TABLE OF CONTENTS
THE AMERICAN OPHTHALMOLOGICAL SOCIETY 2012

OFFICERS AND COUNCIL v
PRESIDENTS OF THE SOCIETY vi
RECIPIENTS OF THE LUCIEN HOWE MEDAL ix
FREDERICK H. VERHOEFF LECTURERS xi
MEMBERS xii

NECROLOGY 1

MINUTES OF THE PROCEEDINGS

INTRODUCTION 5
PAPERS: FRIDAY, MAY 18 5
EXECUTIVE SESSION 5
REPORT OF THE EXECUTIVE VICE-PRESIDENT 5
REPORT OF THE CHAIR OF THE COUNCIL 6
REPORT OF THE AUDIT COMMITTEE 8
REPORT OF THE COMMITTEE ON THESSES 9
REPORT OF THE EDITOR 9
REPORT OF THE COMMITTEE ON PROGRAMS 10
REPORT OF THE COMMITTEE ON MEMBERSHIP 10
REPORT OF THE COMMITTEE ON MEMBERSHIP 10
REPORT OF THE COMMITTEE ON THE ARCHIVIST / PHOTOGRAPHER 12
REPORT OF THE COMMITTEE ON EMERITI 12
REPORT OF THE REPRESENTATIVE TO THE COUNCIL OF THE AMERICAN ACADEMY OF OPHTHALMOLOGY 13
REPORT OF THE REPRESENTATIVE TO THE AMERICAN COLLEGE OF SURGEONS 13
REPORT OF THE REPRESENTATIVES TO THE AMERICAN ORTHOPTIC COUNCIL 14

PAPERS: SATURDAY, MAY 19 16
BANQUET 16
REPORT OF THE COMMITTEE ON ATHLETICS 19

PAPERS: SUNDAY, MAY 20 22
MEMBERS IN ATTENDANCE 23

PAPER ABSTRACTS

ACTIVATION OF RAP 1 REDUCES REACTIVE OXYGEN SPECIES IN RETINAL PIGMENT EPITHELIUM AND CHOROIDAL NEOVASCULARIZATION IN AN ANIMAL MODEL 26
Haibo Wang, Eiichi Nishimura, Manabu McCloskey, Erika Wittchen, M. Elizabeth Hartnet*
THE DECOMPENSATED MONOFIXATION SYNDROME 26
R. Michael Siatkowski*
A PROSPECTIVE RANDOMIZED STUDY OF TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION FOR CHRONIC POSTHERPETIC NEURALGIA REFRACTORY TO MEDICINAL THERAPY 26
Malcom R. Ing*, Phillip Hellreich, Douglas Johnson
IN VIVO CONTRAST-ENHANCED HIGH-FREQUENCY ULTRASONOGRAPHY OF EXPERIMENTAL UVEALMELANOMA: IMAGING FEATURES AND HISTOPATHOLOGIC CORRELATIONS 27
Hans E. Grossniklaus*, Qing Zhang, Hua Yang, Shin J. Kang, Yangan Wang
COSMETIC OUTCOME OF POSTERIOR APPROACH PTOSIS SURGERY 27
Robert Goldberg*, Helen Lew
ARAVIND PSEUDEXPOLIATION STUDY (APEX) I: INTRAOPERATIVE RESULTS 27
Arunav Hari, Haripriya, Rengaraj Venkatesh, Chandresekar Shivakumar, V Prabhu, Madhu Shekhar, Badrinath Talwar, Parthasarathy Sathyar, Rengappa Ramakrishnan, Alan L. Robin*
DETAILED 3-DIMENSIONAL STRUCTURE OF FOCAL LAMINACRIBOSA DEFECTS AND THEIR SPATIAL CORRESPONDENCE WITH GLAUCOMATOUS OPTIC DISC AND VISUAL FIELD DAMAGE 28
Sung Chul Park*, Daniel Su, Joseph Simonson, Jeffrey M. Liebmann, Robert Ritch
INTRAOCULAR PRESSURE REDUCTION FOLLOWING PROSTAGLANDIN F SYNTHASE GENE THERAPY IN MONKEYEYES IN VIVO

Eun Suk Lee, Carol A. Rasmussen, Mark S. Filla, Sarah R. Slauson, Donna M. Peters, Curtis R. Brandt, Paul L. Kaufman*, B Ann Gabelt

IN VIVO PHARMACOKINETICS AND TOXICOLOGY OF THE VERISOME® TECHNOLOGY

Mae Hu, Glenn Huang, Faina Karasina, William S. White, Wendy Yee-Murahashi*, Vernon G. Wong


John D. Bullock*, B. Laurel Elder, Ronald E. Warwar, Ioana Pavel, Sylvain Merel, Harry J. Khamis

DEXAMETHASONE SODIUM PHOSPHATE NANOSPHERES WITHIN THERMO-RESPONSIVE HYDROGEL AS AN OCULAR DRUG DELIVERY SYSTEM


THE ACESSORY OPTIC SYSTEM (THE OTHER AOS): THE FUGITIVE VISUAL CONTROL SYSTEM IN INFANTILE STRABISMUS

Michael C. Brodsky*

CORELATION OF BRAIN VOLUMES AND FUNCTIONAL DEFICITS IN GLAUCOMA

George L. Spaeth*, Alice L. Williams, John Lackey, Srinivas Gatla, Sheryl S. Wizov, Robert Sergott, Thomas Chia, Song Lai

CEREBROSPINAL FLUID PRESSURE: A NEW RISK FACTOR FOR POAG?

R. Rand Allingham*, David Fleischman, John P. Berdahl, Michael P. Fautsch, Sandra Stinnett

USE OF POSTERIOR FIXATION SUTURES TO EXPAND BINOCULARITY: INDICATIONS AND LIMITATIONS

Steven A. Newman

A NOVEL SURGICAL METHOD AND TISSUE SUPPORT DEVICE FOR TRANSLOCATING AUTOLOGOUS GRAFTS TO THE SUBAREA CENTRALIS: IN VIVO PORCINE MODEL

Timothy W. Olsen*, George Mathai, Shreyes Melkote, David Rosen, Paul Loftness, Arthur Erdman

LONG-TERM RESULTS OF RANIBIZUMAB AND BEVACIZUMAB FOR CHOROIDAL NEOVASCULARIZATION ASSOCIATED WITH AGE-RELATED MACULAR DEGENERATION

John T. Thompson*, Erica A. Conlan

DIAGNOSTIC CAPABILITY OF SPECTRAL DOMAIN OPTICAL COHERENCE TOMOGRAPHY FOR GLAUCOMA

Huijuan Wu, Johannes F. deBoer, Teresa C. Chen*

A TRANSPARENT COMPARATIVE/COST-EFFECTIVE MODEL FOR GLAUCOMA THERAPY, THE GLAUCOMA VALUE INDEX

Gary C. Brown*, Melissa M. Brown, Joshua D. Stein

POSTER ABSTRACTS

MANUFACTURING PROCESSES APPLIED TO OPHTHALMOLOGY: QUALITY, PROFITS, AND PITFALLS

Frederick W. Fraunfelder

RECTUS MUSCLE FLAP TEAR: FURTHER CONSIDERATION OF AN UNUSUAL ENTITY

Edward L. Raab, Jessica Ackert, Ann Ostrovsky

EVALUATION OF THE COLOR DIFFERENCE PLOT SCORINGSYSTEM ANALYSIS OF THE 103 HEXAGON MULTIFOCALELECTRORETINOGRAM IN THE DETECTION OF HYDROXYCHLOROQUINE RETINAL TOXICITY

Dennis P. Han, Gabrielle S. Graves, Murtaza K. Adam, Kimberly E. Stepian

IMPACT OF THE ACADEMY REVISED GUIDELINES ON HYDROXYCHLOROQUINE SCREENING ON ACTUAL PRACTICE

David J. Browning

QUALOGRAPHY (QG) SIGNIFIES MEDICAL PRACTICE QUALITY

George R. Beauchamp

RESULTS OF CATARACT SURGERY IN EYES WITH LONG ANTERIOR LENS ZONULES

Jacob Wilensky, Daniel Roberts

A COMPARISON BETWEEN POST-OPERATIVE OUTCOMES OF GLAUCOMA SURGERIES PERFORMED BY RESIDENT AND ATTENDING PHYSICIANS

George Spaeth, Camila Zangalli, Raymond Clifford, Lalita Gupta, Michael Hsieh, Mohsin Ali
**PTERYGIUM SURGERY**

**Thomas O. Wood**, Ellen W. Williams

**COMPARATIVE EVALUATION OF VARIOUS PARAMETERS IN KERATOCONUS AND NORMAL EYES USING A DUALSCHIEMPFLUG ANALYZER**

**Christopher J. Rapuano**, Jagadesh C. Reddy

---

**THESSES**

**TRABECULAR MESHWORK CHANGES INDUCED BY BENZALKONIUM CHLORIDE**

Christophe Baudouin MD PhD, Alexandre Denoyer MD, Nicolas Desbenoit PhD, Gregory Hamm PhD, and Alice Grise MD

**PREDICTIVE HISTOLOGY IN CONJUNCTIVAL MELANOMA FOR MORTALITY**

Bita Esmaieli MD, Dianna Roberts PhD, Merrick Ross MD, Melissa Fellman BA, Hilda Cruz MD, Stella K. Kim MD, and Victor G. Prieto MD PhD

**ASSOCIATION OF NEONATAL DACRYOCYSTOCELES WITH NASOLACRIMAL DUCT CYSTS**

Gregg T. Lueder MD

**MALPRACTICE CLAIMS OF CATARACT SURGERY WITH RETAINED LENS FRAGMENTS**

Judy E. Kim MD, Paul Weber JD, and Aniko Szabo PhD

**EVALUATION OF THE REACTIVE T-CELL INFILTRATE IN UVEITIS AND INTRAOCULAR LYMPHOMA WITH FLOW CYTOMETRY OF VITREOUS FLUID**

Janet L. Davis MD MA, Philip Ruiz Jr MD PhD, Milan Shah MD, and Efrem D. Mandelcorn MD

**ULTRASHORT-PULSE LASERS TREATING THE CRYSTALLINE LENS: WILL THEY CAUSE VISION-THREATENING CATARACT?**

Ronald R. Krueger MD MSE, Harvey Uy MD, Jared McDonald, and Keith Edwards FCOptom

**ESTABLISHMENT OF A HUMAN CONJUNCTIVAL EPITHELIAL CELL LINE LACKING THE FUNCTIONAL TACSTD2 GENE**

Shigeru Kinoshita MD PhD, Satoshi Kawasaki MD PhD, Koji Kitazawa MD, and Katsuhiko Shinomiya MD PhD
OFFICERS AND COUNCIL
OF THE
AMERICAN OPHTHALMOLOGICAL SOCIETY
Elected at the Annual Meeting
May 17-20, 2012

PRESIDENT
DR RICHARD K. PARRISH, II, MIAMI, FLORIDA

EXECUTIVE VICE PRESIDENT
DR THOMAS J. LIESEGANG, JACKSONVILLE, FLORIDA

EDITOR OF THE TRANSACTIONS
DR EMILY Y. CHEW, ELICOTT CITY, MARYLAND

COUNCIL
DR RICHARD P. MILLS, SEATTLE, WASHINGTON
DR DAVID J. WILSON, PORTLAND, OREGON
DR JAY C. ERIE, ROCHESTER, MINNESOTA
DR M. EDWARD WILSON, CHARLESTON, SOUTH CAROLINA
DR ANNE L. COLEMAN, LOS ANGELES, CALIFORNIA
PRESIDENTS OF THE SOCIETY

1864-1868  DR EDWARD DELAFIELD, New York
1869-1873  DR HENRY W. WILLIAMS, Boston
1874-1878  DR C. R. AGNEW, New York
1879-1884  DR HENRY D. NOYES, New York
1885-1889  DR WILLIAM F. NORRIS, Philadelphia
1890-1893  DR HASKET DERBY, Boston
1894-1898  DR GEORGE C. HARLAN, Philadelphia
1899-1902  DR O. F. WADSWORTH, Boston
1903-1905  DR CHARLES S. BULL, New York
1906      DR ARTHUR MATHEWSON, Washington, DC
1907      DR CHARLES J. KIPP, Newark
1908      DR SAMUEL D. RISLEY, Philadelphia
1909      DR S. B. ST JOHN, Hartford
1910      DR SAMUEL THEOBALD, Baltimore
1911      DR EMIL GRUENING, New York
1912      DR EDWARD JACKSON, Denver
1913      DR MYLES STANDISH, Boston
1914      DR ROBERT SATTLER, Cincinnati
1915      DR M. H. POST, St Louis
1916      DR GEORGE E. DE SCHWEINITZ, Philadelphia
1917      DR PETER A. CALLAN, New York
1918      DR WILLIAM H. WILDER, Chicago
1919      DR LUCIEN HOWE, Buffalo
1920      DR HIRAM WOODS, Baltimore
1921      DR JOHN E. WEEKS, New York
1922      DR WILLIAM M. SWEET, Philadelphia
1923      DR WILLIAM H. WILMER, Washington, DC
1924      DR ALEXANDER DUANE, New York
1925      DR CASSIUS D. WESTCOTT, Chicago
1926      DR DAVID HARROWER, Worcester
1927      DR WILLIAM ZENTMAYER, Philadelphia
1928      DR WALTER E. LAMBERT, New York
1929      DR WALTER R. PARKER, Detroit
1930      DR WILLIAM CAMPBELL POSEY, Philadelphia
1931      DR ARNOLD KNAPP, New York
1932      DR EDWARD C. ELLETT, Memphis
1933      DR THOMAS B. HOLLOWAY, Philadelphia
1934      DR W. GORDON M. BYERS, Montreal
1935      DR WALTER B. LANCASTER, Boston
1936      DR LOUIS S. GREENE, Washington, DC
1937      DR HARRY FRIEDENWALD, Baltimore
1938      DR F. H. VERHOEFF, Boston
1939      DR FREDERICK T. TOOKE, Montreal
1940      DR E. V. L. BROWN, Chicago
1941      DR F. PHINIZY CALHOUN, Atlanta
1942      DR ALLEN GREENWOOD, Boston
1943      DR HUNTER H. MCGUIRE, Winchester, Virginia
1944      DR JOHN GREEN, St Louis
1945      DR S. JUDD BEACH, Portland, Maine
1946      DR EUGENE M. BLAKE, New Haven
1947      DR JOHN W. BURKE, Washington, DC
1948      DR HENRY C. HADEN, Houston
1949      DR BERNARD SAMUELS, New York
Presidents of the Society

1950  DR PARKER HEATH, Boston
1951  DR JOHN H. DUNNINGTON, New York
1952  DR LAWRENCE T. POST, St Louis
1953  DR CONRAD BERENS, New York
1954  DR WILLIAM L. BENEDICT, Rochester, Minnesota
1955  DR EVERETT L. GOAR, Houston
1956  DR ALAN C. WOODS, Baltimore
1957  DR FREDERICK C. CORDES, San Francisco
1958  DR WALTER S. ATKINSON, Watertown, NY
1959  DR DERRICK VAIL, Chicago
1960  DR ALGERNON B. REESE, New York
1961  DR EDWIN B. DUNPHY, Boston
1962  DR FRANCIS HEED ADLER, Philadelphia
1963  DR PAUL A. CHANDLER, Boston
1964  DR MAYNARD C. WHEELER, New York
1965  DR FRANK B. WALSH, Baltimore
1966  DR WILFRED E. FRY, Philadelphia
1967  DR PHILLIP M. LEWIS, Memphis
1968  DR GORDON C. BRUCE, New York
1969  DR JAMES N. GREEAR, Reno
1970  DR C. WILBUR RUCKER, Rochester, Minnesota
1971  DR DOHRMANN K. PISCHEL, San Francisco
1972  DR TRYGVE GUNDERSEN, Boston
1973  DR ARTHUR GERARD DEVOE, New York
1974  DR WILLIAM P. MCGUIRE, Winchester, Virginia
1975  DR M. ELLIOTT RANDOLPH, Baltimore
1976  DR JOSEPH A. C. WADSWORTH, Durham
1977  DR DAVID O. HARRINGTON, San Francisco
1978  DR SAMUEL D. MCPHERSON, JR., Durham
1979  DR F. PHINIZY CALHOUN, JR., Atlanta
1980  DR JOHN WOODWORTH HENDERSON, Ann Arbor
1981  DR WILLIAM F. HUGHES, Chicago
1982  DR ROBERT W. HOLLENHORST, Rochester, Minnesota
1983  DR CLEMENT MCCULLOCH, Toronto
1984  DR ROBERT N. SHAFFER, San Francisco
1985  DR DUPONT GUERRY III, Richmond
1986  DR A. EDWARD MAUMENE, Baltimore
1987  DR FRANK W. NEWELL, Chicago
1988  DR EDWARD W. D. NORTON, Miami
1989  DR DAVID SHOCH, Chicago
1990  DR ROBERT E. KENNEDY, Rochester, New York
1991  DR FREDERICK C. BLODI, Iowa City
1992  DR THOMAS P. KEARNS, Rochester, Minnesota
1993  DR BRADLEY R. STRAATSMA, Los Angeles
1994  DR ROBERT B. WELCH, Annapolis, Maryland
1995  DR BRUCE E. SPIVEY, Chicago
1996  DR STANLEY TRUHLEN, Omaha
1997  DR WILLIAM H. SPENCER, San Francisco
1998  DR W. RICHARD GREEN, Baltimore
1999  DR WILLIAM S. TASMAN, Wyndmoor, Pennsylvania
Presidents of the Society

2000  DR W. BANKS ANDERSON, JR., Durham
2001  DR PAUL R. LICHTER, Ann Arbor
2002  DR ROBERT C. DREWS, Clayton, Missouri
2003  DR MARILYN T. MILLER, Chicago, Illinois
2004  DR FRONCIE A. GUTMAN, Cleveland, Ohio
2005  DR J. BROOKS CRAWFORD, San Francisco, California
2006  DR DANIEL M. ALBERT, Madison, Wisconsin
2007  DR JOHN G. CLARKSON, Miami, Florida
2008  DR DAN B. JONES, Houston, Texas
2009  DR SUSAN H. DAY, San Francisco, California
2010  DR CHARLES P. WILKINSON, Baltimore, Maryland
2011  DR LEE M. JAMPOL, Chicago, Illinois
2012  DR DOUGLAS D. KOCH, Houston, Texas
2013  DR RICHARD K. PARRISH, II, Miami, Florida
RECIPIENTS OF THE LUCIEN HOWE MEDAL

