Dean	1968	Francis W. Davison
1882	G. M. Lefferts	1925	Greenfield Sluder	1969	Alden H. Miller
1883	F. H. Bosworth	1926	Chevalier Jackson	1970	DeGraaf Woodman
1884	E. L. Shurly	1927	D. Bryson Delavan	1971	F. Johnson Putney
1885	Harrison Allen	1928	Charles W. Richardson	1972	Frank D. Lathrop
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1887	R. P. Lincoln	1930	Francis R. Packard	1974	Daniel C. Baker, Jr
1888	E. C. Morgan	1931	George E. Shambaugh	1975	Joseph H. Ogura
1889	J. N. Mackenzie	1932	George Fetterolf	1976	Stanton A. Friedberg
1890	W. C. Glasgow	1933	George M. Coates	1977	Charles M. Norris
1891	S. W. Langmaid	1934	Dunbar Roy	1978	Charles F. Ferguson
1892	M. J. Asch	1935	Burt R. Shurly	1979	John F. Daly
1893	D. Bryson Delavan	1936	William B. Chamberlain	1980	John A. Kirchner
1894	J. O. Roe	1937	John F. Barnhill	1981	Daniel Miller
1895	W. H. Daly	1938	George B. Wood	1982	Harold C. Tabb
1896	C. H. Knight	1939	James A. Babbitt	1983	M. Stuart Strong
1897	T. R. French	1940	Gordon Berry	1984	John S. Lewis
1898	W. E. Casselberry	1941	Thomas E. Carmody	1985	Gabriel F. Tucker, Jr
1899	Samuel Johnston	1942-3	Charles J. Imperatori	1986	Douglas P. Bryce
1900	H. L. Swain	1944-5	Harold I. Lillie	1987	Loring W. Pratt
1901	J. W. Farlow	1946	Frank R. Spencer	1988	Blair Fearon
1902	J. H. Bryan	1947	Arthur W. Proetz	1989	Seymour R. Cohen
1903	J. H. Hartman	1948	Frederick T. Hill	1990	Eugene N. Myers
1904	C. C. Rice	1949	Ralph A. Fenton	1991	James B. Snow, Jr
1905	J. W. Gleitsmann	1950	Gordon B. New	1992	John M. Fredrickson
1906	A. W. de Roaldes	1951	H. Marshall Taylor	1993	William R. Hudson
1907	H. S. Birkett	1952	Louis H. Clerf	1994	Byron J. Bailey
1908	A. Coolidge, Jr	1953	Gordon F. Harkness	1995	H. Bryan Neel III
1909	J. E. Logan	1954	Henry B. Orton	1996	Paul H. Ward
1910	D. Braden Kyle	1955	Bernard J. McMahon	1997	Robert W. Cantrell
1911	James E. Newcomb	1956	LeRoy A. Schall	1998	John A. Tucker
1912	George A. Leland	1957	Harry P. Schenck	1999	Lauren D. Holinger
1913	Thomas Hubbard	1958	Fred W. Dixon	2000	Gerald B. Healy
1914	Alexander W. MacCoy	1959	William J. McNally	2001	Harold C. Pillsbury III
1915	G. Hudson Makuen	1960	Edwin N. Broyles	2002	Stanley M. Shapshay
1916	Joseph L. Goodale	1961	Dean M. Lierle	2003	Gerald S. Berke
1917	Thomas H. Halsted	1962	Francis E. LeJeune	2004	W. Frederick McGuirt, Sr.
1918	Cornelius G. Coakley	1963	Anderson C. Hilding	2005	Robert H. Ossoff
1919	Norval H. Pierce	1964	Albert C. Furstenberg	2006	Robert T. Sataloff
1920	Harris P. Mosher	1965	Paul Holinger	2007	Gayle E. Woodson
1921	Harmon Smith			2008	Marshall Strome

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1880	W. C. Glasgow, J. O. Roe
1881	E. L. Shurly, W. Porter
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1883	S. W. Langmaid, S. Johnston
1884	J. H. Hartman, W. H. Daly
1885	H. A. Johnson, G. W. Major
1886	E. C. Morgan, J. N. Mackenzie
1887	J. N. Mackenzie, S. W. Langmaid
1888	W. C. Glasgow, C. E. DeM. Sajous
1889	F. Holden, C. E. Bean
1890	J. O. Roe, J. H. Hartman
1891	M. J. Asch, S. Johnston
1892	S. Johnston, J. C. Mulhall
1893	J. C. Mulhall, W. E. Casselberry
1894	C. C. Rice, S. H. Chapman
1895	J. Wright, A. W. de Roaldes
1896	T. M. Murray, D. N. Rankin
1897	A. W. MacCoy, H. S. Birkett
1898	J. W. Farlow, F. W. Hinkel
1899	T. A. DeBlois, M. R. Brown
1900	H. L. Wahner, A. A. Bliss
1901	J. W. Gleitsmann, D. Braden Kyle
1902	G. A. Leland, T. Melville Hardie
1903	J. H. Lowman, W. Peyre Porcher
1904	Thomas Hubbard, W. J. Freeman
1905	J. L. Goodale, C. W. Richardson
1906	G. H. Makuen, A. R. Thrasher
1907	J. P. Clark, J. E. Rhodes
1908	E. Mayer, F. R. Packard
1909	C. G. Coakley, H. P. Mosher
1910	Robert C. Myles, J. M. Ingersoll

Vice Presidents (First and Second)

