Transactions of the
American
Ophthalmological Society
Volume CVIX

One Hundred and Forty-Seventh
Annual Meeting

The St. Regis Monarch Beach Resort
Dana Point, California
2011

Published for the
American Ophthalmological Society

San Francisco, California 2011
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<td>DR EDWARD DELAFIELD, New York</td>
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<td>DR HENRY W. WILLIAMS, Boston</td>
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<td>DR S. JUDD BEACH, Portland, Maine</td>
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<td>DR EUGENE M. BLAKE, New Haven</td>
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<td>DR HENRY C. HADEN, Houston</td>
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<td>DR BERNARD SAMUELS, New York</td>
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1974  DR IRVING H. LEOPOLD, New York
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<td>Dr. Michael J. Hogan</td>
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<td>Dr. Edward W. D. Norton</td>
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<td>Dr. Kenneth C. Swan</td>
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<td>Dr. Crowell Beard</td>
<td>San Jose, California</td>
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<tr>
<td>2003</td>
<td>Dr. Alfred Sommer</td>
<td>Baltimore, Maryland</td>
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<td>2004</td>
<td>Dr. Arthur Jampolsky</td>
<td>Belvedere, California</td>
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<td>2005</td>
<td>Dr. Stephen J. Ryan</td>
<td>Los Angeles, California</td>
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<td>2006</td>
<td>Dr. Matthew D. Davis</td>
<td>Madison, Wisconsin</td>
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<td>2007</td>
<td>Dr. Daniel M. Albert</td>
<td>Madison, Wisconsin</td>
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<td>2008</td>
<td>Dr. Paul R. Lichter</td>
<td>Ann Arbor, Michigan</td>
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<td>2009</td>
<td>Dr. Denis O’Day</td>
<td>Nashville, Tennessee</td>
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<tr>
<td>2010</td>
<td>Dr. Marilyn T. Miller</td>
<td>Chicago, Illinois</td>
</tr>
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<td>2011</td>
<td>Dr. Robert R. Waller</td>
<td>Memphis, Tennessee</td>
</tr>
</tbody>
</table>
FREDERICK H. VERHOEFF LECTURERS

1961  Dr Arthur J. Bedell
1964  Sir Stewart Duke-Edler
1969  Dr David G. Cogan
1971  Dr Lorenz E. Zimmerman
1973  Dr Irving H. Leopold
1975  Dr Arthur Gerard Devoe
1977  Professor Jules Francois
1979  Dr Saiichi Mishima
1983  Dr Richard W. Young
1989  Dr Frederick C. Blodi
1992  Dr Francis I. Collins
1993  Dr Joram Platigorsky
1997  Dr Geoffrey Arden
2002  Dr Paul Sieving
2003  Dr Thaddeus P. Dryja
2010  Dr Adrian Glasser
ACTIVE MEMBERS 2011
Abbott, Richard L.
Alfonso, Eduardo C.
Allingham, R. Rand
Alvarado, Jorge A.
Archer, Steven
Asbell, Penny A.
Augsburger, James J.
Azar, Dimitri T.
Bartley, George B.
Bateman, J. Bronwyn
Beauchamp, George R.
Benson, William E.
Berler, David K.
Berson, Eliot L.
Black, Bradley C.
Blair, Norman P.
Blomquist, Preston H.
Bobrow, James C.
Brodsky, Michael
Brown, Gary C.
Browning, David J.
Buckley, Edward G.
Budenz, Donald L.
Cantor, Louis B.
Caprioli, Joseph
Chan, Chi-Chao
Char, Devon H.
Chen, Teresa
Chew, Emily Y.
Chodosh, James
Chow, Alan Y.
Cibis, Gerhard W.
Cioffi, George A.
Clarkson, John G.
Coats, David K.
Cohen, Elisabeth J.
Coleman, Anne Louise
Crawford, J. Brooks
Dana, Reza
Day, Susan H.
Donahue, Sean Parnell
Donshik, Peter C.
Doughman, Donald J.
Durrie, Daniel S.
Eagle, Jr., Ralph C.
Elman, Michael J.
Elner, Susan G.
Elner, Victor M.
Erie, Jay C.
Ernest, J. Terry
Feldon, Steven E.
Feman, Stephen S.
Ferris, Frederick L.
Ferry, Andrew P.
Fish, Gary Edd
Flach, Allan J.
Flanagan, Joseph C.
Flynn, John T.
Forster, Richard K.
Foster, C. Stephen
France, Thomas D.
Frank, Robert N.
Fraunfelder, Frederick W.
Friedlaender, Mitchell H.
Friedman, Alan H.
Gaasterland, Douglas E.
Gardner, Thomas W.
Gelender, Henry
Godfrey, William A.
Goldbaum, Michael H.
Good, William V.
Gottsch, John D.
Gragoudas, Evangelos S.
Grand, M. Gilbert
Gross, Ronald L.
Grossniklaus, Hans E.
Guyton, David L.
Haik, Barrett G.
Haller, Julia A.
Han, Dennis P.
Harris, Gerald J.
Hartnett, Mary Elizabeth
Heckenlively, John R.
Hersh, Peter S.
Holland, Edward J.
Holland, Gary N.
Holz, Eric R.
Horton, Jonathan C.
Huang, Andrew
Humayun, Mark S.
Iliff, Nicholas T.
Iliff, W. Jackson
Ing, Malcolm R.
Jabs, Douglas A.
Jampel, Henry D.
Jampol, Lee M.
Jampolsky, Arthur
Johnson, David A.
Johnson, Mark W.
Jones, Dan B.
Kaiser, Peter K.
Kass, Michael A.
Kaufman, Paul L.
Kaushal, Shalesh
Kelley, James S.
Kenyon, Kenneth R.
Kikkawa, Don O.
Kinyoun, James L.
Klein, Barbara E. K.
Klein, Ronald
Koch, Douglas D.
Krachmer, Jay H.
Lakhanpal, Vinod
Lawrence, Mary Gilbert
Lemp, Michael A.
L'Esperance, Francis A.
Levin, Leonard A.
Lewis, Richard Alan
Lichter, Paul R.
Liesegang, Thomas J.
Lindstrom, Richard L.
Liu, Don
Ludwig, Irene H.
Maesai, Marian S.
Mannis, Mark J.
Mazow, Malcolm L.
McCulley, James P.
McDonald, Marguerite
McLeod, Stephen D.
Meredith, Travis A.
Merriam, John C.
Mets, Marilyn B.
Meyers, Sanford M.
Mieler, William F.
Miller, Joan W.
Miller, Joseph M.
Miller, Marilyn T.
Mills, Richard P.
Minckler, Donald S.
Mindel, Joel S.
Mitchell, Paul R.
Morrison, John C.
Nelson, J. Daniel
Netland, Peter Andreas
Newman, Steve A.
Nirankari, Verinder S.
Nork, T. Michael
O'Day, Denis M.
Olsen, Timothy W.
O'Neil, John F.
Packer, Samuel
Parke, II, David W.
Parrish, II, Richard K.
Parver, Leonard M.
Payse, Evelyn A.
Pollard, Zane F.
Pulido, Jose S.
Puro, Donald G.
Raab, Edward L.
Rao, Narsing A.
Rapuano, Christopher J.
Ravin, James G.
Reynolds, James D.
Ritch, Robert
Robin, Alan L.
Rogers, Gary L.
Runge, Paul E.
Ryan, Jr., Stephen J.
Sadun, Alfredo A.
Schaefer, Daniel P.
Schanzlin, David J.
Schein, Oliver D.
Schubert, Hermann D.
Schuman, Joel S.
Schwab, Ivan R.
Schwartz, Daniel M.
Scott, Alan B.
Sebag, Jerry
Sergott, Robert C.
Sherwood, Mark
Shields, Carol L.
Shields, Jerry A.
Sieving, Paul A.
Simon, John W.
Small, Kent W.
Smith, Ronald E.
Sommer, Alfred
Spaeth, George L.
Spencer, Rand
Stager, David R.
Stamper, Robert L.
Steinert, Roger F.
Stone, Edwin M.
Stout, Tim
Sugar, Alan
Summers, C. Gail
Taylor, Hugh R.
Thompson, John T.
Tornambe, Paul E.
Traboulsi, Elias I.
Tsai, James C.
Tse, David T.
Tychsen, Lawrence
Van Meter, Woodford S.
Van Newkirk, Mylan R.
Wallace, David K.
Waltman, Stephen R.
Walton, David S.
Waring, III, George O.
Weakley, David R.
Weinreb, Robert N.
Weiss, Jayne S.
Wilenksy, Jacob T.
Wilhelmus, Kirk R.
Wilkinson, Charles P.
Wilson, David J.
Wilson, Jr., M. Edward.
Wilson, M. Roy
Wilson, Steven E.
Woog, John J.
Wright, Kenneth W.
Yannuzzi, Lawrence A.
Yeatts, R. Patrick
Yee, Robert D.
Young, Terri L.
Younge, Brian R.
Zacks, David N.
Zarbin, Marco A.

EMERITUS MEMBERS 2011
Aaberg, Thomas M.
Albert, Daniel M.
Alper, Melvin G.
Anderson, Douglas R.
Anderson, W Banks
Annesley, William H.
Apt, Leonard
Asbury, Taylor
Baum, Jules L.
Becker, Bernard
Benedict, Walter H.
Bennett, James E.
Berrocal, Jose A.
Biglan, Albert W.
Blankenship, George W.
Bourne, William M.
Breinin, Goodwin M.
Brockhurst, Robert J.
Bronson, II, Nathaniel R.
Brubaker, Richard F.
Bullock, John D.
Burd, Ronald M.
Burton, Thomas C.
Caldwell, Delmar R.
Carr, Ronald E.
Coleman, D Jackson
Cooper, William C.
Cox, Morton S.
Curtin, Brian J.
Darrell, Richard W.
Davis, Matthew D.
Dayton, Glenn O.
Dellaporta, Angelos
Drews, Robert C.
Duke, James R.
Durham, Davis G.
Elliott, James H.
Ellis, Philip P.
Everett, William G.
Farris, R. Linsky
Federman, Jay L.
Forbes, Max
Fraunfelder, Frederick T.
Frayer, William C.
Freeman, H. MacKenzie
Glew, William B.
Goldberg, Morton F.
Grayson, Merrill
Gutman, Froncie A.
Hagler, William S.
Hamilton, Ralph S.
Hedges, Thomas R.
Helveston, Eugene M.
Henderson, John Woodworth
Hiatt, Roger L.
Hull, David S.
Hyndiuk, Robert A.
Irvine, Alexander R.
Jaeger, Edward A.
Jakobiec, Frederick A.
Jarrett, Frederick A.
Jarrett, William H.
Jones, Ira S.
Kearns, Thomas P.
Kennedy, Robert E.
Knox, David L.
Kolker, Allan E.
Kreiger, Allan E.
Kupfer, Carl
Laibson, Peter R.
Landers, Maurice B.
Laties, Alan M.
Lawwill, Theodore
Levene, Ralph Z.
Little, Hunter L.
Luxenberg, Malcolm N.
Macdonald, Jr., Roderick
Manchester, Jr., P. Thomas
Maumenee, Irene H.
McDonald, James E.
McMeel, J. Wallace
Metz, Henry S.
Meyer, Roger F.
Miranda, Manuel N.
Okun, Edward
O'Rourke, James
Owens, William C.
Payne, John W.
Pico, Guillermo
Pollack, Irvin P.
Regan, Ellen F.
Rich, Larry F.
Richards, Richard D.
Robb, Richard M.
Robertson, Dennis M.
Rubin, Melvin L.
Schocket, Stanley S.
Schultz, Richard O.
Sears, Marvin L.
Shields, M. Bruce
Small, Robert G.
Snell, Albert C.
Spalter, Harold F.
Spaulding, Abbot G.
Spencer, William H.
Spivey, Bruce E.
Srinivasan, B. Dobli
Stark, Walter J.
Straatsma, Bradley R.
Streeten, Barbara W.
Tasman, William S.
Taylor, Daniel M.
Thompson, H. Stanley
Troutman, Richard C.
Truhlsen, Stanley M.
Tso, Mark O. M.
Van Buskirk, E. Michael
Veronneau-Troutman, Suzanne
Vine, Andrew K.
von Noorden, Gunter K.
Waller, Robert R.
Watzke, Robert C.
Welch, Robert B.
Wilson, Sr., Fred M.
Wilson, II, Fred M.
Wilson, R. Sloan
Wolff, Stewart M.
Wong, Vernon G.
Wood, Thomas O.
Yanoff, Myron

HONORARY MEMBERS 2011
Zimmerman, Lorenz E.

Active Members        230
Emeritus Members      129
Honorary Members      1

Total Membership      360
NECROLOGY

In Memorium

ROBERT M. DAY, MD, ELECTED 1959
DAVIS G. DURHAM, MD, ELECTED 1970
JOHN A. DYER, MD, ELECTED 1976
W. RICHARD GREEN, MD, ELECTED 1975
JOHN W. HENDERSON, MD, ELECTED 1955
THOMAS P. KEARNES, MD, ELECTED 1965
CARL KUPFER, MD, ELECTED 1971
Davis Godfrey Durham elected to the AOS in 1970 died on December 4, 2010 at his residence in Playa Carillo, Costa Rica. Born on November 18th 1914 in Warren, PA he graduated from the local high school and then attended the New Mexico Military Institute, the University of Pennsylvania and the Jefferson Medical College. After an internship at the Delaware Hospital he was posted as a Battalion Aid Surgeon with the 63rd Infantry Division serving in France and Germany during World War II. As a result of this service he received the European Theatre Ribbon with two battle stars, the Bronze Medal, and the Combat Medical Badge. He returned to Delaware and began the practice of ophthalmology in Wilmington in 1948. He was admitted to the staffs of the Medical Center of Delaware, the St. Francis Hospital, the Wills Eye Hospital and was appointed an Assistant Clinical Professor of Ophthalmology at Thomas Jefferson Medical College. He was the first medical director of the Ophthalmology Department of the Wilmington Medical Center and was a past president of the Delaware Academy of Medicine. He also worked for some years at St. Luke’s in Tarpon Springs, Florida. Among his thirty some publications, one is the paper he presented at the AOS with Dr. James Gills of St. Luke’s on the results of 3000 laser posterior capsulotomies. He introduced diamond knives, manufactured by the DuPont Company, to cataract surgery and worked with DuPont engineers on a pneumatic type of applanation tonometer. His AOS thesis was entitled The Distribution of Free Amino Acids in Intraocular Fluids. Its acceptance resulted in the admission of the first Delawarean to our society.

Perhaps because of his Quaker background and overseas military service, Davis had a keen interest in global clinical ophthalmology. In 1949 he provided eye care to the Inuit in Alaska. He was the first Project Hope Eye Chief providing staffing during visits to Indonesia, Peru, Guinea, and Columbia. He also provided eye care and instruction in Samoa, Haiti, South Africa, Nigeria, China, and Thailand. He was a vice-president of Aid for International Medicine and was a member of the Explorers Club. In these endeavors he was often accompanied and assisted by his wife, Harriet, an orthoptic technician. The American Academy of Ophthalmology recognized Dr. Durham for these efforts and others by presenting him with its Humanitarian Award at its 1999 annual meeting. He is survived by five children and many grandchildren. His wife, Harriet, died in 1991.
JOHN A. DYER, MD

BY Jay C, Erie, MD

John A. Dyer MD, Professor Emeritus in the Department of Ophthalmology at the Mayo Clinic, died April 6, 2010 in Morganton, North Carolina. He was 86. He was elected to the AOS in 1976.

Dr. Dyer was born in Petersburg, West Virginia, in 1923. He received his BA from Haverford College in Haverford, PA and his MD from the University of Pennsylvania School of Medicine in Philadelphia, PA. After an internship at Reading Hospital, Reading, PA, he entered general practice in Cumberland, MD. Dr. Dyer served in the Medical Corps of the U.S. Air Force before commencing his training in ophthalmology at the Mayo Clinic in 1953. He earned a Master of Science degree from the University of Minnesota during his residency, after which he joined the staff of the Mayo Clinic in 1956, rising quickly through the academic ranks to become a full professor.

Dr. Dyer served Mayo Clinic in many capacities. Foremost was his expertise in pediatric ophthalmology and adult strabismus. A keen sense of observation and a curious mind led Dr. Dyer to make important contributions in strabismus surgery, publishing many scientific articles and books on the subject, including his classic monographs “Atlas of Extraocular Muscle Surgery” and “The Orbit in Thyroid Disease.” More than 150 Mayo Clinic residents owe their strabismus surgical training to Dr. Dyer. He mentored medical students and residents on clinical research projects, and was a master surgical teacher who made complex strabismus operations look deceptively easy. A pioneer in the early work with contact lenses, Dr. Dyer developed a novel nomogram for contact lens fitting that was used widely for many years, and was one of the early investigators in the use of atropine to slow the progression of myopia. Besides his Mayo Clinic responsibilities, Dr. Dyer served as president of the Minnesota Academy of Ophthalmology and as president of the Contact Lens Association of Ophthalmologists.

During his long and distinguished career, Dr. Dyer was among the busiest clinicians at Mayo Clinic, never declining to see the extra patient, and his practice included many public figures. Patients, colleagues, and allied health personnel were attracted by his optimism, warmth, sincerity, and good humor. Although Dr. Dyer retired from active practice in 1998 after 42 years on the Mayo Clinic staff, he remained active in departmental meetings and conferences and was always willing to provide “curb-side” strabismus consults for residents, junior staff, and alumni.

Dr. Dyer’s interests beyond ophthalmology included his love of golf and his expertise in gardening and landscaping. He was active in the First Presbyterian Church, where he served as Clerk of the Session for many years and as a member of the Chancel Choir. He is survived by his wife, Rena, and by his children, David (spouse Lydia), and Carolyn (spouse Philip), his granddaughter, Katie, and his sister, Susan Oliver. His family has lost a devoted and loving husband, father, and grandfather. Medicine has lost a premier ophthalmologist who added important fundamental knowledge to the field of Pediatric Ophthalmology and Strabismus, contributions that have and will stand the test of time.
W. Richard Green died at his home on July 8, 2010 at age 76. Moments before his death, he called for his wife, Janet, to tell her that he loved her. Dr. Green was Emeritus Professor of both Ophthalmology and Pathology at Johns Hopkins University School of Medicine and had been Director of Eye Pathology at the Wilmer Eye Institute for 40 years.

When we are confronted by mortality, as sad as it is, it is appropriate to consider immortality as well. Dick Green has achieved both. Janet tells me that Dick died with great dignity and stoicism, and knowing Dick as we did, we are not surprised. Now, Dick’s immortality takes over. Of course, there are only a handful of ways that one can achieve immortality, but Dick had at least four of them. The first, and most personal, is through his children, and Dick was blessed with two fine sons, Parke and Gordon, and they and their families will carry on Dick’s good name. Another way to achieve an important measure of immortality is through one’s writings. Dick was a great and prolific scientist, and published over 700 original articles and dozens of chapters and books. For a scientist, every publication means an entry into library databases and computers throughout the world, meaning that at any time, anywhere, and forever, Dick Green and his ideas are retrievable. That is a very comforting thought. A third measure of immortality is through one’s students, and Dick had many more than most. He trained hundreds of residents, fellows, and colleagues in eye pathology, and these individuals now do the same – in dozens of countries around the world. There is no end to this ripple effect. And fourthly, there are the naming in 1997 of the W. Richard Green Eye Pathology Laboratory and the establishment in 2007 of the endowed professorship in Dick’s name at Johns Hopkins University School of Medicine. These lasting honors – in perpetuity -- were conferred during Dick’s lifetime, so he and his family were able to savor the pride, pleasure, and admiration that were showered on him by his students, colleagues, and University.

Dick was the epitome of all that was important and good in research and teaching at the Wilmer Eye Institute. He was a committed discoverer and disseminator of new knowledge. I recall how excited my predecessor, the late, great Dr. A. Edward Maumenee, was when he announced Dick’s appointment as Wilmer’s new eye pathologist in 1968. And for the next 40 years, Dick was, in numerous ways, one of the key faculty members responsible for the success and worldwide influence of both Wilmer and Hopkins.

Dick was committed to understanding the abnormalities of the eye, and used the techniques of pathology, as interpreted through his perspective as a gifted clinician, to unravel these abnormalities. It is a bit paradoxical that such a large man, a giant of a man, was so fascinated by tiny pathological changes that could be seen only under a microscope.

As soon as Dick discovered important new information, he was also committed to disseminating that knowledge immediately and widely through his influential publications. And what a treasure trove of knowledge those publications comprised. They can best be described by the French word, “oeuvre” – a massive aggregation of laborious, insightful, and personally performed research that has already stood the test of time. Our faculty and residents stood in awe at the generation of so much new knowledge from Dick’s lab, and called it the Big Green Machine. This aggregation of new knowledge created the essential foundation for numerous new medical and surgical treatments of eye diseases. His massive outpouring of publications was made possible by his enormous intellect, his total
Necrology

decall of past scientific information and clinico-pathologic correlations, and, most impressively, by his incredible energy and self-discipline. Of course, none of this could have occurred so spectacularly without Janet’s unconditional and constant love and support. Everyone who admired Dick also loved Janet.

For the past 40 years, a rite of passage for Wilmer residents, and even Wilmer faculty, was eventually to earn co-authorship on a publishable article with Dick. I had this privilege myself over these last 40 years on a few occasions, and each one was an intellectually exhilarating experience for me. Dick was scrupulously honest and ethical in his research and in his publications. He was a no-nonsense seeker of the truth, and he did not believe in the spurious concept of the so-called “gift co-authorship.” If Dick’s name went onto a paper, it meant he personally had spent weeks, and usually many months, in contributing to the work. And no co-author ever had his or her name on one of Dick’s articles without having contributed substantially to the work.