1922  DR CARL KOLLER, New York
1923  DR ALEXANDER DUANE, New York
1924  DR ERNEST FUCHS, Vienna, Austria
1925  NO AWARD
1926  DR EDWARD JACKSON, Denver
1927  MR PRIESTLY SMITH, Birmingham, England
1928  NO AWARD
1929  DR THEODOR AXENFELD, Freiburg, Germany
1930  NO AWARD
1931  NO AWARD
1932  DR F. H. VERHOEFF, Boston
1933  NO AWARD
1934  DR GEORGE E. DE SCHWEINITZ, Philadelphia
1935  NO AWARD
1936  SIR JOHN HERBERT PARSONS, London, England
1937  DR ARNOLD KNAPP, New York
1938  NO AWARD
1939  NO AWARD
1940  NO AWARD
1941  NO AWARD
1942  DR E. V. L. BROWN, Chicago
1943  NO AWARD
1944  NO AWARD
1945  DR WALTER B. LANCASTER, Boston
1946  SIR STEWART DUKE-ELDER, London, England
1947  DR LAWRENCE T. POST, St Louis
1948  DR WILLIAM ZENTMAYER, Philadelphia
1949  DR PHILLIPS THYGESON, San Jose, California
1950  DR ALGERNON B. REESE, New York
1951  DR JONAS S. FRIEDENWALD, Baltimore
1952  DR FRANCIS H. ADLER, Philadelphia
1953  DR ALAN C. WOODS, Baltimore
1954  DR JOHN H. DUNNINGTON, New York
1955  DR ARTHUR J. BEDELL, Albany
1956  DR BERNARD SAMUELS, New York
1957  DR GEORGIANA DVORAK-THEOBALD, Oak Park, Illinois
1958  MISS IDA MANN, Nedlands, Western Australia
1959  DR LUDWIG VON SALLMANN, Bethesda, Maryland
1960  DR DERRICK T. VAIL, Chicago
1961  DR FREDERICK C. CORDES, San Francisco
1962  DR FRANK B. WALSH, Baltimore
1963  DR EDWIN B. DUNPHY, Boston
1964  DR WILLIAM L. BENEDICT, Rochester, Minnesota
1965  DR DAVID G. COGAN, Boston
1966  DR DOHRMANN K. PISCHEL, San Francisco
1967  DR PAUL A. CHANDLER, Boston
1968  DR WALTER MORTON GRANT, Boston
1969  DR A. EDWARD MAUMENE, Baltimore
1970  DR PETER C. KRONFELD, Chicago
1971  DR C. WILBUR RUCKER, Rochester, Minnesota
1972  DR WALTER S. ATKINSON, Watertown, New York
1973  DR GORDON M. BRUCE, Fort Lee, New Jersey
1974  DR IRVING H. LEOPOLD, New York
<table>
<thead>
<tr>
<th>Year</th>
<th>Recipient</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>Dr Michael J. Hogan, San Francisco</td>
<td></td>
</tr>
<tr>
<td>1976</td>
<td>Dr Edward W. D. Norton, Miami</td>
<td></td>
</tr>
<tr>
<td>1977</td>
<td>Dr Kenneth C. Swan, Portland, Oregon</td>
<td></td>
</tr>
<tr>
<td>1978</td>
<td>Dr S. Rodman Irvine, Newport Beach, California</td>
<td></td>
</tr>
<tr>
<td>1979</td>
<td>Dr Frank W. Newell, Chicago</td>
<td></td>
</tr>
<tr>
<td>1980</td>
<td>Dr Frederick C. Blodi, Iowa City</td>
<td></td>
</tr>
<tr>
<td>1981</td>
<td>Dr David O. Harrington, San Francisco</td>
<td></td>
</tr>
<tr>
<td>1982</td>
<td>Dr Arthur Gerard Devoe, New York</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>Dr J. Donald M. Gass, Miami</td>
<td></td>
</tr>
<tr>
<td>1984</td>
<td>Dr Harold G. Scheie, Philadelphia</td>
<td></td>
</tr>
<tr>
<td>1985</td>
<td>Dr Robert N. Shaffer, San Francisco</td>
<td></td>
</tr>
<tr>
<td>1986</td>
<td>Dr Robert W. Hollenhorst, Rochester, Minnesota</td>
<td></td>
</tr>
<tr>
<td>1987</td>
<td>Dr Dupont Guerry III, Richmond, Virginia</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td>Dr Thomas D. Duane, Philadelphia</td>
<td></td>
</tr>
<tr>
<td>1989</td>
<td>Dr Marshall M. Parks, Washington, DC</td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>Dr David Shoch, Chicago</td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>Dr Arnall Patz, Baltimore</td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>Dr Bradley R. Straatsma, Los Angeles</td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>Dr Bruce E. Spivey, San Francisco</td>
<td></td>
</tr>
<tr>
<td>1994</td>
<td>Dr Thomas P. Kearns, Rochester, Minnesota</td>
<td></td>
</tr>
<tr>
<td>1995</td>
<td>Dr William H. Spencer, San Francisco</td>
<td></td>
</tr>
<tr>
<td>1996</td>
<td>Dr Robert Machemer, Durham</td>
<td></td>
</tr>
<tr>
<td>1997</td>
<td>Dr W. Richard Green, Baltimore</td>
<td></td>
</tr>
<tr>
<td>1998</td>
<td>Dr Alan B. Scott, San Francisco</td>
<td></td>
</tr>
<tr>
<td>1999</td>
<td>Dr Lorenz E. Zimmerman, Washington, DC</td>
<td></td>
</tr>
<tr>
<td>2000</td>
<td>Dr William S. Tasman, Philadelphia</td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>Dr Stanley M. Truhlsen, Omaha</td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>Dr Crowell Beard, San Jose, California</td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>Dr Alfred Sommer, Baltimore, Maryland</td>
<td></td>
</tr>
<tr>
<td>2004</td>
<td>Dr Arthur Jampolsky, Belvedere, California</td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>Dr Stephen J. Ryan, Los Angeles, California</td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>Dr Matthew D. Davis, Madison, Wisconsin</td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td>Dr Daniel M. Albert, Madison, Wisconsin</td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>Dr Paul R. Lichter, Ann Arbor, Michigan</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>Dr Denis O’Day, Nashville, Tennessee</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>Dr Marilyn T. Miller, Chicago, Illinois</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>Dr Robert R. Waller, Memphis, Tennessee</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>Dr Hugh R. Taylor, Carlton, Australia</td>
<td></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. Lorenzo 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 2012

Abbott, Richard L.
Adelman, Ron A.
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
Baudouin, Christophe
Beauchamp, George R.
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
Davis, Janet L.
Day, Susan H.
Donahue, Sean Parnell
Donshik, Peter C.
Doughman, Donald J.
Durrie, Daniel S.
Eagle, Jr., Ralph C.
Edward, Deepak P.
Elman, Michael J.
Elner, Susan G.
Elner, Victor M.
Erie, Jay C.
Ernest, J. Terry
Esmaeli, Bita
Feldon, Steven E.
Feman, Stephen S.
Ferris, Frederick L.
Fish, Gary Edd
Flach, Allan J.
Francis, Peter J.
Frank, Robert N.
Fraunfelder, Frederick W.
Friedman, Alan H.
Gardner, Thomas W.
Gelender, Henry
Goldbaum, Michael H.
Goldberg, Robert A.
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
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.
Johnson, David A.
Johnson, Mark W.
Kaiser, Peter K.
Kaufman, Paul L.
Kaushal, Shalesh
Kelley, James S.
Kerr, Natalie C.
Kikkawa, Don O.
Kim, Judy E.
Kinosita, Shigeru
Kinyoun, James L.
Klein, Barbara E. K.
Klein, Ronald
Koch, Douglas D.
Krueger, Ronald Robert
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.
Lueder, Gregg T.
Macrass, Marian S.
Manche, Edward E.
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.
Mindel, Joel S.
Mitchell, Paul R.
Morrison, John C.
Nelson, J. Daniel
Netland, Peter Andreas
Newman, Steve A.
Nirankari, Verinder S.
Nork, T. Michael
Olsen, Timothy W.
O’Neill, John F.
Packer, Samuel
Parke, II, David W.
Parrish, II, Richard K.
Parver, Leonard M.
Payssse, Evelyn A.
Pepose, Jay S.
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.
Schafer, Daniel P.
Schanzlin, David J.
Schein, Oliver D.
Schaefer, Daniel P.
Schanzlin, David J.
Schein, Oliver D.
Schubert, Hermann D.
Schuman, Joel S.
Schubert, Hermann D.
Schuman, Joel S.
Schwab, Ivan R.
Schwartz, Daniel M.
Scott, Alan B.
Sebag, Jerry
Sergott, Robert C.
Sherwood, Mark
Shields, Alan B.
Shields, Jerry A.
Siatkowski, R. Michael
Sieving, Paul A.
Simon, John W.
Small, Kent W.

EMERITUS MEMBERS 2012
Aaberg, Thomas M.
Albert, Daniel M.
Alper, Melvin G.
Anderson, Douglas R.
Anderson, Jr., W. Banks
Annesley, Jr., William H.
Apt, Leonard
Asbury, Taylor
Baum, Jules L.
Becker, Bernard
Benedict, Walter H.
Bennett, James E.
Berler, David K.
Berrocal, Jose A.
Biglan, Albert W.
Blankenship, George W.
Bourne, William M.
Brookhurst, 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
Cox, Jr., Morton S.
Curtin, Brian J.
Darrell, Richard W.

Davis, Matthew D.
Dayton, Jr., Glenn O.
Dellaporta, Angelos
Drews, Robert C.
Duke, James R.
Elliott, James H.
Ellis, Philip P.
Farris, R. Linsky
Federman, Jay L.
Ferry, Andrew P.
Flanagan, Joseph C.
Flynn, John T.
Forbes, Max
Forster, Richard K.
Foster, C. Stephen
France, Thomas D.
Fraunfelder, Frederick T.
Freeman, H. MacKenzie
Gaasterland, Douglas E.
Glew, William B.
Godfrey, William A.
Goldberg, Morton F.
Grayson, Merrill
Gutman, Froncie A.
Hagler, William S.
Hamilton, Ralph S.
Heckenlively, John R.
Helmestro, Eugene M.
Hiatt, Roger L.

Hull, David S.
Hyndiuk, Robert A.
Irvine, Alexander R.
Jaeger, Edward A.
Jakobiec, Frederick A.
Jampol, Lee M.
Jampolsky, Arthur
Jarrett, II, William H.
Jones, Dan B.
Jones, Ira S.
Kass, Michael A.
Kennedy, Robert E.
Kenyon, Kenneth R.
Knox, David L.
Kolker, Allan E.
Kreiger, Allan E.
Laiason, Peter R.
Langdon, III, Maurice B.
Lattes, Alan M.
Lawwill, Theodore
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.
Minckler, Donald S.
Miranda, Jr., Manuel N.
Okun, Edward
O'Rourke, James
Owens, William C.
Payne, John W.
Pico, Guillermo
Pollack, Irvin P.
Pollard, Zane F.
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.
Smith, Ronald E.
Snell, Albert C.
Spalter, Harold F.
Spaulding, Abbot G.
Spencer, William H.
Spivey, Bruce E.
Srinivasan, B. Dobli
Stark, Walter J.
Straatema, 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.
Waltman, Stephen R.
Watzke, Robert C.
Welch, Robert B.
Wilson, II, Fred M.
Wilson, R Sloan
Wolff, Stewart M.
Wong, Vernon G.
Wood, Thomas O.
Yanoff, Myron
Younge, Brian R.

HONORARY MEMBERS 2012
Zimmerman, Lorenz E.

Active Members: 221
Emeritus Members: 138
Honorary Members: 1

Total Membership: 360
In Memorium
GOODWIN M. BREININ, MD, ELECTED 1960*
MITCHELL FRIEDLAENDER, MD, ELECTED 1989*
RALPH Z. LEVENE, MD, ELECTED 1972
FRED M. WILSON Sr., MD, ELECTED 1958

*(Obituary Unavailable)
One of the stalwarts of the subspecialty of glaucoma and long-time member of the AOS Ralph Z. Levene passed away on March 30, 2010 at the age of 82.

Dr. Levene, a native of Canada, was born and raised in Winnipeg and received his undergraduate and medical degrees from The University of Manitoba. His ophthalmology residency was undertaken at New York University’s Bellevue Hospital, followed by graduate work that culminated in a Doctor of Medical Science degree from NYU. Dr. Levene joined the faculty of NYU’s Department of Ophthalmology and rose to the rank of professor. His years on the NYU faculty coincided with what was, perhaps, the heyday of its eye research program. According to Dr. Jules Baum, AOS Emeritus Member and a long-time colleague and friend of Dr. Levene’s, others at NYU at the time included luminaries in ophthalmic research such as Goodwin Breinin, department chair, Ronald Carr, Paul Henkind, Harris Ripps, Irwin Siegel, and George Wise.

In the mid-1960s, the Collaborative Glaucoma Study—a seminal study at the time—was initiated as a 5-center effort to investigate factors that led to visual field loss in glaucoma suspects. Five thousand patients were ultimately recruited to participate. As evidence of the esteem in which Dr. Levene was held as a glaucoma subspecialist, he was asked to join four other center leaders who became household names in ophthalmology: Mansour F. Armaly—who led the Study—at the University of Iowa, Bernard Becker at Washington University, A. Edward Maumenee at Johns Hopkins University, and Robert N. Shaffer at the University of California. Dr. Levene headed the center at NYU.

In 1971, Dr. Levene was recruited to be chair of The University of Alabama, Birmingham’s Department of Ophthalmology. After heading the Department for 3 years, Dr. Levene left the position and opened a private practice in Birmingham specializing in glaucoma. The practice expanded and continues to flourish.

More insight from Dr. Jules Baum: “I knew Ralph well both professionally and socially. He was kind enough to let me work in his lab on my own projects [from] 1964-65, at the beginning of my NIH support. He was a nice person and a good scientist…I never heard him speak ill of anyone. He was also a good teacher. I was very fond of him. I remember he was working with hyaluronidase, using rabbits. He saw their ears droop. However, as he told me, he should have realized the enzyme would have also worked on the zonules. He said, “If only I had thought of that.” He loved playing chess and belonged to a chess club.”

Dr. Levene had an interest in medical malpractice and insurance and, from 1987-97 was a member of the board of the American Academy of Ophthalmology’s Ophthalmic Mutual Insurance Company. He was a Charter Member of the American Glaucoma Society and also active in the Association for Research in Vision and Ophthalmology.

Dr. Levene is survived by his children Douglas Levene (Monica) and Carina Levene; his grandchildren, Jennifer and Jonathan Levene; 3 step-children, Judy Rotenstreich (Jimmy), Terry Toranto, and Bunny Sundock (Bob Harris); 5 step-grandchildren; and 8 step-great-grandchildren. He was preceded in death by his second wife, Roslyn Toranto who died in 1999. Dr. Levene also leaves behind his companion of his last 11 years, Bernice Barstein.
Fred Madison Wilson, age 94, died peacefully in his home in Winter Haven, Florida after a courageous, philosophic, and even good-natured battle of several years with multiple myeloma.

He was my father. I was given the honor of writing this because I, too, am a member of the American Ophthalmological Society (AOS). Nevertheless, I shall refer to him as Fred, not dad, because this is written for his colleagues, not for me.

He was born March 19, 1914 in Chicago, the son of Marjorie Gayle Neill and Charles Benjamin Wilson. Fred had two younger brothers, Ben J. (general surgeon) and John W. (radiologist). Fred spent much of his childhood in Bloomington, Indiana and Kokomo, Indiana. When he was 10 years old he saved the life of a young friend, who sustained deep cuts to his leg at the Kokomo YMCA, by successfully stopping severe bleeding. This was written up in the Kokomo newspaper. The experience was a factor in his decision to become a doctor.

He first attended Kokomo High School, where he was a percussionist in the band, and being a natural leader he assembled some friends into a jazz band, “Curley’s Jazz Juniors”. He then went to Hammond (Indiana) High School, where he was on the swim team. He was a superb student at both schools. He took pre-medical studies at Indiana University in Bloomington where he was one of only two students in his class to be inducted into Phi Beta Kappa in the junior year. He attained the grade of A in all college courses, except for one B+ from a professor who said that no one knew enough about embryology to get an A. Fred received his M.D. from the Indiana University School of Medicine, Indianapolis, in 1936, and served a one-year internship at the original St. Vincent Hospital in Indianapolis.

He opened a family practice in Kokomo, just off the town square, but closed it in 1943 to join the Army Air Corps as a General Medical Officer in World War II. He served in North Africa and Italy. On his way home he was stationed for a while in South America, where he contracted malaria, from which he recovered completely. He was discharged honorably with the rank of Captain. While in the service he fell in with some ophthalmologists and became fascinated with the field. He enjoyed reading ophthalmology texts and then quizzing his friends.

He took the ophthalmology course at New York College of Medicine, 1945-1946. His residency was at Indiana University School of Medicine, Indianapolis in 1946-1948. Although this department was founded in 1908, it was only a two-year program and had no full-time faculty at that time, so he supplemented his training with an additional year of study as a junior faculty member at the Illinois Eye and Ear Infirmary and Department of Ophthalmology, University of Illinois, Chicago, 1948-1949.

Upon completing his ophthalmology training he moved to Austin, Texas with the idea of establishing a multi-specialty medical clinic. The project was derailed by the Korean Conflict, as many of the doctors were called to service. Fred was then offered the Chair of Ophthalmology at Indiana, and he became the department’s first full-time Chair. He served from 1954 to 1979. He greatly
Necrology

expanded and revitalized the program, growing its facilities from two rooms to the occupation of a three-story building and the training of more residents in a three-year program (as many as seven residents per year—21 at any given time). He also brought on many more subspecialty-trained faculty members, both full and part-time.

He was well-liked and highly respected by the campus and departmental faculties and by the community ophthalmologists. He, in turn, showed respect for his colleagues, on and off campus. As a small gesture of respect he always spelled out the word Doctor (rather than using Dr.) in writing to referring and other physicians. He was careful not to create the impression that his partially tax-supported department would compete unfairly with non-academic practitioners. He did this by accepting referrals almost only from ophthalmologists. Other doctors who were considering referral were asked to refer to a private ophthalmologist rather than to Fred’s department. His style of leadership was friendly, but desirous of excellence as set by his own example and by the examples of carefully selected, high-quality faculty and residents. He selected all residents himself, not by committee.

He was a humble leader, often declining politely offers of professorships, lecture halls, and the like to be named for him. He wanted no celebrations on the occasion of his retirement. He went to his last day of work on June 30, 1979 and then just went home. He did agree later, in 1991, to accept a plaque from the department, listing the residents and fellows he trained.

His many professional activities and affiliations include: membership in the AOS (inducted 1958), Director or Consultant of the American Board of Ophthalmology (1960-1976), and Third Vice-President of the American Academy of Ophthalmology (AAO, 1980). He gave courses, with Harvey Thorpe, MD of Pittsburgh, for several years at the annual meetings of the AAO. These were courses in slit-lamp biomicroscopy back when even some ophthalmologists were not well trained in the use of the instrument. He taught for many years in the Lancaster Course in Ophthalmology at Colby College in Waterville, Maine. He also founded, along with Lions Club members, the Indiana Lions Eye Bank in 1959.

He received numerous awards and accolades over the years, one of the most prominent having been named a Sagamore of the Wabash, the highest award bestowed by the Governor of Indiana.

His AOS thesis was entitled, “Clinical and Experimental Experiences with Beta Irradiation of the Eye,” a classic on the subject in the ophthalmic literature. He wrote five other papers on the subject. Other research and scholarly publications and works concerned ocular therapeutics, the fundus in hypertension, iatrogenic vertical medical imbalances, experimental granulomatous uveitis, biochemical studies of sub-retinal fluid, leukemic ocular changes, postoperative uveitis, ischemic ocular neuropathy, the preservation of eye-bank sclera and its use in retinal surgery, and accidental intraocular injections of depot corticosteroids (which, I hasten to add, were not injected by him but were cases referred to him for management). He wrote the AOS Necrology for Cyrus W. Rutherford, MD, as well as a published note of admiration for Francis H. Adler, MD on the occasion of a tribute to his career. Fred also designed, wrote publications on, and led to the marketing of, a couple of instruments: a double muscle-hook retractor for use in retinal surgery, and the Wilson three-mirror fundus lens, which allowed for visualization of the entire fundus by merely tilting the lens slightly.

Fred’s compassion for his patients led him to write a book, “So, You Have a Retinal Detachment”. It was illustrated by cartoons drawn by his father, a commercial artist and illustrator. The book was designed to allay fears and anxieties of patients and families but was never a substitute for one-on-one discussions with his patients. He always tried to give patients the time they needed.

As can be seen by the above list of interests, Fred was of a generation that largely began as comprehensive ophthalmologists but then began to sub-specialize. He became a retina specialist in about 1962 through self-training and informal visits with colleagues. Despite the lack of formal fellowship training (which for the most part came about later in ophthalmology), he became a truly remarkable retinal surgeon—one of his colleagues said that he never saw one better. He was an absolute master at indirect ophthalmoscopy and retinal reattachment surgery using the sclera buckling technique without scleral dissection, usually under local anesthesia. His surgeries were often less than an hour in duration, with excellent results in the pre-vitrectomy era. I once saw him do eight surgeries in one day and knew him to do six such surgeries in a day several times. His hundreds of retinal drawings, which he took to surgery, were works of art, colored beautifully with pastel chalks and shaded so as to produce three-dimensional effects. These retinal drawings were finished at home in the evenings and were one of his favorite hobbies. He did many of his surgeries on an out-patient basis, and published on this in 1979.

He had many other interests and hobbies. He taught himself to play jazz piano in the style of Hoagy Carmichael and the big bands and, as he might have said, was “fair to middlin’”. He was an accomplished sailor and, later, power boater (especially on the Ohio River). He taught classes in navigation (including transoceanic navigation) to other power boaters. He was fond of animals, raising or caring for dogs, cats, horses, chickens, mute swans, and even an abandoned baby raccoon which lived in his house for a couple of years and which he eventually returned successfully to the wild after teaching him (or reminding him) how to climb trees.

Fred married Elizabeth (Betty) Fredrick of Kokomo, Indiana October 14, 1938. They had three children: Fred Monroe, Carol, and Marcia. Fred and Betty had nine grandchildren and nine great-grandchildren. They divorced amicably in 1998. Fred married Sharon Barrett in 1999, and they resided in Florida.