1911	F. C. Cobb, B. R. Shurly
1912	A. W. Watson, W. Scott Renner
1913	F. E. Hopkins, George E. Shambaugh
1914	Clement T. Theisen, Lewis A. Coffin
1915	J. Gordon Wilson, Christian R. Holmes
1916	Thomas H. Halsted, Greenfield Sluder
1917	John Edwin Rhodes, D. Crosby Greene
1918	George E. Shambaugh, John R. Winslow
1919	Francis R. Packard, Harmon Smith
1920	Harmon Smith, W. B. Chamberlin
1921	Dunbar Roy, Robert C. Lynch
1922	George Fetterolf, Lorenzo B. Lockard
1923	Hubert Arrowsmith, Joseph B. Greene
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1925	John E. Mackenty, Robert Levy
1926	Lewis A. Coffin, William V. Mullin
1927	Charles W. Richardson, Hill Hastings
1928	Robert Clyde Lynch, Francis P. Emerson
1929	William B. Chamberlin, Ralph Albert Fenton
1930	Harris P. Mosher, James A. Babbitt
1931	Joseph B. Greene, E. Ross Faulkner
1932	Gordon Berry, Frank R. Spencer
1933	E. Ross Faulkner, Thomas S. Carmody
1934	Gordon B. New, Samuel McCullagh
1935	Edward C. Sewall, H. Marshall Taylor
1936	William P. Wherry, Harold I. Lillie
1937	Frank R. Spencer, Bernard J. McMahon
1938	Ralph A. Fenton, Frederick T. Hill
1939	John H. Foster, Thomas R. Gittins
1940	Charles H. Porter, Gordon F. Harkness
1941	Arthur W. Proetz, Henry B. Orton
1942-3	Harold I. Lillie, Dean M. Lierle
1944-5	John J. Shea, Thomas C. Galloway
1946	H. Marshall Taylor, C. Stewart Nash
1947	John J. Shea, Frederick A. Figi
1948	Henry B. Orton, Anderson C. Hilding
1949	LeRoy A. Schall, Fletcher D. Woodward
1950	W. Likely Simpson, Lyman G. Richards
1951	William J. McNally, Thomas C. Galloway
1952	J. Mackenzie Brown, Edwin N. Broyles
1953	Claude C. Cody, Daniel S. Cunning
1954	James H. Maxwell, Clyde A. Heatly
1955	Robert L. Goodale, Paul H. Holinger
1956	Henry M. Goodyear, Robert E. Priest
1957	Francis E. LeJeune, Pierre P. Viole
1958	Charles Blassingame, Chevalier L. Jackson
1959	James H. Maxwell, Oliver Van Alyea
1960	Walter Theobald, Anderson C. Hilding
1961	Julius W. McCall, P. E. Ireland
1962	Paul M. Moore, Jerome A. Hilger
1963	Paul M. Holinger, Lester A. Brown
1964	B. Slaughter Fitz-Hugh, Daniel C. Baker
1965	C. E. Munoz-MacCormick, Arthur J. Cracovaner
1966	Lawrence R. Boies, G. Edward Tremble
1967	John F. Daly, Stanton A. Friedberg
1968	DeGraaf Woodman, John Murtagh
1969	Joseph P. Atkins, Stanton A. Friedberg
1970	Robert B. Lewy, Oliver W. Suehs
1971	James A. Harrill, James D. Baxter
1972	Francis L. Weille, Sam H. Sanders
1973	William H. Saunders, Blair Fearon
1974	Joseph H. Ogura, Douglas P. Bryce John A. Kirchner John
1975	S. Lewis, Edwin W. Cocke, Jr
1976	Emanuel M. Skolnik, John T. Dickinson
1977	J. Ryan Chandler, Herbert H. Dedo
1978	John E. Bordley, Lester A. Brown
1979	Albert H. Andrews, Seymour R. Cohen
1980	John Frazer, George A. Sisson

Vice-Presidents (Presidents-Elect)

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1982	John S. Lewis	1991	William R. Hudson	2000	Stanley M. Shapshay
1983	Gabriel F. Tucker, Jr	1992	Byron J. Bailey	2001	Gerald S. Berke
1984	Douglas P. Bryce	1993	H. Bryan Neel, III	2002	W. Frederick McGuirt, Sr.
1985	Loring W. Pratt	1994	Paul H. Ward	2003	Robert H. Ossoff
1986	Blair Fearon	1995	Robert W. Cantrell	2004	Robert T. Sataloff
1987	Seymour R. Cohen	1996	John A. Tucker	2005	Gayle E. Woodson
1988	Eugene N. Myers	1997	Lauren D. Holinger[	2006	Marshall Strome
				2007	Roger L. Crumley
1989	John B. Snow, Jr.	1998	Gerald B. Healy		

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1879	G. M. Lefferts	1889	C. H. Knight	1900	P. E. Newcomb
1882	D. Bryson Delavan	1895	H. L. Swain	1911	Harmon Smith

Secretaries

1912	Harmon Smith	1942	Arthur W. Proetz	1977	William MacL. Trible
1918	D. Bryson Delavan	1947	Louis H. Clerf	1982	Eugene N. Myers
1919	J. M. Ingersoll	1952	Harry P. Schenck	1988	H. Bryan Neel III
1920	George M. Coates	1957	James H. Maxwell	1993	Gerald B. Healy
1933	William V. Mullin	1959	Lyman G. Richards	1998	Robert H. Ossoff
1935	James A. Babbitt	1968	Frank D. Lathrop	2003	Marvin P. Fried
1939	Charles J. Imperatori	1972	John F. Daly	2008	C. Gaelyn Garrett

Treasurers

1912	J. Payson Clark	1953	Fred W. Dixon	1990	Robert W. Cantrell
1912	George Fetterolf	1958	Francis E. LeJeune	1995	Harold C. Pillsbury, III
1932	William V. Mullin	1962	Alden H. Miller	1999	Robert T. Sataloff
1933	James A. Babbitt	1969	Charles M. Norris	2005	Allen D. Hillel
1935	Charles J. Imperatori	1976	Harold G. Tabb	2006	Michael S. Benninger
1939	Frederick T. Hill	1981	Loring W. Pratt		
1948	Gordon F. Harkness	1985	John M. Fredrickson		

Librarians

1879	F. H. Bosworth	1903	J. H. Bryan	1934	Burt R. Shurly
1883	T. R. French	1930	John F. Barnhill	1935	George M. Coates

Librarian and Historian

1936	George M. Coates	1944	LoLouis H. Clerf

Librarian, Historian and Editor

1947	Harry P. Schenck	1971	Charles F. Ferguson	1997	Stanley M. Shapshay
1952	Bernard J. McMahon	1977	Gabriel F. Tucker, Jr	2000	Gayle E. Woodson
1955	Edwin N. Broyles	1983	James B. Snow, Jr	2005	C. Gaelyn Garrett
1960	Francis W. Davison	1989	Paul H. Ward	2008	Mark S. Courey
1964	F. Johnson Putney	1994	Ernest A. Weymuller, Jr		