Despite his busy schedule, Dick was especially generous with his time, and any resident or colleague could interrupt him at any time for a consultation. His weekly read-out sessions, when residents presented glass microscope slides of eye tissues for him to interpret, were famous and also formidable. The slides were perfectly prepared by Dick’s devoted and long-serving secretarial and technical staff members. During the read-out sessions, Dick would challenge and cajole his residents and fellows, and occasionally he would be purposely gruff, to emphasize a teaching point, and no one ever walked away unchanged. He was demanding when he needed to be, and sometimes just a little bit tough, as well, but his goal was to make us more knowledgeable, and therefore better, eye doctors. Fortunately, his huge and meticulously catalogued collection of slides and photographs remains at Wilmer to assist the current and future staff in their research.

Dick’s research and publications touched all aspects of the eye and its surrounding tissues, but he was particularly prolific and knowledgeable about diseases of the retina and macula. I recall with great admiration – and, truthfully, some perverse amusement -- how Dick would attend annual meetings of the Macula Society and of the Fluorescein Angiography Club, and, while standing in the rear of the room, would boom out a particularly insightful comment or embarrassing question that the other world famous experts had not even considered. Several years ago, in recognition of the gratitude that others felt for him, the journal, Retina, devoted an entire commemorative issue to him, featuring two dozen splendid and lengthy tributes written by the world’s leading retinal authorities. Members of the A.O.S. are urged to read the articles in this supplement to Retina, where additional details of Dick’s life are discussed.

Dick was honored in many ways, in addition to those he received at Wilmer and Hopkins. He was elected President of our country’s historically most distinguished eye society, the American Ophthalmological Society, for example, and was presented with numerous prestigious medals, -- such as the Arnall Patz Medal of the Macula Society and the Lucien Howe Medal of the American Ophthalmologic Society. When he received the Howe Medal, instead of talking about himself or his achievements, he simply said, “My wife has been a great asset to me and in all of our efforts at the Wilmer Institute.” And, indeed, Janet was not only a great hostess; she was also a devoted volunteer in the Lab.

It is also noteworthy that the Macula Society presents an annual W. Richard Green lecture, given by a distinguished clinician or scientist from throughout the world. Dick was also designated one of the 10 greatest living ophthalmologists in 1999 by Ophthalmology Times. More meaningful to him was the fact that the Wilmer residents confer an annual teaching award named for him in recognition of his own charismatic teaching. He, himself, was a recipient of many similar teaching awards throughout the world.

Despite all these honors and accolades, Dick maintained an objective sense of himself, as well as a great sense of humor. He loved the residents’ annual satirical skit, for example, especially when he, himself, was impersonated in it, usually by a resident portraying him as a good ol’ boy from the South, wearing a pillow under his belt and red suspenders, and listening to country music.

At his Service of Remembrance at the University Baptist Church in Baltimore on July 13, 2010, I had the honor of delivering the eulogy. The pall bearers were Parke Green, Gordon Green, Mr. Clayton Emory, Peter McDonnell, MD, John Gottsch, MD, and W. Jackson Iliff, MD. Scripture was read by Walter J. Stark, MD and C.P. Wilkinson, MD. Remembrances were offered by Robert B. Welch, MD and William Tasman, MD. Dick was interred at Burlington Cemetery in Burlington, Kentucky. For his burial, he was dressed with a tie of the Wilmer Institute, commemorating its 75th anniversary in 2000.

Dick Green was a unique person with a unique personality. He was a giant of a man, a giant of an intellect, a giant of eye pathology, a giant of the AOS, and a giant of The Wilmer Eye Institute. We have all been the beneficiaries of his extraordinarily productive lifetime here, and we will miss him tremendously.

American ophthalmology lost one of its most senior leaders with the death of John Woodworth Henderson on January 19, 2011.

Dr. Henderson was born in Clarinda, Iowa in 1916 and spent his early years in Southern California. He obtained his undergraduate degree from Occidental College, followed by medical school at Northwestern University. Interested in Neurosurgery as a career, Dr. Henderson was sidetracked when he contracted tuberculosis. A mentor advised Dr. Henderson to protect his health and not choose an especially strenuous medical specialty. Therefore, instead of neurosurgery, Dr. Henderson chose ophthalmology. Following his residency at the University of Michigan, Dr. Henderson pursued his interest in neurological disease by taking a Ph.D. at Michigan under the tutelage of legendary neuroanatomist, Dr. Elizabeth Crosby. As an ophthalmology faculty member under the late F. Bruce Fralick, M.D., Dr. Henderson was also a faculty colleague of the late Harold F. Falls, M.D., putatively the father of medical genetics in the United States. Drs. Fralick, Falls, and Henderson, while a small team, made up a very strong trio that led their department for many years. Residents affectionately referred to them as “The Three Bears.”

The passing of Dr. Henderson brings to an end the era of these three individuals, all members of the AOS, whose careers in ophthalmology contributed greatly to our understanding of many facets of basic and clinical ophthalmology. For Dr. Henderson’s part, his AOS thesis on intracranial arterial aneurysms in 119 patients remains today a classic in the medical literature. His doctoral thesis, published in two parts in the Journal of Comparative Neurology, involved a detailed study of the mammalian midbrain and isthmus regions including pathways involved in eye movements.

Dr. Henderson was instrumental in the establishment of the Lions Eye Bank—now the Michigan Eye Bank--that has become one of the leaders in eye-banking in the country. The first corneal transplant at the University of Michigan was performed by Dr. Henderson.

When Dr. Fralick stepped down as department chair in 1968, Dr. Henderson was selected to succeed him. He served for 10 years after which he retired from the University. In retirement, Dr. Henderson and his beloved and devoted wife, Joyce Henderson, spent many winters in Naples, Florida and summers in Ann Arbor. When in Ann Arbor, Dr. Henderson regularly attended grand rounds and, as was his custom in conferences, took many notes.

Dr. Henderson was an accomplished pianist and organist and enjoyed playing for friends. He was an avid boater as well. His easy-going and gentle manner, even as an avid University of Michigan sports fan, made for many lasting and cherished friendships. Dr. Henderson served as a leader in many organizations including as president of the AOS, the AUPO, and the Michigan Ophthalmological Society.

My own career owes much to Dr. Henderson. He helped to train me in residency, hired me as a faculty member, and strongly supported my appointment as chair. While we miss him greatly, his legacy will live on in our department and in our institution.

Dr. Henderson was preceded in death by his son John, in 2006, and by Joyce, his wife of 68 years, in October, 2010. He is survived by his daughter, Louise McFarland (Richard) of Leesburg, Florida and by three grandchildren: Tim McFarland (Lindsay) of Farmington Hills, Michigan, John McFarland (Sydney) of Cleveland Ohio, and Anne Louise McFarland of Tallahassee, Florida.
THOMAS P. KEARNS
BY George B. Bartley, MD

“I knew I was looking at somebody’s syndrome. I just didn’t know that it would be mine!”¹ So thought Thomas Kearns when, in the 1940s, he observed that certain patients with chronic progressive external ophthalmoplegia also had pigmentary retinopathy and heart block. The constellation of findings, now universally known as the Kearns-Sayre syndrome, became the theme of Dr. Kearns’s thesis for the American Ophthalmological Society in 1965 and the clinical entity for which he is best remembered.² But the contributions of Thomas Pryor Kearns to medicine extend much further than a single eponymous discovery and his life as a whole was full, inspiring, and worthy of much celebration.

A child of Appalachia and a product of humble beginnings, Tom Kearns was born in Ravenna, Kentucky on 2 April 1922. He came of age during the Depression and worked as a grocery meatcutter to pay for his college tuition at the University of Louisville. He stayed on at the same institution for medical school, supported by an Army scholarship. After graduation he served at Fort Riley in Kansas and rose to the rank of Captain.

Dr. Kearns commenced his residency in ophthalmology at the Mayo Clinic in 1949 and was recruited to the staff after completion of his training. His career at Mayo was highlighted by attaining the rank of Professor in 1973 and being named the Fred C. Andersen Professor of Ophthalmology in 1982. He retired from the Mayo Clinic in 1987 after a distinguished tenure of service.

The imprint that Dr. Kearns made on his chosen field was significant. He was a founding member of the American Eye Study Club (1956), a faculty member of the Lancaster Course in Ophthalmology (1963 – 1970), and a member of the Ophthalmological Society of the United Kingdom (1970 – 1985). Dr. Kearns served as a Director of the American Board of Ophthalmology from 1976 to 1983 and was Vice Chair of the ABO in the final year of his term. Deeply committed to the American Academy of Ophthalmology, Dr. Kearns served on its Board from 1981 through 1987 and as the AAO’s President in 1986.

Of all his professional society activities, Dr. Kearns found his association with the American Ophthalmological Society to be the most rewarding and meaningful. He edited the Transactions from 1973 to 1979 and from 1981 to 1988 served as the AOS Secretary-Treasurer. For Tom, these responsibilities were truly a labor of love. The AOS named Dr. Kearns its President in 1992 and honored him with the Howe Medal in 1994 for his lifetime achievements and accomplishments.

In addition to describing the prototypical mitochondrial myopathy, Dr. Kearns contributed several other “firsts” to medicine. These include the first histological description of fat embolism to the retina (1956), the discovery and description of the retinal manifestations of carotid occlusive disease (1963), the initial demonstration by fluorescein angiography of the ocular effects of chloroquine (1966), the seminal report of vitreous deposits associated with reticulum cell sarcoma of the brain (1969), and the first report of computed tomography in ophthalmology (1974). What is inspiring to those who have worked with Dr. Kearns is that he made his observations and contributions using a direct ophthalmoscope and working from a single, cramped, windowless examination room…a veritable medical “cubicle.”

Dr. Kearns periodically escaped from his office on the seventh floor of the Mayo Building to perform bedside consultations on the hospital service, which were a rich educational experience for the fellows, residents, and medical students who were privileged to accompany him. A master of organization, Dr. Kearns assigned each member of the entourage with a defined purpose: the senior
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trainee to take intraocular pressures (and to measure retinal artery pressures with the ophthalmodynamometer in patients with suspected carotid occlusive disease), the junior resident to carry the black leather bag containing the ambulatory examination equipment, and the medical student to manage the all-important clothespin that secured the curtains over the hospital’s spacious and decades-old double-hung windows. Hospital rounds were crisp, efficient, and problem-focused, reflecting Tom’s nature, and inevitably included a mid-morning coffee break during which Professor Kearns would discuss a topic of our choice. Generations of students can remember, for instance, his brilliant exposition on nystagmus, literally summarized on the back of a napkin and highlighted by hyperkinetic eyebrows that prompted the listener to the most salient take-home points.

Despite many years in the North Star State, Dr. Kearns retained his soft Southern drawl and his distinguished demeanor as a Kentucky Colonel. His gracious persona belied the perspicacity of a master clinician, to the disadvantage of the occasional malingering patient who tried to hoodwink the great neuro-ophthalmologist with the hopes of obtaining occupational disability. I recall more than one instance when Dr. Kearns demonstrated the rare but distinctive “Gebutenheimer’s syndrome”, in which diplopia from wildly random ocular movements was elicited when he placed gentle pressure over an anomalous, unnamed, and as-yet-undiscovered nerve alongside the cervical vertebrae. To paraphrase the old adage, you can fool all of the people some of the time and some of the people all of the time, but you couldn’t fool Tom.

Away from work, “TPK” enjoyed living on Rochester’s “Pill Hill” in one of the city’s grandest homes, fittingly reminiscent of Tara, and owning a classic Ford Mustang that was lovingly maintained and driven with pride and confidence. He relished life.

Thomas Kearns passed away in Rochester, Minnesota on 6 March 2011. He is remembered with affection, admiration, and respect by his colleagues and will be greatly missed. Tom is survived by his gracious and loving wife, Mary Lou, whom he married in 1944, his daughter Lucinda and son Stapleton, and three granddaughters.

References
Few scientists have shaped vision research more than Carl Kupfer, who served as director of the National Eye Institute from 1970 to 2000. Carl died April 7, 2011, not far from the National Institutes of Health campus in Bethesda, Maryland, where he continued to work for the NEI long after he stepped down as director.

Carl was born in Brooklyn in 1928. He earned his undergraduate degree at Yale University in 1948 and his medical degree in 1952 at Johns Hopkins University. Despite his admission to “being rather slow in mathematics,” Carl forged an appreciation of solving medical problems with statistics. Whatever deficiencies he thought he had, he certainly overcame these during his residency at Hopkins working as a lab assistant in biostatistics.

After two years of military service in the Air Force, Carl returned to Hopkins as a research fellow before moving on to Harvard where he was an instructor and then assistant professor of ophthalmology. Prior to arriving at NIH to head the NEI, Carl helped establish the Department of Ophthalmology at the University of Washington School of Medicine, where he served as chairman.

As the first director of the NEI, Carl had the daunting task of building an institute from the ground up. But his rare combination of skills—his grand vision, organizational prowess, and persuasiveness to attract funding and talented staff—provided NEI a sturdy foundation that persists today.

In this current era of evidenced-based medicine, many of Carl’s first initiatives in retrospect seem intuitively obvious. But NIH was a different place in 1970—more focused on basic science, rare diseases, and small patient studies. Carl was a believer in strategic planning and felt firmly that the NEI’s key constituent was the American public. At the time, blindness was second only to cancer as the most feared health problem, and he prioritized needs and concentrated institute resources on areas that would likely have the greatest impact in advancing the understanding, prevention, and treatment of blinding eye diseases.

Carl ushered in a new era of clinical research that emphasized epidemiological studies and large multi-center randomized clinical trials. Such studies were cumbersome, expensive, and a new way of doing research for many physician scientists. Many highly respected vision researchers at the time were opposed to large clinical trials, fearful the allocation of so much funding to clinical trials would stymie basic research. Among these critics was longtime head of ophthalmology at the Washington University School of Medicine Bernard Becker. In 2004, however, Bernie conceded that Carl had taken the right approach and applauded his perseverance.

NEI Clinical Director Frederick Ferris III, who was involved in the first NEI trial—the Diabetic Retinopathy Study—recalled visits to the clinical sites and the challenges of defining methodologies and standardizing procedures and techniques. According to Rick, much of the initial NEI success came from Carl’s persistent determination to create a new paradigm of clinical research.

The enormous success of the Diabetic Retinopathy Study, which showed that laser photocoagulation was effective in preventing vision loss due to proliferative diabetic retinopathy, paved the way for future trials at the NEI and inspired randomized clinical trials at other NIH institutes.

Basic research also thrived under Dr. Kupfer, who believed in the primacy of investigator-initiated research and made RO1 grants a major part of the NEI research portfolio. Years later, investigators ultimately identified genes associated with juvenile primary open-angle glaucoma, macular degeneration, retinitis pigmentosa, and retinoblastoma. They developed new medical lasers for treating eye
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disease such as macular degeneration and noninvasive imaging techniques such as optical coherence tomography. In his 30 years as NEI director, the research portfolio grew to include more than 1,600 investigators at universities, medical centers, and research institutions around the U.S., and the NEI budget grew from $24 million to more than $450 million.

Carl’s legacy, however, is best measured by the progress in vision care made during his tenure. Thanks to his leadership, many chronic and disabling eye diseases have become treatable and less disabling. At the start of his NEI career, patients with diabetic retinopathy would go blind within five years of diagnosis. Today, fewer than 5 percent of people with the condition go blind. Thousands of older Americans are delaying the onset of macular degeneration through a formulation of antioxidant vitamins and minerals discovered by NEI scientists. Clinical trials initiated during his tenure established the value of pressure reducing drugs and surgery in the treatment of glaucoma. Patching regimens and drug therapy were validated as useful treatments for amblyopia. Clinical trials also established cryotherapy as a sight-saving therapy for cases of retinopathy of prematurity.

Dr. Kupfer is predeceased by his wife, Muriel "Kim" Isolde Kaiser-Kupfer, MD, a former chief of the NEI Ophthalmic Genetics and Visual Function Branch. He is survived by his children Charles and Sarah, and grandchildren.

Ophthalmology and the NEI are forever indebted to Carl’s unrelenting dedication. And for the American public, he should forever be remembered as a true champion of vision research.
MINUTES OF THE PROCEEDINGS

One Hundred and Forty-Seventh Annual Meeting
May 19-22, 2011

The ONE HUNDRED AND FORTY-SEVENTH ANNUAL MEETING of the American Ophthalmological Society (AOS) was held at The St. Regis Monarch Beach Resort in Dana Point, California.

President Lee M. Jampol, MD called the opening session to order on Friday, May 20. The program began with the AOS-Knapp Symposium on Friday, May 20, as follows:

Symposium: Managing Presbyopia – The Ophthalmologist Of The Future
1. Introduction Ronald L. Gross*
2. “Health Policy” William L. Rich, III*
3. “Patient Care Guidelines” Paul P. Lee*
4. “Electronic Medical Records” Joel S. Schuman*
5. “Ophthalmic Associations” Ruth D. Williams*
6. “Generational Issues” Ann Brown*
7. ‘Communications” Andrew P. Doan*

The Meeting Was Continued With The Following Scientific Program:
2. “The Association of Increased VEGF Expression with Avascular Retina in a Rat Model of Retinopathy of Prematurity” Mary Elizabeth Hartnet*
4. “Minimalist Pars Plana Vitrectomy For Repair Of Primary Rhegmatogenous Retinal Detachment” Eric W. Schneider, Ryan L. Geraets, Mark W. Johnson*
5. “The Artificial Silicon Retina in Retinitis Pigmentosa Patients” Alan Chow*, Ava Bittner, Machelle Parduet
6. “Suprachoroidal Gene Delivery to the Posterior Segment” Tim Stout*, Trevor McFarland, Peter Francis, Lauren Jensen, Kelly Beard, Martha Neuringer, Anna Brown, Laurie Renner, Thomas Hady, Binoy Appukuttan

Bold = AOS Member
* = Presenter

EXECUTIVE SESSION, SATURDAY, MAY 21

LEE M. JAMPOL MD: I would like to remind emeritus members that you are not eligible to vote. I will gavel the meeting open and appoint a parliamentarian. I am going to appoint Bradley Straatsma as the parliamentarian and Susan Day as the assistant parliamentarian. Can I have a motion for approval the proceedings of the Executive Session of May 22, 2010? Is there a second? Any discussion? All in favor? The motion passes. The Executive Vice President will now present his report.

REPORT OF THE EXECUTIVE VICE PRESIDENT

THOMAS J. LIESEGANG MD: The investments of the Society continue to recover nicely following the economic turndown over the last several years and are almost at their historic high. The Society remains in a strong financial condition. The Council has been monitoring the investments and accounts closely and has actively engaged with the Society’s financial managers at Vanguard, including direct dialog during the Council meetings. The AOS Council recommends no increase in dues next year. The AOS now has an investment and audit committee to monitor the financial activities of the Society.

The three sources of income for the AOS are membership dues, annual meeting registration fees, and investment income. The AOS investment income continues to subsidize the meeting, the Transactions, and the membership activities although the expenses of the Transactions have declined significantly now that it is published only online. The Knapp symposium during the Annual Meeting is funded by the Knapp Fund. The Council is careful to use the bequeathed funds following the legal guidelines for their use.

There are now 230 active members and 125 emeritus members with the bylaws permitting up to 275 active members. A survey of the membership database indicates that the membership primary specialties are presently listed as: Retina 25%, Cornea 15%, Pediatrics 15%, Glaucoma 12%, General Ophthalmology 10%, Anterior Segment 6%, Plastics 4%, Neuro-ophthalmology 3%, Pathology 3%, Oncology 2%, Refractive Surgery 2%, and Uveitis 2%.

New members that have been accepted for membership last year were featured in the spotlight session during the Annual Meeting on Thursday afternoon and they will be introduced at the banquet. The AOS website continues to be refreshed each year with information on new members, Council and Officers, as well as past and present members. There is information about the history of the Society, of the Charitable, Educational and Scientific Trust Fund, of the Herman Knapp Testimonial Fund, of the Howe Medal; a listing of all past members and prior meeting sites; membership requirements, and a calendar of activities for the year. There is linkage...
to the full text of each article in each Transactions volume since 1864. New this year is a history of all the athletic trophies and their winners over the years, along with a photo of the trophy. All members are encouraged to submit a biosketch and photo for the Website. Recent changes by the Council include the removal of the requirement for submission of papers presented at the meeting and the encouragement of international members.

The AOS Council publishes a Newsletter twice a year over the past 4 years, highlighting AOS activities, announcements, and encouragement of participation in leadership positions and the annual meeting. The AOS Council will be producing a white paper this year based on the topics of the Knapp symposium.

