FINAL PROGRAM

American College of Mohs Surgery

MOHS COLLEGE 40TH ANNUAL MEETING

40th Mohs College Annual Meeting

Vancouver

May 1-4, 2008

HYATT REGENCY VANCOUVER

Want to make your Mohs practice more productive?

Discover M.A.R.S and experience the benefits...

- ✓ Powerful, user-friendly, and network-ready
- ✓ Greater access: store and analyze your data
- ✓ Save time: instantly generate documents such as...
  - Op and repair notes for mohs and excisions
  - Consult and referral letters with patient images
  - ACMS Mohs log
- ✓ Improve visibility with real-time surgery status
- ✓ Customizable and integration ready

Now expanded...

- ✓ Enhanced consultations: SOAP, review of systems, etc.
- ✓ Attach scanned documents and become paperless
- ✓ Biopsy tracking system

Visit our booth
to learn about our
special meeting offer

Download free trial at
demo.mohssoftware.com

M.A.R.S
Mohs Automated Reporting System

847-599-9156 contact@mohssoftware.com www.mohssoftware.com

Table of Contents

40th Mohs College Annual Meeting
Vancouver
May 1-4, 2008

ACMS

American College of Mohs Surgery
555 East Wells Street, Suite 1100
Milwaukee, WI 53202
Phone: (414) 347-1103 (800) 500-7224
Fax: (414) 276-2146
Email: info@mohscollege.org
Website: www.mohscollege.org

No part of this publication may be reproduced without the prior written permission of the Mohs College.
© 2008 American College of Mohs Surgery

Austin

41st Mohs College Annual Meeting

Austin Hilton – April 23 - 26, 2009

ACMS

41st Mohs College ANNUAL MEETING

Hilton Austin

April 23-26, 2009 • Austin, TX

ACMS 2007-2008 Officers and Board of Directors

Officers

David G. Brodland, MD
President

Duane C. Whitaker, MD
Vice President

Leonard M. Dzubow, MD
Secretary-Treasurer

Pearon G. Lang, Jr., MD
Immediate Past-President

Board of Directors

Richard G. Bennett, MD
David P. Clark, MD
Joel Cook, MD
Jonathan L. Cook, MD
Hugh M. Gloster, Jr., MD
J. Ramsey Mellette, Jr., MD
Roberta D. Sengelmann, MD
Daniel M. Siegel, MD
Thomas Stasko, MD

Scientific Program Committee

Sumaira Z. Aasi, MD, Chair
Ken K. Lee, MD, Co-Chair
David G. Brodland, MD
Leonard M. Dzubow, MD
Duane C. Whitaker, MD
Glenn D. Goldman, MD, Ex-Officio

Headquarters Staff

Georganne Dixon, Executive Director
Kim Schardin, Director of Programs
Susan Sadowski, Program Manager
Rebecca Cesarz, Communications and Project Manager
Courtney Kissinger, Administrative Assistant

ACMS 2007-2008 Committees and Task Forces

ASMH Manual Committee
Frederick S. Fish, III, MD, Chair

Bylaws Committee
Christie Travelute Ammirati, MD, Chair

Coding Utilization Education Committee
Mark J. Zalla, MD, Chair

Communications & PR Committee
Gary D. Monheit, MD, Chair

Diagnostic Quality Control & Teaching Library Committee
Girish S. Munavalli, MD, Co-Chair
Frederick S. Fish, III, MD, Co-Chair

Ethics Committee
Mary E. Maloney, MD, Chair

Frederic E. Mohs Award Committee
Frederick S. Fish, III, MD, Chair

Mohs Histotechnology Quality Assurance Committee
Elizabeth M. Billingsley, MD, Chair

Industry Relations Committee
Gary Lask, MD, Chair

Investment Committee
Leonard M. Dzubow, MD, Chair

Membership Committee
Duane C. Whitaker, MD, Chair

Nominating Committee
John W. Skouge, MD, Chair

Scientific Program Committee
Sumaira Z. Aasi, MD, Chair

Tromovitch Award Committee
Desiree Ratner, MD, Chair

Website Committee
Scott M. Dinehart, MD, Chair

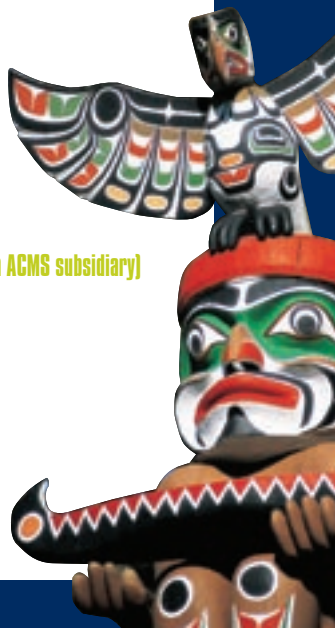
CPT Rapid Response Task Force
John A. Zitelli, MD, Chair

Software Development Task Force
Gary S. Rogers, MD, Chair

Site Inspection & Slide Review Board, LLC (An ACMS subsidiary)

Fellowship Training Committee
John A. Zitelli, MD, Chair

Slide Review Committee
Richard G. Bennett, MD, Chair



ACMS 2007-2008 Fellowship Training Director Listing

John G. Albertini, MD
Joseph Alcalay, MD
Christopher J. Arpey, MD
Philip Lawrence Bailin, MD
David S. Becker, MD
Anthony V. Benedetto, DO
Richard Gary Bennett, MD
Daniel Berg, MD
Marc D. Brown, MD
Robert A. Buzzell, MD
Roger I. Ceilley, MD
Armand B. Cognetta, Jr., MD
Brett M. Coldiron, MD
Brian Cook, MD
Heidi B. Donnelly, MD
Raymond G. Dufresne, Jr., MD
Yehuda D. Eliezri, MD
Michael J. Fazio, MD
Frederick S. Fish, III, MD
Franklin P. Flowers, MD
Scott W. Fosko, MD
Algin B. Garrett, MD
Roy G. Geronemus, MD
Hugh M. Gloster, Jr., MD
David J. Goldberg, MD
Leonard Harry Goldberg, MD
Glenn D. Goldman, MD
Glenn D. Goldstein, MD
Donald J. Grande, MD
Steven S. Greenbaum, MD
Hubert T. Greenway, Jr., MD
Roy C. Grekin, MD
C. William Hanke, MD
Christine M. Hayes, MD
George J. Hruza, MD
Timothy M. Johnson, MD
Larisa C. Kelley, MD
David E. Kent, MD
Pearon G. Lang, Jr., MD
Gary Lask, MD
Naomi Lawrence, MD
David J. Leffell, MD
Mary E. Maloney, MD
Victor J. Marks, MD
Michael W. McCall, MD
J. Ramsey Mellette, Jr., MD
Gary D. Monheit, MD
Greg S. Morganroth, MD
Ronald L. Moy, MD
Bruce R. Nelson, MD
Tri H. Nguyen, MD
Peter B. Odland, MD
Suzanne Olbricht, MD
Ida F. Orengo, MD
Robert D. Paver, MD
Steven A. Proper, MD
Michael L. Ramsey, MD
Desiree Ratner, MD
Perry Robins, MD
Randall K. Roenigk, MD
Gary S. Rogers, MD
Thomas E. Rohrer, MD
Paul J.M. Salmon, MD
Roberta D. Sengelmann, MD
Daniel M. Siegel, MD
Ronald J. Siegle, MD
Stephen Ningta Snow, MD
Thomas Stasko, MD
Neil A. Swanson, MD
R. Stan Taylor, III, MD
Abel Torres, MD
Carl Vinciullo, MD
Carl V. Washington, Jr., MD
J. Michael Wentzell, MD
Nathalie C. Zeitouni, MD
John A. Zitelli, MD
David M. Zloty, MD

Welcome

Dear ACMS Members and Colleagues,

On behalf of the ACMS Board of Directors, I welcome you to Vancouver and the 40th Annual Meeting of the College, held for the first time outside the US borders.

The Annual Meeting is the time to come together to face challenges, find solutions, and connect with our peers for the benefit of our patients. You will be able to earn up to a total of 24 CME credits, see page 14 for details and deadlines for claiming your credits.

My sincere gratitude and appreciation goes to Scientific Program Committee Chair, Dr. Sumaira Aasi, for the enormous amount of time and effort she put into assembling a well-rounded and exceptional program. I also thank the members of the Scientific Program Committee: Drs. Ken K. Lee, Leonard Dzubow, Duane Whitaker, and Glenn Goldman, for their contributions in planning this year's program.

In addition to the excellent program, be sure to visit the exhibit hall to learn about additional resources to benefit your practice. The Greater Vancouver Convention and Visitors Bureau is also on-site to suggest the best that Vancouver offers and to help you with reservations and ticket purchases so you can enjoy this Canadian gem.

Sincerely,

David G. Brodland, MD
President

Welcome

Dear Colleagues,

It gives me great pleasure to present to you the educational program for the 2008 ACMS Annual Meeting. The program focuses on relevant topics to enhance your practice skills in cutaneous oncology, Mohs micrographic surgery, and reconstruction.

Special thanks to the Scientific Program Committee members: Drs. David Brodland, Leonard Dzubow, Ken Lee, Duane Whitaker, and Ex-Officio Member, Glenn Goldman, for their valuable advice and dedication in bringing quality sessions to the program.

We are fortunate to have several guest speakers who will share their expertise in the challenges of tumor oncology and reconstruction: Dr. Gary Clayman, Professor and Director of Head and Neck Cancer Program at the University of Texas M.D. Anderson Cancer Center; Dr. Gary Burget, internationally renowned pioneer of nasal reconstruction, Dr. Upendra Parvathaneni, assistant professor of radiation oncology at the University of Washington, and Dr. Paul Nghiem, an expert on Merkel cell carcinoma and an associate professor of dermatology at the Fred Hutchinson Cancer Research Center.

In addition to our knowledgeable guest speakers, we added new topics for the mini-morning sessions, a "Cutaneous Oncology Update" session, and included the ever thought-provoking session on ethical dilemmas. Program favorites, such as "Tumor Board" and "Mohs Slide Quality," again feature prominently in the scientific program – many of which will include audience-polling. We also added a new twist to the popular "Undesirable Results" session. For fellows and young physicians interested in starting a practice, two young associates will offer an afternoon seminar filled with practical advice.

Finally, I would like to thank the ACMS staff for their tireless behind-the-scenes effort in helping me bring this program together. We invite you to enjoy this exciting and educational program as well as vibrant Vancouver.

Sincerely,

S. Z. Aasi

Sumaira Z. Aasi, MD
Chair, Scientific Program Committee

Program-at-a-Glance

Wednesday, April 30

1:00 pm – 5:00 pm	ACMS Board of Directors Meeting	Grouse
3:00 pm – 6:00 pm	Exhibit and Poster Set-up	Regency Ballroom ABC
3:30 pm – 6:30 pm	Registration and AV Preview	Regency Foyer / Windsor

Thursday, May 1

6:30 am – 5:00 pm	Registration and AV Preview	Regency Foyer / Windsor
7:00 am – 5:00 pm	Slide Library and Diagnostic Quality Control Self-Examination	Balmoral
7:15 am – 8:45 am	Concurrent Morning Mini-Sessions: *MB100 Establishing a Mohs Histopathology Laboratory* *MB101 The Bilobed and Dorsal Nasal Flaps: Suggestions for Improving Flap Designs and Executions* *MB102 Merkel Cell Carcinoma* *MB103 Coding for the Mohs Surgeon* *MB104 Incorporating Cosmetics into a Mohs Practice*	 Seymour Grouse English Bay Cypress Stanley
9:00 am – 9:30 am	*MG110 Opening General Session*	Regency Ballroom DEF
9:30 am – 10:15 am	Scientific Session: *MG111 Tromovitch Award Abstracts*	Regency Ballroom DEF
10:15 am – 10:30 am	Break	
10:30 am – 11:15 am	Scientific Session: *MG112 Cutaneous Oncology Updates*	Regency Ballroom DEF
11:15am – 12:15 pm	Scientific Session: *MG113 How Would You Reconstruct It?*	Regency Ballroom DEF
12:00 pm – 7:00 pm	Exhibit Hall & Visitor Bureau open	Regency Ballroom ABC
12:15 pm – 1:30 pm	Lunch provided in Exhibit Hall; visit the Exhibit Hall and Posters	Regency Ballroom ABC
1:30 pm – 2:30 pm	Scientific Session: *MG114 The Large Challenge of Small Defects*	Regency Ballroom DEF
2:30 pm – 3:30 pm	Scientific Session: *MG115 Ethical Dilemmas in Mohs Surgery*	Regency Ballroom DEF
3:30 pm – 4:00 pm	Break: visit the Exhibit Hall and Posters	Regency Ballroom ABC
4:00 pm – 5:30 pm	Scientific Session: *MG116 Mohs Surgery Abstract Session*	Regency Ballroom DEF
5:30 pm – 7:00 pm	Welcome Reception in Exhibit Hall	Regency Ballroom ABC

Program-at-a-Glance

Friday, May 2

6:30 am – 5:00 pm	Registration and AV Preview	Regency Foyer / Windsor
7:00 am – 5:00 pm	Slide Library and Diagnostic Quality Control Self-Examination	Balmoral
7:15 am – 8:45 am	Concurrent Morning Mini-Sessions: *MB200 Perioral Reconstruction* *MB201 Management of Head and Neck Masses: The Otolaryngologist's Perspective* *MB202 Periorbital Reconstruction: Simple to Complex* *MB203 Tumor Recurrence Following Mohs Surgery: How Does It Happen?* *MB204 Fillers for the Mohs Surgeon: Reinforcing Basics, Refining Techniques*	 Grouse Seymour Cypress Stanley English Bay
9:00 am – 10:00 am	Scientific Session: *MG210 Scar Revision*	Regency Ballroom DEF
10:00 am – 10:15 am	Break	
10:15 am – 11:30 am	Scientific Session: *MG211 Coding Conundrums*	Regency Ballroom DEF
10:00 am – 2:15 pm	Fellow-in-Training Workshop in Histotechnology	Georgia A & B
11:30 am – 11:45 am	Break	
11:45 am – 1:30 pm	ACMS Annual Business Meeting and Lunch Non-members and guests lunch on own; visit the Exhibit Hall	Regency Ballroom DEF
12:00 pm – 6:30 pm	Exhibit Hall & Visitor Bureau open	Regency Ballroom ABC
1:30 pm – 2:30 pm	Scientific Session: *MG212 Management of Aggressive Cutaneous Squamous Cell Carcinoma*	Regency Ballroom DEF
2:30 pm – 3:00 pm	Break; visit the Exhibit Hall	Regency Ballroom ABC
3:00 pm – 4:00 pm	Scientific Session: *MG213 Afternoon at the Movies*	Regency Ballroom DEF
4:00 pm – 5:30 pm	Scientific Session: *MG214 Tumor Oncology and Research with Late-Breaking Mohs Surgery Abstract Session*	Regency Ballroom DEF
5:30 pm – 6:30 pm	Visit the Exhibit Hall: Beverages and snacks provided	Regency Ballroom ABC

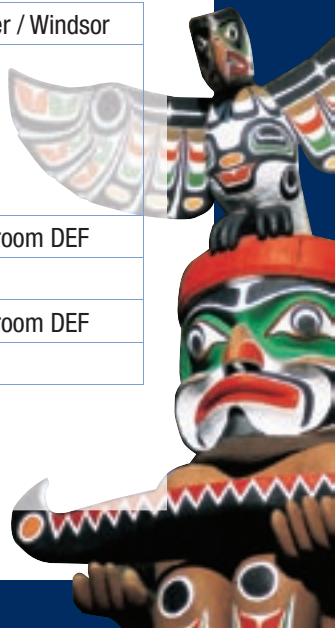
Program-at-a-Glance

Saturday, May 3

7:00 am – 2:00 pm	Registration and AV Preview	Regency Foyer / Windsor
7:00 am – 2:00 pm	Slide Library and Diagnostic Quality Control Self-Examination	Balmoral
7:00 am – 8:45 am	ITSCC Board of Directors Meeting	Lord Byron
7:15 am – 8:45 am	Concurrent Morning Mini-Sessions: *MB300 Nasal Reconstruction: Classic and Unconventional* *MB301 CPC: Unusual Cutaneous Tumors* *MB302 Nail Surgery: Beyond the Basics* *MB303 Radiation Therapy for Cutaneous Malignancies* *MB304 The Office: From Setting Up to Maximizing Efficiency*	 Grouse English Bay Stanley Seymour Cypress
9:00 am – 10:00 am	Concurrent Scientific Sessions: *MC310 Tumor Board* *MC311 Morning at the Movies: Cosmetic Surgery*	 Regency D Regency E & F
10:00 am – 10:15 am	Break	
10:15 am – 11:00 am	Scientific Session: *MG312 Mohs Slide Quality and Interesting Cases*	Regency Ballroom DEF
10:30 am – 2:00 pm	Fellow-in-Training Workshop in Histotechnology	Georgia A & B
11:00 am – 12:00 pm	Scientific Session: *MG313 The Undesirable Result in Reconstructive Surgery*	Regency Ballroom DEF
12:00 pm – 1:00 pm	Scientific Session: *MG314 Laboratory Techniques, Pathology and Unusual Tumors, and Reconstruction Abstract Session*	Regency Ballroom DEF
12:00 pm – 3:00 pm	Exhibit Hall & Visitor Bureau open; last time to visit the Exhibits and Posters	Regency Ballroom ABC
1:00 pm – 2:30 pm	WDS Networking Luncheon	Grouse
1:00 pm – 2:30 pm	ACMS Scientific Program Committee Meeting	Lord Byron
3:00 pm – 7:00 pm	Exhibit and Poster Strike	
4:00 pm – 5:00 pm	MHQA Committee Meeting	Balmoral
5:00 pm – 6:00 pm	Concurrent Sessions: *Establishing a Mohs Practice: Pearls for Residents and Fellows* *Fellowship Training Directors' Session*	 Stanley Grouse
6:00 pm – 7:30 pm	Fellow-in-Training Reception	English Bay

Sunday, May 4

7:00 am – 10:00 am	Registration and AV Preview	Regency Foyer / Windsor
7:15 am – 8:45 am	Concurrent Morning Mini-Sessions: *MB400 Management of Organ Transplant Patients* *MB401 Lasers for the Mohs Surgeon* *MB402 The Role of Imaging in the Management of Non-Melanoma Skin Cancer*	 Stanley English Bay Seymour
9:00 am – 9:50 am	Diagnostic Quality Control Exam Review	Regency Ballroom DEF
9:50 am – 10:00 am	Break	
10:00 am – 12:00 pm	Scientific Session: *MG410 Cosmetic Symposium*	Regency Ballroom DEF
12:00 pm	Meeting adjourns	



Guest Speakers

Gary Burget, MD

Gary Burget, MD, is a diplomat of the American Board of Plastic Surgery, an ABMS authorized board. He was born in Toledo, Ohio, went to college and medical school at Yale University, completed a five-year residency in general surgery at the hospitals of Columbia University in New York City and the University of Miami, did a two-year plastic surgery residency at the University of Miami and a one-year Fellowship in Pediatric Plastic Surgery at Children's Memorial Hospital of Chicago. He has practiced plastic surgery in Chicago since 1978.