DECEASED FELLOWS

Dates indicate original election to the Association

Honorary Fellows

1946	Alonso, Justo M., Montevideo, Uruguay
1992	Aschan, Gunnar K., Linköping, Sweden
1908	Barnhill, John F., Miami Beach, FL
1983	Birkett, Herbert S., Montreal, CN
1878	Bosworth, Francke H., New York, NY
1940	Broyles, Edwin N., Baltimore, MD
1917	Coates, George M., Philadelphia, PA
1925	Clerf, Louis H., St Petersburg, FL
1957	Conley, John J., New York, NY
1960	Daly, John F., Fort Lee, NJ
1818	Dean, Lee Wallace, St Louis, MO
1881	Delavan, D. Bryson, New York, NY
1891	De La Sota y Lastra, Ramon, Seville, Spain
1893	de Roaldes, Arthur W., New Orleans, LA
1923	Fenton, Ralph A., Portland, OR
1879	French, Thomas R., Brooklyn, NY
1936	Galloway, Thomas C., Evanston, IL
1880	Garcia, Manuel, London, ENG
1986	Gould, Wilbur J., New York, NY
1903	Harris, Thomas J., New York, NY
1971	Harrison, Sir Donald F. N., Surrey, England
1943	Hilding, Anderson C., Duluth, MN
1928	Hill, Frederick T., Waterville, ME
1948	Holinger, Paul H., Chicago, IL
1957	Huizinga, Eelco, Groningen, the Netherlands
1907	Jackson, Chevalier, Schwenksville, PA
1878	Johnston, Samuel, Baltimore, MD
1878	Lefferts, George Morewood, Katonah, NY
1914	Levy, Robert, Denver, CO
1918	Lewis, Fielding O., Media, PA
1933	Lierle, Dean M., Iowa City, IA
1883	Mackenzie, John N., Baltimore, MD
1881	Mackenzie, Sir Morell, London, ENG
1910	Masser, Ferdinand, Naples, Italy
1904	Mosher, Harris P., Marblehead, MA
1910	Moure, J. J. E., Bordeaux, France
1937	Nager, F. R., Zurich, Switzerland
1930	Negus, Sir Victor E., London, ENG
1818	Oliver, H. K., Boston, MA
1957	Ono, Jo, Tokyo, Japan
1906	Pierce, Norval Harvey, San Diego, CA
1937	Portmann, Georges, Bordeaux, France
1924	Proetz, Arthur C., St Louis, MO
1957	Ruedi, Luzius, Zurich, Switzerland
1932	Schall, LeRoy A., Boston, MA
1909	Semon, Sir Felix, Great Missenden, England
1878	Solis-Cohen, J., Philadelphia, PA
1973	Som, Max L., New York, NY
1889	Swain, Henry L., New Haven, CT
1914	Thomson, Sir St Clair, London, ENG
1903	Tilley, Herbert, London, ENG
1914	Wagner, Clinton, New York, NY
1948	Williams, Henry L., Rochester, MN
1951	Woodman, DeGraaf, New York, NY
1890	Wright, Jonathan, Pleasantville, NY

Corresponding Fellows

1978	Arauz, Juan Carlos, Buenos Aires, Argentina
1972	Arslan, Michele, Padua, Italy
1942	Batson, Oscar V., Philadelphia, PA
1938	Blair, Vilray P., St Louis, MO
1892	Browne, Lennox, London, England
1968	Cawthorne, Sir Terence, London, England
1964	Cleves, Carlos, Bogota, Colombia
1940	Colledge, Lionel, London, England
1901	Collier, Mayo, Kearsney Abbey, Kent, England
1893	Desvernine, Carlos M., Havana, Cuba
1966	Dohlman, Gösta, East Bradenton, FL
1943	Eggston, Andrew A., New York, NY
1930	Emerson, Francis P., Franklin, MA
1961	Faaborg-Anderson, Kund, Nykobing, Denmark
1936	Fraser, John S., Edinburgh,UK
1887	Gougenheim, A., Paris, France
1901	Grant, Sir James Dundas, London, England
1984	Holden, Edgar, Newark, NJ
1970	Hutcheon, Jack R., Brisbane, Australia
1985	Inouye, Tetsuzo, Saitama, Japan
1919	Kelly, Adam Brown, Helensburgh, Scotland
1978	Kleinsasser, Oskar, Marburg, Germany
1881	Labus, Carlo, Milan, Italy
1950	Larsell, Olof, Portland, OR
1931	LaSagna, Francesco, Parma, Italy
1926	Law, Frederick M., New York
1921	LeMaitre, Ferdinand, Paris
1902	Lermoyez, Marcel, Paris, France
1897	Luc, H., Paris, France
1970	Macbeth, Ronald G., Oxford, England
1896	MacDonald, Greville, Haslemere, England
1894	MacIntyre, John, Glasgow, Scotland
1903	McBride, P., York, England
1920	McKenzie, Dan, London, England
1919	McKernon, James F., New Canaan, CT
1880	Meyer, Wilhelm, Copenhagen, Denmark
1896	Mygind, Holger, Copenhagen, Denmark
1950	Neil, James Hardie, Auckland, New Zealand
1919	Paterson, Donald Rose, Cardiff, Wales
1941	Patterson, Norman, Herts, England
1971	Rethi, Aurelius, Budapest, Hungary
1919	Rogers, John, Jr, New York, NY
1894	Sajous, C. E. DeM., Philadelphia, PA
1924	Schaefer, J. Parson, Philadelphia, PA
1896	Schmiegelow, Ernst, Copenhagen, Denmark
1946	Segura, Eliseo, Buenos Aires, Argentina
1940	Soto, E. Fernandez, Havana, Cuba
1881	Thornton, Pugin, London, England
1913	Turner, A. Logan, Edinburgh, UK
1936	Vialle, Jacques, Nice, France
1880	Whistler, W. McNeil, London, England
1901	Wingrave, Wyatt, Lyme Regis, England
1894	Wolfenden, R. Norric, Kent, England