Aside from traits already mentioned, Fred was a highly intelligent (but more important—wise) man, altruistic, kind, generous, considerate and respectful without regard to hierarchy, and a truly superb physician, scholar, father, and person. To me he was “the greatest.”
MINUTES OF THE PROCEEDINGS

One Hundred and Forty-Eighth Annual Meeting
May 17-20, 2012

The ONE HUNDRED AND FORTY-EIGHTH ANNUAL MEETING of the American Ophthalmological Society (AOS) was held at The Charleston Place in Charleston, South Carolina

On May 18, 2012, Friday, President Doug Koch, MD called the opening session to order. The program began with the following AOS-Knapp symposium:

Symposium: Nanotechnology in Ophthalmology

1. Introduction by Mark W. Johnson, MD
2. Brief Overview of Nanomedicine. Nanosurgery & Molecules as Machines. Marco Zarbin, MD, PhD.*
3. Delivery of Drugs, Peptides, and Genes. Uday Kompella*
4. Imaging and Diagnostics. Edward M. Barnett*
5. Regenerative Medicine and Prosthetics. James F. Leary*
6. Biosensing/Health Maintenance. Raymond Iezzi*
7. Molecular Engineering. John G Flannery*

The Meeting Was Continued With The Following Scientific Program:

1. Activation of RAP1 reduces Reactive Oxygen Species in Retinal Pigment Epithelium and Choroidal Neovascularization in an Animal Model. Haibo Wang, Eiichi Nishimura, Manabu McCloskey, Erika Wittchen, M. Elizabeth Hartnet*
2. The Decompensated Monofixation Syndrome. R. Michael Siatkowski*
6. Aravind Pseudoexfoliation Study (APEX) I: Intraoperative Results. Aravind Haripriya, Rengaraj Venkatesh, Chandresekar Shivakumar, V Prabhu, Madhu Shekhar, Badrinath Talwar, Partharsarathy Sathyana, Rengappa Ramakrishnan, Alan L. Robin*

BOLD=AOS member
* = presenter

EXECUTIVE SESSION, SATURDAY, MAY 19, 2012

DOUG KOCH, MD: Good morning everyone I’d like to call the order of this Executive Session of the 148th Meeting of the American Ophthalmological Society. I would like to appoint Dr. Edward Raab as our parliamentarian. As I look over the crowd, I believe that we have a quorum and we can therefore proceed with our official business. I would like to entertain a motion for approval of the proceedings of the Executive Session of May 21, 2011 as printed in the transactions. If I can have a motion please, and someone to second this motion, we will have a vote. All in favor please raise your hand. Anyone opposed? The proceedings of the Executive Session of May 2011 are approved.

The Executive Vice President, Dr. Tom Liesegang will now give his report:

REPORT OF THE EXECUTIVE VICE-PRESIDENT 2012

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 has an investment and audit committee to monitor the financial activities of the Society; these committees are pleased with the present status of the AOS.

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. All the expenses are carefully monitored by the Council in an attempt to maximize the AOS holdings.

There are now 228 active members and 130 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. Last year we added 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. Bylaw changes offered this year relate to changing the requirements for Emeritus status and permitting the rejection of a thesis that has little chance of successful revision.

Changes in the Meeting this year include recording the program with audio and video for future web presentation. This will assist in extending and prolonging the effect of the Annual Meeting.

The AOS Council publishes a Newsletter twice a year over the past 5 years, highlighting AOS activities, announcements, and encouragement of participation in leadership positions and the annual meeting. The AOS Council, under the leadership of Marilyn Mets, produced a white paper this year based on the topics of the Knapp symposium and entitled, “The Ophthalmologist of the Future:

REPORT FROM THE COUNCIL CHAIR
HANS E. GROSSNIKLAUS, MD: Thank you for allowing me to serve as the Council Chair. It is an honor and a privilege. The council regularly meets, we have a fall meeting and this annual meeting of the AOS and we consider numerous topics during our meetings. One of the mission of the AOS is to enhance the science and art of ophthalmology regarding in particular the education mission, the service mission, and the scientific mission of the AOS. We evaluate our financial position annually and support as many endeavors as we possibly can. This past year, we’ve supported the Heed Foundation Scientific Symposium which is conducted in the fall and residents from various programs around the country go to this symposium and junior faculty members from various programs from around the country present at the symposium. We were able to support fifteen junior faculty members from around the country to attend the symposium. They announce that their support is from the AOS so it more or less gets the word out to up and coming residents about the AOS. It is a good way to publicize the AOS to potential members.

Now I am going to talk about the proposed amendments to the bylaws. There are essentially two categories of proposed amendments. One has to do with thesis; the other has to do with emeritus members. For the thesis, the Thesis Committee requested the option to reject thesis. Right now they are allowed to have an acceptance, a minor revision or a major revision and some of the major revisions are written in such a way that it is essentially a rejection. This request allows them to outright reject a thesis early on,
so the candidate has the option to submit a new topic rather than try and try again when it is highly unlikely that the thesis will get accepted. The other thesis change is anonymity of authors. Often the Thesis Committee is able to know who the authors are. The authors of theses are masked now and the Thesis Committee needs to know when evaluating theses for dual publications. So it is a game right now that the Thesis Committee is guessing who the author of the thesis is and if there are dual publications. Essentially to level the playing field, I think it is a good idea to unmask the anonymity of the authors. This once again was the recommendation from the Thesis Committee. This is the bylaw change Article III Section V, giving the option to reject the thesis. I am not going to read this but you can look at the change. I’ll give you a moment here and, now the bylaws change is going to eliminate the anonymity clause this statement now is with no knowledge of the identity of the authors so this would be eliminated from Article IV Section XI so these are the two changes in the bylaws regarding thesis.

The other category is the issue of the emeritus members. We noted under that under the current bylaws it is technically possible for a candidate to become a member of the AOS and then shortly thereafter become an emeritus member so we recommend the following bylaws change from an active member who has been a member for at least 25 years or has reached the age of 70 years. We want to insert and has been a member for at least 10 years or who has completed retired from active practice or gainful occupation and has been a member for at least 10 years may request emeritus status. That bylaws change in Section III. I propose to our president and I make the motion that we accept the bylaw changes. I need a second. Should we have some discussion about these changes? If not we will take a vote? All in favor? Yes Ed do you have a comment.

If I understood you correctly you would get an early rejection on a thesis and within your allotted time period write on a different topic? Is that correct?"

Yes, we make it possible for the candidate to select an alternative topic, early on. That had been in the bylaws very much earlier and I think I remember a few years ago that was changed. I think the change might have been made at my suggestion. My thought was you should have only one bite at that apple. If you write the thesis quickly the payoff is you get to enjoy the society earlier and I continue to feel it is unfair to the other candidates who take a longer time to write for one reason or another that somebody getting it in quickly than has the option to in effect start over again. This seems to be a return to that.

Yes, that is correct. We did change the bylaws previously to eliminate the option. Now the Thesis Committee they do a lot of work, it’s really a tremendous amount of work. Frankly, I was on the thesis committee and it is somewhat onerous to have to review a thesis over and over again when it is unlikely it will be accepted.

Also, they do not have any extra time than when you have for a major revision, we are not giving them another three years. Are we? I just want to make it clear. It is not the rejection provision that I am objecting to, it is the ability to rewrite. Ed was requesting actually a few years that a person only be given one shot during their candidacy for a topic and that it is not appropriate to have several topics. That was not part of the bylaws change. He brought it up during new business, the council considered that and did not put it into the bylaws so we didn’t agree with your motion so it was never changed to that. Right now we have it such that if you are rejected in your first year and you do have three years left you can switch topics so we are still permitting that, we didn’t go into restricting that as you suggested.

I can understand the rational for removing the blackening of the authors name but I really wonder if that is a great idea. I think there is a trade-off, I think number one it would be easier for Tom in sorting out the thesis but everyone know the authors name it brings into issue all sorts of conflicts of interest and I do not think necessarily protects the thesis committee as well as the author knowing that they didn’t know who was writing it and I would hope the Thesis Committee as a body voted unanimously for this without a lot of debate because I think it is a step that you should reconsider. This is a request from the past three committees on thesis this is not a new request. The council has kind of rejected the previous two requests to do that and after careful consideration we decided this time to reconsider it. So it’s not a new request. We also have two thesis committee members, one who were just a recent Chair of the Thesis Committee and a current member who are going to make comments. Thank you, Jim Chodosh.

JAMES CHODOSH, MD:With regard to rejection, there are some theses that clearly will never, ever be accepted. but the idea is just wrong or fatally flawed. They will never achieve approval so its abusive to the committee but also to the applicant to send them back and have them revise that when you know it is not going to pass muster. So this allows us to save pain from the committee as well as the applicant who spends hours and hours rewriting the thesis which is fatally flawed. It is really important that we be able to communicate that and not have them come back with the same thesis, review it again and reject it again. With a major revision, it is essentially a rejection after the umpteenth time. I think it is very important. In regards, to anonymity in today’s environment especially for this scientific thesis that come in which substantial portion of those that come in are bench research there is always a context in which that research is being done. It is terribly helpful to the community to know what that context is. In addition, we have had instances of dual publication which were not acknowledged by the author. Unless we can reliably know who that author is we can’t really confirm that we are just guessing. So the committee does spend a lot of time trying to figure out based on the references. Is this dual publication, is it the same author, is this reference, and again we spend a lot of time during that sort of work. I think there is a movement among peer review everywhere to remove anonymity of the Thesis Committee or the peer reviewers. There are some who think that authors on papers should be anonymous but in general in all of our journals that we read and write in anonymity, the author is not part of the process. I think you make good choices who is on the Thesis Committee and you hope they will not exhibit bias, but there is room for bias now so I do not think that adds tremendously to it. Both changes were recommended by not just me as chair of the Thesis Committee of the past year but by every member on Thesis Committee that I was on, so it is important.

TIM STOUT, MD: I am also on the Thesis Committee and I whole-heartedly support what Jim just said. With regards, to the anonymity part, the way that this works is that we will get 20-22 theses to adjudicate and we set it up as there are three people in the
Minutes of the Proceedings

committee, there is primary, secondary, and tertiary reviewer. It is very much like Study Section and there is a large time commitment, and that is okay but one of the things that slows you down is that you as the primary reviewer you have got to make sure that this hasn’t been published elsewhere or borrowed from someplace else. As it turns out now, I would say that probably two-thirds to three-quarters of the time when you read the thesis you know who it’s from just because it’s a relatively small community. It would make things easier for us if we can review the publications on that topic without having to do any sleuthing. Thanks.

Daniel, point of clarification; If this passed will it only apply to those individuals who we are given a thesis deadline of 2015 because candidates have already been given dates obviously for 2012, 2013 and 2014?

Question from the floor: “As a point of clarification, will this change be passed to have an effect on those candidates whose theses are due in 2015? Obviously, it would not affect those candidates whose deadline ranges from 2012 to 2013.”

HANS E. GROSSNIKLAUS, MD: We have the option of rewriting the authors’ instructions which we do yearly. As a matter of fact, we send a letter yearly to advise them to review the author instructions highlighting the changes. These changes would be put into effect immediately. No further comments? We have a motion on the floor to accept these changes for the Theses Committee. All in favor? Opposed? Thank you, the motion has been accepted.

REPORT OF THE AOS AUDIT COMMITTEE

John Clarkson was the Chair of the AOS Audit Committee this year with additional members Hans Grossniklaus (Council Chair) and Thomas Liesegang (EVP). The Audit committee met on June 29, 2012 with additional guests including Neil Erickson and Daniel Figueredo of Burr, Pilger, and Mayer Accountants and Alice Paw as Finance Manager, American Academy of Ophthalmology and Steven Rausch as Director of Finance, American Academy of Ophthalmology. AOS Management staff included Lisa Brown and Timothy Losch.

The Committee reviewed the Fiscal Year 2011 Audited Financial Statements and Ms. Paw provided an overview, noting changes to the following footnotes of the 2011 audited financial statements: 1) Permanently Restricted Net Assets were expanded to include reference to legal guidelines for permanently restricted endowments under the State Prudent Management of Institution Funds Act; 2) Interpretation of Relevant Law was further clarified regarding how much of an endowment a charity can spend, for what purpose, and how the charity should invest the endowment funds; this disclosure pertains to the endowments classified as permanently restricted net assets (Howe, Verhoeff, Kennedy Snell funds). 3) Recognition of Revenue now includes policies on publication revenue and realized
and unrealized gains/losses and investment income; 4) Measure of Operations is new and the disclosure clarifies AOS’s definition of “operations” in the Statement of Financial Activities; 5) Summarized Financial Information and Reclassification were combined last year under Comparative Financial Information and Reclassification; 6) Investments have been enhanced by reporting mutual funds by fund type and underlying investment characteristics and a new disclosure has been added to provide a breakdown of net investment loss; 7) A footnote has been expanded to include board-restricted endowments, a roll-forward of net assets with a summary of current year changes and spending policies.

Ms. Paw reported that the Total Net Assets decreased by $97K from the prior year primarily as a result of a $121K decrease in Investments due to unfavorable market conditions. Mr. Neil Erickson presented the required auditor pronouncements to the Committee and there were no significant events or difficulties to report. He also reviewed the Management Letter prepared by Burr, Pilger, Mayer.

Dr Clarkson convened an Executive session with no irregularities reported.

REPORT OF THE COMMITTEE ON THESES

ROBERT N. WEINREB, MD: Chair and reporting member, Committee Members include: Timothy Stout, MD and Thomas W. Gardner, MD.

The AOS Thesis Committee reviewed 20 thesis submissions in 2012. Of these, 15 were new, and 5 were first time resubmissions from the past two years. Of the 15 new submissions, 4 were returned for minor revision, meaning likely acceptance this year, and 11 were returned for major revision, requiring a resubmission and re-review by the committee. Of the 5 revised submissions, 1 was accepted without revision, 2 were returned for only minor revision, and 2 were returned for major revision. In total, of the 20 submissions this year, 1 (5%) was accepted, 6 (30%) required only minor revision, and 13 (65%) were returned for major revision.

I appreciate having had the opportunity to serve the Society as Editor of the Transactions and look forward to our improved ability to better serve the ophthalmic community with ready access to important new scientific information.

REPORT OF THE COMMITTEE ON PROGRAMS

MARK W. JOHNSON, MD: Thirty-one high-quality abstracts were submitted to the Committee on Programs for possible inclusion in this year’s scientific program. Twenty abstracts were chosen by the committee for paper presentation, 3 of which were prior AOS theses. One paper was subsequently withdrawn due to a death in the family. Ten abstracts were invited for poster presentation--9 authors accepted the invitation. One abstract was rejected because it had been published previously.

The Committee on Programs would like to remind the membership that manuscripts published prior to the AOS meeting are not eligible for presentation at the meeting. At each AOS annual meeting, there is a limit of 1 paper and 1 poster per member as first author. All accepted abstracts not selected for podium presentation will be offered poster presentation—we encourage members to support the poster session as presenters and as audience members.

Continuing medical education credit is being offered again this year after a several-year hiatus. A total of 8.25 Category 1 credits were awarded for the 2012 meeting. Credit was awarded for both of the symposia and for 14 of the 19 papers. Reasons for denying CME credit for individual papers included the following:

1. Insufficient information to demonstrate educational need
2. Practice gap not clearly identified
3. Irreconcilable conflicts of interest (authors as patent or company owners)
4. Presentation unbalanced
5. Authors did not respond to request for additional information

Acquiring CME credit required significant AOS staff time and effort, estimated at approximately 5.5 hours per credit. Much of this time was spent trying to acquire information for each paper that was not included by the authors in the original abstract submission. Authors are reminded that the following information is critical to obtaining CME credit for their paper: current practice/outcomes, preferred practice (practice “gap”), references, financial disclosure, off-label use disclosure, and IRB status. These sections of the abstract submission form are therefore NOT optional. Remember that the key question being asked by CME reviewers is, “How will the presentation of this work improve ophthalmic practice and/or patient care?”

Authors should be aware that the online abstract submission form must be completed in one sitting and that the system will time out after an extended period of time. Abstract and supplemental materials should therefore be prepared prior to beginning the form. Please also note that symbols used in the abstract will not survive the cut-and-paste process, so authors should use symbols embedded in the abstract form and review the entire abstract for accuracy before submission.

I would like to thank this year’s authors, discussants, and symposium speakers for the excellence of their work and presentations. The members of the Committee on Programs—Stephen McLeod, Carol Shields, and Ed Buckley—did an outstanding job selecting abstracts and discussants. And, finally, a huge thanks goes to the AOS staff for their tremendous work in putting on this year’s meeting, especially Stephen Moss, Lisa Brown, and Tim Losch.

REPORT OF THE COMMITTEE ON MEMBERSHIP

MALCOM ING, MD. I would like to thank my coworkers on this committee, Dan Coleman, Timothy Olson, and Marian Macsai. We met over the airways because I am living in Honolulu so we had to have a teleconference August 8, 2011 and we made written recommendations for each of the candidates that were put up for membership. We reviewed the memberships of applications. There were sixteen national and three international. We gave somewhat of a letter grade to the candidate just trying to get some kind of information to the council regarding our review of their work previously. It was good to have some persons on the committee who had some personal knowledge of some of the candidates that is invaluable. Then we sent this up to the council and I would like to say that somebody working on the Membership Committee you have the feeling that you must have some coordination between the proposer and the person being proposed. That is a cooperative effort that has to be established, it is not enough to just as a member of our AOS group to just propose somebody and not really follow-up. In a way you have an obligation as a proposer and this means you are going to hound them a little bit, make sure that they get some of their deadlines taken care of. The most important one I believe now that has been recently instituted is subjecting in outline to the council in a timely manner. This gets the person started on the track of actually writing a thesis. We have to remember that the deadline is the last day in April in the year that you want to propose...
that person and the organization, I call it like this, the lifeblood of this organization really depends on new and talented qualified members. I enjoyed working with the committee this year, it was the third year that I had been a member of this group and I remember also this, I don’t think there is anything better in your professional career to get that call from one of your friends who attend this meeting at the Executive Session and then sends that call through to you saying “your thesis has been accepted.”

The following members were admitted this to the organization this year:

Christophe Baudouin, MD, PhD (from France), Thesis title: \textit{In vitro and in vivo} Experimental Studies on Trabecular Meshwork Degeneration Induced by Benzalkonium Chloride


Bita Esmaeli, MD, Thesis Title: Histologic Features of Conjunctival Melanoma Predictive of Metastasis and Death.

Judy Kim, MD, Thesis title: Medical Malpractice Claims Related to Cataract Surgery complicated by Retained Lens Fragments

Shigeru Kinoshita, MD (from Japan), Thesis title: Establishment of a Human Conjunctival Epithelial Cell Line Lacking the Functional TACSTD2 Gene.

Ronald Krueger, MD, MSE, Thesis title: Ultrashort Pulse Lasers Treating the Crystalline Lens: Will They cause Vision Threatening Cataract?


These were all favorably voted on by the membership at our meeting. For those nominated but have not produced a thesis within the 3 ½ years, they will need to be re-nominated after a two-year delay in order to be considered for an AOS membership. Thank you very much.
REPORT OF THE ARCHIVIST PHOTOGRAPHER
RALPH C. EAGLE, JR, MD. I took more than 900 digital photographs at the one hundred forty-seventh annual meeting of the American Ophthalmological Society held at The St. Regis Monarch Beach Resort, Dana Point, California. Nine photos were included as color illustrations in the 2011 on-line volume of the TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. These included photos of 2011 AOS President Lee M. Jampol, MD and group photos of The Council and the New Members. Also included were photos of new member Mary E. Hartnett, MD signing the AOS membership book, new member Alan Y. Chow, MD with Emily Y. Chew, MD and James C. Tsai, MD, 2011 Lucien Howe Medalist Robert R. Waller, MD and Dr. Waller with J. Brooks Crawford, MD. Scientific program participants Mark Terry, MD and Paul A. Sieving, MD, PhD were shown in other illustrations. 225 PDF images from the 2011 meeting can be downloaded from the meeting photos section of the members only section of the AOS website. Presentations of PDF photos from the 1996 through 2011 meetings currently can be downloaded. The meeting photo section also includes a new presentation entitled “Images from the Past” that includes scanned photos from 1940’s through the 1960’s. This presentation includes a number of fascinating color photos from the 1940 meeting that depict many distinguished former members including Frederick Verhoeff, Edward Jackson, Jonas Friedenwald and Walter Lancaster. We intend to post additional collections of older photos in the future. The digital archives of the AOS now comprise more than 6665 high-resolution digital photographs stored on CDs. DVD’s and hard drives.