REPORT OF THE CHAIR OF THE COUNCIL
Marilyn B. Mets MD: Good morning. I want to welcome everybody and I especially want to welcome our new members. I thank them for their Spotlight Session which is a relatively new addition to our meeting that adds a wonderful richness to it. I also have to comment that of the five new members, two are pediatric ophthalmologist and one does pediatric retina. However, I do not in any way think that we are overly weighted toward pediatric ophthalmology. I would also like to officially thank our current Council: Hans Grossniklaus, Dick Mills, David Wilson and Jay Erie. It has been a delight to work with all of you and a real joy. It has just been a great year. The AOS Officers: Lee Jampol as President, Tom Liesegang as Executive Vice President and Rich Parrish as Editor of the Transactions have served the membership well this year. The organization should know that. You should also know that the staff from Academy Management Services: Steven Moss and Lisa Brown, who was Steven’s predecessor and mentor, have done a great job and the meeting is an example of that. Last, but not least, the committee and chairs and at this point, especially Ron Gross as Head of the Committee on Programs, have done a superb job and deserve a hearty thanks. They are the engine of the organization. Without the committees, the organization would not move forward and we appreciate their service to the AOS. In the last year or two there have been a number of process changes, including allowing multi-authored thesis. Twelve of the 19 theses submitted this year were multi-authored. There were 41 abstracts submitted, up from last year. This upward trend, after the elimination of the requirement for papers being submitted to the Transactions is continuing. Theses are now allowed to be presented at the meeting. We had examples of that yesterday with Mary Elizabeth Harnett’s and Allen Chow’s theses that added significantly to the program. Although not everyone agrees with all changes, many of them have clearly made a difference in a positive direction. The effort to build a strong bond between the richness of history and keeping current, which this organization is uniquely in the position to do, has continued throughout the year in other ways. We have been talking about our 150th Anniversary in 2014. I am pleased that Dan Albert has agreed to edit the historical update. Please be open to helping Dan with any requests he has for that project. I wanted to share the
excitement and anticipation of our 150th and this project as a part of that important event at the Council Chair Chat yesterday; we talked about other suggestions for the 150th. It would be nice to have a historical component to the program so be thinking about this. We will put our heads together, and come up with something very special for this event. Our Knapp Symposium yesterday on the Ophthalmologist of the Future was a “knock your socks off” symposium. I was really very pleased with it and we are, as Tom mentioned, writing a white paper. We are already proceeding with the preparation and hopefully we will have it accepted for publication. Today’s symposium will be on Maintenance of Certification and Maintenance of Licensure and how they may relate in the future. Maintaining this balance between old or traditional, and new or keeping current is vital to the organization. We should cherish and promote this unique aspect of the society. I wish to thank the Society and the Council. It has been a pleasure and an honor to serve on the Council for the last four years and as Chair for this last year. I will be followed by Hans Grossniklaus as Council Chair next year. Thank you.

LEE M. JAMPOL MD: I would like to ask John Clarkson to present the report of the Committee on Audits.

REPORT OF THE AUDIT COMMITTEE

JOHN G. CLARKSON MD: Thank you Lee. Tom indicated that there was a problem and the only problem is we had to pay and I want to change the title of this to an update because there is a process to follow for the Audit Committee to actually make a report but the independent auditors report and combined financial statements for the fiscal year 2010 for the American Ophthalmological Society, AOS Charitable Educational and Scientific Trust Fund and the AOS Herman Knapp Testimonial Fund conducted by Hood and Strong was received on Monday May 16th, the committee has reviewed the report and found the AOS financial statements to be in order. The auditors’ statement indicates there were no issues, difficulties, or deficiencies encountered. The council reviewed the report at their meeting earlier this week. In accordance with AOS policy the audit committee will convene a conference call meeting with the auditors before July 1st to review the statements and to formally accept the report. The details of the audited financial statements will be presented in the Executive Vice Presidents Report. Thank you. Are there any questions?

LEE M. JAMPOL MD: Thank you, John. Could I have a motion to accept the reports of the Executive Vice President, the Audit Committee and the Council Chair as read? Second? Any discussion? All in favor? The motion passes. Next we have the report of the Committee on Theses, James Chodosh.
REPORT OF THE COMMITTEE ON THESES

JAMES CHODOSH, MD: Chair and reporting member, Committee Members: Timothy Stout, MD, PhD, MBA, and Robert N. Weinreb, MD. The AOS Thesis Committee reviewed 19 thesis submissions in 2011. Of these, 14 were new, and 5 were first time resubmissions from the past two years. Of the 14 resubmission, 4 were returned for minor revision, meaning likely acceptance this year, and 10 were returned for major revision, requiring a resubmission and re-review by the committee. Of the 5 revised submissions, 1 was accepted without revision, 3 were returned for only minor revision, and 1 was returned for major revision. In total, of the 19 submissions this year, 1 (5%) was accepted, 7 (37%) required only minor revisions, and 11 (58%) were returned for major revision.

LEE M. JAMPOL MD: Could the Executive Vice President read the names of the candidates whose theses were accepted?

THOMAS J. LIESEGANG MD: As Dr. Chodosh announced, these eight are preliminarily accepted. That means they all have minor revisions, and if they accomplished the minor revisions within the next month, then they are accepted. Accepted theses include: Ron Adelman, MD, “The Impact of the Economy and Recessions on the Marketplace Demand for Ophthalmologist”; Deepak P. Edward, MD, “Anterior Segment Alterations and Comparative Aquous Humor Proteomics In The Uphthalmonic Rabbit”; Peter James Francis, MD, “The Influence of Genetics on Response to Treatment With Ranibizumab (Lucentis) for Age-Related Macular Degeneration, Lucentis Genotype Study (LGS)”; Robert A. Goldberg, MD, “Cosmetic Outcome of Posterior Approach Ptois Surgery”; Natalie C. Kerr, MD, “The Role of Thyroid Eye Disease in Other Eye Factors in the Overcorrection of Hypotropia Following Unilateral Adjustable Suture Resection of the Inferior Rectus”; Edward E. Manche, MD, “Wavefront-Guided Laser In-Situ Keratomileusis (LASIK) Versus Wavefront-Guided Photorefractive (PRK): A Prospective Randomized Eye to Eye Comparison”; Jay S. Pepose MD, PhD, “Comparison of Through-Focus Image Quality Across Five Presbyopic-Correcting Intraocular Lenses”; R. Michael Siatkowski, MD, “The Decompensated Monofixation Syndrome”.

LEE M. JAMPOL MD: Could I have a motion to accept these as new members of the society? Any discussion? All in favor? Now I would like to ask Dr. Hans Grossniklaus to give the editors report. Dr. Parrish is not with us today.

REPORT OF THE EDITOR

HANS E. GROSSNIKLAUS MD: The online version of the 2010 Transactions of the American Ophthalmological Society was available on December 27, 2010, at the AOS website, http://www.aosonline.org and could be accessed through PubMed Central on January 18, 2011. This is the earliest that the Transactions has been available since moving to the online only format. In addition to the full text of all theses, the contents include the proceedings of the Executive Session, reports from the Society to other organizations, Necrology, Banquet, and presentation of the Howe Medal. The abstracts of all oral presentations and posters presented during the 2010 meeting are also available.

All previous publications in the TAOS are easily accessible through PubMed Central at: http://www.ncbi.nlm.nih.gov/pmc/journals/308/ The scientific community continues to access articles from this original source of important information. During the current month, February 2011, and in the last 12 months, 26,770 individual unique user IPs retrieved 8,822 full text articles in HTML format and 19,396 in the PDF version. An additional 21,368 summaries were also retrieved.

As a tribute to the long-lasting impact of publications in the TAOS, the most frequently requested article in the last 12 months was Laurence-Moon-Biedl Syndrome by Grady E. Clay published in 1933;31:274-288. This article was retrieved 3327 times. Two of the top five most frequently accessed articles were recently published theses: Methylcellulose-resistant staphylococcus aureus infections of the eye and the orbit by Preston Howard Blomquist, (2559) and The effect of different monovision contact lens powers on the visual function of emmetropic presbyopic patients by Daniel S. Durrie, (2354).

The TAOS will continue to publish full text theses and abstracts of all posters and papers that are presented at the Annual Meeting. If information presented at the Annual Meeting is the basis for a publication in another journal, then the author will identify it as having been presented in part at the Annual Meeting of the American Ophthalmological Society. If a figure, legend, table, or extensive text from your previously published TAOS article is used in another publication in another journal, then the author will identify it as having been presented in part at the Annual Meeting.

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LEE M. JAMPOL MD: Any questions?

ALLAN J. FLACH MD: How can we become and continue to be a leading source of information when we no longer publish the papers at this meeting in the Transactions? This is not the appropriate moment to dwell on that question, but I think there is a significant percentage of the Society that is unhappy with that decision, namely not to publish. It would be wonderful in the future if all of you can figure out a way for us to readress that subject with a more thorough and intelligent discussion.

LEE M. JAMPOL MD: Thanks Allan. Next I am going to ask Ronald Gross to give the Committee on Programs report.

REPORT OF THE COMMITTEE ON PROGRAMS

RONALD L GROSS MD: Judging from the abstract submissions, the changes in the program that were instituted in 2010 were very well received. A total of 41 abstracts were submitted, with 20 accepted as podium presentations. The remainder of the authors of the abstracts was offered the opportunity to present as a poster, and at this point, thirteen authors have accepted the invitation. The two symposia are in place (see below). Planning has begun to develop a white paper based on the Knapp Symposium. As was the case last year, manuscripts and discussions will not be published and this appears to have begun the process of improving the science...
Minutes of the Proceedings

presented at the meeting. Additionally, two new members will present a summary of their published AOS thesis.

Council Discussion Topics:

1. Continue current policy on publication, presentation, and authorship
2. Continue poster session
3. Allow the presenting author to respond to each discussant’s comments right after each discussant rather than after all discussants
4. Limit the number of abstracts a single member can submit to two, of which one must be a podium presentation and one a poster.
5. Some additional topics from Stephen Moss that I fully support
   a. Requesting presentation preference: Almost all submissions prefer a paper presentation. Perhaps the question should be reworded as two questions: “Are you willing to present your work as a paper?” and “Are you willing to present your work as a poster?” That way we do not have to worry about inviting people to present a poster who are unwilling to do so.
   b. Adding a date preference: This will open a can of worms, and I’m not sure it’s a good idea, but you may consider adding a day preference to the abstract submission form (Friday, Saturday, or Sunday). It seems like every year we end up rearranging the schedule because someone can’t present on a certain day. Policy says that they must present on the assigned day, but that policy is not always followed.
   c. Identifying primary discussants: It may be a good idea to send a message to the membership after the abstract submission deadline asking if they would be willing to be a primary discussant. That way the Committee would at least have a list of people to choose from instead of finding out people are unwilling/not attending.
   d. Obtaining financial disclosures: I am still trying to get all of the co-authors to submit their financial disclosure forms. Next year and moving forward, with CME being offered, we must receive all financial disclosures before an abstract can even be reviewed. How do we make sure this happens?
   e. Mentoring: I think that it would be good for the previous Chair of the Committee on Programs to be available to “mentor” the current Chair. If questions arise they will have someone to turn to that has likely faced the same challenges.

Knapp Symposia 2011: “The Ophthalmologist of the Future” will address many varied aspects of the professional lives of ophthalmologists from the current time forward, with a horizon of about five years. It is understood that between now and the symposium there may be huge changes, but the purpose is to use the best current information at the time of the symposium to get informed opinions of the future. Anticipated speakers and topics include: Health Policy: The symbiotic relationship with government; aspects of governmental involvement in the healthcare process (William L. Rich III MD); Patient Care Guidelines: How will we take care of patients, considering the impact of areas such as manpower, practice patterns, compliance and outcomes (Paul Lee, MD, JD); Electronic Medical Record and related issues? How will we document? Who will have access? How much will it cost in time and money? (Joel Schuman, MD); Ophthalmic associations: How do we reach and involve the next generation- Focusing on the role of the AAO in the future (Ruth Williams, MD); Generational Issues: What are the measures and rewards? Fulfillment, priorities, rewards of the different physicians and others in the healthcare workplace (Ann Brown, MD, MHS); and Communication: IM, Face Book, and Twitter- How do we use it now and what will we use in the future? (Andrew Doan, MD). Since we will all hopefully be apart of the future, this is fascinating and important information.

The second Saturday symposium “Maintenance of Certification/ Maintenance of Licensure, How It Relates to You” will address this subject from several aspects.

The order in which the papers that are accepted for presentation appear in the program is the same as the order in which they were received by the AOS office. The way that you can present earlier in the program is to submit the abstract as soon as the window is open. Historically this is the way that it has always occurred. If you want to avoid presenting on Sunday, then submit your abstract early. It is also very important that you actually pay attention to when your presentation is and for discussants as well. Every year, there are always a few authors who we need to move the time of their presentations. It would make life a lot easier during the meeting if you actually knew when your presentation was scheduled and that you accommodated your travel plans to allow you to present as scheduled. Other than that I thank the membership for the quality of the submissions. Having been on the Committee for several years, the quality of the abstracts has increased markedly and we now have great science that is being presented. I believe that will hopefully continue in the future. Again, thanks to the membership. Any questions?

MALCOLM L. ING MD: On the submission of the abstract to be presented at the meeting, traditionally all presentations are supposed to be non-published. What happens if you have a paper that has been submitted to a journal has not been published? Is that a permissible abstract or not?

RONALD L. GROSS MD: At this point, at least from our perspective, if it has not been accepted for publication elsewhere. I think that perfectly ok.

THOMAS J. LIESEGANG MD: Actually, I would even say that as long as it is not in print is acceptable, because you can ask an editor to hold publication until after May 22.

RONALD L. GROSS MD: Any other questions? Thank you all, again.

LEE M. JAMPOL MD: I would like to ask Dr. Louis Cantor to present the report of the Committee on Membership.
REPORT OF THE COMMITTEE ON MEMBERSHIP

LOUIS B. CANTOR MD: The AOS Committee on Membership composed of Anne Coleman, Malcolm Ing, and Timothy Olsen reviewed perhaps the largest and most diverse group of applicants in the long history of the AOS. The committee met by telephone conference (spanning six time zones from Atlanta to Hawaii). There were 21 nominations by the April 30th due deadline and completed online applications by the June 30th due date. Each of the individuals was well respected and came highly recommended by our members. The committee discussed each of these applicants and made our recommendations to the AOS Council in September. Twenty of these individuals have been invited to submit a thesis.

Consistent with the policy of the Council, the AOS is seeking to expand and diversify its membership. Ophthalmology, like other disciplines and areas of study, is now a global community. It is in this spirit that the AOS has expanded its membership to include international members. In addition to outstanding U.S. ophthalmologists, membership applications were reviewed from Europe, Asia, and other regions of the Americas. Without a doubt, these international members will provide a new dimension to our fellowship within the AOS. We are expecting to begin reviewing new applications following the April 30th deadline.

LEE M. JAMPOL MD: I would like Dr. Ralph Eagle to give the report of our Archivist Photographer.

REPORT OF THE ARCHIVIST PHOTOGRAPHER

RALPH C. EAGLE, JR, MD: I took 874 digital photographs at the One Hundred Forty-Sixth Annual Meeting of the American Ophthalmological Society held at The Greenbrier in White Sulphur Springs, West Virginia. Seven of these were included as color illustrations in the Frontmatter of the 2010 on-line volume of the Transactions of the American Ophthalmological Society. These included photos of 2010 AOS President Charles P. “Pat” Wilkinson, MD, President Wilkinson and his wife Alice, a group photo of the Council, a group photo of the new members, a photo of new member Joan W. Miller, MD signing the AOS membership book, and several photos of 2010 Howe Medalist Marilyn T. Miller, MD. Also included, at the request of the Council, was a photo of President Wilkinson and Council member Douglas D. Koch presenting me with a resolution of gratitude at the banquet. A show that includes about 200 selected photos from the 2010 meeting in PDF format can be downloaded from the AOS website. Meeting photos from 1996 through 2010 can be accessed in the members’ only section of the website. The digital archives of the Society now comprise more than 5760 high resolution digital photographs stored on CDs and DVDs. A presentation from the 2011 meeting will be posted on the website in July 2011. During the past year I have begun digitizing selected slides from the AOS Archives and am preparing several PowerPoint shows that will be included in our digital Archives and website.

LEE M. JAMPOL MD: Thank you, Ralph. Can we have a motion to accept the reports as presented? Second? All in favor? The motion passes. Now I call upon Tom Liesegang to present the Committee on Emeriti Report.

REPORT OF THE COMMITTEE ON EMERITI

THOMAS J LIESEGANG MD: Banks Anderson, Chair of the Committee, could not be here this year, so he asked that I present the report. Since our AOS meeting in 2010, the deaths of the following members have been reported to the Secretary:

<table>
<thead>
<tr>
<th>NAME</th>
<th>RESIDENCE</th>
<th>YEAR INDUCTED</th>
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<tbody>
<tr>
<td>Robert M. Day</td>
<td>Vero Beach, FL</td>
<td>1959</td>
</tr>
<tr>
<td>Davis G. Durham</td>
<td>Wilmington, DE</td>
<td>1970</td>
</tr>
<tr>
<td>John A. Dyer</td>
<td>Rochester, MN</td>
<td>1976</td>
</tr>
<tr>
<td>W. Richard Green</td>
<td>Baltimore, MD</td>
<td>1975</td>
</tr>
<tr>
<td>John W. Henderson</td>
<td>Ann Arbor, MI</td>
<td>1955</td>
</tr>
<tr>
<td>Thomas P. Kears</td>
<td>Rochester, MN</td>
<td>1965</td>
</tr>
<tr>
<td>Carl Kupfer</td>
<td>Rockville, MD</td>
<td>1971</td>
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LEE M. JAMPOL MD: Could I ask you to please rise for a moment of silence? Thank you.

THOMAS J. LIESEGANG MD: In accordance with our Constitution any Active Member who has been a member for 25 years or is 70 years of age or has completely retired from active practice or gainful occupation may upon written request become an Emeritus Member. Such a request is subject to the recommendation of the Council and the affirmative vote of three quarters of the members present at the Executive Session of the Annual Meeting.
The Council presents the following members for Emeritus Membership:

<table>
<thead>
<tr>
<th>NAME</th>
<th>YEAR INDUCTED</th>
<th>CRITERIA</th>
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<tr>
<td>David K. Berler</td>
<td>1989</td>
<td>Over 70 years of age</td>
</tr>
<tr>
<td>Joseph C. Flanagan</td>
<td>1980</td>
<td>Member for 25+ yrs.</td>
</tr>
<tr>
<td>Thomas D. France</td>
<td>1984</td>
<td>Member for 25+ years</td>
</tr>
<tr>
<td>William A. Godfrey</td>
<td>1987</td>
<td>Member for 25+ years</td>
</tr>
<tr>
<td>John R. Heckenlively</td>
<td>1987</td>
<td>Member for 25+ years</td>
</tr>
<tr>
<td>Dan B. Jones</td>
<td>1980</td>
<td>Member for 25+ years</td>
</tr>
<tr>
<td>Kenneth R. Kenyon</td>
<td>1985</td>
<td>Member for 25+ years</td>
</tr>
<tr>
<td>Stephen R. Waltman</td>
<td>1984</td>
<td>Member for 25+ years</td>
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Emeritus Members and their guests are invited to a luncheon on Saturday, May 21st from 12:00 to 1:30 PM in the Aegean Room of the hotel.

LEE M. JAMPOL MD: Could I have a motion to accept these as emeritus members? Second? All in favor? Thank you. The motion passes. The Executive Vice President will now read the proposals for candidates for membership.

THOMAS J. LIESEGANG MD:

<table>
<thead>
<tr>
<th>NAME</th>
<th>PROPOSER</th>
<th>SECONDER</th>
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<tbody>
<tr>
<td>Alexander Brucker</td>
<td>Lee Jampol</td>
<td>Alan Laties</td>
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<tr>
<td>Massimo Busin</td>
<td>Jayne Weiss</td>
<td>Marguerite McDonald</td>
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<tr>
<td>Ioannis Danias</td>
<td>Alan Friedman</td>
<td>James Tsai</td>
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<td>John Fingert</td>
<td>Alan Robin</td>
<td>Pat Wilkinson</td>
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<td>Steven Gedde</td>
<td>James Tsai</td>
<td>Alan Robin</td>
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<tr>
<td>David Granet</td>
<td>Malcolm Ing</td>
<td>Kenneth Wright</td>
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<tr>
<td>Arlene Gwon</td>
<td>Vernon Wong</td>
<td>D. Jackson Coleman</td>
</tr>
<tr>
<td>Timothy Lai</td>
<td>Jose Pulido</td>
<td>Emily Chew</td>
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<tr>
<td>William Barry Lee</td>
<td>Zane Pollard</td>
<td>Woodford Van Meter</td>
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<tr>
<td>Shazhad Mian</td>
<td>Alan Sugar</td>
<td>Dimitri Azar</td>
</tr>
<tr>
<td>Quan Dong Nguyen</td>
<td>C. Stephen Foster</td>
<td>Julia Haller</td>
</tr>
<tr>
<td>Ken Nishal</td>
<td>Malcolm Ing</td>
<td>Kenneth Wright</td>
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<tr>
<td>Cameron Parsa</td>
<td>Michael Brodsky</td>
<td>William Good</td>
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<tr>
<td>Louis Pasquale</td>
<td>C. Stephen Foster</td>
<td>Peter Netland</td>
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<tr>
<td>David Ritterband</td>
<td>Robert Ritch</td>
<td>Eduardo Alfonso</td>
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<tr>
<td>David Sarraf</td>
<td>Lee Jampol</td>
<td>Alan Kreiger</td>
</tr>
<tr>
<td>Nicholas Volpe</td>
<td>Lee Jampol</td>
<td>Peter Netland</td>
</tr>
<tr>
<td>Janey Wiggs</td>
<td>Joan Miller</td>
<td>Dan Albert</td>
</tr>
<tr>
<td>Helen Wu</td>
<td>Malcolm Ing</td>
<td>Roger Steinert</td>
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</tbody>
</table>

LEE M. JAMPOL MD: Thank you, Tom. These candidates will be invited to submit applications for review by the Committee on Membership. Any comments regarding them should be forwarded to the Committee on Membership or directed to the Chair of the Council prior to the Fall Meeting when they will be discussed. The report on the Committee on New Members, Athletics, and Prizes will be presented at the Banquet tonight. Other committee and representative reports not presented during this Executive Session will be published in the Transactions. I would like to ask Dr. Marilyn Mets to give us the council appointments.