Dr. Burget's principal focus is reconstructive and cosmetic surgery of the face; in particular, the nose. He lectures at regional and national meetings and universities in the USA and abroad. He has written a respected textbook, "Aesthetic Reconstruction of the Nose." He continues to develop new concepts and techniques for nasal surgery. Nevertheless, his foremost objective is to create for each patient, deformed by an accident, birth defect, cancer, infection or burn, a normal or ideal appearance.

Dr. Burget is experienced in plastic surgery of the abdomen, breast reduction, breast augmentation and lift, lipoplasty, laser resurfacing, correction of ear deformities, face and neck lift and eyelid cosmetic surgery.

Dr. Burget travels to Laos twice a year to perform surgery on children with cleft lip, and palate and other deformities.

Gary L. Clayman, DMD, MD, FACS

Dr. Clayman is Director of the Head and Neck Cancer Program and the Alando J. Ballantyne Distinguished Chair of Head and Neck Surgery at the University of Texas M.D. Anderson Cancer Center.

The author of more than 170 publications, he is also a member of numerous committees including Chairman of the Head & Neck Oncology Committee for the American Academy of Otolaryngology and Head & Neck Surgery.

Dr. Clayman sits on the Executive Council of the American Head and Neck Society and the Oral Cancer Advisory Board for the National Institute of Dental and Craniofacial Research.

Faculty and Guest Speakers

Sumaira Zareen Aasi, MD, New Haven, CT
Murad Alam, MD, Chicago, IL
John G. Albertini, MD, Winston-Salem, NC
Shawn B. Allen, MD, Boulder, CO
Christopher J. Arpey, MD, Iowa City, IA
Otter Aspen, MD, Philadelphia, PA
Anna A. Bar, MD, Portland, OR
Ashish Bhatia, MD, Aurora, IL
Christopher K. Bichakjian, MD, Ann Arbor, MI
Jeremy S. Bordeaux, MD, MPH, Shaker Heights, OH
Tracy Bramlette, MD, Atlanta, GA
Jerry D. Brewer, MD, Rochester, MN
David G. Brodland, MD, Pittsburgh, PA
Mariah Brown, MD, Denver, CO
Gary Burget, MD, Chicago, IL
John A. Carucci, MD, PhD, New York, NY
Angela S. Casey, MD, Burlington, VT
Timothy K. Chartier, MD, Farmington, CT
Basil S. Cherpelis, MD, Tampa, FL
Leslie Jayne Christenson, MD, Ames, IA
Gary L. Clayman, DMD, MD, FACS, Houston, TX
Joel Lee Cohen, MD, Englewood, CO
Brett M. Coldiron, MD, Cincinnati, OH
Siobhan Collins, MD, Providence, RI
Joel Cook, MD, Charleston, SC
Jonathan L. Cook, MD, Durham, NC
Jeffrey Dawes, MD, Calgary, AB
Leonard M. Dzubow, MD, Villanova, PA
Michael J. Fazio, MD, Sacramento, CA
Frederick S. Fish, III, MD, Fridley, MN
Jennifer Fu, MD, San Francisco, CA
Gregory Fulchiero, MD, Dallas, TX
John K. Geisse, MD, Vallejo, CA
Manish J. Gharia, MD, Brookfield, WI
Hayes B. Gladstone, MD, Stanford, CA
David J. Goldberg, MD, JD, Hackensack, NJ
Glenn D. Goldman, MD, Burlington, VT
Roy C. Grekin, MD, San Francisco, CA
Matthew Halpern, MD, New York, NY
C. William Hanke, MD, Carmel, IN
Todd E. Holmes, MD, Burlington, VT
Tatyana R. Humphreys, MD, Philadelphia, PA
Nathaniel J. Jellinek, MD, Providence, RI
Karen Johnson, MD, Denver, CO
Julie Karen, MD, New York, NY
Andrew J. Kaufman, MD, FACP, Thousand Oaks, CA
Leon H. Kircik, MD, Louisville, KY
Gary Lask, MD, Los Angeles, CA
Ken K. Lee, MD, Portland, OR
David J. Leffell, MD, New Haven, CT
Barry Leshin, MD, Winston-Salem, NC
Kevan G. Lewis, MD MS, Providence, RI
Nanette Liegeois, MD, PhD, Baltimore, MD
Deborah MacFarlane, MD, Houston, TX
Cathy A. Macknet, MD, Mountain View, CA
Jamie L. McGinness, MD, Leawood, KS
J. Ramsey Mellette, Jr., MD, Aurora, CO
Gregg M. Menaker, MD, Skokie, IL
Christopher J. Miller, MD, Philadelphia, PA
Greg S. Morganroth, MD, Mountain View, CA
Pamela Morganroth, MD, Philadelphia, PA
Ronald L. Moy, MD, Los Angeles, CA
Christian Murray, BS, MD FRCPC, Toronto, ON
Kishwer S. Nehal, MD, New York, NY
Andrew Nelson, MD, Boston, MA
Marcy Neuburg, MD, Milwaukee, WI
Isaac M. Neuhaus, MD, San Francisco, CA
Paul Nghiem, MD, Seattle, WA
Tri H. Nguyen, MD, Houston, TX
Keyvan Nouri, MD, Miami, FL
Suzanne Olbricht, MD, Burlington, MA
Upendra Parvathaneni, MD, FRANZCR, Seattle, WA
Clifford S. Perlis, MD, MBe, Philadelphia, PA
Mariana Phillips, MD, Glen Allen, VA
Desiree Ratner, MD, New York, NY
Randall K. Roenigk, MD, Rochester, MN
Steven M. Rotter, MD, Vienna, VA
Faramarz Samie, MD, PhD, Philadelphia, PA
Aradhna Saxena, MD, Lansdale, PA
Carl F. Schanbacher, MD, Milford, MA
Chrysalyne D. Schmults, MD, Jamaica Plain, MA
Sheldon Sebastian, MD, Albuquerque, NM
Roberta D. Sengelmann, MD, Santa Barbara, CA
Daniel M. Siegel, MD, Smithtown, NY
Maral Kibarian Skelsey, MD, Chevy Chase, MD
Ashley A. Smith, MD, Mountain View, CA
Monika Srivastava, MD, Teaneck, NJ
Thomas Stasko, MD, Nashville, TN
Chynna Steele, MD, St. Louis, MO
John M. Strasswimmer, MD, PhD, Coral Gables, FL
Valencia Thomas, MD, New Haven, CT
Emily P. Tierney, MD, Troy, MI
Allison Therese Vidimos, MD, Cleveland, OH
Carl Vinciullo, MD, South Perth, WA
Justin J. Vujevich, MD, Pittsburgh, PA
Timothy S. Wang, MD, Ann Arbor, MI
Justin Woodhouse, MD, Cleveland, OH
Summer Youker, MD, St. Louis, MO
Siegrid Yu, MD, San Francisco, CA
Mark J. Zalla, MD, Florence, KY
Priya Zeikus, MD, Sherman, TX
John A. Zitelli, MD, Pittsburgh, PA
David M. Zloty, MD, FRCP, Vancouver, BC

CME Information

Verification of Attendance

Registrants will receive a two-part CME letter of accreditation/ claim form from the University of Vermont on-site. The second (yellow) page of the form must be submitted to the ACMS on-site or via mail/fax no later than May 22, 2008 for proper documentation of attendance. The first (white) page of the form should be kept by all meeting attendees as verification of meeting attendance.

CME Credit

This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the University of Vermont and the American College of Mohs Surgery. The University of Vermont is accredited by the ACCME to provide continuing medical education for physicians.

The University of Vermont designates this educational activity for a maximum of 24 AMA PRA Category 1 Credits™. **Physicians should only claim credit commensurate with the extent of their participation in the activity.**

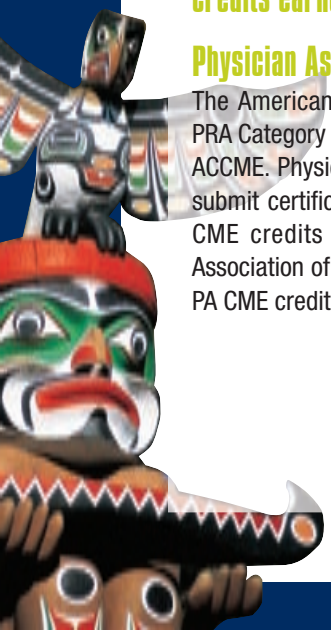
Please complete the conference evaluation form in your packet. Your feedback is extremely valuable. Be sure to evaluate each presentation and indicate the actual hours you attend the conference. Suggestions for future topics are welcome. CME certificates will be awarded at the conclusion of the conference.

The American College of Mohs Surgery (ACMS) Annual Meeting is recognized by the American Academy of Dermatology for 25 hours of AAD Category 1 CME credit and may be used toward the American Academy of Dermatology's Continuing Medical Education Award. The program number is 197-100.

Attendees enrolled in the AAD CME Transcript Award Program must log on to the AAD website and enter credits earned.

Physician Assistant Credit

The American Academy of Physician Assistants accepts AMA PRA Category 1 Credit(s)™ from organizations accredited by the ACCME. Physician Assistants attending the annual meeting can submit certificates or transcripts showing how many physician CME credits were offered for an activity to the American Association of Physician Assistants and get them "converted" to PA CME credit.**



** Doctors earn AMA PRA Category 1 Credits from CME activities. The AAPA also grants and counts Category 1 CME credits, but those are specifically for PA's and have to come from a provider accredited by the AAPA. Both groups label their credits Category 1 CME, but the labels, though they read the same, refer to different evaluations.

Disclosure of Faculty Financial Affiliations

The University of Vermont, as an ACCME accredited provider, endorses and strives to comply with the Accreditation Council for Continuing Medical Education (ACCME) Standards of Commercial Support on the need for disclosure and monitoring of proprietary and financial interests that may affect the scientific integrity and balance of content delivered in continuing medical education activities under our auspices. The University of Vermont College of Medicine requires that all CME activities accredited through this institution be developed independently and be scientifically rigorous, balanced and objective in the presentation/discussion of its content, theories and practices. Disclosure of faculty and commercial relationships will be made known at the annual meeting.

CME Information

Disclosure of Discussion of Non-FDA Approved Uses for Pharmaceutical Products and/or Medical Devices

The University of Vermont College of Medicine, as an ACCME provider, requires that all faculty presenters identify and disclose any off-label uses for pharmaceutical and medical device products. The University of Vermont College of Medicine recommends that each physician fully review all the available data on new products or procedures prior to instituting them with patients.

Disclaimer

The views expressed and the techniques presented by the speakers of the ACMS-sponsored educational meetings are not necessarily shared or endorsed by the organization. Speakers are required to disclose all relevant conflicts of interest and any unapproved or off-label uses of medical devices or pharmaceutical agents that they discuss, describe or demonstrate during their presentations.

Meeting attendees should use their independent judgment in applying the information discussed in these educational sessions in the treatment of patients. Handout materials are prepared and submitted for distribution by the presenters, who are solely responsible for their content.

Learning Objectives

Upon completion of the Annual Meeting, participants will be able to describe the latest advances in the treatment of skin cancer, discuss recent research findings in the area of Mohs micrographic surgery and cutaneous oncology, and explain new techniques in reconstruction that promote optimal surgical outcomes.

The specific objectives include, but are not limited to:

- Describe various research projects being pursued within the areas of Mohs surgery, cutaneous oncology, and reconstruction.
- Describe the correct way to bill for Mohs surgery, reconstruction and other dermatologic surgery procedures in real clinical situations.
- Discuss the principals and limitations of MR, CT and US as applied to non-melanoma skin cancer.
- Discuss various ways to reconstruct specific surgical defects for optimal cosmetic and functional results.

Faculty Disclosure Information for CME

Interest Disclosures

As an organization accredited by the ACCME to sponsor continuing medical education activities, The University of Vermont is required to disclose any real or apparent conflicts of interest (COI) that any speakers may have related to the content of their presentations.

The University of Vermont requires that each speaker participating in a program designated for AMA Physician's Recognition Award Category 1 credit disclose any financial interest/arrangement or affiliation with a corporate organization that may impact on his/her presentation (i.e. grants, research support, honoraria, member of speakers' bureau, consultant, major stock shareholder, etc.). In addition, the faculty member must disclose when an unlabeled use of a commercial product or an investigational use not yet approved for any purpose is discussed during the educational activity.

No Interests to Disclose:

Sumaira Zareen Aasi, MD
Murad Alam, MD
John G. Albertini, MD
Christopher J. Arpey, MD
Otter Q. Aspen, MD
Anna Bar, MD
Ashish Bhatia, MD
Christopher K. Bichakjian, MD
Jeremy Bordeaux, MD, MPH
Jerry D. Brewer, MD
David G. Brodland, MD
Mariah Brown, MD
Gary C. Burget, MD
John A. Carucci, MD, PhD
Angela S. Casey, MD
Timothy K. Chartier, MD
Basil S. Cherpelis, MD
Leslie J. Christenson, MD
Gary L. Clayman, MD
Brett M. Coldiron, MD
Siobhan Collins, MD
Joel W. Cook, MD
Jonathan L. Cook, MD
Jeffrey C. Dawes, MD
Leonard M. Dzubow, MD
Michael J. Fazio, MD
Jennifer Fu, MD
Gregory J. Fulchiero, Jr., MD, MS
John Geisse, MD
Manish J. Gharia, MD
David J. Goldberg, MD, JD
Glenn D. Goldman, MD
Roy C. Grekin, MD
C. William Hanke, MD, MPH
Todd E. Holmes, MD
Tatyana R. Humphreys, MD
Julie K. Karen, MD
Nathaniel J. Jellinek, MD
Karen J. Johnson, MD
Kevan G. Lewis, MD, MS
Deborah MacFarlane, MD, MPH
Cathy Macknet, MD
Jamie L. McGinness, MD
J. Ramsey Mellette, Jr., MD
Gregg M. Menaker, MD
Christopher J. Miller, MD
Greg S. Morganroth, MD
Pamela Morganroth, MD
Christian Murray, BS, MD, FRCPC
Kishwer S. Nehal, MD
Andrew Nelson, MD
Isaac Neuhaus, MD
Paul Nghiem, MD
Tri H. Nguyen, MD
Suzanne Olbricht, MD
Mariana Phillips, MD
Desiree Ratner, MD
Randall K. Roenigk, MD
Steven Rotter, MD
Faramarz Samie, MD, PhD
Aradhna Saxena, MD
Carl F. Schanbacher, MD
Chrysalyne D. Schmults, MD
Sheldon Sebastian, MD
Daniel M. Siegel, MD
Maral K. Skelsey, MD
Ashley Ann Smith, MD
Monika Srivastava, MD
Chynna L. Steele, MD
Valencia Thomas, MD
Emily P. Tierney, MD
Allison Vidimos, MD
Carl Vinciullo, MD
Justin J. Vujevich, MD
Timothy S. Wang, MD
Andrea Willey, MD
Justin G. Woodhouse, MD
Summer R. Youker, MD
Siegrid Yu, MD
Mark J. Zalla, MD
Priya Zeikus, MD
John A. Zitelli ,MD
David Zloty, MD

Faculty Disclosure Information for CME

Interests to Disclose/COI/Bias Resolved*:

Joel L. Cohen, MD	Consultant for Fee, Clinical Trials – Allergan, BioForm, Medicis, Col Bar
Frederick S. Fish, III, MD	Speaker for Dermik Pharmaceuticals
Hayes B. Gladstone, MD	Consultant/Advisor for Bioform
Leon H. Kircik, MD	Investigator, consultant, and/or speaker for the following pharmaceutical companies: Abbott, Acambis, Allergan, Amgen, Astellas, Berlex, Biogen-Idec, Biolife, Breckenridge Pharma, Centocor, Collagenex, Combinatrix, Connetics, Coria, Dermik, Dow, Dusa Phamaceuticals, Ferndale, Galderma, Genentech, Glaxo-Smith Kline, HealthPoint, Intendis, 3M, Leo, Medicis, NanoBio, Novartis, Nucryst, OrthoNeutrogena, PharmaDerm, QLT, Quatrix, Serono, SkinMedica, Stiefel, TolerRx, Triax, Valeant, Warner-Chilcott
Gary Lask, MD	Scientific Advisory Board for Candela Corp & Syneron Corp
Ken K. Lee, MD	Investigator for Allergan & Medicis
David J. Leffell, MD	Consultant for Schering-Plough & Unilever
Barry Leshin, MD	Principle Investigator for Gateway Pharmaceuticals
Nanette Liegeois, MD, PhD	Meridian Skincare Limited
Ronald Moy, MD	Scientific Advisory Board for Rhytec
Marcy Neuburg, MD	Advisory Board for Heidelberg Pharma AG
Keyvan Nouri, MD	Travel Reimbursement from Cynosure & Candela Honoraria from Dermin Laser Donation from CureLight & Omnilux Research Grant from Graceway
Upendra Parvathaneni, MD, FRAZCR	Consultant for ImClome
Clifford S. Perlis, MD	Consultant for Lucid, Inc.
Thomas Stasko, MD	Consultant for Galderma Honoraria for the development of CME materials from CME Incite
John M. Strasswimmer, MD, PhD	Scientific Advisory Board for Graceway Pharmaceuticals

Speaker has indicated that he/she will be discussing the unlabeled use of a commercial product:

Shawn Allen, MD will discuss off-label usage of lasers and products
Joel L. Cohen, MD will discuss fillers for scars
Matthew Halpern, MD will discuss Cetuximab for treatment of metastatic cutaneous SCC
Andrew J. Kaufman, MD will discuss fillers in lips
Clark Otley, MD will discuss imiquimod, acitretin, and xeloda
Roberta Sengelmann, MD will discuss off-label use of botox
Thomas Stasko, MD will discuss imiquimod, acitretin, and xeloda for chemoprophylaxis of skin cancer

*Having a financial interest or other relationship with a corporate organization, or discussing an unlabeled use of a commercial product, may not prevent a speaker from making a presentation. However, the existence of the relationship must be made known to the planning committee prior to the conference, so that any possible conflict of interest may be resolved prior to the talk.