REPORT OF THE COMMITTEE ON EMERITI
THOMAS J. LIESEGANG, MD: Banks Anderson, the chair of the committee could not be here tonight. I have been asked to give this report. Since our AOS meeting in 2011, the following deaths have been reported to the Secretary:

There have been four deaths since the last AOS Annual Meeting in 2011:

<table>
<thead>
<tr>
<th>NAME</th>
<th>YEAR INDUCTED</th>
<th>RESIDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goodwin M. Breinin</td>
<td>1960</td>
<td>New York, NY</td>
</tr>
<tr>
<td>Mitchell Friedlaender</td>
<td>1989</td>
<td>La Jolla, CA</td>
</tr>
<tr>
<td>Ralph Z. Levene</td>
<td>1972</td>
<td>Vestavia Hills, AL</td>
</tr>
<tr>
<td>Fred M. Wilson, Sr</td>
<td>1958</td>
<td>Winter Haven, FL</td>
</tr>
</tbody>
</table>

May I ask for the membership to stand for a moment of silence to respect the memory of these friends and colleagues?

The following members have applied for emeritus membership:

<table>
<thead>
<tr>
<th>NAME</th>
<th>YEAR INDUCTED</th>
<th>QUALIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>John T. Flynn</td>
<td>1983</td>
<td>25+ years, 70+ yrs of age</td>
</tr>
<tr>
<td>C. Stephen Foster</td>
<td>1986</td>
<td>25+ years</td>
</tr>
<tr>
<td>Richard K. Forster</td>
<td>1992</td>
<td>70+ years of age</td>
</tr>
<tr>
<td>Doug E. Gaasterland</td>
<td>1986</td>
<td>25+ years, 70+ years of age</td>
</tr>
<tr>
<td>Lee M. Jampol</td>
<td>1987</td>
<td>25+ years</td>
</tr>
<tr>
<td>Arthur Jampolsky</td>
<td>1970</td>
<td>25+ years, 70+ years of age</td>
</tr>
<tr>
<td>Michael A. Kasas</td>
<td>1989</td>
<td>70+ years of age</td>
</tr>
<tr>
<td>Donald S. Minckler</td>
<td>1986</td>
<td>25+ years</td>
</tr>
<tr>
<td>Andrew P. Ferry</td>
<td>1973</td>
<td>25+ years, 70+ years of age</td>
</tr>
<tr>
<td>Zane F. Pollard</td>
<td>1997</td>
<td>70+ years of age</td>
</tr>
<tr>
<td>Ronald E. Smith</td>
<td>1982</td>
<td>25+ years</td>
</tr>
<tr>
<td>Brian R. Younge</td>
<td>1984</td>
<td>25+ years, 70+ years of age</td>
</tr>
</tbody>
</table>

Proposals for new candidates:

<table>
<thead>
<tr>
<th>NAME</th>
<th>PROPOSER</th>
<th>SECONDER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jorge Alio</td>
<td>George Waring</td>
<td>Richard Linstrom</td>
</tr>
<tr>
<td>Clement Chan</td>
<td>Paul Tornabe</td>
<td>Michael Elman</td>
</tr>
<tr>
<td>R.V. Paul Chan</td>
<td>James Tsai</td>
<td>Barrett Haik</td>
</tr>
<tr>
<td>William J. Dupps, Jr.</td>
<td>William Borne</td>
<td>Richard Lindstrom</td>
</tr>
<tr>
<td>Lynn Gordon</td>
<td>Joan Miller</td>
<td>Steven Feldon</td>
</tr>
<tr>
<td>James Tahara Handa</td>
<td>William Tasman</td>
<td>Mort Goldberg</td>
</tr>
<tr>
<td>Yu-Guang He</td>
<td>David Weakley</td>
<td>Preston Blomquist</td>
</tr>
<tr>
<td>Arif Khan</td>
<td>Bronwayn Bateman</td>
<td>Irene Maumenee</td>
</tr>
<tr>
<td>Ivana K. Kim</td>
<td>Emily Chew</td>
<td>Joan Miller</td>
</tr>
</tbody>
</table>
COUNCIL APPOINTMENTS

The following are council appointments for various positions in the AOS. To the council, Anne Coleman; President, Richard Parrish; Executive Vice President, Tom Liesegang; to continue Editor of the Transactions, Emily Chew; Committee on Thesis, John Gottsch; Committee on Programs, Jerry Sebag; Committee on Membership, Joel Schuman; Committee on New Members, Evelyn Paysse and David Coats; Committee on Prizes, George Bartley; Emeritus Committee, Francie Gutman; Committee on Athletics, Woody Van Meter to continue and Rick Fraunfelder to continue as an assistant; Audit Committee, John Clarkson, myself, Tom Liesegang, Archivist Ralph Eagle to continue; and Representative of the AAO Council, Tom Liesegang alternate Richard Mills; Representative of the International Council of Ophthalmology, Marilyn Miller; Representative to the American College of Surgeons, Ed Raab with George Spaeth as the alternate; Representative to the Pan American Association of Ophthalmology, Eduardo Alfonso; and Representative to the American Orthoptic Council, Tom France, Ed Raab and David Weakley to continue. I make a motion to accept these appointments.

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 because of the way we are incorporated or because of our membership eligibility. 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: Physician Profiling and the Demands for Accountability – Will CMS be the next ‘Angie’s List’?; Industry Panel – Helping Consumers Make Informed Decisions About Healthcare; Medicare Claims Data and the Medical Report Card; Bringing Fairness and Transparency to Health Insurance Information; Online Reputation Management for Physicians; Early Experiences in Online Reputation Management; Keeping Innovation Alive: Balancing Science, Regulations, Business, and Ethics; Leading the Revolution of Evolution: How Does Optometry Fit Into Quality Eye Care?; Femtosecond: A Case Study in Physician Payment; Learning from the Heart: Status of Medical Registries

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, 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 Chicago, Illinois.

REPORT OF THE REPRESENTATIVE TO THE AMERICAN COLLEGE OF SURGEONS

EDWARD RAAB, MD, JD: Your representative succeeded member Dr. Malcolm Mazow after confirmation by the AOS Council in mid-2011.

The chief governance of the American College of Surgeons is its Board of Regents, supplemented by the Board of Governors, whose principal function is to represent and voice the interest and concerns of the membership. There is also an Advisory Council to
the Board of Governors, whose function is similar to that of the Advisory Council of the AAO. There is an extensive committee structure as well. Our Society’s representative has been appointed to both the Board of Governors and the Advisory Council. Attendance at the ACS Clinical Congress in 2011 was precluded by a direct conflict of dates with the Annual Meeting of the American Academy of Ophthalmology; therefore, formal installation will take place at the Clinical Congress in Chicago, September 29-October 4, 2012.

There is currently an impetus of the Board of Governors to increase its voice in the activities of the College. This has included a review of the Board’s committees and their links to other ACS committees, more frequent updating of Governors with material to be shared with the constituents they represent, more extensive orientation of newly-appointed Governors, and an effort to achieve increased racial, gender, and ethnic diversity of Board members. Your representative has participated in 2 web conferences addressing several of these initiatives. Another component of this effort is the frequent circulation of weekly “NewsScopes” discussing various current issues.

The College engages in vigorous advocacy. An Advocacy Summit was included in its annual Leadership Conference in March, 2012. The Summit was a preparation for participants to visit Capitol Hill to express member concerns to federal legislators. The ACS also hosted a session of the health care Quality Forum in Seattle in April. This is a traveling national tour by health care leaders discussing solutions to such problems as safety and health care costs. Another project is an approach to the United States Department of Health and Human Services about providing increased funding for trauma emergency medical services.

In the province of training and education, a workshop on managing problem residents was held in collaboration with Southern Illinois University in May, 2012, and a symposium for residents debating the pros and cons of end of life surgery is planned for the October Clinical Congress. The College also provides information and advice to its members regarding e-prescribing implementation and avoidance of penalties, and collaborates with researchers at the University of Pennsylvania on a decision-making survey that compares the responses of a participant with those of peers. Patient safety presentations and skills-oriented courses will be featured parts of the 2012 Clinical Congress.

REPORT OF THE REPRESENTATIVES TO THE AMERICAN ORTHOPTIC COUNCIL

EDWARD RAAB, MD, JD; Drs. Thomas France, Edward Raab, and David Weakley continued as our Society's representatives during the past year. All are Past Presidents of the AOC, the most immediate being Dr. Weakley. All continue to be prominent in the more vital activities of that organization. We are pleased to announce that Dr. Natalie Kerr, a new AOS member, is the current President and the first woman ophthalmologist to have been elected to that office.

Our certifying examinations will take place in Memphis in October. We expect 15-17 candidates to appear for the examinations. Each year the Council evaluates content and the procedural components, to ensure that the exams are searching yet fair to the candidates. The Council has developed a policy for accommodating the needs of candidates with disabilities in order to obtain orthoptic certification.

Discussions have been held during the year about the possibility of the Section of Ophthalmology of the American Academy of Pediatrics joining the AOC as a sponsoring organization. This would add another influential voice on matters of children's eye care, and the additional representatives would add logistical capability to carry out the Council's mission of accrediting training programs, administering examinations for certification, and overseeing issues of the welfare of certified orthoptists and their ethical responsibilities.

Another important possible structural change under consideration is a proposal to increase the number of Certified Orthoptists serving on the Council to reach parity with the ophthalmologist members. Among the important considerations in this regard is whether it adversely introduces an element of self-regulation of the profession.

The Council and its individual members, as well as non-member Certified Orthoptists, have been active in conferences and teaching events. An American Association of Certified Orthoptists symposium, in which several Council members will participate, will be presented at the International Orthoptic Congress in Toronto in June, 2012. It is titled "Orthoptic Challenges and Treatment of Today's Child with Developmental Delay". There is a regularly recurring workshop at the AAPOS Annual Meeting and the usual Sunday Symposium held during the Annual Meeting of the Academy. Your representative Dr. Edward Raab will co-host the 2013 AAPOS workshop.

Training and education are always at the forefront of the American Orthoptic Council's concerns. Under the leadership of your representative Dr. Thomas France, we are developing guidelines on the percentage of time an orthoptic student can gainfully work in a clinic and still be able to fulfill training requirements. The St. Catherine program in Minneapolis, a new model for orthoptic education, offers a university degree Bachelor of Orthoptics, with a number of partnering clinical sites, including academic centers at Mayo Clinic and other venues in Atlanta, Memphis, Portland, San Diego, and Baltimore. Additional locations are in Erie and Lancaster, Pennsylvania. There is a new program in Detroit, and others in Pittsburgh and Milwaukee are under review.

One disappointment has resulted from the discontinued relationship between the American Association for Pediatric Ophthalmology and Strabismus and the Council's American Orthoptic Journal. The AOJ is no longer bundled into the AAPOS dues structure, resulting in a severe decrease of AOJ subscriptions by AAPOS members. Suggested absorption by the Journal of AAPOS is not a suitable alternative at this time. Society member Dr. James Reynolds, Editor in Chief of the AOJ, is actively pursuing an affiliation with a new publication contemplated by the International Orthoptic Association.
REPORT OF REPRESENTATIVE TO THE INTERNATIONAL COUNCIL OF OPHTHALMOLOGY

MARIlyn Miller, MD: I would like to review the activities of the ICO for the years 2011/2012 of ICO. The include the following Educational Conferences: “Conference for Educators” at the WOC meeting in Abu Dhabi (2011) and the APAO/SoE in Busan, Korea (2012). It targeted ophthalmic educators and involved a broad spectrum of related issues. I attended both conferences and found them well organized and informative. Additionally there were activities in curriculum development, courses for residency program development and a number of other programs.

At the World Ophthalmology Conference (February 2012, Abu Dhabi), there were more than 10,000 registrants with 240 scientific sessions, 150 free paper sessions and 75 instructions courses. In addition to the clinical sessions there were 11 were sessions on Prevention of Blindness/VISION 2020. Each of these dealt with a subspecialty or an associated area of ophthalmology (eg. microbiology, leadership development). Coordinators for each category were charged with organizing the assigned symposia.

Future WOC meetings will be held in the following places:
- 2014 April 2-6 in Tokyo
- 2016 February 5-9 in Guadalajara

I have the following recommendations: The AOS should continue its support of the ICO. The AOS Council should consider organizing a symposium at any international meetings to which its members are invited and in which they have an interest in participating. My reasons for this recommendation include: 1) the AOS has a history of supporting education in ophthalmology 2) the AOS is expanding its membership to include some international members and many of these members would be interested in participating with the AOS in an international meeting and 3) the task of offering a symposium should not be arduous, as the topics would be open and could be as narrow such as “nanotechnology in ophthalmology” or as broad as in “what’s new in ----.”

I know the AOS has an invitation from the ICO (Dr. Bruce Spivey) for a future meeting but I would speculate that if the coordinators of other international meetings knew there was interest by the AOS more invitations would ensue. If the AOS Council agrees to supporting the organization of one or more symposia a committee should be established to handle the details.

REPORT OF THE REPRESENTATIVE TO THE PAN AMERICAN ASSOCIATION OF OPHTHALMOLOGY

EDUARDO ALFONSO, MD: Pan-American Council of University Professors (PACUPO) Eduardo Mayorga MD (Argentina) chairs PACUPO. The purpose of this program is to unite and standardize university training programs throughout Latin American through exchange programs and other means. Dr. Mayorga is also chairing the growing E-Learning Initiative where the Pan-American plans to organize several webinars a year. Fellowship Committee Paulo Augusto Arruda de Mello MD (Brazil) chairs the Fellowship Committee. Scholarships are funded from a variety of sources. Over $150,000 in scholarships and other awards were given out in 2012. In addition to using its Pan-American Foundation unrestricted resources, funding for these programs is provided by personal donations to the Pan-American Foundation, from donations from industry partners and private or family foundations, such as the Retina Research Foundation, the Tim & Judith Sear Foundation and the David and Julianne Pyott Foundation.

Visiting Professors Committee José Antonio Roca MD (Peru) chairs the Visiting Professors Committee. The Visiting Professors Program sends Visiting Professors to the majority of the countries in Latin America.

Mark J. Mannis, MD, PAAO President, has broadened its scope of educational activities to include a PAAO symposium during the Cuban Congress in 2013.

- 10th Leadership Development Course “Curso de Liderazgo”
  Jointly with the American Academy of Ophthalmology (AAO) & the European Ophthalmological Society (SOE)
  January 11-13, 2013
  San Francisco, California

- XXI Pan-American Regional Course
  Jointly with the Spanish Society of Ophthalmology
  April 25-27, 2013
  Santiago de Compostela, Spain
  2013 Pan-American Research Day (one day before the ARVO meeting)
  May 4, 2012
  Seattle, Washington

- PAAO Symposium at the 7th International Congress of Ophthalmology at the 15th Cuban Congress of Ophthalmology
  May 29-31, 2013
  Havana, Cuba
Minutes of the Proceedings

- 30th Pan-American Congress of Ophthalmology jointly with the 37th Brazilian Congress of Ophthalmology
  August 7-10, 2013
  Rio de Janeiro, Brazil
- XXVI Lo Mejor de la AAO en Español
  November 20, 2013
  New Orleans, Louisiana

Major Initiatives for the Year

- Expand PAAO educational courses to virtually all countries in the Western Hemisphere.
- Expand the PAAO’s online educational programs.
- Endorse guest speakers at national meetings, resident exchange, newsletter features; consultant visits, shared executive expertise and shared advocacy experience.

REPORT OF THE REPRESENTATIVE TO THE JCAHPO

WILLIAM F. MIELER, MD: The mission of the Joint Commission on Allied Health Personnel in Ophthalmology (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 20 ophthalmology and allied health organizations, and has 35 representatives who are JCAHPO Commissioners. I was recently appointed as the AOS representative to JCAHPO, and I have voting privileges as one of the Commissioners.

JCAHPO continues to have ongoing, active initiatives in certification, education, E-learning, international relationships, career development, and in communication. As I become more involved in the JCAHPO organization, I will report much more detail in future reports, regarding the current activities in these specific areas. With virtually every national ophthalmology meeting, there is an accompanying JCAHPO program.

The involvement of the AOS with JCAHPO continues to promote a positive relationship between the two organizations. I recommend that the AOS continue to actively support and endorse JCAHPO’s certification and continuing education programs. I have actively partaken in a variety of JCAHPO educational programs over the past seven to eight years, and I encourage all of you to become involved when asked to do so. This will only serve to strengthen the quality of our ophthalmic technical staff.

SCIENTIFIC SESSION, SATURDAY, MAY 19, 2012

7. Detailed 3-Dimensional Structure Of Focal Lamina Cribrosa Defects And Their Spatial Correspondence With Glaucomatous Optic Disc And Visual Field Damage
   Sung Chul Park*, Daniel Su, Joseph Simonson, Jeffrey M. Liebmann, Robert Ritch

8. Intraocular Pressure Reduction Following Prostaglandin F Synthase Gene Therapy In Monkey Eyes In Vivo
   Eun Suk Lee, Carol A. Rasmussen, Mark S. Filla, Sarah R. Slauson, Donna M. Peters, Curtis R. Brandt, Paul L. Kaufman*, Ann Gabelt

9. In Vivo Pharmacokinetics And Toxicology Of The Verisome® Technology
   Mae Hu, Glenn Huang, Faina Karasina, William S. White, Wendy YeeMurahashi*, Vernon G. Wong

The Meeting Continued with the Health Care Symposium as follows:
1. Introduction Hans E. Grossniklaus
3. Potential Impact on Ophthalmology of Affordable Care Act and Other Pending Changes in Health Care”, Paul P. Lee

The Meeting Continued with The Following Scientific papers:
    John D. Bullock*, B. Laurel Elder, Ronald E. Warwar, Ioana Pavel, Sylvain Merel, Harry J. Khamis
11. Dexamethasone Sodium Phosphate Nanospheres Within Thermo-Responsive Hydrogel As An Ocular Drug Delivery System
12. The Accessory Optic System (The Other AOS): The Fugitive Visual Control System In Infantile Strabismus
    Michael C. Brodsky*

SATURDAY EVENING BANQUET, MAY 19, 2012

HANS GROSSNIKLAUS, MD: Doug Koch is professor and has the Alan, Mosbacher, and Law Chair in Ophthalmology at the Cullen Eye Institute, past President of the American Society of Cataract and Refractive Surgery, past President of the International Intraocular Implant Club. He has authored over 150 articles and book chapters on the topics of cataract and refractive surgery, given numerous
Minutes of the Proceedings

name lectures including the Kelman, Binkhorst, Baracade, Lans Michels and Jules Stein Lectures and was the first Gold Medal Lecturer at the Australian Society of Cataract and Refractive Surgery. He has received a Lifetime Achievement Award from the American Academy of Ophthalmology and the 2012 ASCRS Innovative Award so a very recent award. Doug has served the AOS well. He has been a member of our Council, Council Chair, and now President and as you know he presided over our meeting over the last two days and done so beautifully. More importantly Doug grew up in the Muskegon, Michigan area and was the son of all American family of French and German descent. His father was a physician. He has an older brother and sister. His parents instilled in him the love of music. He played the French horn, attended, summer music camp and played the trumpet. His love of music has carried to today where he is a member of the Houston Brass Band and the President of Bach Society of Houston. He is also a strong supporter of his community as he is on the Board of Directors of the Holocaust Museum in Houston so family, community and ophthalmology are near and dear to Doug. Most importantly Doug is married to Marcia Murphy and the recent I have had the pleasure of getting to know Marcia and Doug over the past few years. He has a son Malcolm, a daughter-in-law Laura, and granddaughter Violet who all live in the New York. During the summers the Koch family enjoys spending time in Michigan, where he likes to canoe, go tubing, cook and play cards.

He has a box turtle named Olive and a Maltese named Delilah. Here is Doug with his family; you can see Malcolm, Laura, Violet, Marcia and Delilah. Here he is playing with Delilah and Violet. Here he is having fun with Marcia and I think this was in South America, if I am not mistaken. Even though it looks like the Mardi Gras in New Orleans. Pardon me Brazil. You know Doug and Marcia and Delilah. Here he is playing with Delilah and Violet who all live in the New York. During the summers the Koch family enjoys spending time in Michigan, where he likes to canoe, go tubing, cook and play cards.

DOUG KOCH, MD: Thank you, Hans, that was super, super nice. Thank you so much. I am going to have a few comments to make. He is a straightforward guy, and I am happy to count him as one of my friends. I give him our President Doug Koch.

DOUG KOCH, MD: Thank you, Hans, that was super, super nice. Thank you so much. I am going to have a few comments to make but I think it would be very important to get on to some of the really very interesting and exciting parts of this meeting and the very first part. Now I am officially reconvene the Executive Session of our 148th Meeting to introduce our new members and I am very delighted to introduce my co-faculty member, colleague, Evelyn Pace, who with David Coats will comprise the New Members Committee, taking over for Emily Chew.