Deceased Fellows

Emeritus Fellows

1962 Arnold, Godfrey E., Clinton, MS
1936 Ballenger, Howard C., Winnetka, IL
1923 Barlow, Roy A., Nova Scotia, Canada
1915 Barnes, Harry Aldrich, Kingston, MA
1944 Beatty, Hugh G., Columbus, OH
1928 Beck, Joseph C., Chicago, IL
1921 Berry, Gordon, Worcester, MA
1944 Boies, Lawrence R., Minneapolis, MN
1955 Bordley, John E., Baltimore, MD
1941 Bowers, Wesley C., New York, NY
1901 Brown, J. Price, Toronto, Canada
1955 Brown, Lester A., Atlanta. GA
1891 Bryan, Joseph H., Washington, DC
1963 Bryce, Douglas P, Toronto Canada
1913 Butler, Ralph, Philadelphia, PA
1930 Campbell, Edward H., Philadelphia, PA
1945 Campbell, Paul A., San Antonio, TX
1942 Canfield, Norton, Miami, FL
1959 Cardwell, Edgar P., Newark, NJ
1897 Clark, J. Payson, Boston, MA
1968 Chandler, J. Ryan, Miami, FL
1899 Cobb, Frederick C., Bradenton, FL
1939 Cody, Claude C., Jr, Houston, TX
1964 Cody, Claude C. III, Houston, TX
1905 Coffin, Lewis A., New York, NY
1957 Converse, John Marquis, New York, NY
1893 Coolidge, Algernon, Boston, MA
1959 Cracovaner, Arthur J., New York, NY
1937 Crowe, Samuel H., Baltimore, MD
1941 Cunning, Daniel S., New York, NY
1913 Dabney, Virginia, Washington, DC
1951 Davison, Francis W., Danville, PA
1882 De Blois, Thomas Amory, Boston, MA
1966 Devine, Kenneth, Rochester, MN
1968 DeWeese, David D., Portland, OR
1941 Dixon, Fred W., Shaker Heights, OH
1947 Eagle, Watt W., New Bern, NC
1952 Erich, John B., Rochester, MN
1892 Farlow, John W., Boston, MA
1964 Fearon, Blair W., Don Mills, Canada
1963 Ferguson, Charles F., Sarasota, FL
1930 Figi, Frederick A., Rochester, MN
1955 Fitz-Hugh, G. Slaughter, Charlottesville, VA
1922 Forbes, Henry H., New York, NY
1933 Foster, John H., Houston, TX
1905 Freer, Otto T., Chicago, IL
1956 Friedberg, Stanton A., Chicago, IL
1932 Furstenberg, Albert C., Ann Arbor, MI
1940 Gatewood, E. Trible, Richmond, VA
1928 Gittins, Thomas R., Sioux City, IA
1880 Gleitsmann, Joseph W., New York, NY
1959 Goldman, Joseph L., New York, NY
1922 Goldsmith, Perry G., Toronto, Canada
1898 Goodale, Joseph L., Ipswich, MA
1940 Goodale, Robert L., Ipswich, MA
1965 Goodyear, Henry M., Cincinnati, OH
1932 Graham, Harrington B., San Francisco, CA
1906 Greene, D. Crosby, Jr, Boston, MA
1917 Greene, Joseph B., Asheville, NC
1950 Hall, Colby, Encino, CA
1970 Halliday, Sir George C., Sydney, Australia
1905 Halsted, Thomas H., Los Angeles, CA
1965 Hanckel, Richard W., Jr, Florence, SC
1940 Hansel, French K., St Louis, MO
1896 Hardie, Thomas Melville, Chicago, IL
1960 Harris, Herbert H., Houston, TX
1959 Hart, Verling K., Charlotte, NC
1915 Hastings, Hill, Los Angeles, CA
1944 Havens, Fred Z., Rochester, MN
1942 Heatley, Clyde A., Rochester, NY
1959 Henry, G. Arnold, Lagoon City, Canada
1955 Jerome A. Hilger, St. Paul, MN
1888 Hinkel, Frank Whitehill, Buffalo, NY
1944 Hoople, Gordon D., Syracuse, NY
1895 Hopkins, Frederick E., Springfield, MA
1930 Houser, Karl M., Ardmore, PA
1927 Hubbard, Thomas, Toledo, OH
1919 Hurd, Lee Maidment, Rowayton, CT
1920 Imperatori, Charles J., Essex, NY
1904 Ingersoll, John Marvin, Miami, FL
1952 Ireland, Percy E., Toronto, Canada
1928 Jarvis, DeForest C., Barre, VT
1939 Johnston, William H., Santa Barbara, CA
1942 Kelly, Joseph D., New York, NY
1918 Kenyon, Elmer L., Chicago, IL
1921 Kernan, John D., New York, NY
1965 King, James T., Atlanta, GA
1929 Kistner, Frank B., Portland, OR
1950 Kline, Oram R., Woodbury Heights, NJ
1885 Knight, Charles H., New York, NY
1939 Large, Secord H., Cleveland, OH
1963 Lathrop, Frank D., Pittsford, VT
1939 LeJeune, Francis E., New Orleans, LA
1894 Leland, George A., Boston, MA
1961 Lewy, Robert B., Chicago, IL
1922 Lillie, Harold I., Rochester, MN
1943 Lincoln, William R., Cleveland, OH
1949 Lindsay, John R., Evanston, IL
1976 Lingeman, Raleigh E., Indianapolis, IN
1973 Loré, John M., Buffalo, New York, NY
1927 Lukens, Robert M., Wildwood Crest, NJ
1928 Lyman, Harry Webster, St Louis, MO
1886 MacCoy, Alexander W., Philadelphia, PA
1928 MacPherson, Duncan, New York, NY
1941 Martin, Robert C., San Francisco, CA
1896 Mayer, Emil, New York, NY
1966 McCabe, Brian F., Iowa City, IA
1952 McCall, Julius W., Shaker Heights, OH
1951 McCart, Howard W. D., Toronto, Canada
1939 McCaskey, Carl H., Indianapolis, IN
1943 McCullagh, Samuel, New York, NY
1963 McGovern, Francis H., Danville, VA
1951 McHenry, Lawrence C., Oklahoma City, OK
1923 McKinney, Richmond, Memphis, TN
1933 McMahon, Bernard J., St Louis, MO
1931 McNally, William J., Montreal, Canada
1952 Miller, Alden H., Glendale, CA
1965 Miller, Daniel, Boston, MA
1964 Montgomery, William W., Boston, MA
1954 Moore, Paul McN., Delray Beach, FL
1957 Munoz-MacCormick, Carlos E., Santurce, PR
1953 Murtagh, John A., Hanover, NH
1939 Myers, John L., Kansas City, MO
1927 Myerson, Mervin C., New York, NY
1901 Myles, Robert C., New York, NY
1937 Nash, C. Stewart, Rochester, NY
1922 New, Gordon B., Rochester, MN
1923 Newhart, Horace, Minneapolis, MN
1958 O'Keefe, John J., Philadelphia, PA
1903 Packard, Francis R., Philadelphia, PA