Educational Program

Wednesday, April 30, 2008

3:30 – 6:30 pm — Regency Foyer / Windsor
Registration and AV Preview

Thursday, May 1, 2008

6:30 am – 5:00 pm — Regency Foyer / Windsor
Registration and AV Preview

7:00 am – 5:00 pm — Balmoral
Slide Library and Diagnostic Quality Control Self-Examination

7:15 – 8:45 am
Concurrent Morning Mini-Sessions

MB100 — Seymour
Establishing a Mohs Histopathology Laboratory
At the conclusion of this session, participants should be able to: 1) Understand how to successfully establish a Mohs histopathology lab in compliance with regulatory guidelines, 2) Identify features of a well-designed lab space with appropriate equipment, 3) Explore Mohs personnel staffing options, 4) Learn troubleshooting for commonly encountered laboratory pitfalls.
Nanette Liegeois, MD, PhD; Kishwer S. Nehal, MD

MB101 — Grouse
The Bilobed and Dorsal Nasal Flaps: Suggestions for Improving Flap Designs and Executions
At the conclusion of this session, participants should be able to understand the geometric design principles and biomechanical nuances of two flaps that are commonly used for nasal reconstruction: the bilobed transposition and dorsal nasal rotation flaps. The appropriate use of these flaps will be discussed in depth, and the importance of modifying conventional flap designs in order to achieve reproducible operative success will be emphasized. Step-by-step instructions for appropriate use of the flaps will be provided.
Jonathan L. Cook, MD; Glenn D. Goldman, MD

MB102 — English Bay
Merkel Cell Carcinoma
At the conclusion of this session, participants should be able to: 1) Define the risk factors, incidence, clinical, pathologic, and prognostic characteristics of Merkel cell carcinoma, 2) Examine data on wide versus Mohs excision, sentinel lymph node biopsy, radiation and chemotherapy, 3) Utilize this information to guide management of representative cases.
Christopher K. Bichakjian, MD; Paul Nghiem, MD

MB103 — Cypress
Coding for the Mohs Surgeon
At the conclusion of this session, participants should be able to: 1) Code Mohs surgical procedures correctly, 2) Code associated services, including biopsies and repairs.
Brett M. Coldiron, MD; Daniel M. Siegel, MD

Thursday, May 1 (continued)

MB104 — Stanley
Incorporating Cosmetics into a Mohs Practice
At the conclusion of this session, participants should be able to: 1) Understand the shared techniques between facial reconstructive surgery and cosmetic surgery and how to transition from Mohs to cosmetic surgery, 2) Understand how to rejuvenate with facelift, blepharoplasty, neck lifting, and mandibular implants procedures, 3) Understand the importance of combining skin rejuvenation with facial cosmetic surgery.
Greg S. Morganroth, MD; Ronald L. Moy, MD

9:00 – 9:30 am

MG110 — Regency DEF
Opening General Session
At the conclusion of this session, participants should be able to: 1) Recite trends in research in Mohs surgery and cutaneous oncology, 2) Identify political and socioeconomic changes affecting Mohs surgery.

9:00 – 9:10 am
Opening Remarks
David G. Brodland, MD, President, American College of Mohs Surgery

9:10 – 9:20 am
American Academy of Dermatology President's Update
C. William Hanke, MD

9:20 – 9:30 am
Update on Coding
Brett M. Coldiron, MD

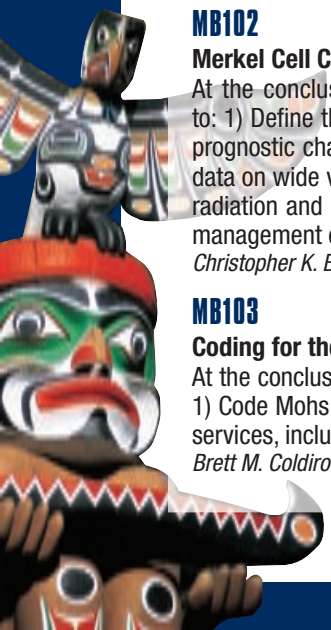
9:30 – 10:15 am

MG111 — Regency DEF
Tromovitch Award Abstracts
At the conclusion of this session, participants should: 1) Become updated on recent advances in cutaneous oncology and pathology, 2) Become aware of the current state of the practice of Mohs surgery, 3) Be able to evaluate surgical outcomes and complications in Mohs surgery.
Moderators: Christopher J. Arpey, MD; David J. Leffell, MD

9:35 – 9:43 am
Mohs Surgery: How We Practice
Angela S. Casey, MD; Glenn D. Goldman, MD

9:43 – 9:51 am
Microanatomy and Clinical Outcomes of the Paramedian Forehead Flap for Reconstruction of Large Nasal Defects Reconstruction
Tracy Bramlette, MD; David G. Brodland, MD; John A. Zitelli, MD

9:51 – 9:59 am
Prospective Evaluation of Surgical Complications Including Patients on Multiple Anticoagulants Reconstruction
Jeremy S. Bordeaux, MD; Dori Goldberg, MD; Mary E. Maloney, MD; Sean Pattee, MD



Educational Program

Thursday, May 1 (continued)

9:59 – 10:07 am

Refinements in MART-1 Immunostaining Protocols to Increase the Speed of Frozen Section Preparations in Melanoma Surgery Laboratory Technique

Gregory Fulchiero, MD; R. Stan Taylor, III, MD

10:15 – 10:30 am

Break

10:30 – 11:15 am

MG112 Regency DEF

Cutaneous Oncology Updates

At the conclusion of this session, participants should be able to: 1) Understand the evolution of the staging system for squamous cell carcinoma and merkel cell carcinoma, 2) Appreciate the current state of investigation regarding pathogenesis and epidemiology of non-melanoma skin cancer, 3) Develop treatment algorithms for more aggressive variants of non-melanoma skin cancer.

Moderators: Nanette Liegeois, MD, PhD; John A. Carucci, MD, PhD
Panelists: Christopher K. Bichakjian, MD; Paul Nghiem, MD; Chrysalyne D. Schmults, MD; Siegrid Yu, MD

11:15 am – 12:15 pm

MG113 Regency DEF

How Would You Reconstruct It?

At the conclusion of this session, participants should be able to: 1) Consider several reconstructive options for any surgical defect, 2) Understand the pros and cons of alternative reconstructive techniques.

Moderator: Joel Cook, MD
Panelists: Michael J. Fazio, MD; J. Ramsey Mellette, Jr., MD; Steven M. Rotter, MD; John A. Zitelli, MD

12:00 – 7:00 pm Regency ABC

Exhibit Hall & Visitor Bureau Open

12:15 – 1:30 pm Regency ABC

Lunch provided in Exhibit Hall; visit the Exhibit Hall and Poster Presentations

1:30 – 2:30 pm

MG114 Regency DEF

The Large Challenge of Small Defects

At the conclusion of this session, participants should be able to be grounded in the basic aesthetic concepts and artistic techniques governing reconstruction of small and superficial nasal defects.

Moderator: Leonard M. Dzubow, MD
Panelist: Gary Burget, MD

Thursday, May 1 (continued)

2:30 – 3:30 pm

MG115 Regency DEF

Ethical Dilemmas in Mohs Surgery

At the conclusion of this session, participants should be able to: 1) Identify ethical and legal issues in daily practice situations, 2) Recognize key underlying ethical and legal principles, 3) Develop strategies for resolving potential ethical and legal conflicts arising in practice.

Moderator: David J. Goldberg, MD, JD; Clifford S. Perlis, MD, MBe
Panelists: Gary Lask, MD; Christopher J. Miller, MD; Moderator: R. Stan Taylor, III, MD; Summer Youker, MD

3:30 – 4:00 pm Regency ABC

Break; visit the Exhibit Hall

4:00 – 5:30 pm

MG116 Regency DEF

Mohs Surgery Abstract Session

At the conclusion of this session, participants should be able to: 1) Better understand current research in cutaneous surgery, 2) Consider methods for improving the accuracy of Mohs surgery, 3) Consider means for improving the patient experience during Mohs surgery.

Moderators: Hayes B. Gladstone, MD; Isaac M. Neuhaus, MD

4:03 – 4:11 pm

Plasma Lidocaine Levels Associated with Use of Local Anesthesia (1% Lidocaine with 1:100,000 Epinephrine) During Mohs Micrographic Surgery

Murad Alam, MD; Jillian Havey, MD; Sara Ortiz, MD; Dominic Ricci, MD; Joslyn Witherspoon, MD; Simon S. Yoo, MD

4:11 – 4:19 pm

Efficacy of Pre-Injection Measures for Relative Pain Reduction of Local Anesthesia

Otter Aspen, MD

4:19 – 4:27 pm

Staged Excision of Melanoma in Situ with En Face Rush Permanent Sections for Histologic Exam: 6 Years of Experience

Chynna Steele, MD; Mark Hurt, MD; Margaret Mann, MD; Jeffrey E. Petersen, MD; Daniel Popkin, MD; Roberta D. Sengelmann, MD

4:27 – 4:35 pm

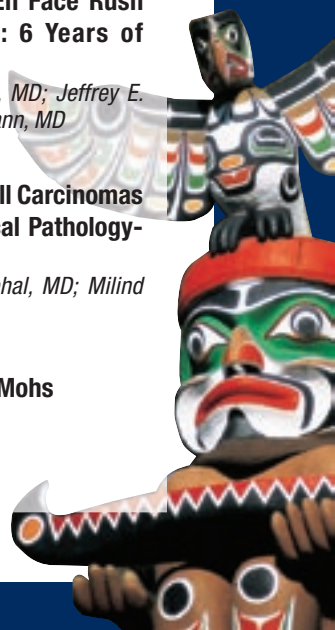
Fluorescence Confocal Microscopy of Basal Cell Carcinomas in Mohs Excisions: Feasibility of Rapid Surgical Pathology-at-the-Bedside

Julie Karen, MD; Daniel Gareau, MD; Kishwer S. Nehal, MD; Milind Rajadhyaksha, MD

4:35 – 4:43 pm

Undiagnosed Excessive Bleeding Tendency in Mohs Surgery: A Prospective Analysis

Carl Vinciullo, MD; Ross Baker, MD



Educational Program

Thursday, May 1 (continued)

4:43 – 4:51 pm
The Utility of Porcine Biosynthetic Wound Dressings Following Mohs Surgery
Mariana Phillips, MD; Algin B. Garrett, MD

4:51 – 4:59 pm
A Randomized, Double-Blind Comparison of the Total Dose of 1.0% Lidocaine with 1:100,000 Epinephrine versus 0.5% Lidocaine with 1:200,000 Epinephrine Required for Local Anesthesia during Mohs Micrographic Surgery (MMS)
Pamela Morganroth, MD; Joel Gelfand, MD; Anokhi Jambusaria, MD; David Margolis, MD; Christopher J. Miller, MD

4:59 – 5:07 pm
A Prospective, Randomized Study of Wound Appearance Comparing Manual Pressure vs. Electrosurgery for Achieving Hemostasis During Mohs Surgery
Justin J. Vujevich, MD; Cecilia Ardila, MD; Leonard H. Goldberg, MD; Arash Kimyai-Asadi, MD; Sarah Seitz, MD

5:07 – 5:15 pm
The Value of Preoperative Biopsy Site Photography for Identifying Cutaneous Lesions
Jamie L. McGinness, MD; Glenn D. Goldstein, MD

5:15 – 5:23 pm
Mohs Micrographic Surgery Complicated by a Cerebrovascular Accident Attributed to Intra-Operative Air Emboli
Jonathan L. Cook, MD

5:30 – 7:00 pm — Regency ABC
Welcome Reception in Exhibit Hall

Friday, May 2, 2008

6:30 am – 5:00 pm — Regency Foyer / Windsor
Registration and AV Preview

7:00 – 5:00 pm — Balmoral
Slide Library and Diagnostic Quality Control Self-Examination

7:15 – 8:45 am
Concurrent Morning Mini-Sessions

MB 200 — Grouse

Perioral Reconstruction
At the conclusion of this session, participants should be able to: 1) Have a systematic approach to aesthetic perioral reconstruction for the upper lip. This will be accomplished by breaking down the area into four reconstructive subunits: central lip including Cupid's bow and philtral defects, medial lip adjacent to the lateral aspect of the philtrum, lateral lip, and apical lip, 2) Understand techniques to repair "wet" and "dry" combination defects, 3) Understand standard reconstructive approaches for the lower lip and learn several "out of the box" options.
J. Ramsey Mellette, Jr., MD; Roberta D. Sengelmann, MD

Friday, May 2 (continued)

MB 201 — Seymour

Management of Head and Neck Masses: the Otolaryngologist's Perspective
At the conclusion of this session, participants should be able to: 1) Determine the role of the interdisciplinary team in the evaluation and management of patients with head and neck masses, 2) Understand the diffuse spectrum of processes that may produce a mass in the head and neck, 3) Understand the utility of fine needle aspiration cytology to the diagnosis and treatment planning of patients with head and neck masses.
Gary L. Clayman, DMD, MD, FACS

MB 202 — Cypress

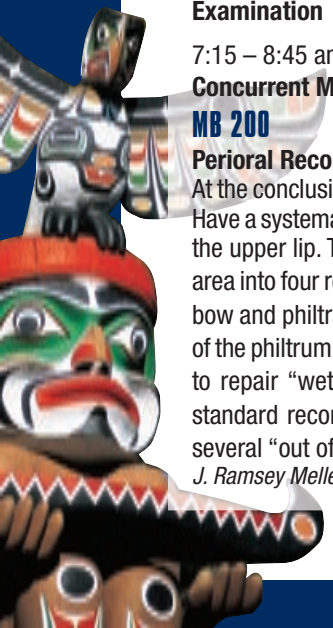
Periorbital Reconstruction: Simple to Complex
At the conclusion of this session, participants should be able to: 1) Understand the anatomy of the eyelids and periorbital region as it applies to reconstruction, 2) Develop a logical approach to repair of periorbital defects including the need for oculoplastic consultation, 3) Anticipate and address complications such as ectropion following eyelid reconstruction.
John G. Albertini, MD; Ken K. Lee, MD

MB 203 — Stanley

Tumor Recurrence Following Mohs Surgery: How Does It Happen?
At the conclusion of this session, participants should be able to: 1) Identify inherent biological traits of a spectrum of aggressive skin cancers, and the role such characteristics play in tumor recurrence following Mohs, 2) Understand potential for technique errors in performing Mohs surgery that most readily account for tumor recurrence, 3) Recognize features and setting of pseudorecurrence of tumor following Mohs surgery.
Barry Leshin, MD

MB 204 — English Bay

Fillers for the Mohs Surgeon: Reinforcing Basics, Refining Techniques
At the conclusion of this session, participants should be able to: 1) List the indications for, and differences between, the most commonly used filling and volumizing agents, 2) Have a detailed understanding of the complications of soft tissue fillers and be able to manage these complications effectively, 3) Apply varying injection techniques to achieve expert results in the most commonly requested areas. The techniques will be demonstrated through the use of videos and audience interaction.
Joel Lee Cohen, MD; David M. Zloty, MD, FRCP



Educational Program

Friday, May 2 (continued)

9:00 – 10:00 am

MG 210

Regency Ballroom DEF

Scar Revision

At the conclusion of this session, participants should be able to: 1) Learn refinement techniques to optimize reconstruction, 2) Understand the benefits and limitations of various scar revision techniques, 3) Learn how to repair an ectropion, ptotic brow, bulky flap, and many more.