REPORT FROM THE COMMITTEE FOR NEW MEMBERS (DELIVERED BY EVELYN PASSE, MD)

Written report: EMILY Y. CHEW, MD. It is my distinct pleasure to introduce our new AOS members for the year 2012. This is a stellar class with tremendous credentials. They will no doubt continue to contribute to their field of subspecialty in ophthalmology, by providing leadership in education, research and clinical practice. We enthusiastically welcome each and every one.

We will begin with Dr. Ron Adelman, who obtained his Master of Public Health degree from UC Berkeley followed by a research fellowship in retina at Stanford University. He completed both his ophthalmology residency and fellowship training in vitreoretinal surgery at the Massachusetts Eye and Ear Infirmary. He is currently an Associate Professor at Yale University. He is the associate medical director of the Yale Eye Center. Ron has also received his Master of Business Administration recently from Yale.

He has contributed to the university activities as well as other organizations such as ARVO and many others. I am particularly proud that he is a principal investigator in our NEI sponsored clinical trial of oral supplements for age-related macular degeneration, the AREDS2 trial. Ron is shown here with his lovely parents. They appear carry special genes for producing ophthalmology offsprings. In this next slide is Ron’s lovely sister, Dr. Natalie Afshari who shares Ron’s love for academic ophthalmology. Natalie is a corneal surgeon at Duke University.

Ron’s AOS thesis was “The impact of the economy and recession on the marketplace demand on ophthalmologists”. Ron, please stand so that we can all welcome you to the AOS.

Our next member is Dr. Deepak Edward whose career has taken an international path crisscrossing across the globe. Deepak began his medical training in India where he completed his medical degree as well as his ophthalmology residency. He was trained by Mark Tso in ophthalmic pathology at the University of Illinois in Chicago (UIC). He remained in Chicago to complete his training in ophthalmology in the US. He obtained his glaucoma fellowship at Washington University in St. Louis. He became professor of Ophthalmology at UIC where he worked in pathology and glaucoma. He recently joined the Wilmer faculty as professor of ophthalmology but he is located as the director of research at the King Khaled Eye Specialist Hospital in Riyadh, Saudi Arabia. He is still an adjunct professor for UIC and several other universities where he teaches pathology. He must have several clones to do this multiple collaborations on an international level but clearly he has high energy. He has written extensively in the field of ocular pathology as well as glaucoma. His AOS thesis was: “Anterior segment alterations & comparative aqueous humor proteomics in the buphthalmic rabbit.”

He is shown here with his lovely family, his wife Sheela and his three children. He is currently living in Saudi Arabia with Sheela and their youngest son, Nikhil. They have had to return to Saudi early for their young son’s school.

Dr. Robert Goldberg, an oculoplastic surgeon from UCLA, is our next new member to be introduced. Bob completed his undergraduate degree at Stanford University. He received his medical degree at UCLA School of Medicine. He remained at UCLA at the Jules Stein Eye Institute where he completed his residency in ophthalmology, fellowship in ophthalmic plastic and reconstructive
surgery and orbital oncology. He also had rotating fellowships in oculoplastic and orbital diseases in beautiful places such as Vancouver, London, Amsterdam and Salt Lake City.

Bob is currently professor of ophthalmology at UCLA and is the director of orbital and oculoplastic disease. He has contributed extensively to research in this area. He is shown here with his lovely wife, Jan who is the chief of surgery at Kaiser. Their beautiful children are also seen in this photo. Here is Bob with his daughter Gina and his wife Jan. He told us at the "Focus on New Member" session that his young daughter, Gina, is aspiring to be a doctor and she would like to follow in her mother’s footsteps as her mother is considered to be the “real” doctor. We wish Gina much success.....

Bob’s AOS thesis was: “Cosmetic outcome of posterior approach ptosis surgery.”

Bob was sorry that he could not stay for the entire meeting and he has returned home to be with his family.

---

2012 AOS NEW MEMBERS. FROM LEFT: EDWARD E. MANCHE, MD, ROBERT A. GOLDBERG, MD, RON A. ADELMAN, MD MPH MBA, JAY S. PEPOSE, MD, PHD, DAVID J. BROWNING, MD, PHD, DEEPAK P. EDWARD, MD, R. MICHAEL SIATKOWSKI, MD.

Next is Dr. Edward Manche who is professor of ophthalmology from Stanford University. Following his undergraduate degree from Bingham University, Edward completed his medical degree at Albert Einstein College and his ophthalmology residency at New Jersey Medical School. He received training in cornea, external disease, anterior segment and refractive surgery at Jules Stein Eye Institute of UCLA.

He is currently professor of ophthalmology at Stanford where he developed a leading center for excimer laser. He has developed surgical instrumentation and he is involved in clinical research in his field. He plays a major role in residency training at Stanford University. His AOS thesis was: “Wavefront-guided laser in-situ keratomileusis (LASIK) versus wavefront-guided photorefractive keratectomy (PRK): A prospective randomized eye-to-eye comparison”.

He is shown here with his wife Emily and their three absolutely adorable children. Emily, unfortunately is not able to join us tonight as she is taking care of these beautiful children. Ed, please stand up so we can enthusiastically welcome you to the AOS.

Next is Dr. Jay Pepose from St. Louis. Jay completed his undergraduate education at Brandeis University. He completed his MD/PhD program at UCLA. He spent time at UCLA as a research fellow before completing his residency in ophthalmology at the Wilmer Eye Institute. Jay was in excellent company at Wilmer. Here is a photo of Jay with his fellow residents in 1984. You will recognize some of our AOS members as well as a number of our esteemed colleagues. I will just point out our young and beloved Julia Haller as a young resident among this sea of young men.

Jay then did a cornea fellowship at Georgetown University. He subsequently was on faculty at Washington University in St. Louis and was the director of the cornea service. He currently is in private practice and is the director of the Pepose Vision Center where he has done extensive clinical research. Jay has an impressive CV showing innovative research, especially in the field of virology, going back to his days as an ophthalmology resident.

He is married to Susan Fiegenbaum, who has a doctorate degree in economics. They have a 26 year old son, David who was followed by a set of triplets, who are now 17 years old. Jay will have bills for 3 college tuition in this coming year. Needless to say,
Minutes of the Proceedings

Jay has been busy with his work and his delightful “tower of babble” and no doubt, will continue to be busy in his major contributions to ophthalmology.

His AOS thesis was: “Comparison of through-focus image quality across five presbyopia-correcting intraocular lenses”

Jay, please stand up so we can welcome you to the AOS.

Michael Siatkowski, MD, is from Oklahoma City where he is professor of ophthalmology at the Dean McGee Eye Institute, University of Oklahoma College of Medicine. Following an undergraduate education at Pennsylvania State University, Mike attended Jefferson Medical College and St. Francis Medical Center for his ophthalmology training. He had both neuroophthalmology and pediatric ophthalmology training at the Bascom Palmer Eye Institute at the University of Miami. He remained on faculty at Bascom Palmer as associate professor until 1999. He is currently professor at U. of Oklahoma where he has contributed to training of ophthalmologists and extensive research in pediatric ophthalmology, including treatment in retinopathy of prematurity and also in neuroophthalmology.

He is married to Rhea, who is also an ophthalmologist who trained at Bascom Palmer. Rumor has it that their romance blossomed over the tennis court, after some very tough matches. Together they have three beautiful young children who are keeping them very busy.

Mike’s AOS Thesis was: “The decompensated monofixation syndrome.” Mike and Rhea, please stand up so we can welcome you to the AOS.

Our last candidate is Dr. David Browning who was not able to join us last year. David is a vitreoretinal surgeon from Charlotte, NC. He attended Harvard University, followed by MD and PhD programs at Duke University. He also received his ophthalmology training at Duke and his vitreoretinal fellowship at the Bascom Palmer Eye Institute. He is in private practice at the Charlotte Eye, Ear, and Throat Specialists in Charlotte. He very active in clinical research and has contributed enormously to a number of trials of retinovascular disease. Notably, he has played a major role in the Diabetic Retinopathy Clinical Research network.

He and his wife Clare have three lovely children who are very successful in launching their own careers.

His AOS thesis was: “Interpreting Thickness Changes In the Diabetic Macula: The Problem Of Short-Term Variation In Optical Coherence Tomography-Measured Macular Thickening”;

David and Clare, please stand up for us to welcome you to the AOS.

Ladies and gentlemen, this is the class of 2012. Please join me in applauding this wonderful group of new members. We value your contributions and you indeed make our society a better one. Thank you.

DOUG KOCH, MD: I am now pleased to introduce the person who chaired and ran the athletic events. Rick Fraunfelder. Rick thank you so much for taking over this, this year.

REPORT FROM THE ATHLETIC COMMITTEE:

RICK FRAUNFELDER, MD: Many of you may know that Woody Van Meter is our Athletic Chairman in the Council and their lack of wisdom have allowed me to run it this year. Have any of you seen the movie Dumbo? Dumbo had a feather that allowed him to fly and Woody was my feather, so I am going to try and struggle through this. There was a limited number of athletic events this year, I am not going to take it personally, it’s the weather and also the athletic venue was a little ways away but it was golf and tennis was offered and then tennis got rained out and we are just going to talk about golf.

<table>
<thead>
<tr>
<th>TROPHIES IN GOLF</th>
<th>CATEGORY</th>
<th>WINNER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ellsworth Trophy</td>
<td>Low Gross (Women)</td>
<td>Dorene Shipley</td>
</tr>
<tr>
<td>Calloway Cup</td>
<td>Low Net (Women)</td>
<td>Miriam Ridley Ferris</td>
</tr>
<tr>
<td>Mishima-Michels Trophy</td>
<td>Low Gross (Men)</td>
<td>Verinder Nirankari</td>
</tr>
<tr>
<td>Canada-McCulloch</td>
<td>Low Net (Men)</td>
<td>Mylan Van Newkirk</td>
</tr>
<tr>
<td>Truhlsen Trophy</td>
<td>Senior Low Gross (Men)</td>
<td>Thomas Wood</td>
</tr>
<tr>
<td>Knapp Memorial Trophy</td>
<td>Men’s Low Net Team</td>
<td>Robert Sergott &amp; Paul Mitchell</td>
</tr>
</tbody>
</table>

REPORT FROM THE COMMITTEE ON PRIZES

PAUL LICHTER, MD: Thanks Doug. It’s a pleasure to make the presentation of the Howe Medal this year. I am speaking on behalf of myself as well as John Clarkson and Marilyn Miller who are the other two members of our committee. Obviously the selection of
the Howe Medalist is always a difficult task because so many people are qualified. Probably every member of this organization is qualified. But in any case, we have a chance to choose one to receive the medal. As tradition has it, I will keep you in the dark as long as possible which hopefully helps keeping you from falling asleep. Just to review for those of you who didn’t hear Dan Albert’s great talk a few years ago on the history of the Howe Medal. The Howe Medal dates to its first awardee in 1922 and although the medal was not at first given every year, since 1946 it has been awarded annually. The reasons for giving the Howe Medal are three, but primarily it’s awarded for conspicuous service as a writer or a teacher during long years of devotion to our science. So old people tend to get this medal. Seventy-seven ophthalmologists have thus far received the medal. Since 1946, he only recipient outside the United States, as Dr. Albert pointed out in his talk, was Ida Mann from Australia in 1958 actually. These are some of the former Howe Medal recipients and they really come from many places. Among the first member medalists were several from outside of this country including Ernest Fuchs from Vienna, Theodore Axenfeld from Freiburg Germany, and Herbert Parsons from London England, Sir Stewart Duke-Elder from London. Again, as I said, since 1946 all of them have been from the United States since Ida Mann. You can see many of the people perhaps you know who have received this medal.

Now, this year’s Howe Medalist’s family emigrated from Scotland five generations ago so he and, I will give that part away, is a sixth generation individual. He was born as a very young child and into a photographically challenged family. This is a photograph of his great grandfather and I want to credit the medalist’s spouse for giving me a great deal of assistance in this presentation. In fact, she actually prepared a power point presentation for me to use. However, I had to redact the identifying aspects of it and of course added quite a lot of my own but some of these slides are actually the ones that she provided for me, including this one. Now, the maternal grandfather of our medalist, Joseph R. Anderson, was an esteemed ophthalmologist and published many clinical papers. In fact he established a chair in ophthalmology that was later held by his grandson. Unfortunately, Dr. Anderson died of melanoma before he could be the first occupant of the chair.

2012 LUCIEN HOWE MEDALIST HUGH R. TAYLOR, MD, FRACS ESCORTED TO PODIUM BY MARILYN T. MILLER, MD AND GEORGE B. BARTLEY, MD

Our medalist, is the son of Mary Nairn and Neil whose last name I left out. Neil was a business man and he did not of course have any influence on our medalist’s choice of career but an uncle by marriage was a neuro-surgeon and he, indeed, had a major influence on the career choice of our awardee. Our awardee was said to be opinionated from the start according to his dear spouse and you can see here not interested in this joke by his mother. He smiled a lot and he was always properly dressed and well mannered. His mode of travel was a tricycle before he discovered jet airplanes and he used a lot of those in his career. He was a sweet looking boy according to his spouse but he had a reputation as a terror. Early on he was attracted to elephants, you see the little elephant over here. He built lots of models which are arrayed on this table and you can see the awardee here. This is a photograph of him with his two sisters and his mother. He also has two younger brothers. He was a cool guy as a teenager in the Scotch School and he was an attraction for his to-be young wife who actually went to see a rowing contest. She wanted to see another chap row but she ended up
coming home with our medalist. She told her mother that day that he was the one she would marry and sure enough he was. Here are the happy bride and groom in December of 1968 and here is our awardee in his medical school laboratory preparing the leeches.

So who is this man? Well, he certainly is a world traveler, renowned speaker, very organized with his ducks in a row. He is a big thinker in medicine, a writer, an early riser, early bird catches the worm, and an ophthalmologist and a renowned public health scientist. He did some training abroad and his grants came from the National Eye Institute include these. He was the originator, organizer and chief investigator of the very well-known Chesapeake Bay Waterman Study. When I happened to have lunch with him yesterday, I had to pretend I knew nothing about what he did. His curriculum vitae spans 55 pages with extensive committee work, nationally and internationally. He has prestigious grant funding beyond the NEI. He has a bibliography of 530 something papers, plus 33 group authorships, 29 books, 62 book chapters, numerous honors and awards and prestigious lectureships including the 63rd Edward Jackson Memorial Lecture. Its title was “Eyecare Dollars and Cents” wherein he showed that for every dollar spent on eye care there is a $5 return to the community. It’s a study that many like to cite.

So do you know our Howe Medalist? How many of you think you know who it is and please don’t raise your hand if he is your friend and don’t clap. For those of you who don’t know, it gets easier. He is a thinking man, he is a famous clinician and surgeon, but that is not actually where he made his most renowned mark. He is involved of course in academic medicine. The photograph on your upper right is him with his 21 residents when he chaired his department and the large group below is from the Eye Research Institute that he founded. He is a strategist developing a roadmap for closing the gap in vision for aboriginal people, indigenous people, compared to the norm. He was there standing with the Minister of Indigenous Health.

He is a lover of life. He is resilient. He had a shoulder operation last year, and you see him giving the thumbs up. He mashed his hand and his spouse tells me he was extremely diligent and absolutely determined to get his hand back in shape to almost full use within a year. He is a supportive guy. He went with his spouse to a dinner to celebrate a foundation that raises money in support of AIDS prevention, tuberculosis prevention, and other wonderful health endeavors. He came posed as the devil. He is standing here with who I think is the executive director of this organization. He has eclectic loves of travel, wine, and skiing. He likes to garden, he’s fun loving, as you can see here, an adventurer going to the Cape of Good Hope with his wife who says “well of course doesn’t everyone wear a bowtie”. So far he has a sense of history and you see the name I left out. His grandfather’s middle name was Ringland which is our medalist’s middle name. He went and searched for his family’s history and this little arch here is where his grandfather held a medical clinic, at the close, I believe, of WWI.

2012 LUCIEN HOWE MEDALIST HUGH R. TAYLOR, MD, FRACS AND HIS WIFE LIZ TAYLOR.

He is a wonderful father of four children and family is very important to our medalist. He comes from a very close knit family, well off but very frugal. He nurtures his family relationships. The family was very keen on education and on fairness and honesty. His four children of course are a joy to him as are his grandchildren, four of them but with another one coming in August. Here is how Jimmy sees his grandfather, funny and sweet. He was the proud patriarch at his daughter’s wedding a couple of years ago and when I asked him a month ago in Korea to tell me what his most significant medical contribution was—and he didn’t have any idea
why I was asking him—he named two things. He couldn’t name just one. He said one was the research that led to the widespread use of Ivermectin to treat River Blindness, a major contribution to medicine, and his book on Trachoma. Here he described in this paper which I redacted in terms of where it was published and the author, but you already know who this is, but I can’t name his name. It is traditional that you don’t hear the name until the end. He was a fellow at Hopkins and he went to a talk actually by Maurice Langham on onchocerciasis and that got him interested on River Blindness. His work on Trachoma took place in laboratories like this in the indigenous territories in Australia. He wrote this book on trachoma that was considered worthy enough of a review in the New England Journal of Medicine in 2008, praising the book and praising the author.

Here is his education. He attended, like I said, Scotch College where he was awarded first class honors. He went through his entire education in Melbourne Australia and also became a diplomat of the American Board of Ophthalmology. He took his cornea fellowship at the Wilmer Institute, then stayed on at Wilmer on the faculty with appointments also in Epidemiology and International Health. He returned to Melbourne in 1990 where he served as the Ringland Anderson Professor and head of the department until 2007. He had a Laureate Professorship in Melbourne. He was Director of Indigenous Eye Health there and was Managing Director of the Center for Eye Research Australia which he founded in 1996. That was the photograph I showed you with that large group when he left that position recently. Many organizational activities, just lists and lists of these but you can read them for yourselves. He currently is the Treasurer of the International Council of Ophthalmology and Second Vice President of Academia Ophthalmologic Internationalis and also Vice President of the International Agency for the Prevention of Blindness. He is a companion in the order of Australia for his contributions to preventing River Blindness and to academia through research and education related to the prevention of eye disease and to eye health in Indigenous Communities. Now I should tell you since few of you know what a Companion in the Order of Australia means. This is Australia’s highest civilian honor. Since it started in 1975 there have been only about 450 awardees in the entire country of Australia, so we are in the presence of a very noted, famous, and respected individual. In fact in 2005 he was a finalist in the Australian of the Year Awards. This is the presentation to him of the Companion of the Order of Australia Award given to him by the Governor General who is an appointee of the queen. This is given for eminent achievement and merit of the highest degree and service to Australia or humanity at large.

You remember the baby picture? Well, he is still smiling. He still is very academic here with his very close friend Al Sommer and he is still attracted to elephants. He gets around where there are a lot of elephants as you would imagine. Here are his vital statistics.

Now I want to mention Ida Mann because tonight is a very interesting happening. I told you at the outset that the only awardee of the Howe Medal outside of the USA since 1946 was Ida Mann. She was originally from England. In fact in 1980, she was appointed the Dame Commander of the Order of the British Empire for services to the welfare of the aboriginal people, but she moved to Australia because her ailing husband needed to find better weather in Western Australia. Her research interest was trachoma just like our medalist’s interest and Dame Ida Mann identified a major trachoma epidemic in the aboriginal people in the Kimberlys’ and then went on to examine and diagnose and treat trachoma in the indigenous population for many years.

Our medalist also likes to tend the grounds on his property. He has vistas to enjoy with a loving and devoted lifetime partner and in moments of solitude. He is in many ways on top of the world. He loves to ski and I have to give thanks to my extraordinary co-conspirator who I think has been successful in keeping this award from her spouse’s knowledge. She too, Liz Dax, is a member of the Order of Australia. The Order of Australia has four tiers, the companion being in the top tier but being in any tier is very exceptional and Liz is a member of the Order of Australia for service to medical research particularly in the fields of public health, HIV AIDS and drug addiction. She is an exceptional individual and I would like you to give her a hand. We’ve had a wonderful time working together on this project and she is very patient because I am a pest. Cheers to you, Liz. Our 2012 medalist will be escorted to the podium to receive his medal and pin by Dr. Marilyn Miller and the new member of the Prizes Committee replacing me, George Bartley because the other member John Clarkson unfortunately had to return home before this presentation. Drs. Miller and Bartley, please escort our Medalist and please Liz would you join him? A hand for our 2012 Howe Medalist. Hugh Ringland Taylor.