COUNCIL APPOINTMENTS

Marilyn B. Mets MD: The Council appoints Edward Wilson to the AOS Council. The AOS President will be Douglas Koch, and Thomas Liesegang will continue as Executive Vice President, and Richard Parrish as Editor. Thomas Gardner will join Robert Weinreb and Timothy Stout on the Committee on Theses. Edward Buckley will join Mark Johnson, Stephen McLeod, and Carol Shields on the Committee on Programs. Marian Maesai will join Malcolm Ing, Anne Coleman, and Timothy Stout will join the Membership Committee. Emily Chew will continue as Chair of the Committee of New Members. Marilyn Miller will join John Clarkson and Paul Lichter on the Committee on Prizes. Banks Anderson will continue as Chair of the Committee of Emeriti.
Van Meter will continue and Rick Fraunfelder will join him as an assistant on the Committee on Athletics. John Clarkson, Doug Koch, and Tom Liesegang will continue as the Audit Committee members. Ralph Eagle will continue as the Archivist and Photographer. Tom Liesegang will serve as an alternate for Richard Mills who will continue as a representative of the AAO Council. Marilyn Miller will continue as the representative to the International Council of Ophthalmology. Malcolm Mazow will continue as our representative to the American College of Surgeons until October 2011, when his term expires and Ed Raab will take over. Eduardo Alfonso will be the representative to the Pan American Association of Ophthalmology. Tom France, Ed Raab, and David Weakley will continue as representatives to the American Orthoptic Council and David Wallace will continue as the representative to JCAPO. These are the appointments of the Council.

LEE M. JAMPOL MD: Can I have a motion for acceptance? Second? Any discussion? All in favor? The motion passes.

We are on to new business. First, I am going to ask the Council Chair to present new business items.

MARILYN B. METS MD: I want to discuss the upcoming meetings. The Knapp Symposium for 2012 will be on nanotechnology and ophthalmology. Topics will include delivery of drugs, peptides, and genes, imaging and diagnostics, regenerative medicine, and prosthetics, biosensing health maintenance and on nanosurgery and molecules as machines. During the Knapp Symposium yesterday, nanotechnology came up and it certainly is part of the future. We want to be updated on it, so that should be a very exciting symposium. In 2013 the Knapp Symposium will focus on International Ophthalmology and Disparities in Care. The Council will work further on that over the next year and that should also be an exciting symposium. The 150th Anniversary Annual Meeting that I referred to will take place in 2014. The two venues that have been discussed are New York or Newport, Rhode Island. New York was the location of the first AOS Meeting and Newport, Rhode Island, was the second or third so we were looking toward those for their historic significance for the AOS. As I mentioned before, Dan Albert has agreed to edit the historical update. Please assist Dan with any request for the preparation of this important work. We have talked about having interviews with members, in which one member would interview others. Howe Medalists were suggested as members who should be interviewed. We want to have a written document that is a historic update, but we would also like to include technology. It would be nice to chronicle some interviews for the future. The thought that can be expanded upon, but it would important be to ask members to discuss what has happened in ophthalmology during their careers. I think this should be very exciting and you will hear more about it. Please submit to Hans Grossniklaus any future symposium topics. You can obtain his e-mail address from the AOS website. We want to be thinking forward for these symposium topics. They are an enormous addition to the meeting, program, and we want to continue with that. Ron Gross talked to you about CME in 2012 and I am just mentioning that again, knowing that we will get CME, which is a good thing but making sure that the disclosures are sent at the time of the abstract submission.

LEE M. JAMPOL MD: Any questions for Marilyn?

MARILYN B. METS MD: Any additional new business?

LAWRENCE A. YANNUZZI MD: With regard to venue, I wanted to comment the two principle reasons I joined the AOS. Number one, I could interact with iconic figures in ophthalmology outside my subspecialty who otherwise I would not be able to interact with and number two, very importantly, it was always held at a very charming resort, with onsite tennis, golf, a beautiful pool, a great view away from the hustle and bustle of the city where we all live. As part of that the charm was that it was a wonderful place to bring your wife. I want to encourage the Council to not lose the important branding of the AOS that are the elements I just described. I would encourage us to continue to choose resort venues, number one, and number two, to continue to have somebody on the administrative committee birddog the social affairs for spouses particularly wives. You might say we sent out an e-mail indicating what social activities were available and yet we did not get a good response; we need to persevere in that. We cannot just send out one or two e-mails. We may send out a mailing because typically I delete half the stuff. I do not pass it on to my wife and yet I know that all of that is important. I want us to not forget the charm of the AOS meeting. If we start going to cities it is going to be indistinguishable from the AAO from ASCRS, from APOS and will have lost something very precious.

MARILYN B. METS MD: Thank you, Larry. I want to respond to two aspects of your points and then ask for further comments because I think we need feedback for the membership in addressing the location. The first issue that I will address is the wife part. Larry, I understand this. I really get it, and so at yesterday’s Council Chair Chat we made sure we had a couple of spouses to give us feedback for how we can increase the appeal of the meeting for spouses. We attempted to e-mail the spouses directly last year, but we do not have all of the e-mails addresses. At the breakfasts at this meeting and at the spouses’ breakfast, there is a listing for people to add their emails. For those members whose significant other is not here this time, please make sure that you give their e-mail to Steven or Lisa so that again we can directly email them about what is happening. Since the members do not always send the information from their e-mail to their spouses, this is one step. The other step we discussed at the Council Chair Chat yesterday was to expand the activities. We talked about hiking and Malcolm Ing was especially interested in setting up hiking venues ahead of time and setting up a historic tour of Charleston. In Charleston a boat trip goes out around the bay to a submarine that one can visit. I talked with Ed Wilson and his wife who are from Charleston and they are going to be checking out venues for those aspects of the meeting. They will be getting back to us, but a key piece is the e-mail for communicating the information. The spouses are signing up and are providing their emails during the breakfast at this meeting. If your significant other is not here please give their e-mail to Steven or Lisa so we can communicate with them. In terms of the location of the meeting, is there any further discussion? Is there further feedback on the location for our 150th?
LEE M. JAMPOL MD: I would just comment that you would be amazed how much time is spent considering future sites, both by the Council and the staff.

THOMAS O. WOOD MD: This is not specifically for next year, but having the meetings relatively close to a major airport is very nice. It seems to me that most of the meetings you are required to drive an hour and a half or two hours after you land at the airport. You know, for example, driving from Roanoke to the Greenbrier. I thought this was great and I didn’t get lost once.

MARILYN B. METS MD: Thank you, Tom. Nav systems help, as well.

STEVEN NEWMAN MD: Marilyn, one clarification, please. The 150th meeting will be 2013 and the 150th Anniversary will be 2014. Are we talking about 2013 or 2014?

MARILYN B. METS MD: We are talking about 2014. I am sorry, my slide was incorrect.

STEVEN NEWMAN MD: It’s a semantic argument that comes up all the time.

MARILYN B. METS MD: We won’t get into the semantics. We’ll just say 2014. Thank you though Steven.

Yes, Elias.

ELIAS I. TRABOULSI MD: I understand Larry’s concerns about holding a meeting in New York, but if you consider the historic value, number one, a lot of things to do in New York, number two; and if I draw a similarity between this meeting and the Costenbader Society Meeting, for example, one of our most popular meetings or some of our most popular meetings have been the ones we hold in Washington, DC. I think holding the meeting in New York is a terrific idea. A lot of things to do, you fly directly into the city, and there are different types of activities, of course. All together I think it is a good idea and I want to counter vote.

THOMAS J LIESEGANG MD: Regarding the communications with the spouses, a postcard was addressed to you as a member, but it was clearly intended for your spouse. How many of you remember receiving that postcard? Very few raised their hands. So, do you receive information, it’s a matter of what you process. We will continue those efforts.

LEE M. JAMPOL MD: How many of you remember what you had for breakfast this morning? Is there any new business from the floor? I declare the meeting in recess until the banquet this evening and we will resume the scientific program shortly. The first paper is Vitreomicroscopy of Human Fetal Vessel Regression.

REPORT OF THE REPRESENTATIVE TO THE COUNCIL OF THE AMERICAN ACADEMY OF OPHTHALMOLOGY

THOMAS J. LIESEGANG MD: The Council of the American Academy of Ophthalmology (AAO) continues to meet in formal session twice yearly, first during the annual Academy meeting in the fall and then jointly with the AAO Board and State and Subspecialty Leadership at the Mid-Year Forum in Washington in April. The Council was established to provide liaison between the AAO Board of Trustees and the numerous member societies involved with socioeconomic, governmental and public service issues. The current Council consists of voting representatives of all fifty states and includes Puerto Rico and the District of Columbia. Twenty-four Sub-Specialty societies have equal representation; however, the five “Special Interest Societies” which include the AOS, Association for Research in Vision and Ophthalmology (ARVO), American Board of Ophthalmology (ABO), Eye Bank Association of America (EBAA) and the Canadian Ophthalmological Society have Associate Non-voting Councilors. Each representative, including the AOS representative, provides a semi-annual report to the AAO Council each year summarizing the activities of the individual states and societies.

Since its founding in 1864 the objective of the AOS has been “the advancement of ophthalmic Science and art”, and its activities are primarily for the academic, educational and collegial benefit of its members. Although the AOS maintains no political or economic agenda, participation in the Council reflects its broad support for the Academy’s mission.

As in previous years, the AAO has sponsored and promoted a Congressional Advocacy Day at the Mid-Year Forum during which a significant number of Councilors or alternatives were briefed on the Academy’s top legislative priorities and counseled on relationship building with their congressional representatives before proceeding to Capitol Hill and the offices of their personal representatives in the House and Senate.

During the Mid-Year Forum and Council meeting, several recurring problems continue to take precedence. Hearings this year included the following symposia: Outlook for Medicare Payment under Health Care Reform Implementation; The Ethical and Practical Aspects of Implementing an Integrated Eye Care Delivery Team; Electronic Health Records and Data Registries; Considerations for Effective Volunteering; and Running for Office.

There are additional meetings held at the MYF, including meetings of different regions of the USA, meetings of state society representatives, and meetings of Subspecialty Societies. The AOS meets with Subspecialty Society group and the AOS Councilor, Thomas J Liesegang, was re-elected to the leadership role on the Nominating Committee for the AAO Board of Trustees for 2011.

Both the AOS and the AAO continue to receive benefit in the forum provided by the MYF and the AAO Council activities. The next Council meeting is at the Fall Annual Meeting of the American Academy of Ophthalmology in Orlando, Florida.

REPORT OF THE REPRESENTATIVE TO THE AMERICAN COLLEGE OF SURGEONS

Malcolm L. Mazow MD: The meeting of the Advisory Council for Ophthalmic Surgery was held October 6, 2010 in Washington D.C. The following are the highlights of the meeting.

Report of Regents: Discussion among the regents at this meeting has focused on the Affordable Care Act. The ACS has developed
strategies intended to interact with Congress and the Administration. During the joint meeting of the Board of Governors and Regents, a white paper regarding the College’s approach embracing valued-based patient care, quality and safety-driven issues, patient-lead issues, and efficiency-based care.

AAO and the College’s Operation Giving Back program worked collaboratively on relief after the Haiti earthquake. Dr. Giagantelli reported that Mike Brennan, M.D. of the AAO contacted Dr. Cases, Director of OGB to offer assistance.

ACS Patient Education Program: There has been a 400% increase in the public visits to the ACS, Find a Surgeon site. The percent of members who have updated their profile has increased from 24% to 31% during the third quarter of 2010. A listing of ophthalmic procedures that is currently available for the ACS profiles was provided and feedback for addition/deletions is requested.

Advisory Council membership: Dr. Natalie Kerr’s second term on the advisory council as the surgical forum committee representative expires at the conclusion of the 2010 congress. Since the forum committee decided that decrease in numbers and recent lack of submissions form ophthalmic surgery, a representative from ophthalmic surgery is no longer needed on the committee.

The AAO recommended that second terms for Dr. Mieler and Dr. Salim be approved for the ophthalmic advisory committee.

Status Report-Division of Member Services: This year’s initiate’s class of the ACS of 1467 is the largest in the past 9 years.

Report of Board of Governors: Health care reform and its impact on practice was the major issue of concern noted in the survey that was completed by the governors, followed by physician reimbursement. Medicare/Medicaid, professional liability/malpractice/tort reform and risk management/patient safety, graduate medical education and workforce issues.

Town Hall Meeting: Dr. Gigantelli reported that each advisor council is provided an opportunity to host a town hall meeting during the clinical congress. Anticipating the opportunity again for the 2012 Congress in San Francisco, he reported that he will pursue a program from ophthalmology. The AAO and ACS meetings will run simultaneously in 2012.

This is my final report as the AOS representative to the ACS as term limits of the ACS prevent me from continuing on as our representative. I thoroughly enjoyed my tenure as our the representative and learned a great deal about the workings of the American College of Surgeons and ophthalmology need to continue in its relationship with the

REPORT OF THE REPRESENTATIVES TO THE AMERICAN ORTHOPTIC COUNCIL

Edward L. Raab MD: Orthoptists are extremely valuable as collaborators with Pediatric Ophthalmology and Strabismus subspecialists, due to a unique set of skills and the reassuring continuity of care provides to these often very young patients. As described in our prior reports, The American Orthoptic Council continues to accredit orthoptic training programs, examines and certifies graduates of these programs, and oversees the continuing education and practice of certified orthoptists.

Our Society’s representatives have served for several years and our contributions are influential, as we all have served as officers of the Council and remain active as Chairs and members of Council committees and as examiners of candidates for certification. Dr. France and Dr. Raab are Past Presidents, and Dr. Weakley is in his third year as current Council President. One of us serves in turn on the Nominating Committee for officers and new Council members.

Our committee assignments remain unchanged from previous reports. Dr. France chairs the Accreditation and International Committees, serves on the Editorial, Finance, Program, and Public Relations Committees, and is the representative to the Canadian Orthoptic Council. Dr. Raab is Chair of the Bylaws Committee and a member of the Ethics, International, and Program Support Committees. Dr. Weakley serves as a member of the Accreditation, Editorial, Examination, Program, and Finance Committees.

The Council continues to develop a Policy and Procedures Manual. Committee Chairs have been requested to submit includable information to further guide implementation of Council bylaws and give broader guidance on activities and processes. One such project has been an extensive revision of the AOC Bylaws prior to an updated printing. Many provisions that do not relate to essential features of Council structure or fundamental operating requirements will henceforth appear in the Policy and Procedures Manual and will be easier to revise as circumstances require.

The previously approved inclusion of the President of the American Association of Certified Orthoptists as a full voting member of the AOC Executive Committee is now formalized in the updated Bylaws. There are currently 13 accredited orthoptic teaching programs in the United States. Newer programs are monitored by the Accreditation Committee to insure that their students are receiving a quality orthoptic education.

The next oral certifying examinations will be given in August 2011 in Dallas. Up to 14 candidates are expected to appear depending on the results of the preliminary written portion of the examination. The Syllabus of Orthoptic Instruction embraces the curriculum to be mastered by orthoptic students, and the Council requires students to maintain logs of their patient encounters, to help insure compliance with Council requirements for eligibility to take the certifying examinations. The Continuing Education Committee conducts ongoing reviews of its core offerings to insure that they track the content of the Syllabus.

The American Orthoptic Journal publishes the annual Richard G. Scobee Memorial and John Pratt-Johnson Lectures, the papers from the traditional Academy “Sunday Night Symposium”, and submitted peer-reviewed manuscripts from ophthalmologists and orthoptists. The Journal and the American Association for Pediatric Ophthalmology and Strabismus have mutually decided to discontinue the arrangement whereby a subscription to the AJO was incorporated into the AAPOS dues structure, but with AAPOS continuing to promote and encourage individual subscriptions by its members.

Ophthalmologist and orthoptist Members of the Council present a workshop, dealing with the diagnosis and treatment of a particular aspect of children’s eye care, at the Annual Meeting of the American Association for Pediatric Ophthalmology and Strabismus. The workshop in 2010 was titled “Double Trouble: Tips and Pearls for Prevention and Management of Pre- and Post-Operative Diplopia”. In addition, the 2011 Academy meeting in Orlando will include a symposium co-sponsored by the Academy, the
Orthoptics is a profession that does not come to the attention of legislative or regulatory bodies as to licensure or continuing competence, and has little ability to increase public awareness of its value. The American Orthoptic Council and the members of the profession of orthoptics need the firm support of all respected and prestigious organizations within our specialty to maintain credibility. No member of an allied health profession brings the same skill set to the evaluation of our child patients with a variety of disorders, or to our adult strabismus patients as does a Certified Orthoptist. The American Orthoptic Council is grateful for the American Ophthalmological Society’s past support of this important eye care component, and our representatives strongly recommend that this be continued.

REPORT OF THE REPRESENTATIVE TO THE PAN AMERICAN ASSOCIATION OF OPHTHALMOLOGY

EDUARDO ALFONSO MD: The Pan American Association of Ophthalmology has participated in the following activities:

Pan-American Council of University Professors (PACUPO) Eduardo Mayorga MD chairs PACUPO. The purpose of this program is to unite and standardize university training programs throughout Latin America through exchange programs and other means.

Fellowships Committee Juan Verdaguer MD chairs the Fellowships Committee. In addition to using its Pan-American Foundation resources, funding for these programs is provided by donations to the Pan-American Foundation and the Retina Research Foundation. A general scholarship award is funded by the Tim & Judith Sear Foundation. Mr. David Pyott, on behalf of the David and Julianne Pyott Foundation, established a two-year retina fellowship in 2005 and provides a travel award to the Pan-American Research Day. Visiting Professors Committee Cristian Luco MD chairs the Visiting Professors Committee. The Visiting Professors Program sends Visiting Professors to Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, El Salvador, Haiti, Honduras, Paraguay, Spain, Venezuela, and the West Indies.

2011 Meetings & Educational Activities

 XVIII Pan-American Regional Course April 7-9, 2011 Centro de Congressos de Estoril, Portugal
 2011 American Research Day April 30, 2011 Renaissance Hotel, Fort Lauderdale, Florida
 2011 XXIX Pan American Congress of Ophthalmology July 7-9, 2011; Subday July 6th. Centro Costa Salguero Convention Center, Buenos Aires, Argentina
 XXV Lo Mejor de la AAO en Español October 26, 2011 Orlando, Florida

The goals of the Pan American Association of Ophthalmology are to develop standard policies on relief and response programs for natural disasters in Latin America, to promote and nurture relationships in the Ophthalmic Community that will lead to activities well beyond “Meetings.” We endorse guest speakers at national meetings, resident exchange, newsletter features; consultant visits, shared executive expertise and shared advocacy experience. We have participated in International Ophthalmology with formal representation on the International Council of Ophthalmology and the AAO Global Alliance Task Force

Pan American Association of Ophthalmology sponsored Prizes, Awards and Named Lectures include:
- XXIX Pan-American Congress of Ophthalmology (Buenos Aires) July 7-9, 2011; Subday July 6th.
- Edward Maumenee Distinguished Services Medal, Richard L. Abbott MD (USA)
- Benjamin F. Boyd Humanitarian Award Michael W. Brennan, MD (USA), Natalio Izquierdo MD (Puerto Rico)
  Richard K. Lee MD (USA), Stephanie Jones Marioneaux MD (USA), Mr. Nelson R.A. Marques (Brazil)
  Mildred M.G. Olivier MD (USA)
- Gradle Medal for Good Teaching Rubens Belfort Jr. MD PhD (Brazil)
- Troutman-Véronneau Prize for $10,000 Bruna Lana Ducca MD (Brazil) for the paper titled "Measurement of the Ocular Torsion Variation After Superior Oblique Tenectomy". The paper will be presented Thursday, July 7, from 11:30 am to 12:00 noon in Sala 05.

These named lectures were presented during the XXIX Congress.
- Consejo Argentino de Oftalmología (CAO) Lectura
  Omar R. López Mato MD (Argentina) Presbicia, arte y ciencia, pasado y futuro
- Moacyr E. Alvaro Pan-American Lecture
  Richard L. Abbott MD (USA) The link between medical malpractice risk management and quality of care in cataract, cornea, and refractive surgery: What have we learned?
- Gradle Lecture
  Enrique S. Malbrán Sr. MD (Argentina) Las ectasias corneales post quirurgicas: Clinica y tratamiento
- American Journal of Ophthalmology (AJO) Lecture
  Eduard C. Alfonso MD (USA) Fungal Keratitis: Past, Present, and Future
REPORT OF THE REPRESENTATIVE TO THE JCAHPO

David K. Wallace MD, MPH: The mission of the Joint Commission on Allied Health Personnel in Ophthalmology Inc. (JCAHPO®) is to enhance the quality and availability of ophthalmic patient care by promoting the value of qualified allied health personnel and by providing certification and education. JCAHPO has a membership of 19 ophthalmology and allied health organizations (AOS is one member) and has 34 representatives who are JCAHPO Commissioners. I serve as the AOS appointed representative to JCAHPO with voting privileges.

The important accomplishments in 2010 include:

Certification Initiatives - The JCAHPO certified 17,701 certificants worldwide and issued 18,546 credentials. We launched COMT Performance Test Simulation and finalized COA, COT, and COMT examinations for republishing in first quarter of 2011. We also established new Ophthalmic Surgical Assistant (OSA) and retirement credentials.

Education Initiatives - The 37th Annual Continuing Education (ACE) program was completed in October 2010. We conducted 14 Regional CE programs and produced jointly with ATPO a new Clinical Pocket Guide for OMP.

E-Learning Initiatives - We launched a Webinar Series together with ATPO and 14 programs have been conducted to date. We also launched ground-breaking ACTIONED E-Learning Web site with 104 courses and are planning to launch a Learning Systems online version.

International Relations - We have certified candidates in Kenya, Saudi Arabia and Pakistan and are working with AAO & PAAO to develop Haitian training program. JCAHPO also conducted two symposiums at the World Ophthalmology Congress (WOC) in Berlin and presented at the Asia-Pacific Academy of Ophthalmology in Beijing on training and certification.

Career Development - We developed a National Allied Health Professions Week promotional kit that is available for Web download. JCAHPO promoted Ophthalmic Medical Technicians Week - November 1-7, 2010, and completed new promotional career slide show. We sponsored ophthalmic career on GED Profiles of Success Web site with a video of a GED ophthalmic technician.