Moderator: Ken K. Lee, MD

Panelists: Gary Burget, MD; Sumaira Zareen Aasi, MD

10:00 – 10:15 am

Break

10:15 – 11:30 am

MG 211

Regency Ballroom DEF

Coding Conundrums

At the conclusion of this session, participants should be able to: 1) Understand the new regulations regarding Mohs micrographic surgery, 2) Use case examples to code properly while receiving appropriate reimbursement, 3) Compare your own billing practices to those of other members of the ACMS.

Moderator: Glenn D. Goldman, MD

Panelists: Sumaira Z. Aasi, MD; Brett M. Coldiron, MD; Mark J. Zalla, MD

10:00 am – 2:15 pm — Georgia A & B

Fellow-in-Training Workshop in Histotechnology

11:30 – 11:45 am

Break

11:45 am – 1:30 pm — Regency Ballroom DEF

ACMS Annual Business Meeting & Lunch

(Non-members lunch on own & visit the Exhibit Hall)

12:00 – 6:30 pm — Regency Ballroom ABC

Exhibit Hall & Visitor Bureau Open

1:30 – 2:30 pm

MG 212

Regency Ballroom DEF

Management of Aggressive Cutaneous Squamous Cell Carcinoma

At the conclusion of this session, participants should be able to: 1) Understand the indications for lymph node examination/evaluation/dissection, 2) Understand the indications/limitations for imaging aggressive cutaneous squamous cell carcinoma, 3) Understand the role of adjuvant therapy in the management of cutaneous squamous cell carcinoma.

Gary L. Clayman, DMD, MD, FACS

2:30 – 3:00 pm — Regency Ballroom ABC

Break; visit the exhibit hall

Friday, May 2 (continued)

3:00 – 4:00 pm

MG 213

Regency Ballroom DEF

Afternoon at the Movies

At the conclusion of this session, participants should be able to understand: 1) Techniques of two fundamental repairs- the island pedicle and trilobe transposition flap, 2) Options for nasal lining and structural reconstruction, 3) Suture techniques for fixation and enhancement in rhinoplasty, 4) Approaches to forehead flap complications.

Moderators: Todd E. Holmes, MD; Tri H. Nguyen, MD

Visual Demonstration of How to Reconstruct the Lining and Structure of the Nose

Glenn D. Goldman, MD

Visual Demonstration of How to Divide and Inset a Paramedian Forehead Flap

Todd E. Holmes, MD

Suture Techniques in Rhinoplasty

Jeffrey Dawes, MD

The Trilobe Flap

John G. Albertini, MD

The Island Pedicle Flap Revisited

Ashish Bhatia, MD

Forehead Flap Necrosis Revision

Tri H. Nguyen, MD

4:00 – 5:30 pm

MG 214

Regency Ballroom DEF

Tumor Oncology and Research with Late-Breaking Mohs Surgery Abstract Session

At the conclusion of this session, participants should be able to: 1) To better describe the behavior and incidence of non-melanoma skin cancers in transplant populations, 2) To further describe the signs and symptoms of aggressive squamous cell carcinoma, 3) To characterize tumor immunology and genetics associated with squamous cell carcinoma and dermatofibrosarcoma protuberans.

Moderators: Roberta D. Sengelmann, MD; Valencia Thomas, MD

4:02 – 4:10 pm

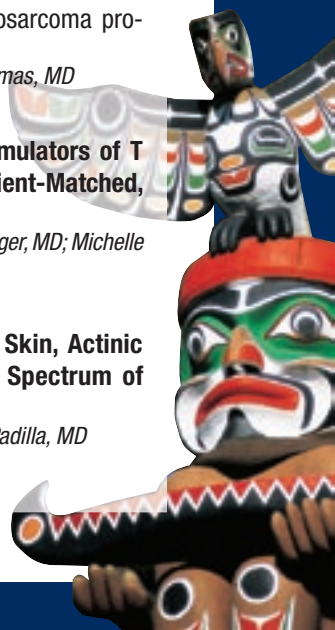
Dendritic Cells from SCC are Less Potent Stimulators of T Cell Proliferation than DCs from Adjacent, Patient-Matched, Site-Matched Non-Tumor Bearing Skin

John A. Carucci, MD, PhD; Mark Bluth, MD; James G. Krueger, MD; Michelle A. Lowes, MD; Lisa Zaba, MD

4:10 – 4:18 pm

Gene Expression Patterns of Normal Human Skin, Actinic Keratosis and Squamous Cell Carcinoma: A Spectrum of Disease Progression

Sheldon L. Sebastian, MD; Zeyu Jiang, MD; R. Steven Padilla, MD



Educational Program

Friday, May 2 (continued)

4:18 – 4:26 pm
Incidence of Skin Cancer Following Cardiac Transplantation
Jerry D. Brewer, MD; Oscar Colegio, MD; Walter K. Kremers, MD; Clark C. Otley, MD; Pamela K. Phillips, MD; Randall K. Roenigk, MD; Dierkhising A. Ross, MD

4:26 – 4:34 pm
Cranial Neuropathies as a Presenting Sign of Recurrent Aggressive Skin Cancer
Joel Cook, MD

4:34 – 4:42 pm
The Infiltrate Associated with Human Cutaneous Squamous Cell Carcinoma is Characterized by CD4+CD25+Foxp3+ Regulatory T Cells and CD1a+ Dendritic Cells
John A. Carucci, MD, PhD; Mark Bluth, MD; Judilyn Fuentes-Duculan, MD; Emma Guttman-Yassky, MD; Helen G. Kaporis, MD; James G. Krueger, MD; Michelle A. Lowes, MD

4:42 – 4:50 pm
Immunohistochemical Assessment of PDGF-ß and PDGFR Expression in Dermatofi brosarcoma Protuberans: Implications for Therapy with Ttyrosine Kinase Inhibitors
Faramarz H. Samie, MD, PhD; Richard T. Cheney, MD; John M. Kane, III, MD; Ari-Nareg Meguerditchian, MD; Mary Vaughan, MD; Nathalie C. Zeitouni, MD

4:50 – 4:58 pm
The Use of a Rapid 19 Minute MART-1 Protocol with Comparison between Frozen and Permanent Sections
Basil S. Cherpelis, MD; Ren Chen, MD; L. Frank Glass, MD; Sharron Ladd, MD; Richard Moore, MD

4:58 – 5:06 pm
Polarization-Enhanced Reflectance and Fluorescence Imaging for Guiding Mohs Micrographic Surgeries
Andrew Nelson, MD; Munir Al-Arashi, MD; Victor Allen Neel, MD, PhD; Elena Salomatina, MD; Anna Yaroslavsky, MD

5:06 – 5:14 pm
Hypovitaminosis D in Mohs Surgery Patients
Maral Kibarian Skelsey, MD

5:14 – 5:22 pm
Emerging Differences in Dermatologic Surgery: Mohs College Fellowship-Trained vs. Non Fellowship-Trained Dermatologic Surgeons Performing Mohs
Emily P. Tierney, MD; C. William Hanke, MD; Alexa B. Kimball, MD

5:22 – 5:30 pm
Comparative Efficacy of Topical Hemostatic Powder vs. Foam Sterile Compressed Sponge in Second Intention Healing After Mohs Micrographic Surgery – Pilot Study
Leon H. Kircik, MD

5:30 – 6:30 pm Regency Ballroom ABC
Visit the Exhibit Hall (beverages and snacks provided)

Saturday, May 3, 2008

7:00 am – 2:00 pm Regency Foyer / Windsor
Registration and AV Preview

7:00 am – 2:00 pm Balmoral
Slide Library and Diagnostic Quality Control Self-Examination

7:15 – 8:45 am
Concurrent Morning Mini-Sessions

MB 300 Grouse

Nasal Reconstruction: Classic and Unconventional
At the conclusion of this session, participants should be able to: 1) Understand the importance of functional and aesthetic nasal reconstruction following Mohs surgery, 2) Review the classical methods of nasal repair with particular emphasis on flap reconstructive surgery, 3) Explore unconventional methods of nasal reconstruction including, but not limited to, tunneled flaps, composite repairs, hinge flap repairs, unusual variations of conventional flaps, and other advanced reconstructive dermatologic surgical procedures, 4) Compare the advantages and disadvantages of conventional and unconventional repair techniques.
Joel Cook, MD; Tri H. Nguyen, MD

MB 301 English Bay

CPC: Unusual Cutaneous Tumors
At the conclusion of this session, participants should be able to: 1) Recognize clinical presentation and pathology of rare cutaneous malignancies and understand appropriate evaluation and management, 2) Identify patients with aggressive BCC and SCC who require multidisciplinary management.
Suzanne Olbricht, MD; Allison Therese Vidimos, MD

MB 302 Stanley

Nail Surgery: Beyond the Basics
At the conclusion of this session, participants should be able to: 1) Approach nail surgery with a greater understanding of anatomy and principles of anesthesia and techniques to achieve excellent surgical exposure (including novel plate avulsion techniques, nail fold reflection, and methods to obtain a bloodless field), 2) Work up and operate on cases of longitudinal melanonychia and longitudinal erythronychia, with an understanding of a variety of techniques to approach these clinical presentations, 3) Perform en-bloc excisions of the nail apparatus and Mohs surgery for appropriate nail apparatus neoplasms.
Siobhan Collins, MD; Nathaniel J. Jellinek, MD

Educational Program

Saturday, May 3 (continued)

MB 303
Seymour

Radiation Therapy for Cutaneous Malignancies
At the conclusion of this session, participants should be able to: 1) Provide a general overview of the use of XRT for various histologies and stages of disease, 2) Focus on XRT indications in the adjuvant setting and discuss its efficacy and limitations in the primary setting, 3) Review the available techniques and dose and fractionation schemes.
Upendra Parvathaneni, MD, FRANZCR

MB 304
Cypress

The Office: From Setting Up to Maximizing Efficiency
At the conclusion of this session, participants should be able to: 1) Understand the steps required in setting up a new practice of Mohs surgery, 2) Understand a variety of techniques successful in establishing a new referral base, 3) Understand how to hire good employees and empower them to become great employees.
Michael J. Fazio, MD; Karen Johnson, MD

9:00 – 10:00 am (Concurrent: MC310 and MC311)

MC 310
Regency Ballroom D

Tumor Board
At the conclusion of this session, participants should be able to: 1) Understand the role of multidisciplinary care in the systemic work-up and management of complex SCC patients, 2) Develop a framework for the work-up and management of selected aggressive and unusual cutaneous malignancies, 3) Gain an understanding of the issues involved when considering adjuvant treatment for aggressive cutaneous malignancies.
Moderators: Leslie Jayne Christenson, MD; Desiree Ratner, MD
Panelists: Gary L. Clayman, DMD, MD, FACS; Marcy Neuburg, MD; Upendra Parvathaneni, MD, FRANZCR; Thomas Stasko MD; Timothy S. Wang, MD

MC 311
Regency Ballroom E & F

Morning at the Movies – Cosmetic Surgery
At the conclusion of this session, participants should be able to: 1) Understand the planning and execution of upper and lower blepharoplasty, 2) Understand the planning and execution of neck liposuction and placement of mandibular implants, 3) Understand the planning and execution of a local anesthesia face lift.
Moderator: Greg S. Morganroth, MD

9:00 – 9:20 am
Vertical Vector Face Lift
Greg S. Morganroth, MD

9:20 – 9:40 am
Neck Liposuction and Chin Implant
Ashley Smith, MD

9:40 – 10:00 am
Upper and Lower Blepharoplasty
Cathy Macknet, MD

Saturday, May 3 (continued)

10:00 – 10:15 am
Break

10:15 – 11:00 am

MG 312
Regency Ballroom DEF

Mohs Slide Quality and Interesting Cases
At the conclusion of this session, participants should be able to: 1) Improve the quality of Mohs frozen section histopathology, 2) Discuss some interesting Mohs pathology cases and conundrums, 3) Diagnose and correct processing errors contributing to suboptimal frozen histopathology sections, 4) Learn how to maintain specimen orientation and identification from the patient to the microscope.
Moderator: Carl F. Schanbacher, MD
Panelists: Timothy K. Chartier, MD; Manish J. Gharia, MD; Nanette Liegeois, MD, PhD; Tri H. Nguyen, MD; Justin Woodhouse, MD

10:30 am – 2:00 pm
Georgia A & B
Fellow-in-Training Workshop in Histotechnology

11:00 am – 12:00 pm

MG 313
Regency Ballroom DEF

The Undesirable Result in Reconstructive Surgery
At the conclusion of this session, participants should be able to thoughtfully analyze less desirable results in facial reconstructive surgery in order to determine sources of potential error in operative design or surgical technique.
Moderators: Jonathan L. Cook, MD
Panelists: Leonard M. Dzubow, MD; Gregg M. Menaker, MD; Randall K. Roenigk, MD; John A. Zitelli, MD

12:00 – 3:00 pm
Regency Ballroom ABC
Exhibit Hall & Visitor Bureau Open

12:00 – 1:00 pm

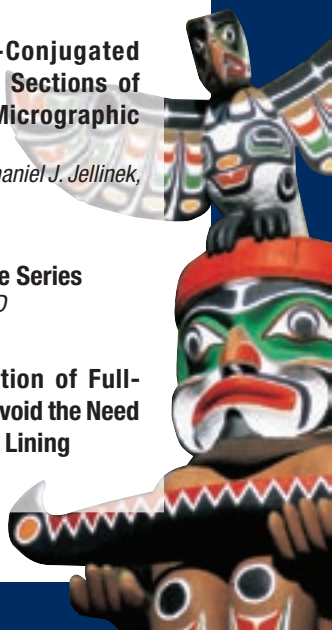
MG 314
Regency Ballroom DEF

Abstract Session
Moderators: Murad Alam, MD; John M. Strasswimmer, MD, PhD

12:04 – 12:12 pm
Defining the Role of Real-Time Directly-Conjugated Immunofluorescence for Evaluating Frozen Sections of Nonmelanoma Skin Cancer During Mohs Micrographic Surgery
Kevan G. Lewis, MD; Raymond G. Dufresne, Jr., MD; Nathaniel J. Jellinek, MD

12:12 – 12:20 pm
Adenosquamous Carcinoma of the Skin: A Case Series
Jennifer M. Fu, MD; Tim McCalmont, MD; Siegrid Yu, MD

12:20 – 12:28 pm
Folded Forehead Flaps for the Reconstruction of Full-Thickness Nasal Wounds: Interesting Ways to Avoid the Need for Intra-Nasal Flaps to Replace Missing Nasal Lining
Jonathan L. Cook, MD



Educational Program

Saturday, May 3 (continued)

12:28 – 12:36 pm
Mohs Micrographic Surgery is Much Less Expensive than Radiation or Intra-operative Frozen Sections and Comparable to Standard Excision in Managing High-risk Basal Cell Carcinoma: A Canadian Study
Christian Murray, BS, MD, FRCPC; Pierre K. Isogai, MD; Nicole Mittmann, MD

12:36 – 12:44 pm
Treatment of Advanced Squamous Cell Carcinoma of the Skin with Capecitabine
Mariah R. Brown, MD; J. Ramsey Mellette, Jr., MD; George R. Nichols, MD; William A. Robinson, MD

12:44 - 12:52 pm
Successful Treatment of Four Patients with Adanced Cutaneous Squamous Cell Carcinoma using Cetuximab as Monotherapy
Matthew Halpern, MD; Edward B. Desciak, MD; Yehuda D. Eliezri, MD; Desiree Ratner, MD

1:00 – 2:30 pm Grouse
WDS Networking Luncheon

5:00 – 6:00 pm Grouse
Fellowship Training Directors' Session

5:00 – 6:00 pm Stanley
Establishing a Mohs Practice: Pearls for Residents and Fellows
At the conclusion of this session, participants should be able to: 1) Establish a new Mohs surgery unit including the following: establishment of a CLIA-certified laboratory for Mohs and preparation of adequate surgery documentation and consent records, 2) Obtain essential equipment, instruments and other necessary disposables, 3) Train surgical assistants, 4) Understand basic coding for Mohs surgery and other surgical procedures, including the proper use of modifiers, 5) Understand basic contract issues if setting up a Mohs unit within an established practice.
Monika Srivastava, MD; Priya Zeikus, MD

6:00 – 7:30 PM English Bay
Fellow-in-Training Reception
Current Fellows-In-Training and their Program Directors

Sunday, May 4, 2008

7:00 – 10:00 am Regency Foyer / Windsor
Registration and AV Preview

7:15 – 8:45 am
Concurrent Morning Mini-Sessions

MB 400 Stanley
Management of Organ Transplant Patients
At the conclusion of this session, participants should be able to: 1) Appreciate the risk for the development of multiple cutaneous malignancies and infections in organ transplant recipients, 2) Understand the factors which predispose organ transplant recipients to the development of such problems, 3) Devise possible prevention and treatment plans for organ transplant patients.
Thomas Stasko, MD

MB 401 English Bay
Lasers for the Mohs Surgeon
At the conclusion of this session, participants should be able to: 1) Understand the different laser and non-laser modalities available on the market, 2) Understand how to use lasers in their practice as an adjunct to Mohs surgery, 3) Understand what types of lasers can be used to treat different cosmetic concerns.
Shawn Allen, MD; Keyvan Nouri, MD

MB 402 Seymour
The Role of Imaging in the Management of Non-Melanoma
Skin Cancer
At the conclusion of this session, participants should be able to: 1) Have a basic understanding of the principles and limitations of MR, CT, and US as applied to non-melanoma skin cancer, 2) Understand clinical indications for pre- and post-operative imaging, 3) Choose the best imaging modality for various clinical presentations of non-melanoma skin cancer.
Tatyana R. Humphreys, MD; Deborah MacFarlane, MD

9:00 – 9:50 am Regency Ballroom DEF
Diagnostic Quality Control Exam Review
Moderator: Frederick S. Fish, III, MD
Panelists: John K. Geisse, MD; Carl F. Schanbacher, MD; Chrysalyne D. Schmults, MD

9:50 – 10:00 am
Break

Sunday, May 4, 2008 (continued)

10:00 am – 12:00 pm Regency Ballroom DEF

MG 410

Cosmetic Symposium
Moderator: Greg S. Morganroth, MD

10:00 – 10:10 am
Neck Liposuction Alone
Cathy A. Macknet, MD

10:10 – 10:20 am
Managing Platysmal Bands During Neck Liposuction
Roberta D. Sengelmann, MD

10:20 – 10:30 am
When Neck Liposuction is Not Enough
Hayes B. Gladstone, MD

10:30 – 10:40 am
My Botox Injection Technique for the Face and Neck
Murad Alam, MD

10:40 – 10:50 am
How to Create a Beautiful Lip with Fillers
Andrew J. Kaufman, MD, FACP

10:50 – 11:00 am
Nasal and Ear Contouring with Fillers
Joel Lee Cohen, MD

11:00 – 11:10 am
Er:YAG Skin Resurfacing
Roy C. Grekin, MD

11:10 – 11:20 am
Combining CO2 Laser Resurfacing and TCA Peels
Anna A. Bar, MD

11:20 – 11:30 am
Upper Blepharoplasty: When Skin Excision is Enough
Greg S. Morganroth, MD

11:30 – 11:40 am
Upper Blepharoplasty: When Skin Excision is Not Enough
Steven M. Rotter, MD

11:40 – 11:50 am
Carbon Dioxide Transconjunctival Blepharoplasty in 8 Minutes
Aradhna Saxena, MD

11:50 am – 12:00 pm
Tear Through Correction during Lower Blepharoplasty
Ronald L. Moy, MD

12:00 pm
Meeting adjourns

Poster Presentations

Posters will be displayed in the Regency Hallway A and Regency Foyer, outside the exhibit hall and session rooms. Posters will be displayed from 12:00 pm Thursday through 3:00 pm Saturday.