The Meeting Continued with The Following Scientific Papers:

**SCIENTIFIC SESSION, SUNDAY, MAY 20, 2012**

13. Correlation Of Brain Volumes And Functional Deficits In Glaucoma **George L. Spaeth***, Alice L. Williams, John Lackey, Srinivas Gatla, Sheryl S. Wizov, **Robert Sergott**, Thomas Chia, Song Lai


15. Use Of Posterior Fixation Sutures To Expand Binocularity: Indications And Limitations **Steven A. Newman***


17. Long-Term Results Of Ranibizumab And Bevacizumab For Choroidal Neovascularization Associated With Age-Related Macular Degeneration **John T. Thompson***, Erica A. Conlan

18. Diagnostic Capability Of Spectral Domain Optical Coherence Tomography For Glaucoma **Huijuan Wu**, Johannes F. deBoer, **Teresa C. Chen***

19. A Transparent Comparative/Cost-Effective Model For Glaucoma Therapy, The Glaucoma Value Index **Gary C. Brown***, Melissa M. Brown, Joshua D. Stein

Members registered for the 2012 meeting. Thirteen professional guests are at the end of the list.

<table>
<thead>
<tr>
<th>Members</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adelman Ron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alfonso Eduardo</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allingham R. Rand</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Archer Steven</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asbell Penny</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Augsburger James</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bartley George</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beauchamp George</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biglan Albert</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Bobrow James</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brodsky Michael</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown Gary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Browning David</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buckley Edward</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bullock John</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Cantor Louis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chan Chi-Chao</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chen Teresa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chew Emily</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chodosh James</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chow Alan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cibis Gerhard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cioffi George</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coats David</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coleman Anne Louise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coleman D. Jackson</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Cox, Jr. Morton</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Dana Reza</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Day Susan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donahue Sean Parnell</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donshik Peter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eagle, Jr. Ralph</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Edward Deepak</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elman Michael</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elner Susan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eliner Victor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erie Jay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferris Frederick</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish Gary Edd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flanagan Joseph</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Flynn John</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>France Thomas</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Frank Robert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fraunfelder Frederick T.</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Fraunfelder Frederick W.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Godfrey William</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Goldberg Robert</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gragoudas Evangelos</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gross Ronald</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grossniklaus Hans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gutman Froncie</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Guyton David</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Han Dennis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hartnett Mary Elizabeth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hersh Peter</td>
<td>Active Member</td>
<td></td>
</tr>
<tr>
<td>Holz Eric</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Huang Andrew</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iliff Nicholas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ing Malcolm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jabs Douglas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jaeger Edward</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Jampol Lee</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Johnson David</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Johnson Mark</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jones Dan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kaufman Paul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kinyoun James</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Koch Douglas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laibson Peter</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Lakhanpal Vinod</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laties Alan</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>L'Esperance Francis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lichter Paul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liesegang Thomas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ludwig Irene</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Luxenberg Malcolm</td>
<td>Emeritus Member</td>
<td></td>
</tr>
<tr>
<td>Maccas Marien</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manche Edward</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mannis Mark</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mazow Malcolm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McCulley James</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McDonald Marguerite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>McLeod Stephen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meredith Travis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mets Marilyn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mieler William</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miller Marilyn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mills Richard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitchell Paul</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newman Steve</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nirankari Verinder</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nork T. Michael</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olsen Timothy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O'Neill John</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parrish, II Richard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parver Leonard</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paysse Evelyn</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pepose Jay</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Puro Donald</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raab Edward</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rao Narsing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rauwano Christopher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ravin James</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reynolds James</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ritch David</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robin Alan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rogers Gary</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Runge Paul</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Minutes of the Proceedings

<table>
<thead>
<tr>
<th>Name</th>
<th>Last Name</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schaefer</td>
<td>Daniel</td>
<td>Active Member</td>
</tr>
<tr>
<td>Schein</td>
<td>Oliver</td>
<td>Active Member</td>
</tr>
<tr>
<td>Schwab</td>
<td>Ivan</td>
<td>Active Member</td>
</tr>
<tr>
<td>Sergott</td>
<td>Robert</td>
<td>Active Member</td>
</tr>
<tr>
<td>Sherwood</td>
<td>Mark</td>
<td>Active Member</td>
</tr>
<tr>
<td>Siatkowski</td>
<td>R. Michael</td>
<td>Active Member</td>
</tr>
<tr>
<td>Small</td>
<td>Kent</td>
<td>Active Member</td>
</tr>
<tr>
<td>Sommer</td>
<td>Alfred</td>
<td>Active Member</td>
</tr>
<tr>
<td>Spaeth</td>
<td>George</td>
<td>Active Member</td>
</tr>
<tr>
<td>Spivey</td>
<td>Bruce</td>
<td>Emeritus Member</td>
</tr>
<tr>
<td>Stager, Sr.</td>
<td>David</td>
<td>Active Member</td>
</tr>
<tr>
<td>Stark</td>
<td>Walter</td>
<td>Emeritus Member</td>
</tr>
<tr>
<td>Stout</td>
<td>Tim</td>
<td>Active Member</td>
</tr>
<tr>
<td>Summers</td>
<td>C. Gail</td>
<td>Active Member</td>
</tr>
<tr>
<td>Tasman</td>
<td>William</td>
<td>Emeritus Member</td>
</tr>
<tr>
<td>Taylor</td>
<td>Hugh</td>
<td>Active Member</td>
</tr>
<tr>
<td>Thompson</td>
<td>John</td>
<td>Active Member</td>
</tr>
<tr>
<td>Townsend</td>
<td>William</td>
<td>Active Member</td>
</tr>
<tr>
<td>Truhlsen</td>
<td>Stanley</td>
<td>Emeritus Member</td>
</tr>
<tr>
<td>Tse</td>
<td>David</td>
<td>Active Member</td>
</tr>
<tr>
<td>Van Newkirk</td>
<td>Mylan</td>
<td>Active Member</td>
</tr>
<tr>
<td>Weakley, Jr.</td>
<td>David</td>
<td>Active Member</td>
</tr>
<tr>
<td>Welch</td>
<td>Robert</td>
<td>Emeritus Member</td>
</tr>
<tr>
<td>Wilensky</td>
<td>Jacob</td>
<td>Active Member</td>
</tr>
<tr>
<td>Wilkinson</td>
<td>Charles</td>
<td>Active Member</td>
</tr>
<tr>
<td>Wilson</td>
<td>David</td>
<td>Active Member</td>
</tr>
<tr>
<td>Wilson, Jr.</td>
<td>M. Edward</td>
<td>Active Member</td>
</tr>
<tr>
<td>Wilson</td>
<td>Steven</td>
<td>Active Member</td>
</tr>
<tr>
<td>Wood</td>
<td>Thomas</td>
<td>Emeritus Member</td>
</tr>
<tr>
<td>Young</td>
<td>Terri</td>
<td>Active Member</td>
</tr>
<tr>
<td>Zarbin</td>
<td>Marco</td>
<td>Active Member</td>
</tr>
<tr>
<td>Barnett</td>
<td>Edward</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Brown</td>
<td>Melissa</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Flannery</td>
<td>John</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Iezzi</td>
<td>Raymond</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Kang-Mieler</td>
<td>Jennifer</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Kompella</td>
<td>Uday</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Leary</td>
<td>James</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Lee</td>
<td>Paul</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Murahashi</td>
<td>Wendy</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Park</td>
<td>Sung Chul</td>
<td>Resident/Fellow Guest</td>
</tr>
<tr>
<td>Stout</td>
<td>Ann</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Teed</td>
<td>Ronald</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Udow-Phillips</td>
<td>Marianne</td>
<td>Professional Guest</td>
</tr>
<tr>
<td>Weikert</td>
<td>Mitchell</td>
<td>Professional Guest</td>
</tr>
</tbody>
</table>

Professional Guests:

<table>
<thead>
<tr>
<th>Name</th>
<th>Last Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barnett</td>
<td>Edward</td>
</tr>
<tr>
<td>Brown</td>
<td>Melissa</td>
</tr>
<tr>
<td>Flannery</td>
<td>John</td>
</tr>
<tr>
<td>Iezzi</td>
<td>Raymond</td>
</tr>
<tr>
<td>Kang-Mieler</td>
<td>Jennifer</td>
</tr>
<tr>
<td>Kompella</td>
<td>Uday</td>
</tr>
<tr>
<td>Leary</td>
<td>James</td>
</tr>
<tr>
<td>Lee</td>
<td>Paul</td>
</tr>
<tr>
<td>Murahashi</td>
<td>Wendy</td>
</tr>
<tr>
<td>Park</td>
<td>Sung Chul</td>
</tr>
<tr>
<td>Stout</td>
<td>Ann</td>
</tr>
<tr>
<td>Teed</td>
<td>Ronald</td>
</tr>
<tr>
<td>Udow-Phillips</td>
<td>Marianne</td>
</tr>
<tr>
<td>Weikert</td>
<td>Mitchell</td>
</tr>
</tbody>
</table>
PAPER ABSTRACTS
ACTIVATION OF RAP 1 REDUCES REACTIVE OXYGEN SPECIES IN RETINAL PIGMENT EPITHELIUM AND CHOROIDAL NEOVASCULARIZATION IN AN ANIMAL MODEL

Haibo Wang, Eiichi Nishimura, Manabu McCloskey, Erika Wittchen, M. Elizabeth Hartnett*

Purpose: NADPH oxidase-generated reactive oxygen species (ROS) are important in neovascular AMD. We tested the hypothesis that binding of a subunit of NADPH oxidase to a small GTPase, Rap1, would inhibit the generation of ROS and that activation of Rap1 would reduce CNV in a model of laser induced injury.

Methods: ROS generation was measured in human retinal pigment epithelial cells (RPE) infected with an adenoviral vector expressing GTPase-activating proteins (Ad-RapGAP) to inhibit Rap1 or control vector with GFP (Ad-GFP). Protein interaction of Rap1 and NADPH oxidase subunit, p22Phox, was determined by communoprecipitation of Rap1 and p22phox in RPE infected with the Ad-RapGAP or control Ad-GFP. Rap1 activity was increased with 8CPT-2Me-cAMP (8CPT). C57Bl/6 mice were treated with laser to create chorioidal neovascularization (CNV). Each eye was then injected with 1 μL of 8CPT or control phosphate-buffered saline (PBS). Lectin-stained chorioidal flat mounts were prepared 7 days later. Confocal images of a z-series were measured and summed to determine CNV volume. Analyses were performed using ANOVA or Mann-Whitney U tests. Results: Compared with control Ad-GFP, ROS was increased in RPE infected with Ad-RapGAP (P=0.003) and decreased in RPE incubated with 8-CPT (P =3.3464E-15). Compared to control Ad-GFP without 8-CPT, infection of RPE with Ad-RapGAP decreased Rap1 bound to p22phox (P=0.000036), whereas incubation of RPE with 8-CPT restored binding of Rap1 to p22phox. Treatment of mice with 8CPT significantly reduced CNV volume induced by laser 3-fold compared to control (P=.00067).

Conclusions: Activating Rap1 prevents ROS generation in RPE and reduces CNV in a mouse model. One mechanism may be inhibition of NADPH oxidase activation by interfering with subunit assembly. Further study is warranted to determine if activation of Rap1 can provide an adjunct treatment to reduce CNV in disease.

THE DECOMPENSATED MONOFIXATION SYNDROME

R. Michael Siatkowski*

Purpose: To describe the clinical features and response to treatment of patients withdecompensated monofixation syndrome (MFS) and to propose a hypothesis for adecompensation mechanism in such patients.

Methods: Fourteen adults with MFS who had been symptomatically stable for a meanduration of 25 years developed diplopia in the absence of neurologic or orbital disease. After retrospective chart review, they underwent detailed orthoptic testing. Resultsfrom this cross-sectional analysis were compared with similar data from 16 controlsubjects with stable MFS.

Results: Compared to stable MFS patients, decompensated subjects had significantlypoorer horizontal fusional amplitudes but greater torsional fusional amplitudes; theywere also more likely to have a small vertical strabismus and to have received initial treatment later. Stable subjects, however, also had subnormal horizontal as well astorsional fusional amplitudes. There was no difference between groups with respect to refractive error, amblyopia, type or prior treatment of strabismus, stereocuity, or angle of deviation. After treatment, all patients regained monofixational alignment, but up to one-third had continued diplopia. Symptoms recurred in two patients whose treatment was initially successful.

Conclusions: Patients with MFS lose fusional amplitudes over time. In some cases this results in development of sensory torsion with secondary decompensation and diplopia. The rate of decompensation averages 7% per year from ages 20 to 70. Treatment for decompensation offers excellent motor results, but sensory symptoms may persist and recurrent symptoms may develop. Monitoring and maintenance of fusional vergence amplitudes should be part of the routine care for patients with MFS.

A PROSPECTIVE RANDOMIZED STUDY OF TRANSCUTANEOUS ELECTRICAL NERVE STIMULATION FOR CHRONIC POSTHERPETIC NEURALGIA REFRACTORY TO MEDICINAL THERAPY

Malcolm R. Ing*, Phillip Hellreich, Douglas Johnson

Purpose: This report presents the results of a prospective, randomized, pilot study ofelectronic transcutaneous nerve stimulation with a metallic electrode compared with an identically appearing sham device in the management of PHN following herpeszoster ophthalmicus refractory to medicinal treatment.

Methods: Twenty patients with PHN around one eye or orbit that was refractory to medicinal treatment were recruited for the study. Ten patients each were randomized to initial treatment with the true or sham device for a maximum of 6 treatments. After 3 consecutive treatments by either device, all patients were given the option of selecting the other device for further treatment. Patients were required to complete a standard neuropathic pain scale score (NPSS) form after every two sessions.

Results: After 2 consecutive treatments, patients who were treated by the true devicereported 18% mean decrease compared to a 1% decrease reported by those treated by the sham device. All patients initially treated by the true device chose to continue their treatments with the true device, whereas all patients who were initially treated by the sham device chose to change after 3 treatments (p<0.0001). The mean final NPSS for all the patients decreased by 40% after 6 consecutive treatments with the true devicewhether or not they chose this device initially or after treatment with the sham device.
Conclusions: In this pilot, prospective, randomized study, patients universally chose to be treated by the true device when given the choice. A limitation of this study was the relatively small number of patients. Nevertheless, the 40% decrease in the mean pain scores after 6 treatments in 70% of patients in this study, who had previously failed other modalities of treatment, suggests that transcutaneous electrical nerve stimulation be considered for further investigation in patients with chronic PHN.

**IN VIVO CONTRAST-ENHANCED HIGH-FREQUENCY ULTRASONOGRAPHY OF EXPERIMENTAL UVEAL MELANOMA: IMAGING FEATURES AND HISTOPATHOLOGIC CORELATIONS**

**Hans E. Grossniklaus**, Qing Zhang, Hua Yang, Shin J. Kang, Yanggan Wang

**Purpose**: To evaluate in vivo imaging of mouse and rabbit models of uveal melanoma utilizing high-frequency contrast-enhanced ultrasound (HF-CE-US).

**Methods**: Fourteen 12-week-old C57BL6 mice were inoculated into their right eyes with aliquots of B16LS9 melanoma cells. At 7 days post inoculation, tumor-bearing eyes in group 1 (n = 8) were imaged using high frequency ultrasound with microbubble contrast agent to determine the tumor size and relative blood volume; eyes in group 2 (n = 6) were imaged by 3-dimensional mode and tumor volume was determined. Histologic tumor burden was quantified in enucleated tumor-bearing eyes by Image J software, and microvascular density was determined. A second preliminary experiment utilized human uveal melanoma cells injected into 3 kg New Zealand white rabbit eyes after immune suppression. The intraocular melanomas were imaged at 3 to 4 weeks utilizing high frequency ultrasound and the microbubble contrast agent.

**Results**: Utilizing high frequency ultrasound with microbubble contrast agent, melanomas were visualized as relatively hypoechoic regions in the images. The intraobserver variability was 9.65 +/- 7.89% and the coefficient of variation for multiple measurements was 7.33 +/- 5.71%. The correlation coefficient of sonographic volume or size and histologic area was 0.71 (P = 0.11) and 0.79 (P = 0.32). The relative blood volume within the tumor demonstrated sonographically with the contrast agent correlated significantly with histologic tumor vascularity (r = 0.83, P < 0.001). All rabbit intraocular melanomas were visualized and the vasculature was imaged with the microbubble contrast agent.

**Conclusions**: There is a positive correlation between in vivo sonographic tumor volume/size and histologic tumor size in our mouse model. Contrast-enhanced intensity corresponds with microvascular density and blood volume in that model. Preliminary data indicates that intraocular melanoma in a rabbit model may be imaged with ultrasound and microbubble contrast enhancement.

**COSMETIC OUTCOME OF POSTERIOR APPROACH PTOSIS SURGERY**

**Robert Goldberg**, Helen Lew

**Purpose**: To test the hypothesis that posterior approach ptosis surgery, with or without blepharoplasty, can improve the cosmetic appearance of the eyelid.

**Methods**: In a retrospective, observational, consecutive case cohort study, 261 patients with posterior approach upper eyelid ptosis surgery with or without concurrent blepharoplasty by one surgeon, between 1997 and 2009, were reviewed. Patients were included if they had symmetric eyelid position within 1.5 mm at three months after surgery. Outcome measures were subjective grading of eyelid margin contour, millimeters of tarsal platform show (TPS), and millimeters of eyebrow fat span (BFS). Paired preoperative and postoperative standardized photographs were viewed in masked fashion by three experts.

**Results**: 140 patients (55 men, 85 women, mean age 70 years, range 20 to 93) who underwent 233 posterior approach procedures for correction of upper eyelid ptosis had postoperative eyelid symmetry within 1.5 mm. Concurrent blepharoplasty was performed in 67 cases. Eyelid contour scores were significantly improved post surgery (P = .009). Ptosis surgery, without blepharoplasty, decreased the TPS, from 6.1 +/- 2.5 mm to 4.8 +/- 2.0 mm, (P < .001). Patients who underwent concurrent blepharoplasty had statistically insignificant increase of TPS from 4.0 +/- 3.5 mm to 4.3 +/- 3.6 mm, decrease of BFS from 20.8 +/- 6.3 mm to 17.7 +/- 6.4 mm, (P = .001) and showed similar brow fat span symmetry postoperatively, compared to ptosis surgery only patients.

**Conclusions**: Posterior approach surgery alone was often successful in controlling tarsal platform show: it shortened the TPS. Blepharoplasty combined with posterior approach ptosis surgery tended to lengthen the TPS and shorten the BFS.

**ARAVIND PSEUDEXFOLIATION STUDY (APEX) I: INTRAOPERATIVE RESULTS**

Aravind Haripriya, Rengaraj Venkatesh, Chandrasekaran Shivakuman, V Prabhu, Madhu Shekhar, Badrinath Talwar, Parthasarathy Sathyan, Rengappa Ramakrishnan, **Alan L. Robin**

**Purpose**: There are questions regarding both the intraoperative and long-term rates of capsular rupture, zonular dehiscence, and (intraocular lens) IOL subluxation during phacoemulsification (phaco) cataract surgery in patients with pseudoexfoliation (XFS). We performed a prospective 6-armed study at the Aravind Eye Hospitals in eyes undergoing Phacoemulsification (Phaco) without prior clinical lens subluxation.

**Methods**: We prospectively enrolled subjects with graded clinical XFS with or without glaucoma without preexisting phacodonesis, requiring Phaco between December 2010 and October 2011. All subjects gave informed consent. The control group had no XFS and...
had Phaco. Eyes with XFS were randomized into four groups at the time of IOL implantation: single piece Acrysof lenses (SA60AT) with and without a capsular tension ring (CTR) and 3-piece Acrysof lenses (MA60AC) with and without CTR. These brands of IOLs were used as we chose to keep the type of IOL constant for this study and they are among the most common globally available IOLs used in India. Control eyes were randomized to receive either a SA60AT or MA60AC. Eyes were followed intraoperatively, at 1 day, 1, 3 and 6 months, 1 year, and yearly for 10 years.

Results: We report on the intraoperative results of 662 XFS eyes and 400 control eyes. About 55% of lenses were nuclear sclerotic while 0.4% had only posterior capsular changes. On LOCS III cataract grading, 65% of XFS had nuclear color of ≥3+ or more compared to 50% of the controls (p<0.001). Nearly 62% of XFS had dilated pupils <7 mm. Complications did not differ between groups: Zonular dialysis in 6(0.9%) XFS and 2 (0.5%) controls; posterior capsular rupures in (0.8%) XFS and 3 (0.8%) controls; vitreous loss in 4 (0.6%) XFS and 2 (0.5%) controls; and dropped lens fragments in 2 (0.3%) XFS and 1 (0.2%) control.