Communication Initiatives - JCAHPO developed a new logo and a name for the International Joint Commission on Allied Health Personnel in Ophthalmology (IJCAHPO®) and launched a JCAHPO RSS news feed. We also launched JCAHPO Facebook and Twitter pages to engage online communities of eye care professionals; Facebook page has over 1,200 fans.

The involvement of the American Ophthalmological Society fosters a positive relationship and communications between the two organizations. I recommend that AOS strongly support and endorse JCAHPO’s certification and continuing education to the AOS membership by educating its membership on the value and productivity of certified ophthalmic technical staff. The relationship between the two organizations is important to ophthalmologists and I recommend that this continue to be strengthened.

SCIENTIFIC SESSION, SATURDAY, MAY 21, 2011

The Meeting Continued with The Following Scientific papers:

7. Vitreomics of Human Fetal Hyaloid Vessel Regression Jerry Sebag*, Kenneth M. P. Yee, Edward Feener, Michelle Madigan, Benbo Gao, Lloyd Paul Aiellot, Jan Provis, Alfredo A. Sadun
8. Sildenafil in the Treatment of Ischemia of the Choroid in Dry AMD D. Jackson Coleman*, Ronald Silverman, R.V.Paul Chan
9. EPI-743 alters the natural history of progression of Leber hereditary optic neuropathy Alfredo A. Sadun*, Filipe Chicani, Fred N. Ross-Cisnerost, Martin Thoolent, Guy Millert, Valerio Carelli

The Meeting Continued with the Health Care Symposium as follows:

- Introduction Marilyn B. Mets
- “The American Board of Ophthalmology Perspective”, John G. Clarkson
- “The Federation of State Medical Boards Perspective”, Ram R. Krishna
- “The American Board of Medical Specialties Perspective”, Kevin B. Weiss

The Meeting Continued with The Following Scientific papers:

10. “Mini-Plication to Treat Small Angle Strabismus, A Minimally Invasive Procedure”, Kenneth W. Wright*, Rebecca S. Leenheer
11. “DSAEK: A prospective, randomized, double-masked clinical trial comparing the NCI inserter to Forceps insertion of the donor tissue”, Mark A. Terry*
12. “Bovine corneal endothelial cell-conditioned media enhances cell survival on aged and AMD Bruch’s membrane”, Ilene Sugino, Aprille Rapistat, Qian Sunt, Jianqiu Wang, Marco Zarbin*

SATURDAY EVENING BANQUET, MAY 21, 2011

MARILYN B. METS MD: Good evening. I want to take this opportunity to again thank Steven Moss, Lisa Brown, and Thomas Liesegang for all their efforts on behalf of the Society and the membership. Now it is my distinct pleasure to introduce our AOS President, Lee M. Jampol, Louis A. Feinberg Professor of Ophthalmology, and until just recently Chair of the Department of
Minutes of the Proceedings

Ophthalmology at Northwestern University, my own Chairman for the twenty years that I have been at Northwestern. Runner, biker, father, husband, sports fan, chair, picker. (I’ll let you know about that one), dancer and teacher. I did not put in camper, but this photo is just really a gem. So the question is which one of these ten guys is Dr. Jampol? I have been looking at this for the last two weeks. I think it is this guy. Lee, are we right? Yes, I got the high sign, chin down position, right. He was in Bunk 19. So Lee is a Yale guy, one of the Yale guys at this dinner told me to tell him that that was the Stanford of the east coast. Once Lee starts to do something, as we all know, he does not quit, he keeps at it, so if he was going to go to Yale for undergraduate school and become Summa Cum Laude, he was going to go to Yale for medical school and be Cum Laude, he was going to go to Yale for his internship, he was going to Yale for his residency, and he only left Yale to go to U of I for his fellowship in retinovascular disease. He then spent some time in the Army at Fort Meade and at Walter Reed and went back to U of I on the faculty and then came to Northwestern as Chair in 1983. Fast forward several decades from the last photo, Lee is a runner, and you see this Yale t-shirt he is wearing, this is along the beach on Cape Cod, you can see the lighthouse out there at the end of the breakwater. He made it to the finish line, still with his shirt on. He is a biker, as we also know, I can’t read this shirt but I think it’s the Yale t-shirt again. He is a father, here with his kids. Here is with Erma, his lovely wife Erma is right in there with all the sports events. Erma is biking with Lee here, I think this is in Italy on his sabbatical and between biking they are preparing for the next bike and Erma runs with him. We had a party for the Children’s Division of Ophthalmology in Chicago at the top of the Lake Point Towers and Erma comes in, in a black dress looking lovely, hair just great, every piece is in place and she had ridden there on her bike. I kid you not, this is true. Lee is also a fan and as I said when Lee does something, he does it all the way. Lorie and I have season tickets to Northwestern’s football games, when it rains and snows, we watch it on the television, but not Lee. He is at the game no matter what’s happening. Here he is in his Northwestern shirt. Here is a photo of him as Chair with two of our colleagues in the Department of Ophthalmology at Northwestern. The picker, here is where the picker comes from, I have not heard Lee play the banjo, so I think at some point in time, we are going to have to request that for a short concert at the AOS. Here he is dancing with Erma in Italy and again further on the dance floor. Now, Dr. Jampol has been called many things as all of us have, but sheepish is not one of them. No matter what the discussion Lee always speaks his mind and that enriches the discussion. He makes you think, he will not settle, he has to make his point, and that makes the interaction that much better and he makes you think. You are not allowed to not think and this is a very good thing for those of us who spend time with Lee. Not only that he is a teacher and I have firsthand knowledge of this. My daughter, Rebecca, did her residency and Lee mentored her through this paper, another author on this paper is another member of the AOS and another member of the AOS Council, David Wilson. Lee is a wonderful teacher and maintains a high level of intellectual discipline at Northwestern. I should also note that this is number 254 on his bibliography. I am sure there will be others after. I did not say so much about these academic accomplishments, I don’t need to, I think he has written too many papers, and given too many talks, but just to make it clear, this is 254, so we’ve got over 200 papers. I would like to introduce our AOS President, Professor Lee M. Jampol.

LEE M. JAMPOL MD: Well, you can imagine how much fun my job is at Northwestern with faculty like Marilyn Mets working for me, so. I joined the AOS in the 1980’s and I first became active in the administration of the group probably around 1990. At that time the AOS was looking for a role in ophthalmology. It was not clearly defined, previously it had been a meeting place of all of the leaders of all of the societies but as they grew in importance, there really wasn’t that role to be played. The leadership of this society recognized that, and people in the audience here were part of that. Changes had to occur in the Society. On the other hand, the generation that we heard about yesterday, the traditionalists I’ll call them, and there are a few of them in the audience, the President Eisenhower group, you will remember from the discussion, were very concerned about the legacy of the AOS and they were very concerned that we maintain our traditions. Of course, we all are very proud of those traditions going back to the Civil War. A series of changes were initiated and they did not always go smoothly and not everybody agreed with them. Sometimes I was viewed maybe too radical, but the leadership of this Society was very much committed to making this again the leading organization in organized ophthalmology and to have this meeting to be really something you look forward to every year and something that you attended and learned something. From what we have seen this year and in previous years we have succeeded. I thought I would very briefly summarize some of the changes that have occurred. I would call them “revolutionary without a revolution”. They have occurred over the last ten years or so. One of the most important things was the Symposia. You were all charmed by the Symposium yesterday and you recall the Symposia of the previous years. Mel Rubin and others in this room were involved in the creation of these symposia but there was considerable opposition to by people concerned that it would diminish the number of papers. In my opinion, that’s been the major change in the Society that’s helping to make this meeting succeed. We also decided that the Transactions, those green volumes that sat up on the shelf in all of our offices, and were rarely looked at had to go online and make it accessible to the world, and again there was considerable feeling that perhaps that was not the thing to do and some people that I tremendously respect, some living, and some not around now, strongly opposed. That he number of hits that occur on our website on the Transactions is enormous and our papers going back to 1864 that are available are now being read by the world and I think that has been a major accomplishment. The other papers at the Annual Meeting besides the theses, we were getting barely enough abstracts to cover the program. Things were not going well and the quality of many of the papers was not up to the standards that we expect. We decided at that point that it was no longer relevant to have all of them published in the Transactions. There is opposition and you heard from one of our members today about opposition to that but the fact is that the number of abstracts has grown dramatically and the quality of the other papers besides the symposia at this meeting is much higher than it has been in years. It’s only going to get better. So the members can present their best material at the meeting and not be concerned about duplicate publication and still publish in other places. We recognized the absence of diversity in the Society. You heard about the Caucasian males of previous generations, of which I am certainly one, but to be relevant in the modern world there has to be diversity, we had to have ethnic diversity, we had to have more female members, and
we had to have more participation in leadership roles of young people. Young people were not joining the Society. In the 1990s when I went to my peers and asked them to join they elected not to even apply. I believe this is changing and the quality of the candidates is different: they’re younger, they’re vibrant, and they’re at the beginning productive years of their career. They are going to contribute to the Society for many years to come and at the symposium yesterday someone also said, “that the leadership of this society has to reflect the membership”, and that is why I hope you all tried to learn about Facebook and networking, because we need to do that if we remain relevant to the modern world. That entails the Society leadership being younger also then it was in previous years and certainly being willing to jump on the train as this world is moving so fast now so we are not left behind. These things have all occurred in a relatively short period of time. Even at this meeting we changed the format for responses to questions from the audience. There was opposition, but you notice today that when the questions were asked you got an immediate answer. I thought the exchange information was much greater. All of these changes, although a change in our traditional way of doing things, have added very greatly to our progression in the last five years. Although I am out of a leadership role in this society, the Society is thriving and it’s going to be very exciting in the next ten years or so.

The other business I have now is to call the Business Meeting to order and to get our Committee reports. The first thing we are going to do is to give a special prize to Lisa Brown, who has been our Administrator for many years. When I came as the Representative of the Thesis Committee about 15 years ago and I went to Lisa and I said, “I am going to present the Thesis Committee Report, but I also want to speak to the Council”. I was nervous and she said, “I don’t know if the Council will hear you.” I wanted to talk about the AOS and she came out in the hall and with some compassion said, “Yes, they are interested in hearing what you have to say”. She has been productive the entire time that I have worked with her since then and she has worked with all of us. To try to recognize that, we have a resolution here, and I will read it to you.

“The American Ophthalmological Society,
Whereas she has endured countless hours of Council deliberation,
And whereas she has mollycoddled 26 Presidents and Council Chairs,
And where she has an institutional memory that has kept us from repeating errors,
And whereas she has remained unflappable, especially while assigning banquet seating,
And whereas she has a friendly welcoming demeanor to all the new members alike,
And whereas she has agreed to serve as the AOS staff supervisor in perpetuity (and she will still be looking after us, as well).

Therefore, be it resolved that the Council officers and members of The American Ophthalmological Society acknowledge their sincere debt of gratitude to Lisa Brown for her service as Manager of The American Ophthalmological Society from 1998 to 2011”.

LISA BROWN: I can only imagine how many e-mails it took to come up with that resolution. Thank you.

LEE M. JAMPOL MD: We now convene the Executive Session. First, we have from the report from the New Members Committee, Emily Chew.

REPORT OF THE NEW MEMBERS COMMITTEE

EMILY CHEW MD: Good evening. I would like to welcome our new members. We have been welcoming them since Thursday but tonight we officially welcome a great group of new members from our class of 2011. David Browning unfortunately could not attend. He is vitreoretinal surgeon from Charlotte, North Carolina. I will introduce are other four stellar candidates: Alan Chow, ME Hartnett, Don Kikkawa, and Joseph Miller.

We will start off with Alan. Alan Chow obtained his undergraduate degree at the University of Chicag0, medical degree and ophthalmology residency at Loyola Medical School in Chicago. He trained in pediatric ophthalmology at Children’s Center under Dr. Marshall Parks and also worked with Irene Maumenee at Wilmer Eye Institute. He is a now a Russ University Medical Center Assistant Professor of Ophthalmology. He is a founder along with his brother, Vincent, of the company Optobionics. He comes from a family of engineers. He says that he is the only black sheep in the family to become a medical physician. He invented the artificial silicone retina or retinal prosthesis which you heard eloquently discussed at his thesis presentation on Friday. In June 2000 he implanted his first retinal prosthesis in patients with RP. He completed Phase II trials, and now he is piloting Phase III trials and hopefully he will get be able to complete the phase III trials. He has won a number of prestigious awards. His AOS thesis is the “Artificial Silicone Retina in Retina Pigmentosa Patients”. He is a collector of antique scientific instruments and fossils. He is an amateur astronaut as well so he is a man of broad interest. It is wonderful that he is here with his wife Mary Chow and his son Jeffrey and his girlfriend, Jess. Can you stand up so we can welcome you please? Thank you.

Next candidate is ME Hartnett, or Mary Elizabeth Harnett. She was a child genius. She attended the Polytechnic Institute, in the Albany Medical College Center in a combined six year program for medical school. She trained at Schepens for adult vitreoretinal surgery, as well as pediatrics and she spent a considerable amount of time training in molecular and cell biology. ME is truly a translational researcher. She is Professor of Ophthalmology and Professor of Pediatrics as well as being the Director of the Pediatric Retinal Unit at the University of Utah. She received an NIH RO1 grant to conduct translational research on oxygen models of ROP. She is a mentor to students, residents, and fellows. Her AOS thesis that she presented on Friday focused on studies of the pathogenesis of avascular retina and neovascularization of vitreous in retinopathy of prematurity. Behind every successful woman, there is a wonderful man and that is her husband Dr. William Cole who is also an ophthalmologist. The two of them have a great time traveling together and this is a fabulous view from their front porch. If you can please stand up, Bill and ME, so we can welcome you.

Next is Don Kikkawa, who is from the University of California, San Diego. He is a native Californian. He started with his undergraduate degree in California at UCSD and then went to the Midwest for St. Louis University for his medical degree. He
returned to UCLA to do his ophthalmology residency. He left the Midwest for ophthalmic plastic fellowship in Madison, Wisconsin. He is currently the Chief of Ophthalmic Plastic Service at the University of California at San Diego, UCSD Shiley Eye Center. At one point, he was the residency program director, and he has mentored a number of students, residents and fellows, especially international fellows. He spoke very movingly at the spotlight on membership of his parents being such great mentors and inspiration to him. His parents always had a positive attitude, especially during the time when the Americans of Japanese heritage were isolated. He spoke with gratitude for the mentors he had throughout his training. His thesis was on histopathology analysis of palpebral conjunctiva in thyroid related orbitopathy. Here is his lovely wife Sheryl with their three very beautiful children. Sheryl is an optometrist and I think this is where we can gain some insight into the collaboration between optometry and ophthalmology. Sheryl home schools these three beautiful kids so she is extremely busy. So Sheryl and Don could you please rise so we can welcome you? Thank you

Our last candidate is Joseph Miller. Joe is a man who is highly trained. He was a biomedical engineer with both his bachelor’s and master’s degrees at Case Western. He was at Northeastern Ohio University for his medical school and University of Arizona College of Public Health where he received his master of public health. He went to Yale for his ophthalmology residency and then he was at Wilmer Eye Institute for a fellowship in pediatric ophthalmology and optics. I am sure he and Dave Guyton were great kindred spirits because of their similar interests. Joe is currently the Chair and Professor of the Department of Ophthalmology at the University of Arizona. He is also a professor of the Optical Sciences in the Optical Sciences Center. He is professor of the Division of Epidemiology and Biostatistics, as well. His research is in pediatric refractive errors. I loved his thesis and, as you can see, his handheld open-field infant keratometer looks like something from outer space. He actually built this for his creative thesis. I think everybody sent in slides but Joe made it really easy for me. He created his own power point, so I am going to show this to you. This shows Joe doing the limbo with his pediatric patient. Joe is from Tucson University and you can see the A for Arizona. Here he is with Sarah, his wife for thirty-four years. They have two beautiful daughters, Emily and Laura who are quite grown up now. You can see that Joe loves to build things and he has built an electric car with his daughter Emily and now the pediatric instrument as art of that famous AOS thesis. He also served our country in the Reserve so he is a very patriotic man. Joe loves to run and work on old cars in addition to improving our public health. So Joe and Sarah can you stand up so we can welcome you?

We all warmly welcome each and every one of you and hope that you come to our meetings frequently to contribute to the AOS. Our organization will be so much better because you are part of it. This is our class of 2011, ladies and gentleman. Thank you very much.

NEW MEMBERS (FROM LEFT): DON O. KIKKAWA, MD, MARY E. HARTNETT, MD, JOSEPH M. MILLER, MD, MPH, ALAN Y. CHOW, MD.
LEE M. JAMPOL MD: I know you all have been waiting for the Report of the Committee of Athletics and we have Woody Van Meter.
### REPORT OF THE COMMITTEE ON ATHLETICS

WOODFORD S. VAN METER MD: Thank you Dr. Jampol, Dr. Mets, members, and guests. We have two rousing days of golf and tennis activities. Many of you have played golf and tennis before in the history of this organization and we are disappointed that not everyone made it out to the golf and tennis as you use to in the past. You know who you are and I hope that in Charleston next year that many of you that use to play golf and tennis will go back and do it again. The reason is Sloan Wilson is here who was a former Athletics Director and one of his great quotes is “that the AOS trophies connect us to our past” the names that are engraved on this trophies go back to the 30’s really lifts many of the ophthalmologist who participated in AOS activities for years before and playing golf and tennis with people that you don’t get to see ordinarily during the year is really what makes this organization special so with that let me go on with the gold awards. The Mishima Michels Trophy was picked up by Woody Van Meter, the fix was in. Sorry, the bar was low this year. The Canada McCollough Trophy which is the largest piece of silver we have won by Paul Lichter. The Truhlsen Trophy which was donated by George Stern in honor of Stan Truhlsen goes to the man sixty-five and over who has the lowest score that was Bob Sergott. The Knapp Memorial Trophies which are two trophies that go to men’s blind draw partners, I love that term, goes to Henry Gelender and Mylan Van Newkirk. The Ellsworth Trophy for ladies low gross score to Miriam Ferris and the Homestead Cup which is for the lowest net score to Audrey Ing. There are some dubious awards that I like to pass out to the golfers recognizing special achievements on the golf course. Long drive to Mark Terry, and there is also a separate category because they have protesting in the past that the young folks should not have to compete with the older folks, so we have a separate category for men sixty-five and over and Rick Ferris by twelve days sixty-five absolutely nailed his drive beating out a frustrated Paul Lichter. Closes to the pin was Pat Wilkinson, who took at least twice as many shots getting out of one sand trap as he made paring this hole and closer to the pin on another hole was Gilbert Grand who is not here. One special award to Doreen Shipley women’s near miss, she was within a stroke of getting a trophy, but Miriam and Audrey edged her out and so you when you are shooting 105, you would think you would pick up a stroke or two to get into the trophy category.

Tennis trophies, our new add on assistant Athletics Director Rick Fraunfelder seems to be carrying the standard for tennis. He and James Tsai won the EVL Brown Bowl for men’s doubles. There is no runner up trophy because we messed up on our scoring system as I will tell you later. Paul Chang who was a guest here got into the scoring, there has been a AOS tradition that guests are not eligible for the trophy unless you are married to an AOS member, so that award will be on ice for the next year. Brian Young who actually would have won it ends up with the Wilkinson Trophy which is for the man who is over 65 and wins the most games and I will say that Brian Young pushed a lot of us younger guys around on the court today. The Perera Bowl which goes to the ladies doubles winner to Susan Budenz and Kathy Tyschen. I would point out that two of these trophies that we have the Perera Bowl and the Fly-fishing Trophy is special sterling awards and this is in the history of the awards. It is on the AOS website but both of these awards were made by Ruth Perera who was a silversmith, of great talent, about forty years ago and the AOS members donated sterling silver which she took home, melted down, and made two bowls which are absolutely beautiful and these are on display in the AOS office and hopefully will become part of the AAO Museum. The ladies runner up trophy the Hughes Bowl goes to Wendy Fraunfelder and Ann Wilson. We are glad to have Ann Wilson back today. Wendy Fraunfelder was injured and graciously withdrew to give other people a chance to win the same trophy that she has put her name all over before. For mix doubles, the Wong McDonald Trophy goes to James Tsai and Susan Budenz and the Wilson Trophy which Sloan Wilson donated for the mixed doubles runner up a number of years ago to George Spaeth and Alice Wilkinson. Some other notes I would like to make from tennis, the Weekend Warrior Award clearly goes to Wendy Fraunfelder who spent most of the afternoon with ice on her elbow trying to keep up with everyone on the tennis court. The Men’s Comeback Award and Women’s Comeback Player of the Year to Sloan and Ann Wilson, who were out there mixing it up with everyone else. Sloan is seventy-four and this is really what makes AOS special is the chance for young members and old members meet on the tennis court for social interaction. Lastly, congratulations to Paul Chang who would have finished in the money for tennis were he a member and we anticipate that he will be back as a member soon. Thank you very much.

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<th>GOLF</th>
<th>TROPHY</th>
<th>EVENT</th>
<th>WINNER</th>
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<tr>
<td>Mishima-Michels Trophy</td>
<td>Men’s Low Gross</td>
<td>Woody Van Meter</td>
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<td>Canada-McCulloch Cup</td>
<td>Men’s Callaway Low Net</td>
<td>Paul Lichter</td>
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<td>Truhlsen Trophy</td>
<td>Men’s &gt;64 Low Gross</td>
<td>Bob Sergott</td>
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<td>Knapp Memorial Trophy</td>
<td>Men’s Blind Draw</td>
<td>Henry Gelender</td>
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<td>Ellsworth Trophy</td>
<td>Low Net Combined</td>
<td>Mylan Van Newkirk</td>
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<td>Homestead Cup:</td>
<td>Ladies’ Low Gross</td>
<td>Miriam Ferris</td>
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<td>Ladies’ Low Net</td>
<td>Audrey Ing</td>
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**Dubious Awards:**

- Long Drive: All - Mark Terry
- Long Drive: Men >65 - Rick Ferris
- Closest to the Pin: All - Pat Wilkinson
- Closest to the Pin: Men >65 - Gilbert Grand
- Women’s near miss - Dorene Shipley
## Minutes of the Proceedings

### TENNIS

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<th>TROPHY</th>
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<td>Perera Bowl</td>
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<td>Hughes Bowl</td>
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<tr>
<td>Wilson Trophy</td>
<td>Mixed Doubles Runners Up</td>
<td>George Spaeth</td>
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### SKEET SHOOTING

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### FLY FISHING

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<td>McCaslin-Fralick-Kimura</td>
<td>Largest fish</td>
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LEE M. JAMPOL MD: I would like the Committee on Prizes to present.