101 Squamous Cell Carcinoma of the Nasal Columella Managed with Mohs Micrographic Surgery Following Exposure by Lateral Rhinotomy
Holly A. Sanders, MD; Harry L. Parlette, III, MD

102 When an M is a V: Vector Analysis Calls for Redesign of the M-Plasty
Oliver J. Wisco, DO; J. Michael Wentzell, MD

103 Prospective Study of Surgery to the Skin in Smokers Versus Non-Smokers
Anthony J. Dixon, MD; John B. Dixon, MD, PhD; Mary P. Dixon, B Appl Sci; Christopher B. Del Mar, MD, PhD

104 Simple, Rapid and Cost-Effective Method for Recording Histopathology during Mohs Surgery Using Handheld Digital Cameras
Jeffrey K. Lander, MD, PhD; Frederick S. Fish, III, MD

105 Optimization of Conjunctival Biopsy Specimen Processing for Sebaceous Carcinoma: A Novel Technique
Jason Givan, MD; John Holds, MD; Summer R. Youker, MD

106 Patient Safety Practices in Mohs Surgery
Susan T. Butler, MD; Summer R. Youker, MD; Dana Oliver, MPH; Scott W. Fosko, MD

107 A Novel Refinement of the Dorsal Nasal Flap for Nasal Tip Reconstruction
Kenny J. Omlin, MD; Rebecca Getachew, PhD-candidate; Thomas E. Rohrer, MD

108 Innovations in and Alternatives to Complete Nail Plate Avulsion
Katharine Cordova, MD; Siobhan Collins, MD; Nathaniel J. Jellinek, MD

109 Specific Morphologies for Identifying Lentigo Maligna Melanomas in Reflectance Confocal Microscopy of the Face and Scalp
Steven Q. Wang, MD; Sanjay Mandal, MD; Kishwer S. Nehal, MD; Milind Rajadhyaksha, PhD

110 Fractional Photothermolysis for the Treatment of Surgical Scars
Paul M. Friedman, MD; Joy H. Kunishige, MD

111 An Examination of the Effects of Imiquimod 5% Cream on Keloid Recurrence at Excision Sites Healing by Secondary Intension in 24 Patients.
Wil D. Tutrone, MD; Eyal K. Levit, MD

112 A Novel Method for Melolabial Flap Division: Shave Contouring
Brian Somoano, MD; Jeremy Kampp, MD; Hayes B. Gladstone, MD

113 The Staged Vestibular Lip Flap: A Novel Method for Reconstructing Medium-Sized Mucosal Lip Defects
Jeremy Kampp, MD; Brian Somoano, MD; Hayes B. Gladstone, MD

114 Is Erosive Pustular Dermatosis of the Scalp Always Pustular? A Clinicopathologic Study of Nine Patients
Scott N. Isenhath, MD; Eric L. Simpson, MD; Valencia D. Thomas, MD; Clifton R. White, Jr., MD; Brittany A. Wilson, MD

115 A Modified Technique for Histologic Processing of Mohs Wedge Excisions
Julie K. Karen, MD; Carole Hazan, MD; Marie Tudisco, HT (ASCP); Barbara Strippoli, BS, HTL; Vicki J. Levine, MD; Elizabeth K. Hale, MD; Kishwer S. Nehal, MD

116 Insulin-Like Growth Factor Binding Proteins in the Development of Basal Cell Carcinoma
Adam J. Mamelak, MD; Steven Q. Wang, MD; Leonard H. Goldberg, MD; Arwen Stelter, MS; Miao He, DDSc; Xiaoli Zhang, BSc; Stephen Tyring, MD, PhD, MBA; Jingwu Xie, PhD

117 Linear Closure for Nasal Defect after Mohs Micrographic Surgery
Adam J. Mamelak, MD; Steven Q. Wang, MD; Leonard H. Goldberg, MD

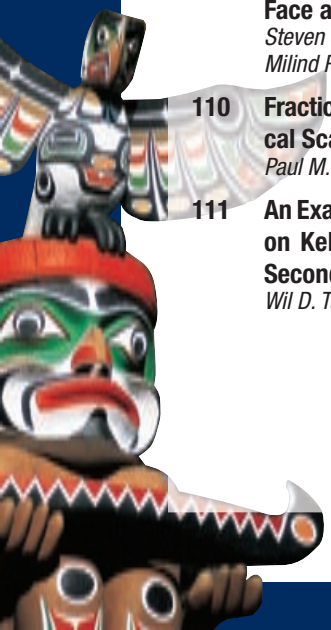
118 The Practice of Mohs Surgery Stimulates Patient Confidence and Facilitates Internal Referrals for Cosmetic Surgery
Ashley Smith, MD; Eric King, BS; Greg S. Morganroth, MD

119 Medical and Surgical Management of Primary Cutaneous Mucinous Carcinoma: Structured Review of Case Series Data
Anjali Butani, MD; Scott Wickless, MD; Dominic Ricci, BS; Murad Alam, MD

120 Full-Thickness Skin Grafts from the Upper Inner Arm as an Alternative to Split-Thickness Grafts
Dori Goldberg, MD; Jeremy S. Bordeaux, MD, MPH; Mary E. Maloney, MD

121 Unit Costs in a Mohs and DermaSurgery Unit within a Multi-Specialty Group
Rungsima Wanitphakdeedecha, MD; Tri H. Nguyen, MD; Teris Minsue Chen, MD

122 The Practical Utility of Immunohistochemistry in Mohs



Poster Presentations

Surgery Beyond Melanoma
Fiona Larsen, MD; Joseph S. Susa, DO; Sarah B. Weitzul, MD; R. Stan Taylor, III, MD

123 **The Use of Oral Capecitabine Chemotherapy for Radioresistant and Large Recurrent Squamous Cell Carcinomas of the Scalp**
Jeffrey E. Petersen, MD

124 **Comparing the Surface Area and Maximum Diameter of Invasive and Non-Invasive Melanoma Lesions Using Pre-Operative and Post-Operative Sizes**
Sofia Chaudhry, BA; Summer R. Youker, MD; M. Yadira Hurley, MD; Dana Oliver, MPH; Scott W. Fosko, MD

125 **A Novel Technique for Tissue Orientation and Inking for Mohs Surgery; Cutting Processing Times in Half while Maintaining High Accuracy and Orientation**
Imran Amir, MD; David A. Kriegel, MD; Ellen S. Marmur, MD

126 **A Novel Model that Simulates the Elasticity of Human Skin for the Training and Development of Complex Wound Closures**
Daniel Michael, MD; Sarvenaz Zand, MD

127 **Contributors to the Aesthetic and Functional Outcome of Paramedian Forehead Flaps: Mucosal Lining Flaps and Other Factors**
K. W. Foster, MD, PhD; Edgar F. Fincher, MD, PhD; Ronald L. Moy, MD

128 **Treatment of Surgical Scars with Fractional Photothemolysis versus Pulse Dye Laser**
Emily P. Tierney, MD; David J. Kouba, MD, PhD; Bassel Mahmoud, MD, PhD; David Ozog, MD; Divya Srivastava, MD

129 **Systematic Review of Topical Therapy (Imiquimod or 5-fluorouracil) for Non-melanoma Skin Cancer**
W. Elliot Love, DO; Jeremy S. Bordeaux, MD, MPH

130 **Prospective Study of Diabetics and Smokers Undergoing Skin Surgery**
Anthony J. Dixon, MD

131 **Laboratory Personnel in Mohs Micrographic Surgery: What Laboratory Techniques are they Practicing?**
Teris M. Chen, MD; Tri H. Nguyen, MD; Rungsima Wanitphakdeedecha, MD

132 **Split Approach Study For The Treatment Of Actinic Keratoses And Non-melanoma Skin Cancers With ALA Mediated Photodynamic Therapy Versus Treatment With Topical Imiquimod Cream**
Irene Vergilis-Kalner, MD; Maria M. Tsoukas, MD, PhD

133 **The First Comprehensive Assessment of Mohs Surgery in Canada**
Christian A. Murray, MD FRCPC; Mariusz J. Sapijaszko, MD, FRCPC FAACS

134 **Recurrence Rates of Squamous Cell Carcinomas of the Scalp Following Surgical Treatment**
Payam Tristani-Firouzi, MD; Glen Bowen, MD; Michael Hadley, MD; Eric Smith, BS

135 **Laboratory Personnel in Mohs Micrographic Surgery: How Do They Learn Laboratory Techniques?**
Teris M. Chen, MD; Tri H. Nguyen, MD; Rungsima Wanitphakdeedecha, MD

136 **Giant Basal Cell Carcinoma: A Case Report, Discussion of Considerations for Operation vs. Palliation and Treatment Algorithm**
Jeffrey C. Dawes, MBA, MD; Pauline Alakija, MD; David McKenzie, MD

Thursday, May 1, 2008 – MG111 Tromovitch Award Abstract Presentations

9:30 – 10:15 am

9:35 – 9:43 am
CATEGORY: Mohs Surgery
PRESENTER: Angela Casey, MD
TITLE: Mohs Surgery - How We Practice
AUTHORS: Angela Casey, MD; Glenn D. Goldman, MD

Purpose: The purpose of this study is to identify how MMS is practiced among fellowship directors of the ACMS. This study establishes current practice benchmarks for MMS and reconstruction as it is instructed to fellows of the ACMS. Demographic and practice shifts are tracked over time.

Design: With permission from the ACMS, all ACMS approved procedural dermatology fellowship directors were contacted and were presented with a survey and a request to review case logs from every 5'th year of their practice. IRB approval/exemption was obtained from the institution, and consent was obtained from all physicians who participated. Case logs and surveys were reviewed and every 10'th operative case was recorded for individual and global analysis. Fifty one of 72 fellowship directors returned the survey, and 47 of those 51 agreed to have data reviewed. Case logs were obtained by visiting the ACMS and via electronic submission and mailings. Any and all patient identifiers were destroyed and fellowship directors were identified only by practice type (academic institution vs. private practice). Thus far, data has been entered into an EXCEL spread sheet for about 107 physician years. Every tenth case from each case log is entered under a physician identifier and the data recorded are: practice, lesion type, location, preop size, postop size, number of stages, and type of repair. Data entry is ongoing at the rate of several practice years per day and will continue until about 200 practice years have been completed - about 200,000 cases.

Summary: Findings to date are subject to change, but are actually stabilizing with a decreasing standard deviation as time moves forward:

MMS is performed on basal cell carcinoma in approximately 75% of cases. Approximately 23% of cases are squamous cell carcinoma. 2% are other lesions, predominantly melanoma in situ with several other more rare lesions.

Since 1984 there has been a steady increase in the number of cases performed by MMS fellowship directors. (See attached chart/graph)

The average lesion size is estimated at 1.1 cm prior to surgery. The average operative wound follwing MMS is approximately 2.1 cm. Operative wounds were substantially larger in the 1980's and early 1990's but have stabilized over the last ten years. (Final data pending)

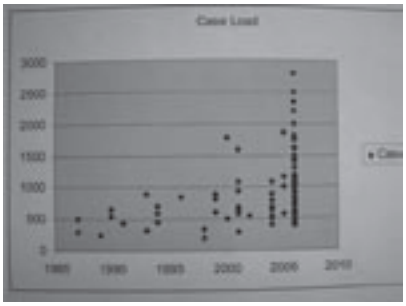
MMS is performed on the head and neck in 92% of cases. The distribution of cases is 27% on the nose, 10% on the ear, 5% on the lip, 6% on the eyelid, 4% on the scalp, 4% on the neck, 2% on the hand and foot, 8% on the trunk and 34% on the forehead, temple, cheeks and chin.(Graph ommitted due to limited space)Lesions on the trunk removed by MMS are much, much larger than those on the face.

The average lesion removed by MMS requires 1.61 stages, but there is substantial variation in this statistic with some physicians almost always using more than one stage and others rarely doing a second stage. (Graph to be presented with final data showing bimodal curve)

91% of operative wounds following MMS are repaired directly by the MMS fellowship director, but this number varies widely with many physicians repairing essentially all of their own wounds. 50% of wounds are repaired linearly, 20% with flaps, 8% with grafts, 13% by second intention, and 9% by referral. A graph will demonstrate a bimodal curve here as well.

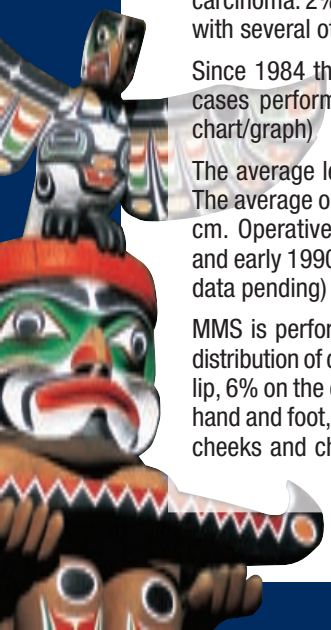
In the last 5 years:
- The average MMS fellowship director at a University performed 856 cases with a SD of 372
- The average MMS fellowship director in private practice performed 1321 cases with a SD of 594.
- University based physicians do somewhat larger cases, fewer cases, and complete cases in fewer stages. They do more cases on the nose, lip, ear, and eyelid and refer to other specialties somewhat more often than those in private practice (Details left out for brevity here but will be presented)

Conclusions: This is the most comprehensive study of MMS and reconstruction to be undertaken - made possible by the record keeping required for the ACMS. We feel that this study provides benchmarks for Mohs surgery as it is taught by ACMS approved fellowship directors. MMS is used mainly for facial lesions, and most Mohs surgeons do almost all of their own reconstructions.



9:43 – 9:51 am
CATEGORY: Reconstruction
PRESENTER: Tracy Bramlette, MD, MPH
TITLE: Microanatomy and Clinical Outcomes of the Paramedian Forehead Flap for Reconstruction of Large Nasal Defects
AUTHORS: Tracy Bramlette, MD, MPH; David G. Brodland, MD; John A. Zitelli, MD

Purpose: The paramedian forehead flap (PFHF) is a pedicle flap with a take-down three weeks after the initial procedure. The survival of this flap has been traditionally considered dependent on the supratrochlear artery for its blood supply. Thus, some surgeons utilize Doppler studies to locate the supratrochlear artery.



However, an alternative hypothesis has been that this flap may be perfused by an arcade of vessels supplied by the supraorbital, supratrochlear, infratrochlear, dorsonasal, and angular branches of the facial artery. It has been suggested that this anastomotic plexus may be the blood supply of the PFHF, even after transection of the supratrochlear artery. The three major goals of this study were to first, verify the microanatomy of the PFHF and correlate these findings to clinical outcome; second, to determine whether pre-operative Doppler studies of the vasculature are needed to insure survival of the PFHF and improve clinical outcomes; third, to precisely define guidelines for PFHF design.

Design: Our cohort included forty-four consecutive patients from 2004-2007 who received a PFHF for reconstruction of their large nasal defects following Mohs surgery for non-melanoma or melanoma-in-situ/ invasive melanoma. All patients in the study had pedicle take-down (PTD) specimens available for microscopic evaluation. The microanatomy of the PFHF by microscopic evaluation of both the proximal and distal portions of the PTD was evaluated by a blinded investigator. A retrospective analysis of our cohort, correlating microanatomy to clinical outcome of the PFHF was then completed. The optimal location of the PFHF pedicle for our cohort was defined either by pre-operative Doppler examination to locate the supratrochlear artery or alternatively, the pedicle was defined anatomically by the midline glabella in the medial aspect, and 1.2 cm lateral to midline glabella in the lateral aspect. Clinical outcomes of those patients receiving pre-operative Doppler studies were compared to patients who did not have the Doppler pre-operative procedure.