1961 Pang, Lup Q., Honolulu, HI
1961 Pastore, Peter N., Richmond, VA
1948 Phelps, Kenneth A., Burlington, NC
1878 Porter, William, Ocean Springs, MA
1942 Potts, John B., Omaha, NE
1951 Priest, Robert E., Edina, MN
2004 Putney, F. Johnson, Charleston, SC
1951 Rawlins, Aubrey G., San Francisco, CA
1963 Reed, George F., Syracuse, NY
1903 Renner, W. Scott, Buffalo, NY
1897 Rhodes, John Edwin, Chicago, IL
1884 Rice, Clarence C., New York, NY
1905 Richards, George L., South Yarmouth, MA
1956 Richardson, John R., Searsport, ME
1878 Robinson, Beverly, New York, NY
1938 Salinger, Samuel, Palm Springs, CA
1959 Sanders, Sam H., Memphis, TN
1921 Sauer, William E., St Louis, MO
1934 Schenck, Harry P., Philadelphia, PA
1923 Sewall, Edward C., Palo Alto, CA
1930 Seydell, Ernest M., Wichita, KS
1907 Shambaugh, George E., Chicago, IL
1958 Simonton, Kinsey Macleod, Ponte Vedra Beach, FL
1937 Simpson, W. Likely, Memphis,TN
2006 Sisson, George, Chicago, IL
1987 Skolnik, Emanuel M., Chicago, IL
1950 Smith, Austin T., Philadelphia, PA
1908 Smith, Harmon, New York, NY
2004 Soboroff, Burton, Chicago, IL
1954 Sooy, Francis A., San Francisco, CA
1923 Spencer, Frank R., Boulder, CO
1963 Tabb, Harold C., New Orleans, LA
1947 Theobald, Walter H., Chicago, IL
1954 Thornell, William C., Cincinnati, OH
1927 Tobey, Harold G., Boston, MA
1963 Tolan, John F., Seattle, WA
1950 Tremble, G. Edward, Montreal, Canada
1925 Tucker, Gabriel, Haverford, PA
1943 Van Alyea, Oliver E., Chicago, IL
1941 Violé, Pierre, Los Angeles, CA
1892 Wagner, Henry L., San Francisco, CA
1892 Watson, Arthur W., Philadelphia, PA
1948 Whalen, Edward J., Hartford, CT
1922 White, Francis W., New York, NY
1939 Wilson, J. Gordon, Old Bennington, VT
1905 Wood, George B. Wynnewood, PA
1935 Woodward, Fletcher D., Charlottesville, VA
1953 Work, Walter, Green Valley, AZ

Active Fellows

2006 Adams, George L., Excelsior, MN
1958 Alfaro, Victor R., Washington, DC
1880 Allen, Harrison, Philadelphia, PA
1969 Andrews, Albert H., Jr, Chicago, IL
1917 Arrowsmith, Hubert, Brooklyn, NY
1879 Asch, Morris J., New York, NY
1942 Ashley, Rae E., San Francisco, CA
1958 Atkins, Joseph P., Philadelphia, PA
1923 Babbitt, James A., Philadelphia, PA
1906 Ballenger, William L., Chicago, IL
1880 Bean, C. E., St Paul, MN
1949 Beck, August L., New Rochelle, NY
1904 Berens, T. Passmore, New York, NY
1924 Bigelow, Nolton, Providence, RI
1938 Blassingame, Charles D., Memphis, TN
1893 Bliss, Arthur Ames, Philadelphia, PA
1951 Boyden, Guy L., Portland, OR
1895 Boylan, J. E., Cincinnati, OH
1932 Brown, John Mackenzie, Los Angeles, CA
1892 Brown, Moreau R., Chicago, IL
1933 Buckley, Robert E., New York, NY
1915 Canfield, R. Bishop, Ann Arbor, MI
1934 Carmack, John Walter, Indianapolis, IN
1924 Carmody, Thomas E., Denver, CO
1889 Casselberry, William E., Chicago, IL
1883 Chamberlain, C. W., Hartford, CT
1917 Chamberlin, William B., Cleveland, OH
1882 Chapman, S. Hartwell, New Haven, CT
1896 Chappell, W. F., New York, NY
1902 Coakley, Cornelius G., New York, NY
1913 Coffin, Rockwell C., Boston, MA
1918 Cox, Gerald H., New York, NY
1880 Cushing, E. W., Boston, MA
1878 Cutter, Ephraim, West Falmouth, MA
1880 Daly, W. H., Pittsburgh, PA
1878 Davis, F. H., Chicago, IL
1941 Davis, Warren B., Philadelphia, PA
1926 Dennis, Frank Lownes, Colorado Springs, CO
1901 Dickerman, E. T., Chicago, IL
1969 Dickinson, John T., Pittsburgh, PA
1878 Donaldson, Frank, Baltimore, MA
1935 Equen, Murdock S., Atlanta, GA
1919 Eves, Curtis C., Philadelphia, PA
1914 Faulkner, E. Ross, New York, NY
1901 Fetterolf, George, Philadelphia, PA
1917 Freeman, Walter J., Philadelphia, PA
1897 Friedberg, Stanton A., Chicago, IL
1940 Frothingham, Richard, New York, NY
1909 Fuchs, Valentine H., New Orleans, LA
1907 Getchell, Albert C., Worcester, MA
1940 Gibb, Joseph S., Philadelphia, PA
1878 Gill, William D., San Antonio, TX
1913 Glasgow, William Carr, St Louis, MO
2001 Goldstein, Max A., St Louis, MO
1905 Gray, Steven D., Salt Lake City, UT
1934 Grayson, Charles P., Philadelphia, PA
1995 Grove, William E., Milwaukee, WI
1988 Gussack, Gerald S., Atlanta, GA
1933 Hanson, David G., Chicago, IL
1957 Harkness, Gordon F., Davenport, IA
1878 Harrill, James A., Winston-Salem, NC
1945 Hartman, J. H., Baltimore, MD
1879 Hickey, Harold L., Denver, CO
1907 Holden, Edgar, Newark, NJ
1882 Holmes, Christian R., Cincinnati, OH
1893 Hooper, Franklin H., Boston, MA
1938 Hope, George B., New York, NY
1939 Hourn, George E., St Louis, MO
1901 Hunt, Westley Marshall, New York, NY
1925 Hyatt, Frank, Washington, DC
1878 Iglauer, Samuel, Cincinnati, OH
1882 Ingals, E. Fletcher, Chicago, IL
1938 Ives, Frank L., New York, NY
1880 Jackson, Chevalier L., Philadelphia, PA
1878 Jarvis, William C., New York, NY
1879 Johnson, Hosmer A., Chicago, IL
1960 Johnson, Woolsey, New York, NY
1961 Johnston, Kenneth C., Chicago, IL
1944 Jones, Edley H., Vicksburg, MS
1979 Jones, Marvin F., New York, NY
1964 Kealhofer, R. H., St Louis, MO
1954 Keim, W. Franklin, Montclair, NJ