## REPORT OF THE COMMITTEE ON PRIZES

J. BROOKS CRAWFORD MD: Paul Lichter, John Clarkson – Committee Members

Presentation of the Howe Medal

The Howe medal, established by the ophthalmologist, Lucien Howe, is the most prestigious honor awarded by American Ophthalmological Society, the first specialty medical society in the United States. It has been awarded 76 times since 1922 before tonight. Dan Albert reviewed its history at this meeting three years ago. I refer you to the 2008 Transactions of the AOS, if you missed his excellent presentation.

Almost all babies are cute and adorable; this year's Howe medal recipient is no exception. His parents were Southerners, but his father was a railroader so they lived in many places, North and South. This year's honoree was born in New York City in 1937. His great-grandfather, Lawrence Pearce, was the first of 13 physicians spanning six generations in the family. Can any of you besides his immediate family recognize these distinct features which persist to this day?

Here he is heading to Tennessee to spend the summer with his uncle, Dr. Robert Pearce. He attended Duke University College and then the University of Tennessee medical school. Here is the Duke Chapel where he sang in the choir, developed his voice and "prayed to graduate ".

His talent and love of singing persisted. Here he is in the "Eyesore Four" barbershop quartet, rehearsing in the restroom with fellow AOS and Mayo Clinic members Richard Brubaker, Bill Bourne, and Denny Robertson for a gig in a Rochester hotel. He spent two years in an internal medicine residency at Mayo and two years at the National Institutes of Health in the National Institute of Arthritis and Metabolic Diseases. During his internal medicine training he followed two previous Howe Medal recipients, Bob Hollenhorst and Tom Kearns, on rounds, and was so inspired by them as teachers and role models that he transferred to an ophthalmology residency.

He then joined the staff at Mayo. Two years later I first met him when he was doing a Heed Foundation Fellowship in oculoplastic and reconstructive surgery with Crowell Beard, a previous Howe medal recipient, and Marvin Quickert. Then he returned to the Mayo Clinic in Rochester.

He spent 30 years as Professor of ophthalmology at the Mayo Clinic and 10 years as the Chair of the department. He was on the Rochester Board of Governors for 15 years and a Mayo Trustee for 20. For a most eventful 11 years he was President and CEO of the Mayo Health System. During this time under his leadership the Mayo Clinic grew from one to 67 locations, 838 physicians to over 2100, from 0 to 17 hospitals, from less than one million to 24 million patient visits per year and from operating revenues of 410 million to 2.5 billion dollars. At the same time education expenditures increased over 50% and research tripled. These are just numbers but they substantiate his business acumen and skill. At the Mayo Clinic annual meeting in 1998 Dr. Wood said:

“He accomplished all of this with an elegant style-infinitely patient, with the ability to draw out the best in everyone. His leadership is one all of us would do well to emulate.”
No wonder he is in the Modern Healthcare Hall of Fame and was named one of the top 20 healthcare administrators of the decade.

He was chairman of the American Board of Ophthalmology for two years instead of the usual one. During this tenure he supervised the monumental revision of the oral examination to a less subjective and fairer, standardized format inspired all of us who had the privilege to serve with him on the Board at that time. Insightful, levelheaded, dedicated, persuasive, with a quiet sense of humor, he brought the Board together toward his lofty goals. These same talents made him so effective and coveted for other significant healthcare leadership positions. For instance he was Chairman of the Healthcare Leadership Council, composed of CEOs from all elements of the healthcare industry. He was president of the Jackson Hole Group, on the advisory board of the Harvard Business School and on the inter-faculty Advisory Board of Harvard.

I am sure you now recognize the 2011 recipient of the Howe medal as Robert Waller whose job descriptions have far exceeded those of ‘Waller and Waller Opticians” in Liverpool.

A few of his awards that I have not already mentioned include: first in his medical school class, teacher of the year at the Mayo medical school, the Marvin Quickert Award from the American Society of Ocular Plastic and Reconstructive Surgeons, the Heed Award, the RRW Lectureship at Mayo Florida, Distinguished Alumnus of the University of Tennessee, and the Guest of Honor at the American Academy of Ophthalmology in 1993. Allow me to quote from the introduction to this last award. “This enormously talented and gifted gentleman virtually radiates quiet, competence and gifted leadership. His scholarly focus on complex issues commonly brings order out of chaos and consensus out of confusion. His medical ethic, honesty, humbleness and concern for humanity endear him to all of us who know him. We have had our lives enriched by the privilege of professional collaboration and his friendship.”

More important than all his honors and awards is his lovely wife, Sarah. He met her at a family Sunday dinner in 1960 and married her three years later. Here is this beautiful lady with Nancy Brubacker at the 1982 AOS meeting at the Homestead. This year they will celebrate their 48th wedding anniversary. Here is Bob with his first grandchild, Annie.

A lesser but nevertheless important interest is: golf. He is a member of the Augusta National Golf Club and has participated in the first aid committee for the Masters Tournament. Here he is with Danny Jones and his sons at the Augusta Golf Club. Here he is with Charlie Yates, who played in the first 10 Masters Tournaments and is Secretary at Augusta.

Now in his retirement he seems to be almost as active as ever. He is Chair of the Board of Directors of the Institute for Healthcare Improvement, a Trustee at Rhodes College in Memphis, on the Board of Directors of Howard Baker School of Public Policy at the University of Tennessee, and active in the Church Health Center in Memphis, a clinic for the uninsured.

Finally listen to the words from the Mayo Board of Trustees on his retirement as Mayo CEO. "Some aspects of managed care and market-driven medicine in the United States were treating patients as profit centers. During these turbulent times we all were fortunate indeed—were truly blessed to have Bob Waller's steady hand on the tiller guiding us with confidence, in the unerring direction of the..."
timeless beacon that flashed the value that the patient comes first. He kept reminding us that serving the interests of our patients is our life's principal, the very soul of who we are."

It is an extraordinary privilege to be the one to present the 2011 Howe Medal to Dr. Robert Waller.

Will Drs. Paul Lichter and John Clarkson please escort Bob Waller to the podium?

ROBERT WALLER MD: My goodness, I don’t really know what to say after that wonderful presentation. Brooks has always done such a lovely job at everything he does but this is a special time for Sarah and me. You know sometimes being lucky changes your life. I was in internal medicine headed to West Tennessee to practice with all those thirteen relatives you mentioned and happened to see Tom Kearns and Bob Hollenhorst in the hallway and one thing led to another and I transferred to Ophthalmology and you know that opened up a whole world of new opportunities and privileges for me for the next thirty years or so but I must tell you at the very top of the list of those privileges and opportunities has been membership in the AOS, really truly. My other duties have kind of diverted me from Ophthalmology that other day job that Brooks mentioned for eleven years but I think being in the company of the AOS membership where the quality of the science is unsurpassed and being in the company of the best friends that anybody could have and being in the company of my young Mayo colleagues here who and other young colleagues that I know well in the AOS who shine in everything that they do is the greatest privileges that Sarah and I have had and I thank you so much for this honor. It’s just marvelous. Thank you, Brooks.

LEE M. JAMPOL MD: I would just like to comment before I introduce our next president that it has been a tremendous honor for me to work with the Council and particularly to work with the Chair of the Council Marilyn Mets who has been so effective this year. I would like a round of applause for our Council. Our next President is Doug Koch and I will just briefly describe his background. Doug went to Amherst and then Harvard Medical School and then he has been at Baylor for much of the rest of his career. He did a fellowship mostly at Moorfields and other places. He has been a skilled cornea and cataract and refractive surgeon throughout his career. He has held leadership roles in all of the organizations involved in those areas. He has been President of ASCRS and involved with the International Implant Club. He has delivered the Kelman Lecture and others. Doug has made his mark in improving the quality of refractive and cataract surgery throughout this country. In his tenure on the council he was highly effective and I’m sure he is going to be an excellent President, so let’s have our President come up.

DOUGLAS D. KOCH MD: Thank you very much. The first comment I want to make is just to thank my wife, Marcia, who has been so encouraging and supportive of my involvement and activity in the AOS. Today we heard Dr. Weiss give a wonderful talk. The last quote he gave was from Heraclites, and it was about change. Heraclites is known for a number of phrases and sayings about change, and one that I like is that “to do the same thing over and over again is to be controlled by rather than control of what we do,” and I think the Society has shown has shown this wonderful dynamism in taking its traditions, and building on them while changing to adapt to our times. As we move ahead we have an opportunity, we have the people, we have the resources, and I think the responsibility to truly be a major leadership organization in our profession. I am thrilled and more honored that I can say to be your President Thank you. The Executive Session of the 147th meeting is adjourned.
Minutes of the Proceedings

SCIENTIFIC PROGRAM PARTICIPANT MARK TERRY, MD

SCIENTIFIC PROGRAM DISCUSSANT PAUL A. SIEVING, MD, PHD
DIRECTOR, NATIONAL EYE INSTITUTE
Minutes of the Proceedings

The Meeting Continued with The Following Scientific Papers:


17. “What does the world look like to people with glaucoma?” **George L. Spaeth**, Alice Williams

18. “The Effects of Intense Glycemic and Blood Pressure Control and Treatment of Dyslipidemia on Diabetic Retinopathy in Persons with Type 2 Diabetes: The Actions to Control Cardiovascular Risk in Diabetes” (ACCORD) Study **Emily Y. Chew**, ACCORD Eye Study Research Group


Members registered for the 2011 meeting. 15 professional guests are at the end of the list.

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PAPER ABSTRACTS
SETTING STANDARDS FOR GRADUATE MEDICAL EDUCATION- A CASE STUDY

Susan H Day MD*, Thomas J Nasca MD, MACP, E Stephen Amis Jr MD

ABSTRACT

Purpose: To outline a peer-driven process in defining educational standards, contrasting to non peer-driven alternatives. In 2008, the Institute of Medicine (IOM) recommended that all house staff be limited to a 16 hour maximum daily "shift," justifying on patient safety concerns. The IOM focused responsibility for implementation on the Accreditation Council for Graduate Medical Education (ACGME).

Methods: The ACGME created a task force to assess the IOM's request as well as the effectiveness of the 2003 ACGME duty hour standards. Members represented physician educators, residents, and the public. The data-gathering phase included surveys, symposia, literature reviews, international perspectives, and presentations from appropriate medical organizations and patient advocacy groups. A review process including public comment ensued before submitting recommendations to the ACGME Board.

Results: Very little scientific evidence exists on which to base new standards. While meta-analyses may be the most respected benchmarks, isolated studies and individual expertise/experience invariably are submitted as "evidence" as well. In this instance of developing educational standards, "competing goods" of patient safety for current as well as future patients, preparation of trainees for independent practice, fiduciary responsibility to the patient, and implementation costs all required consideration. Ensuring patient safety involves more than duty hours, and includes level of training, supervision, transitions in care, and work load. This complex peer-driven process will be discussed within the context of alternative regulatory approaches.

Conclusion: Based on evidence, and with input from the medical profession as well as patient advocacy groups, sleep physiology data, and cost analysis, a peer-driven process recommended further revisions of learning environment standards which include duty hour standards. External pressures governing the work environment for physicians are increasing.

THE ASSOCIATION OF INCREASED VEGF EXPRESSION WITH AVASCULAR RETINA IN A RAT MODEL OF RETINOPATHY OF PREMATURITY

Mary Elizabeth Hartnett*

Purpose: To study vascular endothelial growth factor (VEGF) regulation in the development of peripheral avascular retina and intravitreous neovascularization using a relevant model of retinopathy of prematurity (ROP).

Methods: The rat 50/10 model of ROP mimics zone II, stage 3 severe ROP and recreates fluctuations in transcutaneous oxygen levels in preterm infants. On several postnatal (p) day ages, retinas from the model or room-air (RA) age-matched pups were analyzed for mRNA of VEGF splice variants and receptors (R)) using real-time polymerase chain reaction or VEGF protein using enzyme-linked immunosorbent assay. Inhibition of VEGF bioactivity was achieved with a VEGF neutralizing antibody or a receptor tyrosine kinase inhibitor. Lectin-stained retinal flatmounts were analyzed for areas of avascular retina and intravitreous neovascularization.

Results: By analysis of variance, VEGF164 and VEGFR2 mRNAs and VEGF protein were up-regulated in association with increasing developmental age (P<.0001 for all comparisons) or exposure to the model compared to RA (P<.0001, P=.0247, and P<.0001). On p14, when retinas were only 70% vascularized in the model but fully vascularized in RA, VEGF protein was increased significantly in the model compared to RA (P<.0001). Inhibition of VEGF bioactivity resulted in reduced intravitreous neovascularization but did not increase avascular retina.

Conclusion: The model mimics contemporary severe ROP in the United States. Compared to RA retinas, VEGF significantly increased in association with avascular retina and intravitreous neovascularization. Downstream signaling events contributing to VEGF induced avascular retina are discussed.

UVEAL MELANOMA: MOLECULAR PATTERN, CLINICAL FEATURES, AND RADIATION RESPONSE

Michael Chappell, MD*, Devron H Char, MD, Tia Cole, MSPH, Kavita Mishra MD, MPH, Theodore L Phillips, MD

Purpose: Molecular profile, based on fine needle aspiration biopsy (FNAB), accurately predicts uveal melanoma prognosis. In some studies, molecular class 1 and class 2 patterns have correlated with clinical parameters. We investigated molecular profile in a group of 222 uveal melanoma patients who were treated with proton radiation to determine correlation between molecular status, clinical parameters, and response to radiation therapy.

Methods: This is a retrospective masked study from a tertiary ophthalmic oncology referral practice. The main outcome measures were molecular class, tumor parameters (clinical fluorescein angiographic and ultrasound features), and the intraocular tumor response to radiation. The correlation between molecular pattern and metastatic disease was also assessed.

Results: A total of 222 patients were studied in a retrospective, masked manner from a single referral institution (138 with molecular class 1 and 84 with class 2). The mean age of class 2 patients was 66.6 years, compared to 59.7 years for class 1 patients (p=0.001). On
average, tumor thickness on ultrasound was greater in class 2 patients (8.3mm) than class 1 (6.0mm) (p=0.000). On FNAB the
cytopathologic pattern of class 2 patients was more associated with an epithelioid or mixed cell melanoma (p=0.000). The tumor area
was not correlative with molecular cell type (p=0.189). The class 2 lesions had a tendency for faster shrinkage. There were more
metastatic deaths in class 2 as compared to class 1 patients (p=0.000).

Conclusion: Class 2 molecular pattern can be assessed routinely on fine needle biopsy. Class 2 pattern is associated with worse
prognosis and several clinical features can be identified that are associated with this finding.

MINIMALIST PARS PLANA VITRECTOMY FOR REPAIR OF PRIMARY RHEGMATOUS RETINAL DETACHMENT

Eric W. Schneider, Ryan L. Geraets, Mark W. Johnson*

Purpose: To evaluate the anatomical and functional outcomes of minimalist pars plana vitrectomy (PPV), defined as PPV without
adjunct scleral buckling, prophylactic 360 degree endolaser photocoagulation, or perfluorocarbon (PFC) liquid use, for the treatment
of uncomplicated primary rhegmatogenous retinal detachment (RRD).

Methods: Retrospective interventional case series of consecutive patients undergoing a minimalist vitrectomy procedure for RRD by a
single surgeon at a tertiary care institution over a 10 year period. Main outcome measures were primary anatomic success and final
visual acuity.

Results: Of 177 patients undergoing PPV for RRD, 93 patients were identified as having an uncomplicated detachment and a
minimum follow-up of 6 months (mean, 31 months; range, 6-103 months). Primary anatomic success, defined as retinal reattachment
following a single operation, was achieved in 95.7% (89/93) of eyes. Final anatomic success, defined as retinal attachment at final
follow-up without regard to additional procedures, was achieved in 98.9% (92/93). Final best-corrected Snellen visual acuity of 20/50
or better and 20/200 or better was achieved in 82.8% and 89.2% of eyes in the cohort, respectively. Postoperative proliferative vitreoretinopathy (PVR) developed in 3.2% of eyes and visually significant epiretinal membrane was seen in 2.2%. No new retinal
breaks were observed postoperatively in the absence of clinically-evident PVR.

Conclusion: Adjunct scleral buckling, 360 degree endolaser photocoagulation, and PFC liquid use are not necessary to achieve a high
primary anatomical success rate in the treatment of uncomplicated primary RRD with PPV. In the absence of observable PVR,
postoperative contraction of the vitreous base does not appear to be a clinically relevant phenomenon.

THE ARTIFICIAL SILICON RETINA IN RETINITIS PIGMENTOSA PATIENTS

Alan Chow*, Ava Bittner, Machelle Pardue,

Purpose: In a prior pilot study, a light-activated microphotodiode chip, the artificial silicon retina (ASR), was implanted subretinally in
6 retinitis pigmentosa (RP) patients for up to 18 months. The ASR electrically induced retinal neurotrophic rescue of visual acuity,
contrast, and color perception and raised several questions: (1) Would neurotrophic effects develop in additionally implanted RP
patients? (2) Could vision in these patients be reliably assessed? (3) Would the ASR be tolerated and function for extended periods?

Methods: Four additional RP patients were implanted and followed with the 6 pilot patients. Of the 10 patients, 6 had vision levels that
allowed for more standardized testing and were followed for 7+ years utilizing ETDRS charts and a 4-alternative forced choice (AFC)
Chow grating acuity test (CGAT). A 10-AFC Chow color test (CCT) extended the range of color vision testing. Histologic
examination of the eyes of one patient, who died of an unrelated event, was performed.

Results: The ASR was well tolerated, and improvement and/or slowing of vision loss occurred in all 6 patients. CGAT extended low
vision acuity testing by logMAR 0.6. CCT expanded the range of color vision testing and correlated well with PV-16 (r = 0.77). An
ASR recovered from a patient 5 years after implantation showed minor disruption and excellent electrical function.

Conclusion: ASR-implanted RP patients experienced prolonged neurotrophic rescue of vision. CGAT and CCT extended the range of
acuity and color vision testing in low vision patients. ASR implantation may improve and prolong vision in RP patients.

SUPRACHOROIDAL GENE DELIVERY TO THE POSTERIOR SEGMENT

Tim Stout*, Trevor McFarland, Peter Francis, Lauren Jensen, Kelly Beard, Martha Neuringer, Anna Brown, Laurie Renner, Thomas
Hady, Binoy Appukuttan

Purpose: To determine whether adeno-associated viral (AAV) vectors delivered to the posterior segment via suprachoroidal
 cannulation are able to transduce choroidal, retinal pigment epithelial (RPE), or neurosensory retina cells in vivo.

Methods: Sclerotomies that exposed the posterior choroid 6 mm posterior to the limbus were fashioned in eight pigmented or New
Zealand White rabbits. From 7.3 x 107 to 7.3 x 109 AAV particles (serotypes 5 and 8), harboring the eGFP gene, were injected in a
total volume of 150 microliters into the suprachoroidal space through LED-tipped catheters (iScience) that had been advanced through
the sclerotomies to the posterior pole. Animals were sacrificed 3-4 weeks after injection and were assayed for ocular eGFP expression
via fluorescence microscopy and for extracellular eGFP expression by rtPCR.
Results: All surgical procedures were brief (< 15 mins) and uncomplicated. Robust eGFP expression was visualized in the choriocapillaris and RPE. Occasional transduction of photoreceptors was seen. No extraocular eGFP expression was detected.

Conclusion: The suprachoroidal space provides an attractive location for drug delivery to the posterior segment. Access appears easy and uncomplicated. Transduction efficiency with AAV serotypes 5 and 8 was high for choroidal or RPE cells, and by PCR detection Methods was limited to the eye. Suprachoroidal access may provide a lower-risk alternative to more invasive subretinal or intravitreal gene or drug delivery approaches.

VITREOMICS OF HUMAN FETAL HYALOID VESSEL REGRESSION

J. Sebag MD FACS FRCOphth FARVO*, Kenneth M P Yee, Edward Feener PhD, Michelle Madigan PhD, Benbo Gao PhD, Lloyd Paul Aiello MD PhD, Jan Provis PhD, Alfredo A. Sadun MD PhD*

Purpose: The vasculature of the primary embryonic vitreous naturally undergoes regression during the second trimester. Proteomic analysis of human embryonic vitreous (vitreomics) was performed in search of possible anti-angiogenic mechanisms.

Methods: 17 fresh eyes from humans aged 14 to 20 weeks' gestation were dissected and whole vitreous bodies were individually frozen at -80 degrees C. Proteomic analysis was performed on each whole vitreous with one-dimensional SDS-PAGE and nano-LC tandem mass spectrometry. Spearman rank correlation analysis across the span of 14 to 20 weeks' gestation was considered significant if -0.49 < R > 0.49 and P < 0.05.

Results: Of 195 membrane-bound and soluble proteins studied, there were statistically significant decreases in 31 and increases in 19 proteins during the second trimester. Proteins that decreased significantly included Peroxiredoxin-2 (4.4-fold; R=-0.63, P=0.006), Calmodulin (4-fold; R=-0.74, P=0.001), and Profilin-1 (2.1 fold; R=-0.49, P=0.04). Proteins that increased significantly included Pigment Epithelium-Derived Factor (PEDF; 4.1-fold; R=0.74, P=0.0006), Cystatin-C (3.7-fold; R=0.81, P=0.0001), Glypican-2 (2.9-fold; P=0.006; R=0.63), COL18A1 (2.7-fold; R=0.69, P=0.0002;), and Clusterin (1.8-fold; R=0.72, P=0.001).