Summary: Microscopic evaluation of the proximal and distal PTD revealed that of the forty-four patients studied, a single large artery, presumably the supratrochlear artery could not be identified in the majority of our cases. The microanatomy of the proximal and distal PTD was studied and included the number, size, and inflammatory state of the arteries, veins, lymphatics, and nerves supporting the pedicle flap. The width of the pedicle, precise anatomic location, and surgical technique were photographed, measured and documented in a repeatable fashion for PFHF design optimization and reproducibility. The clinical outcomes in terms of flap survival, hematoma, and infection rate were not significantly different between those patients who had received pre-operative Doppler studies to identify the supratrochlear artery and those patients in which Doppler studies were not performed.

Conclusions: Micro-anatomical investigation of the PTD revealed that the PFHF is not dependent on a single artery, namely the supratrochlear artery, for its survival. Success of the PFHF depends on the complex of anastomotic vessels in the flap. This finding is consistent with our clinical outcome that pre-operative Doppler studies to identify the supratrochlear artery were not necessary and do not demonstrate a survival advantage for the PFHF. This study was also used to define the optimal location of the pedicle and to develop guidelines for PFHF design with superior clinical outcomes.

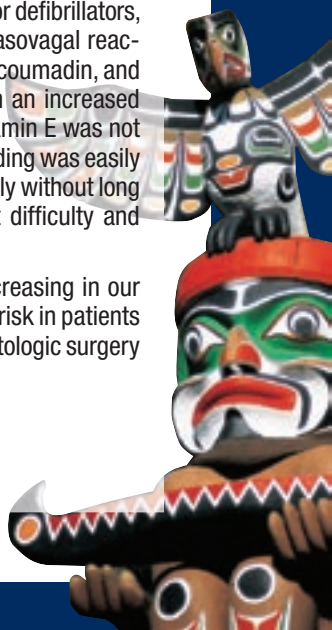
9:51 – 9:59 am
CATEGORY: Reconstruction
PRESENTER: Jeremy S. Bordeaux, MD, MPH
TITLE: Prospective Evaluation of Surgical Complications Including Patients on Multiple Anticoagulants
AUTHORS: Jeremy S. Bordeaux, MD, MPH; Dori Goldberg, MD; Mary E. Maloney, MD; Sean F. Pattee, MD

Purpose: We sought to quantify and evaluate surgical complications encountered during mohs micrographic surgery and surgical excision. We hypothesize that the recent increase in use of multiple anticoagulants may increase bleeding risk in select patients.

Design: All patients receiving Mohs micrographic surgery or surgical excision at our institution from April 2006 until June 2007 were prospectively enrolled. Data obtained at the initial visit included presence of pacemaker or defibrillator and detailed anticoagulant use. All patients were seen in follow up at 1 or 2 weeks or called. Data collected at follow up visits included presence of: hemorrhage/hematoma, infection, dehiscence, flap necrosis, graft necrosis, anatomic alteration, pacemaker/defibrillator event, anesthetic complication, contact allergy or vasovagal reaction. Bivariate analysis was performed to detect any increase in bleeding risk based on anticoagulant use.

Summary: Eighteen hundred and seventy eight patients were enrolled. Thirty nine patients (2%) had a pacemaker or defibrillator with three having only a defibrillator, twenty seven having only a pacemaker and nine having both. Eight-hundred and ninety (47%) patients were on at least one anticoagulant with 664 (35%) on aspirin, 139 (7%) on coumadin, 114 (6%) on NSAIDs, 78 (4%) on vitamin E, 60 (3%) on plavix, 4 (0.2%) on aggrenox and 2 (0.1%) on pletal. One-hundred and fifty two (8.1%) of patients were on at least two anticoagulants, 14 (0.7%) on at least three, and 3 (0.15%) on four. One person was on an NSAID, aspirin, plavix and vitamin E and the other two (one of which experienced a bleeding complication) was on coumadin, aspirin, plavix, and vitamin E. Forty three patients (2.2%) experienced a complication. These complications include: bleeding-15 (0.8%), infection-19 (1%), anatomic alteration-1 (0.05%), seroma-1 (0.05%), and contact allergy-7 (0.37%). There were no complications with the pacemakers or defibrillators, nor were there any anesthetic complications or vasovagal reactions. Use of aspirin or coumadin alone, or aspirin, coumadin, and plavix, or aspirin and plavix were associated with an increased bleeding risk ($p < 0.05$). The use of NSAIDS or Vitamin E was not associated with an increased bleeding risk. All bleeding was easily stopped and all infections were treated appropriately without long term sequelae. The seroma was drained without difficulty and contact allergies were treated with avoidance.

Conclusions: Use of multiple anticoagulants is increasing in our patient population. Despite the increased bleeding risk in patients on multiple anticoagulants, complications in dermatologic surgery remain rare.



Thursday, May 1, 2008 – MG111 Tromovitch Award Abstract Presentations

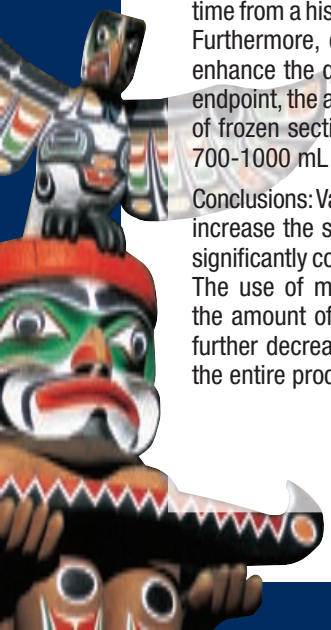
9:59 – 10:07 am
CATEGORY: Laboratory Technique
PRESENTER: Gregory J. Fulchiero, Jr., MD, MS BioEng
TITLE: Refinements in MART-1 Immunostaining Protocols to Increase the Speed of Frozen Section Preparations in Melanoma Surgery
AUTHORS: Gregory J. Fulchiero, Jr., MD, MS BioEng; R. Stan Taylor, III, MD

Purpose: The purpose of this study was to experiment with standard protocols used in the preparation of MART-1 immunostaining on Mohs frozen sections during melanoma surgery to increase the speed of slide preparation without compromising the accuracy of this technique. Additionally, rate limiting steps, and sources of wasted reagents, were identified in an attempt to minimize the operational costs associated with MART-1 staining for melanoma.

Design: Blinded comparisons were made between normal skin and melanoma in situ when different protocols in MART-1 staining were applied. A commercially available MART-1 staining regimen that recommends 20-minutes of MART-1 application and a subsequent 15-mintues of polymer HBP application were run with decreasing reagent times. Furthermore, variations in immunstaining conditions, such as heat, humidification, and oscillation, were performed to observe the effect on the quality of Mohs slides that could be consistently produced.

Summary: Decreasing pairs of MART-1 and polymer HBP application times [20- and 15-minutes, 15- and 10-minutes, 10- and 10-minuites, and finally 5- and 5-mintues, respectively] demonstrated acceptable decreases in intensities of melanocyte and melanoma cell staining without significantly compromising the ability to accurately read the frozen sections. Most noticeably, background staining of the epidermis dramatically decreased with decreasing MART-1 and polymer HBP reaction times, thus potentially minimizing the likelihood of diagnosing "false-positive" pagetoid spread of melanocytes. Additionally, the humidification and application of heat from a commercial oscillating immunostaining tray enhanced speed at which frozen sections could be produced, compared to standard Coplin jars used for immunostaining. Less dedicated time from a histotechnologist was also required using this method. Furthermore, oscillation of the slides during did not appear to enhance the quality of MART-1 frozen sections. As a secondary endpoint, the amount of wasted Tris buffer used in the preparation of frozen sections with this modified technique decreased from 700-1000 mL to as little as 100-150 mL.

Conclusions: Variations in standard MART-1 staining regimens may increase the speed of producing reliable Mohs sections without significantly compromising slide quality during melanoma surgery. The use of modern laboratory equipment may also decrease the amount of dedicated time by a Mohs histotechnologist and further decrease the volume of disposable reagents needed for the entire process.



Thursday, May 1, 2008 – MG116 Abstract Presentations

4:03 – 4:11 pm
CATEGORY: Mohs Surgery
PRESENTER: Murad Alam, MD
TITLE: Plasma Lidocaine Levels Associated with Use of Local Anesthesia (1% Lidocaine with 1:100,000 Epinephrine) During Mohs Micrographic Surgery
AUTHORS: Murad Alam, MD; Jillian Havey, BS; Sara Ortiz, MPH Dominic Ricci, BS; Joslyn Witherspoon, MD; Simon S. Yoo, MD

Purpose: Large volumes of dilute local anesthesia, so-called tumescent or near-tumescent anesthesia, are increasingly used not only for liposuction but also for other large cutaneous surgeries, including skin cancer excision. While the lidocaine plasma levels and peaks after instillation of tumescent anesthesia in the trunk have been well-studied, the comparable levels after use of less dilute (1% lidocaine) solutions used for facial cancer surgery have not been described. The purpose of this study was to assess plasma lidocaine levels and monitor patients for signs and symptoms of lidocaine toxicity after moderate to high volume injection of 1% lidocaine with 1:100:000 epinephrine into the facial, neck, or scalp skin during Mohs surgery and repair.

Design: 20 patients receiving Mohs surgery for moderate to large tumors of the face, neck, or scalp at an urban university dermatology department were enrolled. 58% of patients were male and 55% were over 65 years in age. Patients received injections (for all stages and repair) totaling between 25 mL and 68 mL of 1% lidocaine with 1:100,000 epinephrine and 1:10 sodium bicarbonate. Lidocaine levels were drawn from the right or left arm before the first injection of anesthetic, and immediately after the first stage was taken; subsequent levels were drawn before and after the 2nd stage (if necessary), and before and after the closure. The sixth and final blood draw occurred on average 5.2 hours after the first draw.

Summary: Patients did not manifest any signs of lidocaine toxicity nor did active elicitation of their status reveal any symptoms of such toxicity, including metallic taste, tongue numbness, dizziness, diplopia and visual halos. Peak lidocaine levels never exceeded 0.3 µg/mL for any patient, and for 40% of the patients were undetectable (less than 0.1 µg/mL) at all time points. 4/20 patients reported a sensation of heart racing or mild anxiety, which was ascribed to epinephrine as it did not correspond to lidocaine level peaks. A monotonic rise in plasma lidocaine levels suggested that in Mohs surgery patients, peak lidocaine levels occur 3-5 several hours after the start of surgery.

Conclusions: Use of moderate to large volume of dilute lidocaine solutions for anesthesia and hemostasis during facial cancer and reconstructive surgery appears to be safe. Symptoms and signs of lidocaine toxicity are not seen, and plasma levels remain well below the level of 5 µg/mL that is associated with the onset of lidocaine-induced visual changes.

4:11 – 4:19 pm
CATEGORY: Mohs Surgery
PRESENTER: Otter Q. Aspen, MD
TITLE: Efficacy of Pre-Injection Measures for Relative Pain Reduction of Local Anesthesia
AUTHORS: Otter Q. Aspen, MD

Purpose: To compare various methods of pre-anesthesia pain reduction for effectiveness and clinical practicality.

Design: Prospective serial selection of patients presenting to a dermatology clinic in need of biopsies. Each patient selected is sorted by body location, and receives one injection in the standard method (1cc of 1% lidocaine + epinephrine administered over 10sec period), and one injection in the setting of a randomly-selected pre-anesthesia temporizing measures at the matching contralateral body site. Patients are then asked to report relative pain of each injection site on a 1-10 scale.

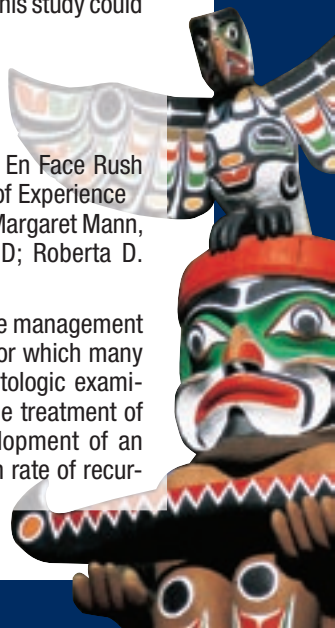
Pre-anesthesia pain reduction methods being compared:
1. Icing: application of topical ice bag to site 30sec prior to injection.
2. Vibration: manual vibration around site during injection.
3. Pinching: slight pinching of site during injection.
4. Cryogen "frosting" of site: injecting while still frosted.
5. Buffering of anesthesia with NaHCO3 prior to injection.
6. LMX application to site for 30 minutes prior to injection.
7. LMX application to site for 60 minutes prior to injection.
8. Rate of injection @ 4cc/min (1cc over 15sec).
9. Rate of injection @ 2cc/min (1cc over 30sec).

Summary: Data is still being collected. Preliminary data suggests that vibration and pinching are of limited efficacy, LMX application is effective but clinically impractical, and that rate of injection makes a modest difference to the experience of pain. Buffering also appears to be modest in its effectiveness. Icing appears to be particularly effective. "Frosting" with cryogen appears to be somewhat clinically impractical due to its potential side effects.

Conclusions: Icing and rate of injection appear to be the most clinically useful and efficacious pre-anesthesia measures. However, data is still being collected, and the conclusions of this study could change once all data is analyzed.

4:19 – 4:27 pm
CATEGORY: Mohs Surgery
PRESENTER: Chynna L. Steele, MD
TITLE: Staged Excision of Melanoma in Situ with En Face Rush Permanent Sections for Histologic Exam: 6 Years of Experience
AUTHORS: Chynna L. Steele, MD; Mark Hurt, MD; Margaret Mann, MD; Jeffrey E. Petersen, MD; Daniel Popkin, MD; Roberta D. Sengelmann, MD

Purpose: Much consideration has been given to the management of Melanoma In Situ (MIS)/Lentigo Maligna (LM) for which many different techniques of surgical excision with histologic examination have been proposed. Factors that make the treatment of MIS/LM challenging are: potential for the development of an invasive and possibly metastatic component, high rate of recur-



Thursday, May 1, 2008 – MG116 Abstract Presentations

rence with traditional treatments, potentially significant subclinical extension, and frequent occurrence on sun exposed, functionally and cosmetically sensitive areas. Consequently, the best surgical treatment of MIS will include early excision of tumor bulk to histologically characterize the neoplasm and rule out invasion, permanent tissue sections (in which histologic evaluation is most reliable), complete margin visualization, and tissue sparing margin control. We presently describe our methods of staged excision of MIS with en face rush permanent sections and evaluate the utility and efficacy of this treatment.

Design: We retrospectively reviewed 171 cases of MIS treated with staged excision and en face rush permanent sections at the center between April 2001 and March 2007. We collected information regarding patient demographics, lesion characteristics, and treatment details. Patients were contacted by phone in follow up to determine if there had been any recurrence.

Technique: The first stage of every excision included removal of the tumor plus an additional margin of tissue (2-10mm), usually in a roughly circular or oval shape. Tissue was excised in a "Mohs" fashion with 45 degree angle bevel. Specimens were oriented (with either ink or suture) then submitted to the pathologist in one or multiple pieces depending on the style of the treating physician and features of the tumor. The tumor debulk was embedded on edge and the peripheral margins embedded en face for examination. Additional stages were taken in a similar manner in areas where remaining tumor was identified until the margins were clear. Patients returned for the next stage or repair (once margins were clear of MIS) at intervals of 2-7 days.

Summary: 171 lesions of MIS were treated in a total of 165 patients—2 lesions were treated in our office as primary tumors and then again as recurrences and 4 patients had 2 primary lesions. There were 77F and 88M Caucasian patients, mean age 63.15 years (range 23-92 years); 100 lesions on the head and neck and 71 on other areas of the body; and 162 primary and 9 recurrent lesions. For all lesions, a mean of 1.38 stages (range: 1-6 stages) were taken, and a mean of 6.12 mm margins (range: 2.5 - 23.25 mm) were required to clear the tumors. In 11/171 (6.4%) lesions there was another malignant tumor (BCC, SCC, SCCIS) discovered which required additional margins to clear. 22/171 (12.9%) lesions were cleared with less than 5 mm margins, 39/171 (22.8%) required more than 5 mm margins and the remainder were all cleared with 5 mm margins. There were also 5 lesions (not included in the 171 MIS lesions) with a pre-operative diagnosis of MIS that were found to have an invasive component and were subsequently treated appropriately based on the depth of invasion. Preliminarily, follow up is available for 152 cases (19 patients have been lost to follow up). 5 cases (3.3%) of local and distant recurrence have been identified. Data analysis remains ongoing and results are preliminary.

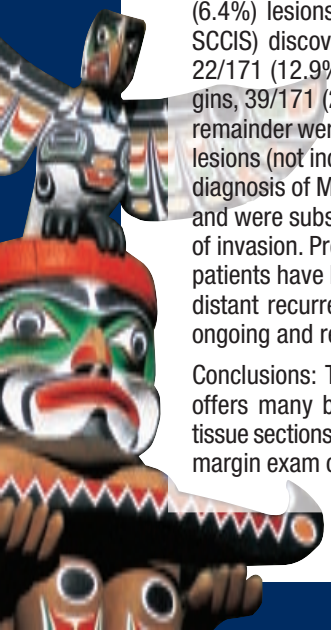
Conclusions: The method of staged excision that we describe offers many benefits including permanent (rather than frozen) tissue sections for evaluation, tissue-sparing margin control, 100% margin exam of the tissue, and debulk/tumor examination to rule out invasion. Our staged technique allowed clearance of MIS with necessary margins ranging from 2.5 to 23.25 mm, while minimizing the amount of normal tissue excised. Early removal of the tumor bulk permitted identification of invasion in 5 patients with a biopsy diagnosis of MIS and consequently, appropriate treatment of their invasive disease. The low recurrence rate that we find suggests that our method of en face margin exam in permanent sections allows effective identification and excision of MIS.