Conclusions: This was the first long-term prospective controlled randomized study evaluating the effects of different IOL styles and CTRs on surgical complications in XFS. With experienced surgeons, complications in eyes with XFS do not differ initially from controls. Longer follow-up will reveal if lens choice or the use of a CTR is related to clinically significant late complications.

DETAILED 3-DIMENSIONAL STRUCTURE OF FOCAL LAMINACRIBOSA DEFECTS AND THEIR SPATIAL CORESPONDENCEWITH GLAUCOMATOUS OPTIC DISC AND VISUAL FIELD DAMAGE

Sung Chul Park*, Daniel Su, Joseph Simonson, Jeffrey M. Liebmann, Robert Ritch

Purpose: To investigate the detailed 3-dimensional structure of focal defects of the lamina cribrosa (LC) and their association with glaucomatous structural and functional damage.

Methods: This was a prospective study approved by the New York Eye and Ear Infirmary Institutional Review Board. Serial horizontal and vertical enhanced depth imaging optical coherence tomography (EDI OCT) cross-sectional scans of the optic nerve head (interval between scans ~30 μm) were prospectively obtained for glaucoma patients and normal control subjects. EDI OCT scans were reviewed for focal LC defects, which were defined as localized anterior lamellar surface irregularities that violated its normal smooth curvilinear contour. Sizes (diameter and depth), shapes, and locations of focal LC defects were evaluated using 3-dimensional reconstruction of the LC and adjacent structures. Spatial correspondence of focal LC defects with glaucomatous optic disc and visual field damage was assessed using Garway-Heath mapping.

Results: 96 glaucomatous eyes of 56 patients (mean age, 66±15 yr; 24-2 visual field mean deviation, -15.2±3.0 dB) and 73 healthy eyes of 37 control subjects (mean age, 48±16 yr) were included. No focal LC defect was detected in healthy eyes. 89 focal LC defects were assessed using Garway-Heath mapping.

Conclusions: Focal LC defects of various sizes and shapes can be identified and evaluated in glaucomatous eyes using EDI OCT and Conclusions: Focal LC defects of various sizes and shapes can be identified and evaluated in glaucomatous eyes using EDI OCT and vertical enhanced depth imaging optical coherence tomography (EDI OCT) cross-sectional scans of the optic nerve head (interval between scans ~30 μm) were prospectively obtained for glaucoma patients and normal control subjects. EDI OCT scans were reviewed for focal LC defects, which were defined as localized anterior lamellar surface irregularities that violated its normal smooth curvilinear contour. Sizes (diameter and depth), shapes, and locations of focal LC defects were evaluated using 3-dimensional reconstruction of the LC and adjacent structures. Spatial correspondence of focal LC defects with glaucomatous optic disc and visual field damage was assessed using Garway-Heath mapping.

Results: 96 glaucomatous eyes of 56 patients (mean age, 66±15 yr; 24-2 visual field mean deviation, -15.2±3.0 dB) and 73 healthy eyes of 37 control subjects (mean age, 48±16 yr) were included. No focal LC defect was detected in healthy eyes. 89 focal LC defects were assessed using Garway-Heath mapping.

Conclusions: Focal LC defects of various sizes and shapes can be identified and evaluated in glaucomatous eyes using EDI OCT and vertical enhanced depth imaging optical coherence tomography (EDI OCT) cross-sectional scans of the optic nerve head (interval between scans ~30 μm) were prospectively obtained for glaucoma patients and normal control subjects. EDI OCT scans were reviewed for focal LC defects, which were defined as localized anterior lamellar surface irregularities that violated its normal smooth curvilinear contour. Sizes (diameter and depth), shapes, and locations of focal LC defects were evaluated using 3-dimensional reconstruction of the LC and adjacent structures. Spatial correspondence of focal LC defects with glaucomatous optic disc and visual field damage was assessed using Garway-Heath mapping.

INTRAOCULAR PRESSURE REDUCTION FOLLOWING PROSTAGLANDIN F SYNTHASE GENE THERAPY IN MONKEY EYES IN VIVO

Eun Suk Lee, Carol A. Rasmussen, Mark S. Filla, Sarah R. Slauson, Donna M. Peters, Curtis R. Brandt, Paul L. Kaufman*, B Ann Gabelt

Purpose: As an alternative to classical repetitive exogenous small molecule pharmacotherapy, which requires the patient to be the delivery system, with all the compliance issues that this engenders, we are exploring the possibility of genetically resetting the aqueous outflow resistance to lower intraocular pressure (IOP). Currently, the most effective outflow drugs approved for clinical use are prostaglandin(PG)F2a analogues. We investigated whether lentiviral vector delivery of the prostaglandin F synthase (PGFS) gene to the living monkey anterior segment can lower IOP.

Methods: The PGFS gene was inserted into a commercially available lentiviral (FIV) vector co-expressing a green fluorescent protein (GFP) reporter gene. The FIV.PGFS construct was injected into the anterior segment of one eye, control vector into the contralateral eye, of 5 ocular normotensive cynomolgus monkeys. GFP expression and IOP were monitored in vivo for up to 1 year. The anterior segment tissues were then examined for PGFS and GFP expression by PCR.

Results: During the interval from 2 weeks to 5 months post-injection, IOP was significantly decreased in FIV.PGFS injected eyes by approximately 2 mmHg compared to the contralateral control, with or without correction for pre-injection baseline when data from all 5 monkeys were analyzed by ANOVA with repeated measurements. At the time of euthanasia, transduced PGFS was not detectable in tissues, although GFP and endogenous PGFS were detected.

Conclusions: PGFS over-expression may result in IOP reduction in primates. The basis for the loss of the IOP lowering response must be determined to further advance this anterior segment gene therapy approach for glaucoma.
IN VIVO PHARMACOKINETICS AND TOXICOLOGY OF THE VERISOME® TECHNOLOGY

Mae Hu, Glenn Huang, Faina Karasina, William S. White, Wendy YeeMurahashi*, Vernon G. Wong

Purpose: To study the in vivo pharmacokinetics and ocular toxicity of products formulated with the Verisome® technology, an injectable, sustained-release, biodegradable drug delivery technology.

Methods: In vivo anterior chamber drug levels and ocular toxicity assessed by ophthalmic examination and histologic examination were measured in rabbits receiving Verisome® technology formulations containing dexamethasone administered by anterior chamber injection. In vivo vitreous drug levels and ocular toxicity assessed by ophthalmic examination and histologic examination were measured in rabbits receiving Verisome® technology formulations containing triamcinolone acetonide administered by intravitreal injection.

Results: Verisome® technology dexamethasone formulations demonstrated sustained anterior chamber levels for 11-21 days and no evidence of toxicity as determined by ophthalmic examination and histologic examination over a period of 37 days. Verisome® technology triamcinolone acetonide formulations demonstrated sustained vitreous levels for 6-12 months and no evidence of toxicity as determined by ophthalmic examination and histologic examination over a period of 18 months.

Conclusions: The Verisome® technology is an injectable, biodegradable, adaptable delivery technology system for sustained intraocular administration that appears well tolerated in the rabbit eye. Products formulated with the Verisome® technology are being evaluated in multiple clinical trials for a variety of ophthalmic diseases.


John D. Bullock*, B. Laurel Elder, Ronald E. Warwar, Ioana Pavel, Sylvain Merel, Harry J. Khamis

Purpose: Our previous studies indicated that heating ReNu containers (>42°C and ≤ 56°C) resulted in pan-antimicrobial failure of the disinfectant, alexidine. The present study was undertaken to determine the exact mechanism of this pharmaceutical failure.

Methods: Seven different brands of rinsed plastic contact lens solution bottles, filled with a solution of alexidine (0.00045% [as was in ReNu MoistureLoc]) in phosphate buffered saline (PBS), were incubated at room temperature [RT] and 56°C, then tested for their ability to inhibit growth of Fusarium. To determine if an alexidine-inhibiting compound might be leaching from heated ReNu bottles, PBS was incubated at RT and 56°C in ReNu bottles and tested for its ability to inhibit the anti-Fusarium capability of alexidine. Heated/unheated ReNu MoistureLoc samples were analyzed for potential leachates by Raman spectroscopy, with/without colloidal silver nanoparticles. To determine if the alexidine concentration decreases in heated vs. unheated ReNu bottles, alexidine levels were measured by Liquid Chromatography-Mass Spectroscopy (LCMS). To determine if alexidine migrates and deposits into heated ReNu plastic containers, bottles were methanol extracted and analyzed for alexidine by Fourier Transform Infrared Spectroscopy (FTIR).

Results: Of the multiple container types tested, only the alexidine solution in the ReNu bottle incubated at 56°C showed fungistatic failure (p=3.72×10^-12). The anti-Fusarium capability of alexidine was not neutralized with a PBS solution that had been heated in ReNu containers, and no leachates were identified by Raman spectroscopy. As measured by LCMS, after 4 weeks of incubation, the alexidine concentration in the heated ReNu bottle declined by 79% vs. 52% in the unheated bottle. FTIR demonstrated that alexidine deposited into the ReNu bottle wall at an amount 3.0-3.6 times greater in the heated (vs. unheated) container.

Conclusions: Alexidine preferentially deposits into the walls of heated ReNu plastic bottles, thereby diminishing its concentration within the solution and allowing Fusarium growth. This phenomenon appears to be an unusual mechanism of pharmaceutical failure which may have resulted in the worldwide ReNu-related Fusarium keratitis epidemic of 2004-2006. It is possible that a similar plastic is used by other contact lens solution products, and alexidine is a component of at least one solution currently on the market. Thus, clinicians should be aware of the potential for similar pharmaceutical failure to occur with existing or future products.

DEXAMETHASONE SODIUM PHOSPHATE NANOSPHERES WITHIN THERMO-RESPONSIVE HYDROGEL AS AN OCULAR DRUG DELIVERY SYSTEM


Purpose: Nanospheres embedded within thermo-responsive hydrogels were used to encapsulate dexamethasone sodium phosphate (DSP). The efficacy of DSP released from the proposed drug delivery complex was examined in a laser-induced choroidal neovascularization (CNV) rodent model.

Methods: DSP was encapsulated in poly(D, lactide-co-glycolide) nanospheres (50:50, Mw 7K-17K) using an oil in water double-emulsion technique. DSP-loaded nanospheres were embedded to the thermo-responsive hydrogel solution prior to addition of the initiators. Long-Evans pigmented rats were used to induce laser-induced CNV (5-7 lesions per eye). One hour post-CN V induction, 5 μl of DSP nanosphere-thermo-responsive hydrogel was given intravitreally. Results were compared to control Group 1 that received an intravitreal injection of DSP solution and Group 2 that received an intravitreal injection of thermo-responsive hydrogel without DSP-loaded nanospheres. Intraocular pressure (IOP), retinal blood flow, electroretinogram (ERG), and CNV areas were monitored weekly.
for four weeks following CNV-induction. The degree of CNV inhibition was determined by measuring the lesion size using SLO fluorescein images.

Results: No significant changes in IOP were observed after the intravitreal injections. At four weeks, CNV areas in DSP-nanosphere-hydrogel treated eyes were reduced over 7-fold (0.75±0.77 to 0.10±0.17mm²), Group 1 reduced 3-fold (0.87±0.96 to 0.28±0.42mm²) and Group 2 had no significant change in lesion size (0.71±0.51mm²). Corneal a- and b-wave ERG half-saturation sensitivities (1.203±0.004 and 0.003±.001cd s/m², respectively) were unchanged throughout the four weeks compared to control measurements. Arterial (12.8±1 μL/min) and venous (22.9±3 μL/min) retinal bloodflow did not significantly change throughout the four weeks when compared to control measurements.

Conclusions: Continuous release of DSP through nanosphere-hydrogel complex resulted in a significant reduction in CNV lesion size and reduction in CNV, similar to that of control drug treated CNV. No detectable adverse side effects were observed. The investigated DSP-loaded nanosphere-thermo-responsive hydrogel system is a promising drug delivery platform.

THE ACESORY OPTIC SYSTEM (THE OTHER AOS): THE FUGITIVE VISUAL CONTROL SYSTEM IN INFANTILE STRABISMUS

Michael C. Brodsky

Purpose: To anatomize infantile strabismus by examining the role of the accessory optic system (AOS) in generating dissociated visuo-vestibular eye movements that characterize this condition.

Methods: Analysis of the innervational and neurophysiological properties of the AOS with reference to the latent nystagmus, dissociated vertical divergence, and primary oblique overaction that accompany infantile strabismus.

Results: The AOS is an atavistic visual system that is present in lower animals and evolutionarily-retained in mammals. It is a subcortical motion detection system that subserves slowly-moving, full-field optokinetic stimuli. Its three pretectal accessory optic nuclei, the dorsal terminal nucleus, lateral terminal nucleus, and medial terminal nucleus are closely related to the nucleus of the optic tract and receive input predominantly from the contralateral eye. They project to the inferior olive then via climbing fibers to the cerebellar flocculus. The AOS signals self motion as a function of slip of the visual world over the retinal surface, and generates corrective eye movements to stabilize the retinal image. Because the AOS is directionally-sensitive to low velocity movements while the vestibular system typically responds to movements of higher velocity, the AOS and vestibular labyrinths form two complementary systems to detect self motion and promote image stabilization so that objects in the visual world can be quickly and accurately analyzed. The AOS provides the intrinsic, head-referenced optokinetic reference frame whose axes have a spatial orientation similar to the best reponseaxes of the semicircular canals. It provides the visual analog of the vestibular motion detection system and explains the prominent torsional component of dissociated eye movements as viewed from the frontal plane.

Conclusions: The AOS may provide a subcortical neuroanatomical substrate for the dissociated visuo-vestibular eye movements that accompany infantile strabismus. Directed pharmacologic modulation of the AOS may provide a nonsurgical treatment for these dissociated eye movements.

CORELATION OF BRAIN VOLUMES AND FUNCTIONAL DEFICITS IN GLAUCOMA

George L. Spaeth*, Alice L. Williams, John Lackey, Srinivas Gatla, Sheryl S. Wizov, Robert Sergott, Thomas Chia, Song Lai

Purpose: To investigate structural brain changes in patients with glaucoma and to determine if these changes are correlated with visual function in glaucoma patients.

Methods: 16 glaucoma patients with varying levels of clinical severity and 16 age-, race- and gender-matched controls underwent T-1 weighted MRI brain scans. Exclusion criteria included neurologic disease, another disorder which could affect the visual field, and score of less than 25 on the mini-mental status exam. The brain scans were analyzed with an automatic voxel-based morphometry technique to identify volumetric differences in 97 areas of the brain between the glaucomapatiens and controls. Unpaired t-tests were carried out to identify structures that differed significantly between the two groups. In a subsequent analysis of the clinical significance of these findings, the brain structures which differed significantly between the two groups were correlated with clinical measures of disease severity including mean defect (MD) and cup-disc (C/D) ratio. Two-tailed p-values of Pearson correlation coefficients were calculated to determine the significance of these correlations.

Results: 10 structures, including areas of the frontal, temporal, occipital lobes and the hippocampus, differed significantly between the two groups (p<0.05). Interestingly, half of these structures were larger in the glaucoma group than in the control group. In the glaucoma patients, decreasing volume in several of these structures correlated significantly with disease severity as measured by MD (r>0.50, p<0.05) and C/D ratio (r> -0.50, p<0.05) of both eyes. The left hippocampus was the only structure whose volume increased significantly with disease severity as measured by MD (r=-0.54, p=0.03) and C/D ratio (r=0.62, p=0.01) of the right eye. There were no significant correlations between the brain volumes of the controls and the clinical parameters studied, and no significant correlations between age and either brain volumes or clinical parameters for either group.

Conclusions: These data suggest intriguing associations which deserve further study. Confirmation of these new and unexpected findings may suggest that the brain has compensatory mechanisms to respond to loss of retinal ganglion cells.
CEREBROSPINAL FLUID PRESSURE: A NEW RISK FACTOR FOR POAG?

R. Rand Allingham*, David Fleischman, John P. Berdahl, Michael P. Fautsch, Sandra Stinnett

Purpose: Cerebrospinal fluid pressure (CSFP) has been implicated as a risk factor for primary open-angle glaucoma (POAG) in both retrospective and prospective studies. This investigation was performed to assess the effect of age, sex, body mass index (BMI), and race on CSFP.

Methods: Electronic medical records from the Mayo Clinic, MN, from all patients who had a lumbar puncture performed between 1996 and 2009 were reviewed. Demographic and clinical information including age at exam, sex, race, medical history, lumbar puncture opening pressure, and CSF analysis was obtained. Patients with ocular disease, neurological disease, or who were taking medications that affect CSFP were excluded.

Results: Electronic medical record data from 12,122 patients met all entry criteria (total 33,922 reviewed). Mean CSFP declined steadily after age 50 relative to mean CSFP at age group 20-44 (mean 10.9 ± 3.9 mmHg). Compared to the 20-44 year age group, the percent reduction of mean CSFP was 2.5% for the 50-54 age group (mean 11.2 ± 2.7 mmHg, p=0.001) to a maximum of 26.9% for the 90-95 age group (mean 8.4± 2.4 mmHg, p<0.001). Females had lower mean CSFP than males at all age groups, but demonstrated a similar relative decrease in CSFP with age. Greater BMI was associated with higher CSFP in all age groups. Race and ethnicity had little impact on CSFP.

Conclusions: CSFP demonstrates a significant and sustained reduction after age 50 in both sexes in the Caucasian population. The average CSFP is higher in males compared with females. BMI was associated with higher CSFP in all age groups. The age range where CSFP begins to decline coincides with the age where the prevalence of POAG increases. These data support the hypothesis that reduced CSFP may be a risk factor for POAG and offers a reason why this risk would increase with age.

USE OF POSTERIOR FIXATION SUTURES TO EXPAND BINOCULARITY: INDICATIONS AND LIMITATIONS

Steven A. Newman*

Purpose: Although alignment may be obtained in primary position and often in downreading gaze by standard recession/resection techniques, recession and advancement does not restore paretic function of affected muscles and often does not increase binocularity. By combining a recession procedure with posterior fixation sutures the eye with better motility may be limited in excursion to match the paretic or restricted globe.

Methods: A retrospective case review of 44 patients undergoing strabismus surgery with the use of posterior fixation sutures provides insight into the indications and limitations of this procedure. Patients undergoing posterior fixation coupled with transposition were excluded. Quantitation of motility was provided by the use of Hess screen analysis and binocularity could be measured with the use of binocular single vision fields. Three patients were excluded as having inadequate follow-up.

Results: The majority of patients (31 of 44) had horizontal posterior fixation sutures with 19 involving the medial rectus (one excluded), the majority for long standing incomplete VIth nerve palsies. Twelve patients (one excluded) were treated for longstanding adduction deficits with lateral rectus (partial IIIrd nerve palsy and INO) posterior fixation sutures. Thirteen patients (one excluded) were treated with vertical posterior fixation sutures; twelve involved the inferior rectus, one of whom was significantly overcorrected. Only one superior rectus posterior fixation suture was done for an acquired Brown syndrome following a superior oblique tuck years earlier.

Conclusions: Posterior fixation sutures, by limiting the excursion of the better moving eye, can expand binocularity, best measured by binocular single vision fields. Patients with complete limitation will be undercorrected and the area of binocularity limited. Over-correction is possible, but can usually be modified by additional surgery on the primarily involved eye.

A NOVEL SURGICAL METHOD AND TISSUE SUPPORT DEVICE FOR TRANSLOCATING AUTOLOGOUS GRAFTS TO THE SUBAREACENTRALIS: IN VIVO PORCINE MODEL

Timothy W. Olsen*, George Mathai, Shreyes Melkote, David Rosen, Paul Loftness, Arthur Erdman

Purpose: To describe a novel surgical technique and a new device using an in vivoporcine model for translocating a circular, autologous, choroid-Bruch's membrane-retinal pigment epithelium (CBR) graft into the sub area centralis (subfoveal equivalent) space as a potential procedure for end stage macular disease.

Methods: Sequential animal studies in over 44 pigs, sus scrofa, were used to document key steps, using high-resolution image capture and surgical animation to document the technique. The tissue support structure was designed using iterative methodology between a surgeon and mechanical engineers in the setting of technical, ex-vivo, and in vivo surgical sessions. The tissue support structure is made of nitinol foil (25 microns thick) in a hinged double-O-ring configuration. Key surgical steps for their vivo porcine model include: 1) pars plana vitrectomy, 2) pars plana lensectomy, 3) peripheral retinal detachment induction and excision (autograft donor site), 4) millipulse laser delineation of the CBR donor site, 5) tissue clamping with the device using radiofrequency energy, 6) excision
of donor CBR tissue, 7) retinal detachment of the area centralis, 8) insertion of the device with supported, polarized autologous CBR tissue into the sub-area centralis or porcine sub-foveal equivalent.