Active Fellows

1942 King, Edward D., North Hollywood, CA
1901 King, Gordon, New Orleans, LA
1878 Knight, Frederick Irving, Boston, MA
1965 Knight, John S., Kansas City, MO
1898 Kyle, D. Braden, Philadelphia, PA
1880 Langmaid, Samuel W., Boston, MA
1953 Lederer, Francis L., Chicago, IL
1878 Lincoln, Rufus P., New York, NY
1911 Lockard, Lorenzo B., Denver, CO
1913 Loeb, Hanau W., St Louis, MO
1897 Logan, James E., Kansas City, MO
1935 Looper, Edward A., Baltimore, MD
1888 Lowman, John H., Cleveland, OH
1919 Lynah, Henry L., New York, NY
1952 Lynch, Mercer G., New Orleans, LA
1915 Lynch, Robert Clyde, New Orleans, LA
1914 Mackenty, John E., New York, NY
1881 Major, G. W., Montreal, Canada
1898 Makuen, G. Hudson, Philadelphia, PA
1948 Maxwell, James H., Ann Arbor, MI
1879 McBurney, Charles, New York, NY
1927 McGinnis, Edwin, Chicago, IL
1936 McGregor, Gregor, Toronto, Canada
1913 McKimmie, O. A., Washington, DC
1945 McLaurin, John G., Dallas, TX
1885 McSherry, Clinton II, Baltimore, MD
1954 Meltzer, Philip E., Boston, MA
1958 Montreuil, Fernand, Montreal, Canada
1881 Morgan, E. C., Washington, DC
1950 Morrison, Lewis F., San Francisco, CA
1940 Morrison, William W., New York, NY
1886 Mulhall, J. C., St Louis, MO
1925 Mullin, William V., Cleveland, OH
1914 Munger, Carl E., Waterbury, CT
1892 Murray, T. Morris, Washington, DC
1881 Mynter, H., Buffalo, NY
1893 Newcomb, James E., New York, NY
1895 Nichols, J. E. H., New York, NY
1961 Ogura, Joseph H., St Louis, MO
1927 Orton, Henry B., Newark, NJ
1894 Park, William H., New York, NY
1892 Porcher, W. Peyre, Charleston, SC
1927 Porter, Charles T., Boston, MA
1954 Pressman, Joel J., Los Angeles, LA
1908 Randall, B. Alexander, Philadelphia, PA
1882 Rankin, D. N., Allegheny, PA
1934 Richards, Lyman G., Wellesley Hills, MA
1902 Richardson, Charles W., Washington, DC
1930 Ridpath, Robert E., Philadelphia, PA
1945 Robb, James M., Detroit, MI
1953 Roberts, Sam E., Kansas City, MO
1881 Robertson, J. M., Detroit, MI
1879 Roe, John O., Rochester, NY
1948 Whalen, Edward J., Hartford, CT
1922 White, Francis W., New York, NY
1939 Wilson, J. Gordon, Old Bennington, VT
1935 Woodward, Fletcher D., Charlottesville, VA
1953 Work, Walter, Green Valley, AZ
1913 Roy, Dunbar, Atlanta, GA
1878 Rumbold, T. F., St Louis, MO
1879 Seiler, Carl, Philadelphia, PA
1928 Shea, John Joseph, Memphis, TN
1893 Shields, Charles M., Richmond, PA
1909 Shurly, Burt R., Detroit, MI
1878 Shurly, E. L., Detroit, MI
1959 Silcox, Louis E., Punta Gorda, FL
1892 Simpson, William Kelly, New York, NY
1919 Skillern, Ross H., Philadelphia, PA
1909 Sluder, Greenfield, St Louis, MO
1879 Smith, Andrew H., Geneva, NY
1932 Smyth, Duncan Campbell, Boston, MA
1928 Sonnenschein, Robert, Chicago, IL
1911 Staut, George C., Philadelphia, PA
1924 Stein, Otto J., Chicago, IL
1934 Stevenson, Walter, Quincy, IL
1934 Suehs, Oliver W., Austin, TX
1879 Tauber, Bernhard, Cincinnati, OH
1924 Taylor, Hermon Marshall, Jacksonville, FL
1903 Theisen, Clement F., Albany, NY
1899 Thorner, Max, Cincinnati, OH
1892 Thrasher, Allen B., Cincinnati, OH
1937 Tobey, George L., Jr, Boston, MA
1967 Trible, William M., Washington, DC
1925 Tucker, Gabriel F., Sr, Philadelphia, PA
1970 Tucker, Gabriel F., Jr, Chicago, IL
1938 Vail, Harris H., Cincinnati, OH
1888 Van der Poel, S. O., New York, NY
1936 Voislawsky, Antonie P., New York, NY
1954 Walsh, Theodore E., St Louis, MO
1933 Wanamaker, Allison T., Seattle, WA
1896 Ward, Marshall R., Pittsburgh, PA
1879 Ward, Whitfield, New York
1886 Westbrook, Benjamin R., Brooklyn, NY
1924 Wherry, William P., Omaha, NE
1924 White, Leon E., Boston, MA
1953 Wilderson, William W., Nashville, TN
1939 Williams, Horace J., Philadelphia, PA
1942 Wishart, D. E. Staunton, Toronto, Canada
1922 Wishart, David J. G., Toronto, Canada
1896 Wollen, Green V., Indianapolis, IN
1940 Wood, V. Visscher, St Louis, MO

ROSTER OF FELLOWS – 2008

Date indicates year admitted to active fellowship.