4:27 – 4:35 pm
CATEGORY: Mohs Surgery
PRESENTER: Julie K. Karen, MD
TITLE: Fluorescence Confocal Microscopy of Basal Cell Carcinomas in Mohs Excisions: Feasibility of Rapid Surgical Pathologyat-the-Bedside
AUTHORS: Julie K. Karen, MD; Daniel Gareau, PhD; Kishwer S. Nehal, MD; Milind Rajadhyaksha, PhD

Purpose: There is growing interest in rapid noninvasive imaging of skin cancers without standard tissue processing with optical imaging modalities such as optical coherence tomography, confocal reflectance microscopy, and spectroscopy. Preliminary studies by our group have established that nodular and micronodular basal cell carcinomas (BCC) are visualized rapidly (within 5-9 minutes) with high resolution in real time on excised Mohs surgery fresh tissue specimens with acetowhitening and confocal reflectance imaging without routine frozen section processing (20-40 minutes). However, infiltrative BCCs are difficult to detect being obscured by the surrounding bright dermis in confocal reflectance microscopy. We propose that fluorescence contrast with acridine orange may offer an alternative imaging modality with a dye that specifically stains nuclear DNA and RNA but not the surrounding dermis. The objective is to determine the feasibility of using Acridine orange and imaging in fluorescence to enhance contrast between the BCC tumor and the dermis and improve the detection of infiltrative BCCs.

Design: Following completion of the Mohs surgery procedure, excess fresh tissue from Mohs surgery with residual BCC (40 specimens) was collected and imaged. Fluorescence was excited with a 488 nm Argon-ion laser and detected in the 500-600 nm range. Imaging was performed with a 30X (0.9 NA) water immersion objective lens that displays a 0.5 mm field of view. Staining was performed by immersing each specimen in Acridine orange (concentration of 1 mM). In order to duplicate standard histology viewing at 2X magnification, up to 35x35 images were stitched together to create a mosaic displaying 15x15 mm of tissue.

Summary: The nuclei appeared several-fold brighter than the relatively dark dermis. All histologic subtypes of BCCs (nodular, micronodular, and infiltrative) were easily detected with acridine orange fluorescent contrast. Bright BCC tumor foci had sharp contrast to the dark dermis. Even very small infiltrative strands of BCC could be visualized with this imaging mode. There was good correlation between the imaging mosaic and the Mohs frozen sections in detecting BCCs. Staining, imaging and preparation of mosaics with 2X magnification required approximately 5 to 9 minutes.



Conclusions: This study demonstrates the feasibility of real-time confocal imaging with the use of acridine orange as a fluorescence contrast agent for rapid examination of BCC tumors in fresh surgical excisions. In contrast to reflectance imaging with acetic acid, fluorescence with acridine orange enhances contrast and detection of infiltrative BCCs. As this technology advances further, it may serve as an adjunct to standard histology and enable rapid surgical pathology of skin cancers at the bedside.

4:43 – 4:51 pm
CATEGORY: Mohs Surgery
PRESENTER: Mariana Phillips
TITLE: The Utility of Porcine Biosynthetic Wound Dressings Following Mohs Surgery
AUTHORS: Mariana Phillips, MD; Algin B. Garrett, MD

Purpose: Porcine biosynthetic dressings have been used in a variety of acute and chronic wounds to augment healing. The purpose of this study is to describe the method of application of the porcine dressing and discuss the utility of porcine biosynthetic wound dressings in a Mohs surgical practice.

Design: Charts from a single academic Mohs practice were retrospectively reviewed from July 2006- June 2007 to identify patients who underwent application of a porcine biosynthetic dressing during the perioperative peroid. Site of application, pain assessment, time to complete granulation, and complications were noted.

Summary: The porcine biosynthetic dressing was utilized during the perioperative period in 49 Mohs patients, representing 50 wounds. The biosynthetic dressing was used to support and promote granulation in six wound situations: 1. exposed perichondrium or cartilage at conchal bowl full thickness skin graft donor sites (n=11) or at the primary Mohs defect (n=11); 2. Preserve vital structures of wounds allowed to heal by secondary intention: periosteum (n= 8) or nerves and vessels (n=2); 3. Lower extremity wounds allowed to heal by secondary intention (n=4); 4. Wounds where delayed reconstruction was planned (n=6); 5. Wounds that were experiencing delayed traditional secondary intention healing (n=2); and 6. Augment secondary healing in areas of dehiscence of primary closure or partial necrosis of full thickness skin grafts of flaps (n=6). The average size of the defect and the duration of porcine dressing application following wounding in each clinical setting is detailed in Table 1. The application of the porcine dressing was continued until the degree of granulation present was deemed adequate to support epithelialization (Figures 1). All patients in the series, with the exception of one, reported experiencing no pain or minimal pain that could be controlled with the use of oral narcotics. Three complications were noted. One patient reported developing malaise and flu like symptoms immediately following application of the porcine biosynthetic dressing to an anterior helical rim post Mohs defect. Two patients experienced wound infections within one week of porcine dressing placement.

Conclusions: In summary, this report describes the utility of a commercially available porcine dressing in 50 post Mohs wounds. The dressing was a valuable asset in that provided versatility in approaching various post Mohs defects. The porcine dressing was used to promote and support granulation over exposed cartilage, periosteum and bone; preserve exposed nerves and vessels in wounds allowed to heal by secondary intention; and prevent desiccation of the wounds scheduled for delayed reconstruction.

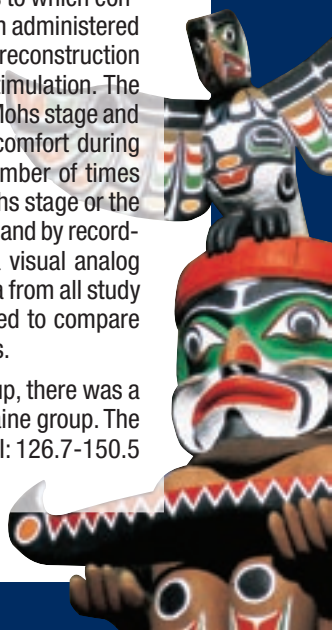
Figure 1. A) Scalp defect after debridment of necrotic FTSG and shaving of bone to point of pinpoint bleeding. The FTSG had been place one month earlier. B) One week post application of first porcine dressing. C) Complete granulation of wound bed after two weeks of porcine dressing application. D) Wound three months after first porcine dressing application.

4:51 – 4:59 pm
CATEGORY: Mohs Surgery
PRESENTER: Pamela Morganroth, BS, MS, MD-candidate
TITLE: A Randomized, Double-Blind Comparison of the Total Dose of 1.0% Lidocaine with 1:100,000 Epinephrine versus 0.5% Lidocaine with 1:200,000 Epinephrine Required for Local Anesthesia during Mohs Micrographic Surgery (MMS)
AUTHORS: Pamela Morganroth, BS, MS, MD-candidate; Joel Gelfand, MD, MSCE; Anokhi Jambusaria, MD; David Margolis, MD, PhD, MSCE; Christopher J. Miller, MD

Purpose: When 1.0% lidocaine with 1:100,000 epinephrine is used for local anesthesia during MMS, patients with large tumors, multiple sites, and complex reconstructions frequently require lidocaine doses exceeding the maximum recommended dose of 7 mg/kg. The purpose of our study was to compare the total dose and pain control during MMS when using 1.0% lidocaine with 1:100,000 epinephrine versus 0.5% lidocaine with 1:200,000 epinephrine.

Design: 149 subjects with 168 tumors were randomized to receive either 1.0% lidocaine with 1:100,000 epinephrine (74 subjects with 83 tumors) or 0.5% lidocaine with 1:200,000 epinephrine (75 subjects with 85 tumors) during MMS. Study participants included all eligible skin cancer patients ages 18 and older undergoing MMS in the dermatologic surgery clinic of the principal investigator at the hospital between the dates of June 19, 2007 and September 11, 2007. The surgeon and the patient were blinded as to which concentration of lidocaine was being used. The surgeon administered lidocaine immediately prior to each stage and the reconstruction until the patient reported no pain from pinprick stimulation. The total dose of anesthetic administered during each Mohs stage and during the reconstruction was recorded. Patient comfort during the procedure was assessed by recording the number of times the patient required additional lidocaine after a Mohs stage or the reconstruction had begun (termed rescue lidocaine) and by recording the patient's subjective measure of pain on a visual analog scale (VAS). Descriptive statistics based on the data from all study participants were calculated, and t-tests were used to compare the two subject groups for all continuous variables.

Summary: As compared to the 1.0% lidocaine group, there was a 50% reduction in lidocaine dose in the 0.5% lidocaine group. The mean total dose of lidocaine was 138.6 mg (95% CI: 126.7-150.5



Thursday, May 1, 2008 – MG116 Abstract Presentations

mg) in the 0.5% lidocaine group and 296.6 mg (95% CI: 270.5-322.7 mg) in the 1.0% lidocaine group. There was no significant difference (P=.45) between the mean total volume of lidocaine administered in the 1.0% lidocaine group (29.66 +/- 17.11 cc) and the 0.5% lidocaine group (27.73 +/- 15.62 cc), see Table I. Pain control was equivalent in both groups, as evidenced by the lack of significant difference between the mean VAS scores of the two groups (P=.54) or the mean total volume of rescue lidocaine administered (P=.27). The mean VAS scores were 3.25 +/- 0.80 mm for the 1.0% group and 4.01 +/- 0.94 mm for the 0.5% group. The mean volumes of rescue lidocaine were 0.10 +/- 0.44 cc and 0.28 +/- 1.37 cc for the 1.0% and 0.5% lidocaine groups, respectively.

Conclusions: Compared to 1% lidocaine with 1:100,000 epinephrine, 0.5% lidocaine with 1:200,000 epinephrine provides equivalent pain control with half the total dose. To avoid exceeding maximum recommended lidocaine doses, 0.5% lidocaine with 1:200,000 epinephrine should be the standard of care during MMS.

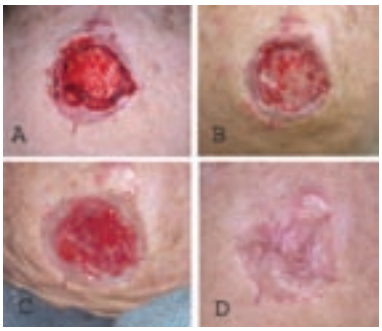


Figure 1. A) Scalp defect after debridment of necrotic FTSG and shaving of bone to point of pinpoint bleeding. The FTSG had been place one month earlier. B) One week post application of first porcine dressing. C) Complete granulation of wound bed after two weeks of porcine dressing application. D) Wound three months after first porcine dressing application.

4:59 – 5:07 pm
CATEGORY: Mohs Surgery
PRESENTER: Justin J. Vujevich, MD
TITLE: A Prospective, Randomized Study of Wound Appearance Comparing Manual Pressure vs. Electrosurgery for Achieving Hemostasis During Mohs Surgery
AUTHORS: Justin J. Vujevich, MD; Cecilia Ardila, BS, RN; Leonard H. Goldberg, MD; Arash Kimyai-Asadi, MD; Sarah Seitz, BS

Purpose: The primary objective of this study is to compare post-operative Mohs surgery wound appearance when intra-operative hemostasis was obtained by manual pressure versus electrocautery.

Design: This was an IRB-approved, randomized prospective study. Study participants were Mohs surgery patients at the clinic. Once informed consent was obtained, study participants were randomized prior to surgery to receive hemostasis control during Mohs surgery with 5 minutes of self-applied manual pressure or with electrocauterization only, without pressure.

Exclusion criteria included patients with an implantable pacemaker or defibrillator. We did not exclude patients on anticoagulation therapy (Plavix, Coumadin, Aspirin, Vitamin E).

As with any other Mohs surgical procedure in the surgical center, study participants received the same care as non-study participants, including a complete history and physical exam, monitoring of vitals, surgical removal of lesion, and post-operative care. Once the surgical area was anesthetized, the tumor was surgically de-bulked, and a Mohs layer was taken, the study participant received one of the two hemostasis modalities. The patient and physician knew prior to the surgical procedure which modality was going to be used.

If the patient was randomized to the manual pressure group, a folded, 4- × 4-cm piece of gauze was taped over the surgical wound after taking a Mohs stage, and the patient held constant pressure with a finger for 5 minutes. After 5 minutes, the patient released pressure and allowed the taped gauze to remain on the wound. If the patient was randomized to the elecrocautery group, the cautery tip coagulated any visible oozing or bleeding vessels seen in the surgical defect field and gauze with tape dressing was placed over the wound without any patient-applied pressure. All of the used surgical gauze was weighed at the end of each stage and in between stages to assess the amount of blood loss between the two treatment groups.

Surgical wounds were reconstructed or allowed to granulate. At suture removal and at 1-month follow-up, the study participants' wounds were evaluated based on erythema, pain, dehiscence, hematoma, and infection.

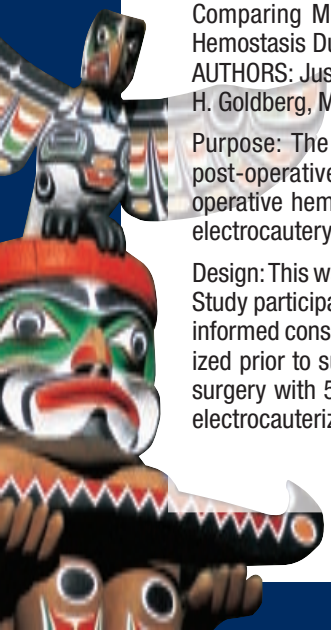
Summary: There were 73 patients with 117 tumors enrolled in our study. 60 patients were randomized to receive pressure and 57 patients received electrocautery. Two patients randomized to the pressure group were disqualified during the study because they required electrocautery to control intraoperative bleeding.

Participants in the pressure group had a higher average erythema score (1.24) than participants in the electrocautery group (0.95) at suture removal and at 1-month follow-up (0.51 vs. 0.37, respectively). Both hemostasis groups had similar scores for post-operative pain at suture removal (0.29 vs. 0.24, respectively) and at 1-month follow-up (0.07 vs. 0.06, respectively).

There were 3 superficial dehiscences in the electrocautery group and 2 superficial dehiscences in the pressure group. There were no infections or hematomas in either the electrocautery or pressure groups.

Blood loss was assessed though the weighing of gauze intraoperatively and between Mohs stages. Participants in the pressure group had less bleeding immediately after and between Mohs stages than participants in the electrocautery group.

Conclusions: Our study demonstrates that both electrocautery and manual pressure are effective modalities for hemostasis during Mohs surgery. There were several differences between the two study groups. Study participants receiving manual pres-



sure during Mohs surgery had more erythema at follow-up than participants receiving electrocautery. Patients receiving manual pressure, however, experienced less bleeding during and in between Mohs stages compared to the electrocautery group. There was no difference in post-operative wound pain. We had 1 more dehiscence in the electrocautery group, but equal incidences of infection and hematoma.

5:07 – 5:15 pm
CATEGORY: Mohs Surgery
PRESENTER: Jamie L. McGinness, MD
TITLE: The Value of Preoperative Biopsy Site Photography for Identifying Cutaneous Lesions
AUTHORS: Jamie L. McGinness, MD; Glenn D. Goldstein, MD

Purpose: The field of dermatology continues to grow into a more surgical and cosmetic specialty. This growth has occurred during a time of increasing levels of litigation against physicians. In a recent study, Perlis et al1 found the overall rate of lawsuits among Mohs surgeons was 11%. Of the 300 Mohs surgeons surveyed one of the leading reasons for malpractice claims was operating on the wrong site, 14% (6 of 42 cases).1 Dermatologic surgeons rely on several methods to identify surgical sites: patients and their spouses, diagrams of surgical sites, gauze dermabrasion, biopsy site scars, and referring physician identification. However, it is not uncommon for several weeks to pass prior to surgery allowing biopsy sites to become inconspicuous with healing. Practicing in a culture where medical lawsuits continue to soar, it is prudent for dermatologists and dermatologic surgeons to precisely locate surgical sites by the most accurate and irrefutable means in order to protect themselves against costly lawsuits.

This study was performed to determine the value of preoperative biopsy site photography in accurately identifying surgical sites prior to Mohs micrographic surgery.

Design: 271 surgical sites were evaluated in the study. Patients with preoperative biopsy site photography of cutaneous malignancies undergoing Mohs micrographic surgery by one of the four Mohs surgeons at the center were enrolled in the study. Patients with Alzheimer's or other memory altering diseases were excluded from the study. The day of the surgery patients were asked to correctly identify the surgical site prior to physician evaluation. The physician was then asked to identify the surgical site correctly by using only the anatomic biopsy location and the diagrammed location of the biopsy site. They were not allowed to use gauze dermabrasion to locate the surgical site.

Summary: The surgical sites were incorrectly identified in 45 of 271 sites (16.6%) by the patients and 16 of 271 sites (5.9%) by the physician. A total of 12 of 271 sites (4.4%) were incorrectly identified by both the surgeon and the patient. We believe these rates may be potentially higher in practices with lengthy time delays between biopsies and surgical removal of the cutaneous malignancies. All surgical sites were correctly identified with preoperative biopsy site photography.

Conclusions: With advancing technology and increasing patient expectations of flawless medical care, it is imperative that physicians employ the most precise methods to eliminate medical error. This study shows that preoperative biopsy site photographs are invaluable, useful, and necessary for exact surgery site identification. Preoperative biopsy site identification with preoperative biopsy site photographs is clearly superior to patient and physician surgery site identification eliminating the risk of wrong site surgery. We believe biopsy site photography should be the standard of care for all dermatologists and dermatologic surgeons to avoid wrong site surgery and costly lawsuits.