Results: We have successfully performed all steps and stages of this procedure, and refined the methodology in eight pigs. The tissue support structure has the advantages of shape-memory, thin design, tissue compatibility, and potential for graft vascularization. Three pigs were survived, with animal studies six weeks posttranslocation. The animal model combined with a metal device limit functional studies and histopathology of donor tissue respectively.

Conclusions: This novel methodology for translocating autologous peripheral CBR tissue into the subfoveal space may address advanced macular degenerative conditions, yet warrants further studies in a primate model prior to phase I human studies.

LONG-TERM RESULTS OF RANIBIZUMAB AND BEVACIZUMAB FOR CHOROIDAL NEOVASCULARIZATION ASSOCIATED WITH AGE-RELATED MACULAR DEGENERATION

John T. Thompson*, Erica A. Conlan

Purpose: To evaluate the long-term Results of intravitreal anti-VEGF therapy for neovascular age-related macular degeneration (AMD) and the causes of visual acuity loss.

Methods: Visual acuity was measured in a retrospective case series of 184 consecutive eyes treated with intravitreal ranibizumab (58%), bevacizumab (30%), or both (13%) for subfoveal choroidal neovascularization (CNV) arising from age-related maculopathy. Eyes were treated with dosing every 4-6 weeks during the first year following by extended dosing if stable during subsequent years. Regular dosing was repeated if eyes developed decreased visual acuity or signs of recurrent CNV activity.

Results: Mean visual acuity was 20/125 -2 at baseline, 20/100 +2 at 1 year (P<.001), 20/100 at 2 years (P<.001), 20/125 +2 at 3 years (P=.098) and 20/100 +1 at 4 years (P=.028) and 20/100 +1 at 5 years (P=0.623) with no significant differences between eyes treated with ranibizumab versus bevacizumab (P=.22 to .99). The percentage of eyes losing 3 or more lines (≥0.3 logMAR) compared to baseline was 9% at 1 year, 13% at 2 years, 21% at 3 years, and 16% at 5 years. The visual acuity was 20/40 or better in 10% at baseline, 31% at 1 year, 25% at 2 years, 25% at 3 years, 23% at 4 years and 29% at 5 years. The most common causes of decreased visual acuity were recurrent CNV activity, persisting pigment epithelial detachment, and progressive geographic atrophy.

Conclusions: Visual acuities with long-term ranibizumab and bevacizumab treatment for neovascular AMD were relatively stable and approximately 25% of eyes maintained visual acuity of 20/40 or better and >60% of eyes were 20/100 or better for 5 years.

DIAGNOSTIC CAPABILITY OF SPECTRAL DOMAIN OPTICAL COHERENCE TOMOGRAPHY FOR GLAUCOMA

Huijuan Wu, Johannes F. deBoer, Teresa C. Chen*

Purpose: To determine the diagnostic capability of spectral domain optical coherence tomography (OCT) in glaucoma patients with visual field (VF) defects.

Methods: Study Design: Prospective, cross-sectional study. Setting: Participants were recruited from a university hospital clinic. Study Population: One eye of 85 normal subjects and 61 glaucoma patients [with average VF mean deviation (MD) of -9.61 ± 8.76 dB] were randomly selected for the study. A subgroup of the glaucoma patients with early VF defects was calculated separately. Procedures: Spectralis OCT circular scans were performed to obtain peripapillary retinal nerve fiber layer (RNFL) thicknesses. The RNFL diagnostic parameters based on the normative database were used alone or in combination for identifying glaucomatous RNFL thinning. Main Outcome Measures: To evaluate diagnostic performance, calculations included areas under the receiver operating characteristic curve (AROC), sensitivity, specificity, positive predictive value, negative predictive value, positive likelihood ratio, and negative likelihood ratio.

Results: Overall RNFL thickness had the highest AROC value (0.952 for all patients, 0.895 for the early glaucoma subgroup). For all patients, the highest sensitivity (98.4%, CI 96.3-100%) was achieved by using two criteria: ≥1 RNFL sectors being abnormal at the <5% level, and overall classification of borderline or outside normal limits, with specificities of 88.9% (CI 84.0-94.0%) and 87.1% (CI 81.6-92.5%) respectively for these two criteria.

Conclusions: Statistical parameters for evaluating the diagnostic performance of the Spectralis spectral domain OCT were good for early perimetric glaucoma and excellent for moderately-advanced perimetric glaucoma.

A TRANSPARENT COMPARATIVE/COST-EFFECTIVE MODEL FOR GLAUCOMA THERAPY, THE GLAUCOMA VALUE INDEX

Gary C. Brown*, Melissa M. Brown, Joshua D. Stein

Purpose: To undertake the development of a transparent, understandable model to assess the patient preference-based, comparative effectiveness and cost-effectiveness associated with medical therapy for primary open-angle glaucoma.

Methods: Value-Based Medicine cost-utility standards were undertaken to assess the patient preference-based, human value gain associated with the medical treatment of glaucoma with timolol maleate. Over 1,000 time tradeoff, ophthalmic utilities were obtained.
Paper Abstracts

from patients with ophthalmic diseases and various levels of vision loss, including more than 200 from glaucoma patients. The utility associated with glaucoma and good vision decreases considerably when end-stage glaucoma develops. The model utilizes the fact that lowering intraocular pressure prolongs the time of good vision during a glaucoma patient’s life. The Glaucoma Value Index takes into account the benefits in regard to central visual acuity preservation and visual fields, and also incorporates all adverse effects associated with therapy using decision analysis. The loss of effectiveness of a drug with time and the average number of drops per bottle are integrated into the value equation. The major outcomes of the Glaucoma Value Index are: 1) patient value gain, or percent improvement in quality of life and 2) the incremental costs paid for the patient value gained. Another patient value outcome is the number of quality-adjusted life-years (QALYs) gained from therapy.

Results: Over a 25-year life expectancy of a POAG patient with an intraocular pressure of 25 mm Hg, topical timolol confers greater than a 30% value (quality-of-life) gain versus no treatment. For comparison, antihypertensive drugs confer 6-9.3% value gain. The average cost-utility for glaucoma therapy with timolol is less than $5,000/QALY.

Conclusions: The Glaucoma Value Index demonstrates that medical glaucoma therapy confers considerable patient value and is very cost-effective compared to interventions across medicine, important principles in an era of escalating, consumer-directed, value-based purchasing.
POSTER ABSTRACTS

Frederick W. Fraunfelder

Purpose: The purpose of this paper is to present tools drawn from the manufacturing industry that can be applied to ophthalmology. The aim of any operational process change within ophthalmology and all of health care is to improve quality of health care while also decreasing and controlling the costs of delivering health care. Frequently there is a trade off. The goal is to maintain quality whilst still decreasing costs.

Methods: A literature review using PubMed was performed between January 2010 and January 2012 with the keywords “ophthalmology” or “medicine” associated with any of the following: lean, balanced scorecard, focused factory, six sigma, comparative effectiveness, cost effectiveness, meaningful use, benchmarking, practice guidelines, project management, quality, and technology.

Results: Lean techniques, benchmarking, and six sigma are the most applicable manufacturing processes that can be applied to ophthalmology because so much of ophthalmology is process oriented, be it clinic workflow or specific eye surgeries that are commonly performed.

Conclusions: Three common and applicable strategies are described in the literature and appear the most amenable to application to the health care system, ophthalmic institutes and ophthalmology group practices. They are lean manufacturing techniques, benchmarking, and six sigma. From the manufacturing process tools presented, the following benefits can be realized: improved quality, decreased costs, decreased wait times, quicker operating room turnover, and improved clinic workflow.

Rectus Muscle Flap Tear: Further Consideration of an Unusual Entity

Edward L. Raab, Jessica Ackert, Ann Ostrovsky

Purpose: To add to what is known about a generally unfamiliar ocular motility entity and address management alternatives.


Results: The key examination finding was a “reverse leash” vertical restriction. Exploration revealed a flap tear with adhesions to surrounding tissues deep to the lower fomix but not to the orbital bones. Treatment was successful without reattachment of the flap, which may not be mandatory in all cases.

Conclusions: Rectus muscle flap tear can cause restricted ocular rotation apart from association with orbital fracture and entrapment. In this case, limited vertical motility despite active depression force prompted early surgical intervention. Not retaining the flap when its vitality is doubtful still can allow a good result.

Evaluation of the Color Difference Plot Scoring System Analysis of the 103 Hexagon Multifocal Electroretinogram in the Detection of Hydroxychloroquine Retinal Toxicity

Dennis P. Han, Gabrielle S. Graves, Murtaza K. Adam, Kimberly E. Stepien

Purpose: To evaluate sensitivity, specificity, and reproducibility of color difference plot analysis (CDPA) of 103-Hexagon multifocal electroretinogram (mfERG) in detecting established hydroxychloroquine (HCQ) retinal toxicity.

Methods: 23 patients taking HCQ were divided into nontoxic and toxic groups based on Humphrey 10-2 visual fields, fundus exam and/or OCT. The control patient group had 78 patients without retinal disease and not taking HCQ. Two masked examiners evaluated age-corrected mfERG in the central ring (Rc) (0 to 5.5 degrees from fixation) and paracentral ring (Rp) (5.5 to 11 degrees from fixation). An abnormal ring was defined as containing any hexagons with a difference of 2 or more standard deviations from normal (color blue or black). Test sensitivity and specificity were determined. The results were compared to ring ratios acquired by Adam et al. for discordance using the McNemar test.

Results: Rc had 83% sensitivity and 93% specificity. Rp had 89% sensitivity and 82% specificity. The sensitivity and specificity of Rc or Rp combined was 89% and 80% respectively. Both graders showed very high reproducibility (kappa = 0.93 to 1.000, and SE = 0.000 to 0.038) and intergrader agreement. There was complete agreement of detecting toxicity comparing Rp to the ring ratio R5/R4. In this population, ring ratio analysis of R5/R4 had 89% sensitivity and 95% specificity.

Conclusions: CDPA showed high intergrader agreement and reproducibility. In the detection of HCQ toxicity, Rp had higher sensitivity, but lower specificity compared to Rc. Combining Rc and Rp had equal sensitivity as Rp. In this same population CDPA was equally effective as R5/R4 at detecting HCQ toxicity, but with lower specificity.
IMPACT OF THE ACADEMY REVISED GUIDELINES ON HYDROXYCHLOROQUINE SCREENING ON ACTUAL PRACTICE

David J. Browning

Purpose: To assess the impact of the revised Academy guidelines for hydroxychloroquine screening on actual practice.

Methods: A sample of 40 consecutive patients screened by 19 physicians from a single practice was reviewed for screening practices. If screening occurred before and after guideline revisions, changes were noted.

Results: In 116 of 119 patients, the 10-2 VF was obtained. One hundred patients were repeat screenings and nineteen were initial screenings. Among the one hundred repeat screenings, 14 (14%) had SD-OCT added, 20 (20%) had mfERG added, and 22 (22%) had both SD-OCT and mfERG added to the screening protocol. Among the 19 new screenings, 8 (42%) used 10-2 VF alone, 3 (16%) used 10-2 VF and SD-OCT, 4 (21%) used 10-2 VF and mfERG, and 3 (16%) used 10-2 VF, SD-OCT, and mfERG. The expense of screening increased 58% compared to 2002 guidelines. Seven (6%) physician actions were triggered by screening—in six cases, a recommendation to decrease toxic dosing and in one case, a recommendation to stop HC because of detected toxicity. No unsuspected cases of toxicity were found by adding the new tests. One case of toxicity was detected from the 10-2 VF and supported by the SD-OCT; the patient was on dosing known to be high risk for toxicity (6.7 mg/kg/d).

Conclusions: The 2011 guidelines increased screening expense by 58% with no increased yield in case finding or change in ophthalmologists’ actions based on screening. Checking dosing is the highest yield component of HC screening and leads to ophthalmologists’ actions most often, not ancillary testing.

QUALOGRAPHY (QG) SIGNIFIES MEDICAL PRACTICE QUALITY

George R. Beauchamp

Purpose: The quality of medical practice is signified—as a concept given meaning in actual clinical practice and distinct from symbols—through caring and healing relationships centered on competence, complexity, and context. Quality is primary empirical reality, experienced as patterns of value. These patterns emerge as medical outcomes, and signify the value created. In contrast, a new social and business construct—“healthcare”—is transforming medicine by objectifying relationships and quality, as protocols and transaction sets through financial, industrial, and political (FIP) organizations. The purpose of this study is to present a conceptual model for medical quality, applicable to patient care at clinical encounters, and distinct from complicated mechanical mimics.

Methods: A prototype medical quality management system emerges from a medical quality model linking dimensions of care with clusters of outcomes. QG presents outcomes as three dimensional representational landscapes, plotting the perfections of outcomes (X axis) against time (Y axis) and outcome variables (Z axis; an expandable set of applications). The method is analogous to multichannel EEG, or seiismography, and presented topographically.

Results: Representative landscapes for high and low value clinical outcomes in cataract, strabismus, and amblyopia are demonstrated. The higher the peaks and plateaus on the X axis, the better. Extended time frames (Y axis) document longevity, validity, and continuity of care. Adding applications (Z axis) expands opportunity for granular analysis, learning, and adaptation. The infrastructure and the methodology are extensible to any person, population, disease, or intervention.

Conclusions: QG incorporates qualitative, quantitative, time-sensitive, and interpretive capabilities designed to signify quality and value at clinical encounters. QG dynamically senses and displays “Metrics of the Moment” when patients and their physicians are presented with complex, ambiguous, and evolving disease. Physicians who signify quality in medical practice, unlike FIP mimetic constructs, may substantially determine the future of medical professionalism.

RESULTS OF CATARACT SURGERY IN EYES WITH LONG ANTERIOR LENS ZONULES

Jacob Wilensky, Daniel Roberts

Purpose: When we presented a poster on long anterior lens zonule (LAZ) trait at the 2010 AOS Meeting, a number of viewers asked whether these long anterior lens zonules would present a problem during cataract surgery. At the time we had no information to answer this question. Subsequently we restudied our cohort of LAZ patients to see if we could answer this question.

Methods: We reviewed the records of all the patients in our LAZ cohort to identify those who had had cataract surgery. We contacted their cataract surgeons to determine whether there had been any complications or problems during the surgery and reviewed our records from post cataract office visits to see if any post surgery problems such as subluxation of IOLs had been noted.

Results: We identified 20 LAZ patients, spoke with their surgeons, and reviewed their postoperative records. The surgeons reported no operative complications including no radial tears during the capsulorhexis. Similarly, the post surgical examinations revealed no IOL dislocations.

Conclusions: The presence of long anterior lens zonules does not appear to present any special problems during cataract surgery.
A COMPARISON BETWEEN POST-OPERATIVE OUTCOMES OF GLAUCOMA SURGERIES PERFORMED BY RESIDENT AND ATTENDING PHYSICIANS

George Spaeth, Camila Zangalli, Raymond Clifford, Lalita Gupta, Michael Hsieh, Mohsin Ali

Purpose: To compare the outcomes of surgical glaucoma procedures performed by residents supervised by attending surgeons with the outcomes of procedures performed by the supervising attending surgeon.

Methods: The records of 91 patients who underwent trabeculectomy and phacotrabeceuctomy in a resident clinic (n=43) and a private glaucoma practice (n=48) at Wills Eye Institute, between 2007 and 2009, were reviewed. The following data were collected: patients' demographics, diagnosis, best corrected visual acuity (BCVA), intraocular pressure (IOP) and number of hypotensive medications at 1 week, 4 weeks, 6 months and 1 year, postoperatively. Single-factor analysis of variance and 2-tailed student t tests were used to determine the statistical significance of BCVA, IOP, and glaucoma medications over time.

Results: The two groups differed regarding demographic characteristics; patients in the resident clinic group were more likely to be younger and black. Phacotrabeceuctomy was performed in 53.5% of patients in the resident group and 44.2% in the attending physician group (p = 1.00). Mean preoperative logMAR equivalent BCVA was 0.77 +/- 0.69 in the resident group and 0.37 +/- 0.49 in the attending physician group (p = 0.002). Mean visual acuity differed significantly at 1 week, 4 weeks and 6 months but was similar, at one-year follow-up. The mean preoperative IOP was 23.67 +/- 8.67 mmHg and 22.83 +/- 11.46 mm Hg, respectively (p = 0.69). The mean IOP at 6 months was 13.93 +/- 4.87 in the resident group and 14.71 +/- 5.43 in the attending physician group (p = 0.47) and at 1 year was 14.52 +/- 5.00 and 14.49 +/- 4.79, respectively (p = 0.97). There was no significant difference in the number of hypotensive medications preoperatively and postoperatively between the 2 groups. Complications were rare and no significant difference was found between groups.

Conclusions: 1 year postoperatively, the outcomes of trabeculectomies and phacotrabeceuctomies procedures performed by residents are comparable to the outcomes obtained by attending surgeons.

PTERYGIUM SURGERY

Thomas O. Wood, Ellen W. Williams

Purpose: To develop a safe and simple pterygium procedure which eliminated post op complications and reduced recurrences.

Methods: Twenty eyes underwent bare sclera, mitomycin C, tarsorrhaphy and topical dexamethasone surgery. Twenty eight eyes served as controls, having the identical procedure but without the mitomycin C.

Results: The 20 test eyes had no post op complications and no recurrences at one year post operatively. At two years post op there were two 1mm recurrences which required no treatment. The 28 control eyes had nine recurrences within six months after surgery. Five stabilized and required no further treatment, four underwent conjunctival transplant.

Conclusions: The described procedure provides a safe and simple pterygium removal technique. There were no patients in the test group that required further surgery. The control group had rapid recurrence in 1/3 of the patients, 4 of which required further surgery.

COMPARATIVE EVALUATION OF VARIOUS PARAMETERS IN KERATOCONUS AND NORMAL EYES USING A DUALSHEIMPFLUG ANALYZER

Christopher J. Rapuano, Jagadesh C. Reddy

Purpose: To compare dual Scheimpflug imaging (Galilei) parameters between keratoconus and normal eyes.

Methods: Retrospective review of parameters provided by the manufacturer's software were evaluated and compared between 96 eyes of 49 patients with normal eyes who were evaluated for refractive surgery and 45 eyes of 31 patients with a diagnosis of keratoconus made by slit lamp examination and Placido disc corneal topography evaluation.

Results: The male:female ratio was 19:12 and 21:28 in keratoconus and normal patients, respectively. There was no statistical difference between the mean age (years) in keratoconus (31.65 +/- 11.25) and normal patients (33.86 +/- 9.59, p = 0.35). Keratoconus eyes had higher mean cylindrical power (2.56 +/- 2.36D) than the normaleyes (0.62 +/- 0.68D, p = 0.001). There were statistically significant differences in mean simulated keratometry (50.88 +/- 4.81D, 43.79 +/- 1.43D), mean total corneal power (49.58 +/- 4.93D, 43.10 +/- 1.53D), mean posterior corneal power (-7.58 +/- 0.97D, -6.24 +/- 0.25D), anterior best-fit sphere (7.09 +/- 0.54, 7.80 +/- 0.27), posterior best-fit sphere (5.98 +/- 0.70, 6.53 +/- 0.25), mean central average corneal thickness (500 +/- 52 μm, 565 +/- 27 μm), mean thinnest corneal thickness (475 +/- 63 μm, 553 +/- 33 μm), anterior chamber volume (113 +/- 21 mm3, 123 +/- 18 mm3) and total wavefront aberrations (7.04 +/- 5.87 μm, 1.25 +/- 0.61 μm) between keratoconus and normal eyes. There was no statistical difference in horizontal (p = 0.67) or vertical corneal diameter (p = 0.37) or anterior chamber depth (p = 0.499) between the two groups. Using receiver operating characteristic curve analysis for discriminating keratoconus from normal eyes, simulated keratometry steep (SimKs) had the highest area under the curve of 1.
followed by posterior curvature parameter (Ks-steep) of 0.99, and simulated keratometry (SimKavg) of 0.984. Using logistic regression, strong correlation (r>0.97) was found between SimKavg and mean total corneal power in normal and keratoconus groups. 

Conclusions: Many parameters measured by Galilei dual Scheimpflug imaging are different in keratoconus and normal eyes. Combined anterior and posterior elevation and total corneal power data may provide more objective differentiation between these two patient populations.