Conclusion: Hyaloid vessel regression appears to be associated with both a decrease in pro-angiogenic factors as well as an increase in anti-angiogenic proteins. There was a significant decrease in Profilin-1 (actin binding protein required for capillary morphogenesis) and peroxiredoxin-2 (anti-apoptosis), with concomitant increases in Clusterin (anti-angiogenic apolipoprotein), COL18A1 (type XVIII collagen endostatin), and PEDF (angio-inhibitory). The combined effects of these and other factors may underlie hyaloid vessel regression and promote secondary vitreous development. Further study is warranted with this model, which is advantageously devoid of the artifacts of the laser-induced and other models of angiogenesis. Future studies should determine the role of these factors in regression of the fetal vasculature of vitreous and their potential utility as novel therapeutics for pathological neovascularization in the adult.

SILDENAFIL IN THETREATMENT OF ISCHEMIA OF THE CHOROID IN DRY AMD

D. Jackson Coleman, MD, FACS*, Ronald Silverman, PhD, R.V.Paul Chan, MD

Purpose: Utilize spectral ultrasonic scanning to monitor sildenafil in the treatment of ischemic choroidal dry AMD.

Methods: 69 eyes of 52 subjects were imaged and evaluated ( 18 did not have AMD, 23 had dry AMD and 28 had wet AMD) using wavelet ultrasonic imaging. We also measured choroidal perfusion using spectral analysis using swept scan 20MHz ultrasound following ingestion of 50mg of sildenafil, in 7 normal subjects.

Results: Choroidal ischemia was a statistically significant feature in dry AMD. The ANOVA analysis on a multinomial logistic regression model showed statistically significant differences for individual variables. The multi-class C-SVM showed excellent separation of the three classes with an ROC-AUC of 0.892+ 0.17. Choroidal perfusion was increased by a factor of 2 to as much as 7 times in the study subjects who ingested sildenafil.

Conclusion: Low doses of sildenafil are currently being used to treat other disease states such as advanced pulmonary fibrosis, pulmonary arterial hypertension and other cardiac diseases. Low dosage sildenafil with monitored perfusion analysis may be useful in preventing or reducing pigment epithelial damage in patients with dry AMD.

EPI-743 ALTERS THE NATURAL HISTORY OF PROGRESSION OF LEBER HEREDITARY OPTIC NEUROPATHY

Alfredo A. Sadun, MD, PhD*, Filipe Chicani, MD, PhD, Fred N. Ross-Cisneros, Martin Thoolen, PhD, Guy Miller, MD, PhD, Valerio Carelli, MD, PhD

Purpose: To evaluate the beneficial effect of a new therapeutic agent, EPI-743, in Leber hereditary optic neuropathy (LHON) employing a battery of anatomic and functional objective quantitative measures of vision.

Methods: We report on four consecutive cases of patients with LHON, all of whom presented with acute loss of vision and were treated with EPI-743 within ninety days of conversion. This cohort was followed by serial measurement of visual structure and function over six to eighteen months. Outcome measures included: Snellen visual acuity; Humphrey Visual Fields (mean dB and area
with one log unit depression); and retinal nerve fiber layer thickening measured by OCT. Treatment effect in this clinical proof of principle study was assessed by comparison of the prospective open-label treatment group versus controls.

**Results**: In comparison to cohort controls, all four patients treated with EPI-743 demonstrated objective response to treatment. Specifically: i) three patients demonstrated significant improvements in visual outcome, including visual acuity and visual fields; ii) two patients recovered dramatically, one of whom returned to normal vision (20/20 and normal visual fields) in both eyes without optic atrophy. No evidence of drug toxicity was noted.

Conclusions: In this ongoing, open-label, FDA-approved emergency IND study, four LHON patients treated with EPI-743 demonstrated a marked treatment response when compared to the natural history of LHON. Also of note: in addition to mitigating disease progression, two LHON patients on EPI-743 demonstrated clear visual improvement in eyes that had already shown significant deterioration of vision months earlier. Controlled clinical studies are underway by an international LHON consortium to study this promising new experimental therapeutic.

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**MINI-Plication to Treat Small Angle Strabismus, a Minimally Invasive Procedure**

**Kenneth W. Wright, MD**, Rebecca S. Leenheer, MD

**Purpose**: Mini-plication is a topical rectus muscle tightening procedure that can be done within minutes and is useful for correcting small angle strabismus. Outcomes of this new technique were studied.

**Methods**: Retrospective chart review of patients who underwent mini-plication. Information collected included previous eye muscle surgery, preoperative and postoperative deviations, diplopia symptoms, and surgery performed. Three groups were identified; 1) Mini-plication alone, 2) Mini-plication with previous antagonist muscle weakening, and 3) Mini-plication with concurrent antagonist weakening procedure.

**Results**: Thirteen patients ages 6-89 (median 67), were identified. All but one pediatric patient underwent topical anesthesia and experienced no local or systemic complications. Diplopia was noted in 10/13 preoperatively and 2/13 postoperatively. Mini-plication reduced vertical and horizontal deviations an average of 7.15PD (range 4-14, median 6PD). Group 1 (4 patients) had an average of 5.75PD (range 5-8); group 2 (4 patients) had an average 7.5PD (range 5-12) and group 3 (5 patients) had an average 8PD (range 4-14) change. All three patients with vertical deviations and nine out of ten with horizontal deviations were within their target deviation.

**Conclusion**: Mini-plication treats small angle strabismus predictably, can be used alone treating small deviations or to augment weakening procedures less invasively. It is safe, can be done topically, and easily reversible. Mini-plication is a minimally invasive technique that corrects approximately 5-8 PD per muscle. It is especially useful for correcting small angle strabismus in adult patients with diplopia.

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**DSEAEEK: A Prospective, Randomized, Double-Masked Clinical Trial Comparing the NCI Inserter to Forceps Insertion of the Donor Tissue**

**Mark A. Terry, MD**

**Purpose**: To determine if the NCI inserter offers clinical advantages to a standardized forceps insertion of donor tissue in Descemet's stripping automated endothelial keratoplasty (DSEAEEK) surgery.

**Methods**: 100 Fuchs' endothelial dystrophy eyes were prospectively randomized to receive DSEAEEK surgery with either the NCI inserter or Charlie forceps insertion of the donor tissue, with all other steps of the DSEAEEK surgery exactly the same. The patient and the post-operative examiners were masked as to the technique used. Complications and endothelial cell densities (ECD) at 6 months were recorded (n=53). Statistical power calculations determined that 45 eyes in each group would be necessary to detect a 10% difference in cell loss with a 95% confidence limit.

**Results**: There was one dislocation in the forceps group and none in the NCI group. There were no primary graft failures in either group. One late (10 months) endothelial failure occurred in the NCI group and none in the forceps group. Fifty-three of the 100 eyes have reached the 6 month postoperative time point. The mean percentage drop in ECD was 24.3% (± 21%) for the NCI eyes (n=27) and 20.4% (± 18%) for the forceps eyes (n=26), p=0.46.

**Conclusion**: Preliminary Results of this study indicate that the complication rate and the endothelial cell loss at 6 months after DSEAEEK surgery is similar whether the tissue is inserted with the NCI device or with Charlie forceps using the same standardized surgical technique. Analysis of longer-term cell loss comparing these groups is warranted.

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**Bovine Corneal Endothelial Cell-Conditioned Media Enhances Cell Survival on Aged and AMD Bruch's Membrane**

**Ilene Sugino, Aprille Rapista, Qian Sun, Jianqiu Wang, Marco Zarbin**

**Purpose**: To determine whether conditioned media (CM) harvested from bovine corneal endothelial cells (BCEC) enhances cell survival on submacular Bruch's membrane.
**TESTS OF RETINAL FUNCTION REVEAL NEUROSENSORY DEFECTS IN DIABETIC RETINOPATHY**

**Thomas W. Gardner*, Ingrid U. Scott, David A. Quillen, Gregory R. Jackson**

*Purpose:* To identify defects in visual function in persons with diabetic retinopathy that are sensitive to non-proliferative diabetic retinopathy (NPDR) and could potentially serve as clinical trial endpoints.

*Methods:* A cross sectional design evaluated six aspects of visual function: acuity, contrast sensitivity, dark adaptation, frequency doubling technology (FDT) sensitivity, photopic visual sensitivity, and scotopic visual sensitivity. The main outcome measures were ETDRS acuity, log contrast sensitivity, rod intercept for dark adaptation, foveal sensitivity, and mean field sensitivity for FDT perimetry and photopic visual sensitivity, and mean field sensitivity for scotopic perimetry. The study was approved by the Penn State College of Medicine IRB.

*Results:* Eighteen normal adults, 23 diabetic adults without diabetic retinopathy, and 35 adults with NPDR were enrolled. The presence and severity of diabetic retinopathy was determined by grading of 7-field stereoscopic fundus photographs using the ETDRS grading system. Participants with NPDR exhibited impairment on every aspect of vision measured in comparison to the normal participants with the exception of dark adaptation. FDT perimetry measured by the Matrix perimeter was the most sensitive visual function test to NPDR. For example 83% of NPDR patients fell outside the normal reference range of the normal participants for FDT perimetry; whereas 47% NPDR patients fell outside the normal reference range for scotopic visual sensitivity, and 17% NPDR patients fell outside the normal reference range for visual acuity.

*Conclusion:* FDT sensitivity, which reflects inner retinal function, notably ganglion and amacrine cells, is disrupted early in NPDR. Understanding the pathogenesis of early neurosensory retinal damage through the use of tests such as FDT perimetry may lead to development of sensitive and quantitative screening tools for the detection of early diabetic retinopathy, and the ability to design clinical trials for persons who have good visual acuity.
THE OUTER RETINA MAY BE PREFERENTIALLY INVOLVED IN PRIMARY PROGRESSIVE MULTIPLE SCLEROSIS

Deepak Grover, Nitin Ohri, Robert C Sergott*

Purpose: While the optic nerve is invariably involved in remitting relapsing multiple sclerosis [RRMS], the retina is thought to be involved only secondarily. Because we observed several primary progressive MS [PPMS] patients with primary retinal symptoms, this study was conducted to determine if the retina could be a primary site of pathology in PPMS.

Methods: We performed a single center, blinded, prospective, cross-sectional, IRB approved study comparing 31 newly diagnosed patients with RRMS versus 20 patients with newly diagnosed PPMS using spectral domain optical coherence tomography [SD-OCT] and multifocal electroretinography [mERG]. Patients were similar in visual function, age, gender, and disease duration. No patients were taking disease modifying medications at the time of the study.

Results: Peak mfERG amplitudes of N1 and P1 waves in PPMS were reduced significantly (P < 0.05) compared to RRMS. No statistical differences between the mfERG latencies were found. SD-OCT in PPMS demonstrated striking qualitative macular changes characterized by photoreceptor disruption as well as increased thickness of the outer nuclear layer. Trends towards statistical significance were observed with decreases in average retinal nerve fiber layer thickness and macular thickness in PPMS compared to RRMS.

Conclusion: The afferent visual system of PPMS differs electrophysiologically and structurally compared to RRMS. Statistically significant decreases in N1 and P1 amplitudes of the mfERG suggest that PPMS may affect the photoreceptors and adjacent outer retinal layers preferentially. Marked qualitative differences were found in the photoreceptor and outer nuclear layers. Retinal structural and electrophysiological metrics in PPMS may provide insight into the pathogenesis of this most severe form of MS and provide biomarkers for clinical trials.

CHOROIDEREMIA: A META ANALYSIS OF THE CLINICAL COURSE OF THE DISEASE

Elias I. Traboulsi*, Razek Coussa, James Kim

Purpose: The extent and time course of vision loss in Choroideremia (CHM) is still unclear. We reviewed clinical data on our own patients and performed a meta-analysis of published data.

Methods: Corrected VA of 120 males with CHM and 33 carrier females were collected from 21 studies published between 1981 and 2010 as well as from 15 patients examined at the Cleveland Clinic. Cross-sectional and longitudinal analyses were used to investigate the relationship between VA and age as well as progression rate of VA with age, respectively. Age grouping effects were investigated using ANOVA.

Results: Mean age of affected males was 36.6±17.7 years while mean logMAR VA was 0.35±0.53. There was a significant 0.0072 decrease in VA per year (p=1.22*10-4). There was a significant difference between the VA of subgroups <50 years and >50 years (0.27±0.39 vs. 0.61±0.81, p=2.90*10-5). The rate of VA loss for <50 years vs. >50 years in affected was significantly different (0.01±0.04 vs. 0.06±0.08, p=1.23*10-2). Average age of carrier females was 35.4±17.9 years with average logMAR VA of 0.30±0.61. No significant correlation was present between VA of female carriers and age (p=0.79). 51% of carrier females have a VA better than 20/20 at 35 years compared to 25% of affected males at 30 years.

Conclusion: In males with CHM, VA loss progresses very slowly until the 50 years of age, at which time the vision loss becomes significant. VA decreases more rapidly as the individual ages. In female carriers disease progression is not similar to that of affected males; VA loss is much milder.

MICROBUBBLE-ASSISTED ULTRASOUND THROMBOLYSIS IN EXPERIMENTAL RETINAL VEIN OCCLUSION

Mark S. Humayun*, Walid F. Abdallah, Amani A. Fawzi, Amir H. Kashani, Gerald J. Chader

Purpose: To demonstrate the feasibility of microbubble-assisted ultrasound thrombolysis in the treatment of retinal vein thrombosis.

Methods: Laser photothrombosis of retinal veins was done for 22 rabbits followed 48 hours later by ultrasound treatment. Rabbits were divided into 4 groups; ultrasound + microbubble group (n=10), ultrasound + saline group (n=4), microbubble + sham ultrasound group (n=4), and no treatment group (n=4). The latter 3 groups acted as controls. Restoration of blood flow was evaluated by Doppler ultrasound and fluorescein angiography. All rabbits were euthanized 2 weeks after the experiment and eyes were harvested for histopathology.

Results: Retinal venous blood flow was restored in 70% of rabbits treated with microbubble-assisted ultrasound thrombolysis. One rabbit in the ultrasound + saline group showed restoration of minimal flow. No other rabbits in the control groups showed restoration blood flow. Ultrasonic thrombolysis with microbubbles significantly increased flow as compared to untreated or sham treated subjects (one-way ANOVA p<0.001). Histopathology studies showed no evidence of retinal toxicity that can be attributed to microbubbles or ultrasound.
Conclusion: The technique of microbubble-assisted ultrasound shows promise as a therapeutic tool for retinal vein occlusion and may serve as a new, noninvasive and possibly safe intervention for retinal vein occlusion in humans. Further studies are needed to assess the long-term effects of this therapy.

WHAT DOES THE WORLD LOOK LIKE TO PEOPLE WITH GLAUCOMA?

George L. Spaeth*, Alice Williams

Purpose: To understand how glaucoma affects vision and demonstrate this with illustrations.

Methods: 1) As part of a previous study (ADREV)*, one hundred individuals with varying stages of glaucoma were queried intensively and extensively to develop an understanding of what those individuals saw. 2) Modeling of visual loss was done based on what the world would presumably look like binocularly to individuals with glaucoma, considering the known effects of glaucoma on visual acuity, visual field, contrast sensitivity, dark adaptation and color perception.

Results: A consistent aspect of visual loss present in glaucoma is blurring of vision. This does not appear to be a decrease in resolution similar to that occurring with macular change or optic neuritis, but rather a generalized loss of ability to see boundaries. Also commonly noted is a need for more light. Missing areas of field are rarely noted by patients. Illustrations graphically demonstrating these changes have been developed. They do not resemble the classic illustrations intended to portray the nature of visual loss caused by glaucoma.

Conclusion: With the exception of those individuals who have bilateral end-stage glaucoma, the classic tunnel vision concept of glaucomatous visual loss is faulty. This is not even particularly accurate for monocular patients. The most consistent aspects of visual loss are 1) generalized decrease in contrast sensitivity, more marked laterally (temporally), and 2) difficulty seeing in the dark. Illustrations graphically demonstrating these changes have been developed. They do not resemble the classic illustrations intended to portray the nature of visual loss caused by glaucoma.

THE EFFECTS OF INTENSE GLYCEMIC AND BLOOD PRESSURE CONTROL AND TREATMENT OF DYSLIPIDEMIA ON DIABETIC RETINOPATHY IN PERSONS WITH TYPE 2 DIABETES: THE ACTIONS TO CONTROL CARDIOVASCULAR RISK IN DIABETES (ACCORD) STUDY

Emily Y. Chew*, ACCORD Eye Study Research Group

Purpose: To evaluate the effects of intensive glycemic control, combination therapy for dyslipidemia, and intensive blood-pressure control on the progression of diabetic retinopathy in persons with type 2 diabetes.

Methods: 10,251 participants with type 2 diabetes who were at high risk for cardiovascular disease were randomized to either intensive or standard treatment for glycemia (target glycated hemoglobin level, <6.0% or 7.0 to 7.9%, respectively) and also for dyslipidemia treatment (160 mg daily of fenofibrate plus simvastatin or placebo plus simvastatin) or for systolic blood-pressure control (target, <120 or <140 mm Hg). A subgroup of 2856 participants was evaluated for the effects of these interventions at 4 years on the progression of diabetic retinopathy by 3 or more steps on the ETDRS Scale or the need for laser photocoagulation or vitrectomy. This IRB approved protocol was conducted after the participants signed the informed consent for the study.

Results: At 4 years, the rates of progression of diabetic retinopathy were 7.3% with intensive glycemia treatment, versus 10.4% with standard therapy (adjusted odds ratio, 0.67; 95% confidence interval [CI], 0.51 to 0.87; P = 0.003); 6.5% with fenofibrate for intensive dyslipidemia therapy, versus 10.2% with placebo (adjusted odds ratio, 0.60; 95% CI, 0.42 to 0.87; P = 0.006); and 10.4% with intensive blood-pressure therapy, versus 8.8% with standard therapy (adjusted odds ratio, 1.23; 95% CI, 0.84 to 1.79; P = 0.29).

Conclusion: Intensive glycemic control and intensive combination treatment of dyslipidemia, but not intensive blood-pressure control, reduced the progression of diabetic retinopathy.

PLGA NANOSPHERES ENCAPSULATED WITHIN THERMO-RESPONSIVE HYDROGEL FOR OCULAR DELIVERY OF DEXAMETHASONE SODIUM PHOSPHATE

William F Mieler, MD*, Jennifer J Kang-Mieler, PhD, Eric Brey, PhD, Victor Perez-Luna, PhD

Purpose: Recently developed thermo-responsive hydrogel has been shown to be effective in encapsulating and releasing pharmacological agents and can be utilized as a relatively non-invasive ocular drug delivery system. Utilizing the unique thermo-responsive hydrogel characteristics, the main objective of this study was to incorporate poly(lactide-co-glycolide) (PLGA) nanospheres to create sustained ocular delivery platform for dexamethasone sodium phosphate (DSP).

Methods: Thermo-responsive hydrogel was synthesized using poly(N-isopropylacrylamide) (PNIPAAm) and crosslinked with polyethylene glycols-diacylate (PEG-DA) and 5% A-lysine and 15% NtBAAM. DSP was encapsulated in PLGA nanospheres (50:50, Mw 7K-17K) using oil in water technique. Nanospheres were added to the hydrogel solution prior to addition of the initiators. DSP release profiles at 37°C from free nanospheres, hydrogel alone and hydrogel entrapped nanospheres were compared. The activity of DSP was evaluated using a fibroblast proliferation assay.
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*Results:* The mean diameter of nanospheres was 192 nm with a low polydispersity index of 0.146. DSP encapsulation efficiency was 39%. Incorporating nanospheres did not alter the characteristics of thermo-responsive hydrogel in terms of volume phase transition temperature or swelling ratio. When DSP was encapsulated in thermo-responsive hydrogel alone, a complete release of DSP occurred within 2 hours. However, DSP released from nanospheres suspended in the hydrogels lasted for 24 hours. DSP released from delivery system also exhibited dose-responsive inhibited proliferative activity of fibroblast.

*Conclusion:* DSP can be incorporated into PLGA nanospheres and can be embedded into thermo-responsive hydrogel for localized delivery and active release. The system provides relatively non-invasive delivery options and a promising new platform for sustained delivery of dexamethasone sodium phosphate.
RISK FACTORS FOR VITREOUS COMPLICATIONS IN RESIDENT-PERFORMED PHACOEMLIFICATION SURGERY

Preston H. Blomquist*, Marlene E. Morales, Liyue Tong, Chul Ahn

Purpose: To identify risk factors for intraoperative vitreous complications in resident-performed phacoemulsification surgery.

Methods: Phacoemulsification cataract surgeries performed by 39 residents at 2 urban public county hospitals between January 4, 2005, and January 8, 2008, were retrospectively reviewed.