Active Fellows - 132

Year Elected	
1994	Abemayor, Elliot, M.D., Univ of California, L.A. Rm. 62-132 CHS, 10833 Le Conte Ave., Los Angeles CA 90095-1624
1974	Alford, Bobby R., M.D., Baylor College of Medicine, One Baylor Plaza, #NA 102, Houston TX 77030-3498
2008	Armstrong, William B., MD, 525 S. Old Ranch Rd., Anaheim Hills, CA 92808-1363
1984	Applebaum, Edward L., M.D., Dept. of Otolaryngology-Head and Neck Surgery, Northwestern University Feinberg School of Medicine, 303 E. Chicago Avenue, Searle 12-561, Chicago, IL 60611
2001	Aviv, Jonathan, M.D., Dept of Otolaryngology, New York Presbyterian Hospital, 180 Ft. Washington Ave., Suite 736, New York NY 10032
2006	Altman, Kenneth W., M.D., Ph.D., Dept of Otolaryngology, Mt. Sinai School of Medicine, One Gustave L. Levy Pl., Box 1189 New York, NY 10029
1999	Benninger, Michael S., M.D., Dept. of Otolaryngology, Henry Ford Hospital, 2799 West Grand Blvd., Detroit MI 48202-2689
1993	Berke, Gerald S., M.D., Div. of Otolaryngology - Head & Neck Surgery, UCLA School of Med., 10833 Le Conte, Los Angeles CA 90095-0001
2007	Bielamowicz, Steven, M.D., Dept. of Otolaryngology, Washington University Hospital, 2150 Pennsylvania Ave. NE., Suite 6-301, Washington, DC 20037
1977	Blaugrund, Stanley M., M.D., 115 East 61st Street, New York NY 10021
1987	Blitzer, Andrew, M.D., D.D.S., 425 W. 59th St., 10th Fl., New York NY 10019
1984	Bone, Robert C., M.D., 10666 No. Torrey Pines Road, La Jolla CA 92037
1994	Broniatowski, Michael, M.D., 2351 East 22nd St., Cleveland OH 44115
1994	Caldarelli, David D., M.D., Dept. of Otolaryngology, Rush Presbyterian St. Luke's Medical Center, 1653 West Congress Parkway, Chicago IL 60612
1985	Canalis, Rinaldo F., M.D., 457 15th St., Santa Monica CA 90402
2006	Carrau, Ricardo L, M.D., EEI, Dept of Otolaryngology, 200 Lothrop St., Ste 500, Pittsburgh, PA 15213
1994	Cassisi, Nicholas J., D.D.S., M.D., Health Sciences Center, P.O. Box 100264, Gainesville FL 32610-0264
1993	Close, Lanny G., M.D., Dept. of Otolaryngology, Columbia University, 622 W 168th Street, New York NY 10032-3702
1992	Cotton, Robin T., M.D., Dept. of Pediatric Oto and Maxillofacial Surgery, Children's Hospital Med. Ctr. ASB-3, 3333 Burnet Ave., Cincinnati OH 45229-2899
1988	Coulthard, Stanley W., M.D., 1980 W. Hospital Dr., Ste. 111, Tucson AZ 85704
2002	Courey, Mark S., M.D., UCSF Voice & Swallowing Center, 2330 Post St., 5th Floor, San Francisco, CA 94115
1984	Crumley, Roger L., M.D., M.B.A., Head & Neck Surgery, UC Irvine Medical Center, 101 City Drive South, Bldg. 25, Orange CA 92868
1980	Cummings, Charles W., M.D., Dept. of Otolaryngology–Head and Neck Surgery, Johns Hopkins School of Medicine, 601 N. Caroline St., Baltimore MD 21287
1973	Dedo, Herbert H., M.D., Dept. of Otolaryngology, Univ of California Med. Ctr., 350 Parnassus Avenue, Suite 501, San Francisco CA 94117
1995	Donald, Paul J., M.D., Dept. of Otolaryngology, Univ of California Davis, 2521 Stockton Boulevard, Sacramento CA 95817
2003	Donovan, Donald T., M.D., Baylor College of Medicine, One Baylor Plaza, SM 1727, Houston TX 77005
2002	Drake, Amelia F., M.D., Div. of Otolaryngology–Head & Neck Surgery, UNC School of Medicine CB #7070, 610 Burnett-Womack Bldg., Chapel Hill NC 27599-7070
1996	Duncavage, James A., M.D., VUMC Dept. of Otolaryngology, 7209 Medical Center East – South Tower, Nashville TN 37232-8602
2003	Eisele, David W., M.D., Dept. of Otolaryngology- Head & Neck Surgery, Univ of California San Francisco, 400 Parnassus Ave., Suite A730, San Francisco, CA 94143-0342
1982	Fee, Willard E. Jr., M.D., Div of Otolaryngology –Head & Neck Surgery, Stanford University Medical Center, , 875 Blake Wilbune Dr., CC-2227, Stanford CA 94305
1995	Fisher, Samuel R., M.D., Dept of Otolaryngology, Duke University Medical Center, P O Box 3805, Durham NC 27710
1990	Ford, Charles N., M.D., UW-CSC, H4/320, 600 Highland Avenue, Madison WI 53792
1989	Fried, Marvin P., M.D., Montefiore Med Ctr., Green Med Arts Pavilion, 3400 Bainbridge Ave., 3rd Fl., Bronx NY 10467-2404
1995	Friedman, Ellen M., M.D., Dept. of Otolaryngology, Texas Children's Hospital, 6621 Fannin Street, Houston TX 77030
2002	Garrett, C. Gaelyn, M.D., VUMC Dept. of Otolaryngology, 7302 MCE South, Nashville TN 37232-8783
1991	Gluckman, Jack L., M.D., Dept. of Otolaryngology and Maxillofacial Surgery,

Univ of Cincinnati Medical Center, 231 Bethesda Avenue #0528, Cincinnati OH 45267-0528

1999 Goding, George S. Jr., M.D., Dept. of Otolaryngology–HNS, Hennepin County Medical Center, 701 Park Ave., Minneapolis MN 55414

1985 Goode, Richard L., M.D., Dept. of OTO, R135, Stanford Univ Med Ctr., 300 Pasteur Dr., Palo Alto CA 94304

2000 Goodwin, W. Jarrard Jr., M.D., 9841 W. Suburban Dr., Miami FL 33156

1985 Gross, Charles W., M.D., Dept. of Otolaryngology, Univ of Virginia Health Sciences Center, PO Box 800713, Charlottesville VA 22908

1991 Gullane, Patrick J., M.D., Toronto General Hospital, 200 Elizabeth Street EN 7-242, Toronto, Ontario M5G 2C4, CANADA

1998 Har-El, Gady, M.D., Division of HHS, Long Island College Hospital, 134 Atlantic Ave., Brooklyn, NY 11201

2008 Hayden, Richard E., MD, Mayo Clinic – Scottsdale, Dept of Otolaryngology, 5777 E. Mayo Blvd., #18, Scottsdale, AZ 85255

1983 Healy, Gerald B., M.D., Children's Hospital, 300 Longwood Ave., #5, Boston MA 02115-5747

1997 Herzon, Fred S., M.D., Dept of Otolaryngology, Univ. of New Mexico, 2211 Lomas NE, Albuquerque NM 87131-5431

1998 Hillel, Allen D., M.D., Univ of Washington, Dept. of Otolaryngology, Box 356515, Seattle, WA 98195

2007 Hoffman, Henry T. M.D., Dept. of Otolaryngology, University of Iowa Hospitals and Clinics, 200 Hawkins Drive., Iowa City, IA 52242

1986 Holinger, Lauren D., M.D., Dept. of - Otolaryngology, Children's Memorial Hospital, 2300, Children's Plaza, Box 25, Chicago IL 60614

1994 Holt, G. Richard, M.D., Dept. of OTO, Univ of TX – San Antonio, 7703 Floyd Curl Dr., MC7777, San Antonio, TX 78258

1998 Hoover, Larry A., M.D., Dept. of OTO, Univ of KS School of Med Ctr., 3901 Rainbow Blvd., Kansas City KS 66160-7380

1996 Jafek, Bruce, M.D., Dept. of Otolaryngology, Univ of Colorado, School of Medicine, 4200 East 9th Ave, B-205, Denver CO 80220