Results: Of 2434 cases meeting inclusion criteria there were 92 vitreous complications (3.8%). Significant preoperative risk factors for vitreous complications on univariate analysis included older age (odds ratio [OR], 1.03; 95% confidence interval [CI], 1.01-1.05; P=0.0203), worse preoperative best corrected visual acuity (BCVA) (OR, 1.5; 95% CI, 1.1-2.0; P=0.007), left eye (OR, 1.6; 95% CI, 1.0-2.4; P=0.0428), history of trauma (OR, 1.8; 95% CI, 1.0-3.4; P=0.0445), prior pars plana vitrectomy (OR, 2.3; 95% CI, 1.0-5.0; P=0.034), dementia (OR, 4.4; 95% CI, 1.5-12.9; P=0.0195), phacodonesis (OR, 7.1; 95% CI 2.0-26.1; P=0.0141), zonular dehiscence (OR, 8.8; 95% CI 4.2-18.5; P<0.0001), posterior polar cataract (OR, 7.7; 95% CI 1.6-37.2; P=0.037), white/mature cataract (OR, 2.0; 95% CI, 1.0-3.5; P=0.005), dense nuclear sclerotic cataract (OR, 2.4; 95% CI, 1.5-4.0; P=0.0006), and poor red reflex (OR, 1.9; 95% CI, 1.2-2.9; P=0.0024). Factors that remained significant on multivariate analysis were older age (OR, 1.03; 95% CI, 1.01-1.05), worse preoperative BCVA (OR, 1.52; 95% CI 1.14-2.03), left eye (OR, 1.63; 95% CI, 1.05-2.51), prior pars plana vitrectomy (OR, 1.88; 95% CI 1.01-3.51), dementia (OR, 3.65; 95% CI, 1.20-11.17), and zonular dehiscence (OR, 8.55; 95% CI, 3.92-18.63).

Conclusion: Elements of the preoperative history and exam can identify patients at higher risk for intraoperative complications during resident-performed phacoemulsification surgery.

THE ETHICS OF QUALITY

George R. Beauchamp, MD*

Purpose: Quality of care is a formal discipline for many in healthcare; for others in medicine, it is a shimmering intangible. Ethics, sometimes referred to as moral values, forms the basis for a discussion of rightness with respect to action and goodness with respect to outcomes in medicine. The Purpose of this study is to test a hypothesis: there is no difference between Ethics and Quality in either healthcare or medical care.

Methods: The nexus of quality and ethics is explored in a thought experiment. Two general quality assessment and management system approaches frame the analysis: 1) complicated mechanical systems (CMS), and 2) complex adaptive systems (CAS). The framework compares and contrasts four distinctions between and among CMS and CAS approaches to quality assessment and assurance (QAA) in healthcare and medicine. The operational and ethical consequences of structure, process, Purpose, and context are explored.

Results: Healthcare QAA is characterized by CMS, as: organizations, transactions, capture and control of value, and social constructions. Medical care QAA is characterized by CAS, as: professions, relationships, production of value, and emergence in ecology. The ethical drivers, parameters, implementation and consequential effects differ both conceptually and in practice.

Conclusion: The (null) hypothesis is disproved. Ethics and quality in healthcare and medicine are not the same. The distinctions are meaningful to professions, persons, and society. At a minimum, QAA is necessarily informed by ethics and CAS. In medicine, Ethics and Quality are the same, suggesting a new adaptive paradigm for quality in medicine.

DESMETOCELE MANAGEMENT

Thomas O. Wood MD*, William R. Morris

Purpose: To present Desmetocele management by treating the etiology, and in most cases avoiding corneal surgery.

Methods: Presentation of a series of patients with Desmetoceles treated by addressing the primary causes. Central desmetoceles secondary to rheumatoid arthritis or Steven Johnson's Syndrome respond to nasal tarsorrhaphy with punctal occlusion. Peripheral Desmetoceles respond to soft lenses and punctal occlusion. A variety of Desmetoceles secondary different diseases and their treatment will be presented. Only perforated Desmetoceles with iris incarceration required surgical intervention on the cornea.

Results: Most of the Desmetoceles in this series responded to conservative treatment.

Conclusion: Determination of the etiology of a Desmetocele usually simplifies treatment, and creates a permanent cure. This eliminates in most cases corneal transplantation with the required lengthy follow up.

GENE EXPRESSION PROFILING IN NONSPECIFIC ORBITAL INFLAMMATION USING MICROARRAY ANALYSIS


Purpose: Non-specific orbital inflammation (NSOI) is one of the most common causes of an orbital mass lesion yet the pathogenesis of NSOI is poorly understood and there are no established treatment paradigms. In general, NSOI patients are placed on a regimen that
consists of high dose corticosteroids or corticosteroid-sparing agents. In order to elucidate its pathogenesis, we used microarray-based profiling to identify the genes that are differentially expressed in NSOI compared to tissue-matched controls.

**Methods:** Total RNA was extracted from formalin-fixed paraffin-embedded (FFPE) specimens from 6 orbital fat biopsies that received a diagnosis of NSOI and from 5 non-inflamed orbital fat biopsies. The NuGEN WT Ovation FFPE labeling protocol was used and the products were hybridized to the Affymetrix Human Gene 1.0 ST Arrays that interrogate 28,869 genes. After normalization of data among arrays, probe sets for differentially expressed genes between the two experimental groups were identified by Significance Analysis of Microarray software. Principle coordinate analysis was used to look for clustering or global differences of the expression profiles of individual samples.

**Results:** Increased gene expression in the NSOI group was detected in 94 probe sets that represent about 78 genes. Of these genes, many encode immunoglobin or HLA components and many encode signaling molecules, e.g., CCL18, CCL19, Syk, LTβ, CSK, and CARD17. Principal coordinate analysis (PCA) showed clustering of the normal control samples and greater diversity among the NSOI samples.

**Conclusion:** This study demonstrates the feasibility of using RNA from FFPE ocular tissues for gene expression profiling. The upregulation of chemokines and other signaling modulators present additional potential treatment modalities for NSOI that may be recalcitrant to current therapies that target immunoglobulins. The greater variation in PCA plots for the NSOI vs. control tissues suggests that this technique would be applicable for identification of disease subsets after profiling a sufficient number of subjects.

**INFANT APHAKIA TREATMENT STUDY: VIDEO EVALUATION OF CATARACT MORPHOLOGY IN EYES WITH MONOCULAR CATARACTS**


**Purpose:** To describe a video-documented assessment of cataract type in eyes with monocular infantile cataract enrolled in the infant aphakia treatment study (IATS).

**Methods:** IATS is a randomized clinical trial comparing intraocular lens vs. contact lens correction in 114 infants age 28 days to < 7 months. Eighty-three videos were available for morphological analysis of cataract. Three examiners each reviewed all surgical recordings and agreed on the cataract characteristics using a score sheet to record the lens layers involved and the configuration of the opacity.

**Results:** Nuclear cataract was present in 45/83 (54.2%) eyes. Posterior capsule plaque was seen in 73/83 (88.0%) of the eyes. All eyes with fetal nuclear cataract had associated posterior capsule plaque. Cortical cataract without nuclear involvement was seen in 21/83 (25.3%). Posterior bowing of the posterior capsule was noted in 4/83 (4.8%) eyes. Evidence of persistent fetal vasculature was present in 18/83 (21.7%) eyes. The entire lens was white in 3/83 (3.6%) eyes, while the lens was partially resorbed in 7/83 (8.4%) eyes. Anterior capsule fibrosis was noted in 5 eyes with advanced cataract (1 with total cataract, 4 with partially resorbed lens).

**Conclusion:** Nuclear opacities were common but many different cataract types presented in infancy. Posterior capsule plaque was frequently noted in eyes enrolled for IATS, especially when a nuclear cataract was present.

**LIQUID NITROGEN CRYOTHERAPY IS A SAFE AND EFFECTIVE ADJUNCTIVE TREATMENT FOR PRIMARY PTERYGIUM**

Page MA, Fraunfelder FW*

**Purpose:** To evaluate the safety and efficacy of liquid nitrogen cryotherapy as an adjunctive treatment for pterygium

**Methods:** Retrospective case series. Thirty-seven patients (age 30-79) underwent excision of pterygium with adjunctive liquid nitrogen cryotherapy (30 primary cases, 7 recurrent). All patients underwent pterygium excision and limited sclerokeratectomy under local anesthesia, followed by double freeze-thaw cryotherapy with a 1.5mm Brymill cryoprobe (Brymill Cryogenic Systems, Ellington, CT), with subsequent primary conjunctival closure using interrupted 6-0 plain gut sutures. Five out of 30 primary pterygia (16.7%) received additional adjunctive therapy (Mitomycin C 0.04% applied for 1 minute), while 7/7 (100%) of the recurrent cases received additional adjunctive therapy (Mitomycin C +/- amniotic membrane graft). The primary outcome measures were recurrence rate and adverse outcomes attributable to the cryotherapy.

**Results:** Overall mean follow-up interval was 12.9 months (median 5 months, range 1-60 months). Three out of 30 cases treated for primary pterygium recurred (10.0%, mean followup 13.2 months, median 5.5 months). Five out 7 cases treated for recurrent pterygium recurred again (71.4%, mean followup 11.7 months, median 4 months). There was no significant difference in recurrence rate across ethnic groups (p>0.10), or with use of additional adjunctive therapy in the primary treatment group (p>0.10). There were no recorded adverse outcomes across all groups.

**Conclusion:** Liquid nitrogen cryotherapy is an effective adjunctive treatment for primary pterygium excision, with a recurrence rate comparable to published rates for conjunctival autograft, mitomycin C, and amniotic membrane graft, and lower than that for excision alone. The technique also has an excellent safety profile, in addition to being relatively convenient and cost-efficient.
IDENTIFICATION OF A NOVEL DUPLICATION OF CHROMOSOME 12Q14 THAT IS ASSOCIATED WITH NORMAL TENSION GLAUCOMA


Purpose: To identify a novel normal tension glaucoma (NTG) gene.

Methods: We used linkage and copy number variation (CNV) analysis to map the location of the gene that causes NTG in a large family. We tested 478 open angle glaucoma patients (152 of which had NTG) and 500 controls for the presence of a chromosome 12q14 duplication that was detected in the family. Genes within the duplication were evaluated for expression in human retina with RT-PCR and immunohistochemistry. Gene expression in fibroblast cells from family members with the duplication was assessed using microarrays and northern blot analysis.

Results: We mapped the family's glaucoma gene to a 9.5 Mbp region of chromosome 12q14 with linkage analysis (max NPL score = 19.7). CNV analysis of the family detected a 780 Kbp duplication within the linked chromosome 12q14 region that was not present in controls. Two additional overlapping chromosome 12q14 duplications were detected in two (1.3%) of the 152 NTG subjects. The overlap of these duplications spans two genes (XPOT, TBK1). RT-PCR experiments showed that both genes are expressed in human retina. Microarray and northern blot studies showed that the chromosome 12q14 duplication resulted in a 1.5-fold increase in TBK1 expression. Finally, immunohistochemistry indicated that TBK1 is expressed in the ganglion cells and nerve fiber layer of the human retina.

Conclusion: We have identified the first duplication associated with NTG. Our expression studies suggest that one of the duplicated genes (TBK1) causes this form of NTG. TBK1 encodes a kinase that regulates the expression of genes in the NF-KB pathway, some of which are involved in apoptosis. Consequently, the duplication of TBK1 may lead to NTG via dysregulation of NF-KB pathways. Our data suggest that duplication of TBK1 is the cause of NTG in our large pedigree and up to 1.3% of NTG cases.

THE HALPERN SYNDROME OF MONOCULAR VISUAL VERTIGO: REACTIVATION OF THE HUMAN DORSAL LIGHT REFLEX

Michael C. Brodsky, MD*

Purpose: To define the pathophysiology of the Halpern syndrome of monocular visual vertigo.

Methods: Re-examination of previous clinical reports of the Halpern syndrome in light of new concepts of visuo-vestibular disease.

Results: Halpern syndrome is a rare disorder characterized by vertigo, a tendency to tilt to one side, and spontaneous closure of the ipsilateral eye. Symptoms are exacerbated during monocular viewing with the ipsilateral eye and alleviated during monocular viewing with the contralateral eye. It has long been attributed to a mismatch between vestibular input and visual input. The visually-dependent postural disequilibrium in Halpern syndrome recapitulates the dorsal light reflex in fish, in which unequal luminance input to the two eyes evokes a tilt of the body toward the brighter side. The sensory symptoms and postural signs of the Halpern syndrome conform to an alteration in the subjective visual vertical caused by a human dorsal light reflex.

Conclusion: Halpern syndrome develops when a reactivated dorsal light reflex is superimposed upon a unilateral labyrinthine imbalance. In the patient with vertigo, squinting of one eye can rarely annul a tilted subjective vertical orientation.

CORNEAL MELTS FOLLOWING CATARACT SURGERY: THE VALUE OF ROUTINE SCHIRMER TESTING

Allan J. Flach, MD, PharmD*

Purpose: To report two patients with asymptomatic dry eyes who underwent uncomplicated cataract extractions followed by postoperative corneal melting and perforations. A comparison of these surgeries with the existing literature suggests that routine Schirmer testing prior to cataract surgery may help avoid this complication.

Methods: Two uncomplicated cataract surgeries in asymptomatic patients with dry eyes and subsequent, postoperative corneal melts are described. Thereafter, a comparison of these cases with the existing literature is made with special attention to coexistent medical treatments and systemic and ocular conditions in an effort to gain insight into the pathophysiology and Methods of preventing corneal melts following cataract surgery.

Results: More than 20 patients with dry eyes that received cataract surgeries are summarized, some unusually asymptomatic, each of which developed a postoperative corneal melt. Many of these patients received no postoperative anti-inflammatory treatment. Methods of preventing these postoperative corneal melts, including routine preoperative Schirmer testing, are provided.

Conclusion: A comparison of two cataract surgeries and a review of the literature suggest that the asymptomatic dry eye is predisposed to corneal melts following cataract surgery, with or without topical treatment with steroids or nonsteroidal anti-inflammatory drugs. These considerations provide the basis for recommending routine Schirmer testing prior to all contemporary cataract surgeries.
OPHTHALMOLOGY AT BASE HOSPITAL FIVE

Newman, Steven*

*Purpose: World War I saw the advent of the base hospital system designed to put into place a functioning unit based on various hospitals and medical centers from the United States.

*Methods: This is an historical review of the advances in ophthalmology occasioned by the advent of World War I highlighting the contributions from Dr. George S. Derby and the staff of Base Hospital Five, Harvard Unit deployed to France in 1917.

*Results: Base Hospital Five was the unit of Harvard Medical School led by Harvey Cushing. Cushing was later to write a report on the functioning of Base Hospital Five. Included in the activities of Base Hospital Five was the Ophthalmic Division. The Ophthalmic Division was led by Dr. George Derby, son of Hasket Derby, one of the founders of the AOS. His work in France included experience with mustard gas toxicity to the eye and cornea. He was also interested in the control of trachoma among the alien labor companies of the British and American expeditionary forces. Additional publications during his time in France included case reports of exudate of retinal detachment presumably related to trench nephritis.

*Conclusion: Perhaps unfortunate, military conflict often results in advances in medical care. The advent of the base hospital system allowed for physicians with collegial experience be transplanted as a unit for care in a military situation. As with other branches of medicine, ophthalmology underwent several advances in care including care of chemical eye injuries during World War I.

PATIENT AND PHYSICIAN PERCEPTIONS OF MEDICARE REIMBURSEMENT FOR EYELID SURGERY

Jonathan J. Levin, MD, George B. Bartley, MD*, Elizabeth A. Bradley, MD

*Purpose: Blepharoplasty and blepharoptosis repair are the most commonly performed eyelid operations in Medicare beneficiaries. In 2009, Medicare bundled reimbursement; surgeons are no longer compensated for simultaneous procedures. Because ptosis repair adds time, complexity, and risk to blepharoplasty, surgeons may be reluctant to perform it without compensation. Two options remain, each of which places a financial and/or physical burden on the patient: (1) Perform both surgeries simultaneously, accepting Medicare payment for the ptosis repair and billing the patient for a cosmetic upper blepharoplasty; (2) performing the operations at least 3 months apart and billing Medicare for each procedure separately. We investigated the views of patients about the new Medicare policy and the responses of surgeons to it in their practices.

*Methods: Two questionnaires were developed. The patient questionnaire was self-administered by Medicare patients presenting with visually significant blepharoptosis and dermatochalasis. The physician questionnaire was sent via e-mail to members of the American Society of Ophthalmic Plastic and Reconstructive Surgery.

*Results: 21 eligible patients completed the questionnaire. 91% were opposed to paying out-of-pocket for blepharoplasty done in conjunction with Medicare-reimbursed blepharoptosis surgery. 91% of patients were opposed to having to wait at least 90 days between blepharoptosis repair and blepharoplasty, even if Medicare covered both procedures. When forced to choose, 80% of patients would rather have the procedures sequentially than pay out-of-pocket for blepharoplasty. 198 surgeons responded to the survey. Prior to April 2009, 77% performed blepharoplasty and blepharoptosis repair simultaneously. After April 2009, 37% performed both operations together.

*Conclusion: Surgeons have made a significant change in the delivery of blepharoptosis repair and blepharoplasty following a change in Medicare policy to bundle reimbursement. This change, in which patients must undergo separate surgical episodes, is undesirable to most patients.

IS THERE A ROLE FOR INTIMACY IN THE STUDENT/TEACHER OR DOCTOR/PATIENT RELATIONSHIP?

George L. Spaeth*

*Purpose: To consider the role of intimacy in the student/teacher and doctor/patient relationship.

*Methods: An historical review of the literature and the professional guidelines related to intimacy and sexuality in teaching and medical care.

*Results: There are, both in the fields of education and medicine, absolute restrictions against sexual relationships between teachers and students and between physicians and patients. The basis for this is the vulnerability of students and patients, and the ease with which they can be exploited by their teachers or their doctors. Because there is a similarity between relationships that are intimate and those that are sexual, teachers and physicians historically have been advised to remain distant from their students or patients. There are evidences, however, that learning and healing are fostered when the student or the patient feels cared for or loved. There is evidence to support the thesis that those teachers and physicians who have the most favorable impact on their students or patients are those who are able to provide information and skills with a powerful, emotional connection. Approximately 1,000 years ago, many healers were women and there was often an intimate hands-on approach. With the rise of the major academic universities, the approach to patients became abstract and not hands-on. Culmination of this change came with the Flexner Report, which eliminated the apprentice system and prioritized cognitive knowledge and decreased the social aspects of the doctor/patient relationship.
**Conclusion:** Disapproval of sexual relationships between teachers and student, doctors and patients, is ancient continuing. However there appears to be a decrease in the acceptance and practice of intimacy. This change may partially explain the changing perception of physicians as less likely to be wise counselors and more likely to be uncaring scientists.

**THE VALUE OF FEMTOSECOND LASER ASSISTED KERATOPLASTY VERSUS CONVENTIONAL PENETRATING KERATOPLASTY**

**Hall T. McGee, Daniel Tu, Winston Chamberlain, William D. Mathers, Frederick W. Fraunfelder***

**Purpose:** To determine the cost-effectiveness of femtosecond laser assisted keratoplasty versus conventional penetrating keratoplasty for corneal blindness.

**Methods:** This is a retrospective study from a university medical center. Our group recently reported on astigmatism and visual acuity following femtosecond laser assisted keratoplasty (FLAK) versus conventional penetrating keratoplasty (PKP). This study continued the investigation of this cohort with a time-tradeoff utility questionnaire. We report the **Results** of that utility study and a cost-utility study to determine the conditions under which FLAK would be more cost-effective than PKP.

**Results:** Of the 100 patients in the original study, 67 patients responded to the utility questionnaire (32 PKP, 35 FLAK). The median logMAR visual acuity for study respondents was for PKP 0.24 (25th percentile = 0.16, 75th percentile = 0.54) and for IEK 0.30 (0.18, 0.57). The mean utility values were 0.902 for PKP and 0.903 for IEK, and this difference was not statistically significant. By our estimation the PKP procedure costs on average $6994 whereas IEK costs $8846. With such similar outcomes, FLAK is not as cost-effective as PKP. If all FLAK patients achieved perfect vision, compared with the standard PKP outcomes, then the incremental cost-effectiveness ratio would become $1,888 per quality-adjusted life-year gained over a 10 year period.

**Conclusion:** Femtosecond laser assisted keratoplasty would need to provide reliably better **Results** than conventional penetrating keratoplasty in order to make it a more cost-effective modality, but that was not observed in this study.

**PROGRESSION OF PATTERNS (POP): A MACHINE CLASSIFIER ALGORITHM DESIGNED TO IDENTIFY GLAUCOMA PROGRESSION IN VISUAL FIELDS.**

**Michael H. Goldbaum*, Intae Lee, GilJin Jang, Christopher Bowd, Madhusudhanan Balasubramanian, Robert N. Weinreb*, Linda M. Zangwill, Christopher Girkin, Jeffrey Liebmann, Pamela A. Sample**

**Purpose:** We evaluated Progression of Patterns (POP), an innovative machine-learning method, for its ability to identify and quantify progression of glaucomatous visual field (VF) defects.

**Methods:** POP uses variational Bayesian independent component mixture model (VIM). VIM separated SITA VFs from a set of 2085 normal and glaucomatous eyes into 9 axes (VF patterns). Stability was simulated in a second, independent set of 55 eyes with 5 VFs each, collected within 4 weeks (D.R. Anderson). A third set of 4,186 VFs from 628 eyes was test for progression. This set had a mean+sd of 6.67+1.66 VFs followed for 4.01+1.40 years. Eyes were classified into suspect and glaucoma categories based on VFs and disk stereoscopic photographs. Another category had photographic evidence of progressive glaucomatous optic neuropathy (PGON). Each sequence of fields was projected along 7 VIM glaucoma axes; the axis with the most change was analyzed for progression. Linear regression (LR) slopes generated from the sequential fields yielded the probability of progression. Eyes progressing by the POP, VFI, and AGIS **Methods** were identified using probability of progression cutoffs that provided 95% specificity in the stable VF group.

**Results:** POP identified more eyes as progressing than VFI or AGIS in suspect (4.2%,2.7%,2.7% respectively), glaucoma (16.7%,15.3%,14.0%), and progressing (PGON) eyes (28.9%,23.7%,23.7%). Different eyes were detected by POP, VFI, and AGIS.

**Conclusion:** In eyes previously identified as progressing, POP can detect more progressing eyes than VFI or AGIS. POP, with its display of progression probability and its identification of the progressing VF defect pattern, shows promise for improving detection of visual field progression.