1983 Johns, Michael E., M.D., Emory University, WHSCAB Suite 400, 1440 Clifton Rd NE, Atlanta GA 30322

1990 Johnson, Jonas T., M.D., Dept. of Otolaryngology, Eye & Ear Hospital, Suite 500, 200 Lothrop Street, Pittsburgh PA 15213

2002 Kean, William M., M.D., Dept of Otolaryngology, 925 Chestnut St., 6th Fl., Philadelphia PA 19107

1998 Kelly, James H., M.D., Greater Baltimore Med Ctr., 6635 N. Charles St., Rm. 250, Baltimore, MD 21204

1999 Kennedy, David W., M.D., Univ of Pennsylvania Medical Center, 3400 Spruce St., Philadelphia, PA 19104-4274

2000 Kennedy, Thomas L., M.D., 100 N. Academy Ave, Danville PA 17822

1993 Komisar, Arnold, M.D., D.D.S., 1317 Third Avenue, 8th Floor, New York NY 10021

1991 Koufman, Jamie A., M.D., Voice Institute of New York, 9 West 67th Street (CPW), New York, NY 10023

2006 Kraus, Dennis H., M.D., Memorial Sloan-Kettering Cancer Center, 1275 York Ave., New York, NY 10021

1979 Krause, Charles J., M.D., 880 Sea Dune Lane, Marco Island, FL 34145-1840

1981 Lawson, William, M.D., Dept. of Otolaryngology, Mount Sinai School of Medicine, One Gustave L. Levy Place, New York NY 10029

1988 Levine, Howard L., M.D., 5555 Transportation Blvd., Cleveland OH 44125

2000 Levine, Paul A., M.D., Univ of Virginia Health Systems, Dept. of OTO, MC #800713, Rm. 277b, Charlottesville VA 22908

1987 Lucente, Frank E., M.D., Dept. of Otolaryngology, Long Island College Hosp., 339 Hicks St., Brooklyn NY 11201

1996 Lusk, Rodney P., M.D., Dept. of Otolaryngology, Boys Town National Research Hospital, 555 North 30th St, Omaha, NE 68131

1987 Maisel, Robert H., M.D., 8721 Westmoreland Lane, Minneapolis MN 55426

1996 Maragos, Nicholas E., M.D., Mayo Clinic, 200 First St. SW, Rochester MN 55905

1988 Mathog, Robert H., M.D., 27117 Wellington Rd., Franklin MI 48025

1996 Maves. Michael D., M.D., MBA, American Medical Association, 615 N. State St., Chicago, IL 60610

1989 McCaffrey. Thomas V., M.D., Ph.D., Dept of Otolaryngology-HNS, Univ. of S. Florida, 12902 Magnolia Dr., Ste. 3057, Tampa FL 33612

1996 McGill, Trevor J.I., M.D., CHMC Otolaryngologic Foundation, Inc., 300 Longwood Ave., Boston, MD 02115

1990 McGuirt, W. Frederick Sr., M.D., Department of Otolaryngology, Wake Forest School of Med, Med Ctr. Blvd, Winston-Salem NC 27157-1034

1993 Medina, Jésus E., M.D., F.A.C.S., Dept. of Otorhinolaryngology, The University of Oklahoma, P.O. Box 26901, WP 1290, Oklahoma City OK 73190-3048

2007 Merati, Albert L. M.D., Div. of Otolaryngology, Medical College of Wisconsin, 9200 W. Wisconsin Ave., Milwaukee, WI 53226

1997 Metson, Ralph, M.D., Zero Emerson Place, Boston MA 02114

1987 Miller, Robert H., M.D., 5615 Kirby Drive, Suite 600, Houston, TX 77005

2008 Mirza, Natasha , M.D., Hospital of the University of Pennsylvania, 3400 Spruce St., 5 Silverstein, Philadelphia, PA 19104

1986 Morrison, Murray D., M.D., 4th Floor Willow Pavilion, Vancouver General Hospital, 805 W.

12th Street, Vancouver, BC, V5Z 1M9 CANADA

1979 Myers, Eugene N., M.D., Univ of Pittsburgh School of Med., Eye and Ear Institute, Ste. 500, 230 Lothrop St., Pittsburgh, PA 15212

2007 Myssiorek, David M.D., University of Pittsburgh School of Medicine, Eye & Ear Institute, Suite 500, 230 Lothrop St., Pittsburgh. PA 15212-2598

1981 Neel, H. Bryan III, M.D., Ph.D., 828 Eighth St., SW, Rochester MN 55905-6310

1994 Netterville, James L., M.D., VUMC Dept of Otolaryngology, 7209 MCE South, Nashville TN 37232-8605

1980 Nichols, Richard D., M.D., 12801 Grand Transverse Dr., Dade City, FL 33525-8231

1986 Noyek, Arnold M., M.D., Dept. of Otolaryngology, Mount Sinai Hospital, 600 University Avenue, Suite 401, Toronto, Ontario, M5G 1X5, CANADA

1995 Olsen, Kerry D., M.D., Dept. of Otolaryngology, Mayo Medical Center, 200 First Street SW, Rochester MN 55905-0001

2005 O'Malley, Bert W., M.D., Dept of Otolaryngology, Univ. of Pennsylvania Health System, 3400 Spruce Street, 5 Ravdin, Philadelphia, PA 19104

1990 Osguthorpe, John D., M.D., Dept. of Otolaryngology and Communicative Sciences, Med Univ. of SC, St. Francis Annex, Rm. 207, 150 Ashley Ave., Charleston SC 29401

1990 Ossoff, Robert H., D.M.D., M.D., VUMC Dept. of Otolaryngology, 7302 MCE South, Nashville TN 37232-8783

2004 Paniello, Randal C., M.D., Dept of Otolaryngology, Washington University School of Medicine, 660 S. Euclid, Campus Box 8115, St. Louis MO 63110

1988 Panje, William R., M.D., University Head & Neck Associates, Rush Presbyterian St. Luke's Med Ctr., 1725 West Harrison Street, Suite 340, Chicago IL 60612

1999 Parnes, Steven M., M.D., Div. of Otolaryngology, Albany Med. Ctr., MC 41, 47 New Scotland Ave., Albany, NY 12208-3412

1998 Persky, Mark S., M.D., Beth Israel Med Ctr., 10 Union Sq E, New York NY 10003

1989 Pillsbury, Harold C. III, M.D., Div. of Otolaryngology–Head & Neck Surgery, UNC-Chapel Hill, CB #7070, 1115 Bioinformatics Bldg, Chapel Hill NC 27599-7070

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