1. Perlis CS, Campbell RM, Perlis RH, Malik M, Dufresne RG. Incidence of and Risk Factors for Medical Malpractice Lawsuits among Mohs Surgeons. Dermatol Surg 2006;32:79-83.

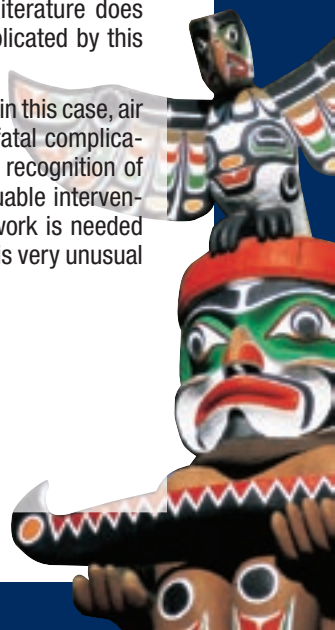
5:15 – 5:23 pm
CATEGORY: Mohs Surgery
PRESENTER: Jonathan L. Cook, MD
TITLE: Mohs Micrographic Surgery Complicated by a Cerebrovascular Accident Attributed to Intra-Operative Air Emboli
AUTHORS: Jonathan L. Cook, MD

Purpose: Mohs surgeons should be aware of a rare but potentially catastrophic complication of the surgical manipulation of skin: air embolism.

Design: An 87 year old male was referred for the Mohs surgical excision of a persistent basal cell carcinoma of the scalp. After the second Mohs surgical stage was obtained, the patient was found in the Mohs surgical waiting area to be unresponsive. A clinical examination suggested an evolving cerebrovascular accident, and rapid cranial imaging noted the presence of multiple air emboli in the venous and arterial structures of the brain. Despite aggressive supportive care and the institution of rapid hyperbaric oxygen therapy, the patient continued to have signs suggestive of an evolving ischemic brain injury. Discharged several weeks later to a skilled nursing facility with significant neurological sequelae, the patient died of a presumed aspiration pneumonia within weeks.

Summary: Although fatal air emboli have been described after a number of surgical procedures, the medical literature does not reflect that skin cancer surgery can be complicated by this exceedingly rare, devastating event.

Conclusions: Mohs surgeons should be aware that in this case, air emboli have been postulated to be a potentially fatal complication of the surgical manipulation of skin. Prompt recognition of ischemic symptoms can occasionally lead to valuable interventions such as hyperbaric oxygen therapy. More work is needed to clarify the incidence and the pathogenesis of this very unusual surgical complication.



Friday, May 2, 2008 – MG214 Abstract Presentations

4:02 – 4:10 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: John A. Carucci, MD, PhD
TITLE: Dendritic Cells from SCC are Less Potent Stimulators of T Cell Proliferation than DCs from Adjacent, Patient-Matched, Site-Matched Non-Tumor Bearing Skin
AUTHORS: John A. Carucci, MD, PhD; Mark Bluth, PhD; James G. Krueger, MD, PhD; Michelle A. Lowes, MD, PhD; Lisa Zaba, BA

Purpose: Dendritic cells are key players in adaptive anti-tumor immunity and the most potent stimulators of allogeneic T cell proliferation. We studied phenotype and stimulatory potential of dendritic cell from human SCC and adjacent patient matched, site matched, non-tumor bearing skin in order to determine whether tumor associated DCs differed in phenotype and stimulatory potential from those associated with non tumor bearing skin.

Design: Waste tissue from SCC and adjacent, patient matched, site matched, non tumor bearing skin discarded at repair was cultured for 3 days to facilitate migration of dendritic cells. Dendritic cells from SCC and non tumor bearing skin obtained by sorting for CD11c+ HLA-DRHi (>99% pure) were analyzed for surface marker expression by FACS and were co-cultured with allogeneic T cells to assess stimulatory potential. T cell proliferation on Day 8 of culture was measured by CFSE dilution.

Summary: Dendritic cells from tumor bearing skin and patient matched, site matched, non-tumor bearing skin expressed CD83 and CD86. However, SCC associated DCs were less able to stimulate allogeneic T cell proliferation compared to DCs from adjacent non-tumor bearing skin (2-fold). In addition, culture with cytokine cocktail to enhance maturation, enhanced stimulatory potential in DCs from non tumor bearing skin while SCC associated DCs were not affected by treatment with cytokines.

Conclusions: These findings indicate that DC émigrés from SCC express co-stimulatory molecule CD86 and maturation marker CD83, but are not potent stimulators of T cell proliferation compared with site-matched, patient-matched, phenotypically similar DCs isolated from non-tumor bearing skin. This may provide insight into a mechanism by which SCC evade immunosurveillance.

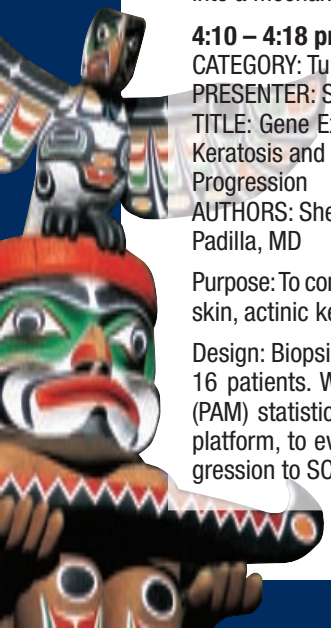
4:10 – 4:18 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: Sheldon L. Sebastian, MD
TITLE: Gene Expression Patterns of Normal Human Skin, Actinic Keratosis and Squamous Cell Carcinoma: A Spectrum of Disease Progression
AUTHORS: Sheldon L. Sebastian, MD; Zeyu Jiang, PhD; R. Steven Padilla, MD

Purpose: To compare the gene expression profiles of normal human skin, actinic keratosis and squamous cell carcinoma.

Design: Biopsies of normal skin, AK and SCC were obtained from 16 patients. We applied the prediction analysis of microarrays (PAM) statistical method, based on the Affymetrix U133 Plus 2 platform, to evaluate the pattern of gene expression in the progression to SCC.

Summary: Actinic keratoses (AK) develop after prolonged exposure to ultraviolet radiation in susceptible individuals. AKs are considered precancerous by most, and while abnormal gene expression in squamous cell carcinoma (SCC) is well known, the question of whether AK represents an early stage of SCC is unclear. The purpose of our study was to compare the gene expression profiles of AK and SCC to help provide insight to this matter. By utilizing modern microarray techniques we analyzed the patterns of gene expression of human keratinocytes at different disease stages. Skin biopsies were obtained from 16 human patients. Each lesion was assessed clinically by a board-certified dermatologist, biopsied, and confirmed histologically with hematoxylin and eosin staining. The biopsies consisted of specimens from normal non-sun-exposed skin, normal sun-exposed skin, actinic keratosis, and SCC. From a total of 54,000 genes, we identified hundreds that were differentially expressed in our AK and SCC samples. High stringency standards were employed to identify the top 147 "signature genes" (false negative rate of zero), which were then used to measure the overall pattern of gene expression in the progression from normal skin to actinically damaged skin and ultimately to SCC. We applied the prediction analysis of microarrays (PAM), a statistical technique for gene selection and supervised class prediction, to 48 patient samples based on the Affymetrix U133 Plus 2 platform. The results from six such analyses were averaged to identify the best set of genes used to classify and characterize disease progression. Figure 1 illustrates the hierarchical grouping of the 48 samples by the 147 genes. The dendrogram delineates the clustering of AK/SCC samples and normal skin samples. In addition, our molecular classifier reveals two distinct gene groups; those with up and down-regulated expression in AKs and SCCs, and the opposite expression profile in the normal skin samples. To assess independent verification of the molecular classifier obtained in our study; we used data published by Nindl et al. to see how well our classifier predicted the clinical samples from their study. We were able to predict the samples, with 100% accuracy, of normal skin vs. AK/SCC. There were over 100 genes in our identified classifier with known molecular functions; namely, desmoglein 3, connexin 26, and connexin 30, which function in cell-cell communication. Several cell-signaling genes were also identified, including: tumor necrosis factor receptor superfamily, member 21, WNT5A, SGEF, GATA binding protein 3, etc. As expected, eight genes were various iso-forms of keratin, which reflect the origin of the samples. Clarification of the molecular mechanisms of skin cancer progression requires a clear understanding of how these genes function together and how their expression profiles are altered at different points along the spectrum.

Conclusions: Our data provides solid evidence that the abnormal gene expressions found in cutaneous SCC are identical to those found in AK, thus providing a linkage of AK and SCC along a spectrum of disease progression. This data also presents a gene set for the molecular classification of cutaneous SCC.



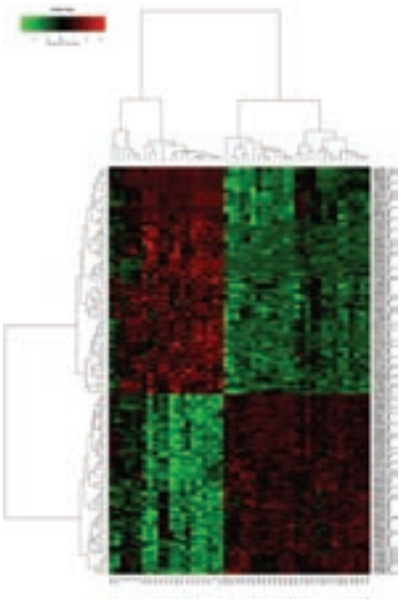


Figure 1: Two-way heat map based on 147 genes as molecular markers for sample prediction. All AK and SCC samples clustered together and form two genetic groups as indicated by the colors on the dendrogram. (Red = up-regulated genes, Green = down-regulated genes)

4:18 – 4:26 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: Jerry D. Brewer, MD
TITLE: Incidence of Skin Cancer Following Cardiac Transplantation
AUTHORS: Jerry D. Brewer, MD; Oscar Colegio, MD, PhD; Walter K. Kremers, PhD; Clark C. Otley, MD; Pamela K. Phillips, MD; Randall K. Roenigk, MD; Dierkhising A. Ross, MS

Purpose: The incidence, tumor burden, and risk factors for skin cancer are well documented in renal transplant recipients, but to a lesser extent in cardiac transplant patients. Furthermore, the risk of skin cancer in transplant recipients has been postulated to correlate with the cumulative immunosuppressant dose, making cardiac transplant recipients at high risk given the aggressive immunosuppression regimens used in such patients.

The purpose of this study was to examine the incidence, tumor burden, and risk factors for the development of squamous cell carcinoma (SCC), basal cell carcinoma (BCC), and other types of skin cancer among a cohort of cardiac transplant recipients.

Design: A search of the master diagnosis index at the clinic was queried to identify patients who had received a cardiac transplant. 312 patients were identified, and a retrospective chart review was conducted to extract data regarding tumor incidence, burden, and associated risk factors. Cumulative incidence of skin cancer was computed using a competing risk of death. Cox models were used to evaluate risk factors for SCC post-transplant.

Summary: The 312 cardiac transplant patients developed the following types of skin cancers; SCC, BCC, malignant melanoma (MM), angiosarcoma, atypical fibroxanthoma, and pilomatrix carcinoma. The SCC minus BCC difference was 0.32/yr. The average time to develop the first SCC, BCC, and MM after transplantation was 4.9, 5.4, and 10.3 respectively. The incidence of any type of skin cancer was 20.4% at 5 years, 37.5% at 10 years, and 46.4% at 15 years of follow-up post cardiac transplantation. The incidence of developing an SCC after the development of the first BCC was 98.1% after 7 years of follow-up, and the incidence of developing a BCC after the first SCC was 51.1% after 7 years of follow-up.

When evaluating tumor burden, 19 of the 312 patients were found to have developed 10 or more SCCs, with one patient developing 306 SCCs. Only 2 patients developed 10 or more BCCs with one patient developing 17 BCCs. The overall mean number of SCCs and BCCs developing per year of follow-up were found to be 0.37 ± 2.39 and 0.06 ± 0.19, respectively, with the maximum number of SCCs and BCCs developing per year being 36 and 2, respectively. The mean number of SCCs in the 5th, 10th, and 15th year of follow-up in patients with at least one SCC that year was 7.1 ± 16.1, 3.6 ± 3.4, and 2.8 ± 2.6, respectively.

Overall, 46.4% developed a skin cancer by 19 years of follow-up. 1,395 new skin cancers occurred in 2,097 person-years (avg. 0.43/yr). At 5, 10, and 15 years of follow-up, 15.4%, 32.3%, and 38.2% of patients had developed an SCC. Similarly, at 5, 10, and 15 years of follow-up, 10.3%, 19.2%, and 31.6% of patients had developed a BCC.

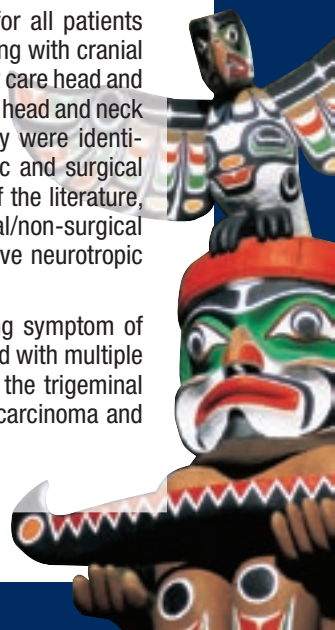
Conclusions: This study quantifies the significant burden and morbidity associated with skin cancer in cardiac transplant patients. Vigilant sun protection and skin cancer screening exams are appropriate in this high risk patient population.

4:26 – 4:34 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: Joel Cook, MD
TITLE: Cranial Neuropathies as a Presenting Sign of Recurrent Aggressive Skin Cancer
AUTHORS: Joel Cook, MD

Purpose: The purpose of this study was to identify and characterize recurrent skin cancers of the head and neck presenting with cranial neuropathies, and to review the presentation and the management for this rare subset of cutaneous neoplasms.

Design: A retrospective review was performed for all patients with previous related cutaneous cancers presenting with cranial neuropathies referred to a single academic tertiary care head and neck tumor program from 1999-2007. Six cases of head and neck carcinoma with demonstrable cranial neuropathy were identified and analyzed by clinical history, radiographic and surgical findings, treatment, and survival data. A review of the literature, pertinent anatomy, imaging studies, and surgical/non-surgical management are summarized for these aggressive neurotropic cutaneous malignancies.

Summary: Cranial neuropathy was the presenting symptom of recurrent disease in all six patients. Four presented with multiple cranial neuropathies. All exhibited neuropathy of the trigeminal nerve. The tumors involved were squamous cell carcinoma and melanoma.



Friday, May 2, 2008 – MG214 Abstract Presentations

All patients were multiply symptomatic, presenting with a mean of 3 neurologic symptoms including facial numbness (5), facial paralysis or weakness (3), facial pain (3), diplopia (3), paresthesia (3), hearing loss (1), or formication (2). Symptoms were present for an average of seven months prior to diagnosis. Cranial nerve involvement was confirmed in all patients by MRI, and five patients manifested histological evidence of perineural tumor infiltration.

Treatment consisted of various combinations of surgery, radiation therapy, and chemotherapy for 5 patients. One patient declined any intervention. Death rate subsequent to disease was 50% and follow-up has continued at our institution on all patients for an average of 25.2 months.

Conclusions: Cranial neuropathy is a rare presentation of recurrent skin cancer of the head and neck. Given this infrequent occurrence and shared features of presentation, these highly aggressive and morbid tumors are often mistakenly diagnosed as Bell's Palsy or trigeminal neuralgia. Our findings echo previous reports of diagnostic delay, increased tumor burden, and worsened morbidity and mortality associated with such cutaneous malignancies. The critical use of radiologic imaging for staging and tumor delineation are supported by our data. The Dermatologic surgeon must be versed in this rare presentation of recurrent tumor and understand the staging and treatment options.

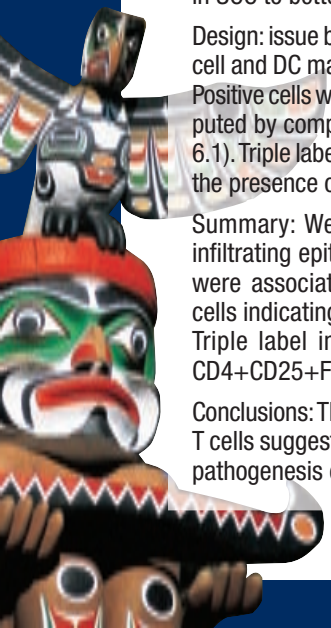
4:34 – 4:42 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: John A. Carucci, MD, PhD
TITLE: The Infiltrate Associated with Human Cutaneous Squamous Cell Carcinoma is Characterized by CD4+CD25+Foxp3+ Regulatory T Cells and CD1a+ Dendritic Cells
AUTHORS: John A. Carucci, MD, PhD; Mark Bluth, PhD; Judilyn Fuentes-Duculan, MD, PhD; Emma Guttman-Yassky, MD, PhD; Helen G. Kaporis, DO; James G. Krueger, MD, PhD; Michelle A. Lowes, MD, PhD

Purpose: Regulatory T cells correlate with poor prognosis in human cancers but their role in cutaneous SCC remains undefined. We studied the phenotype and distribution of T cells and dendritic cells in SCC to better characterize the infiltrate associated with SCC.

Design: issue blocks from positive Mohs layers were stained with T cell and DC markers including CD3, CD8, CD25, Foxp3, and CD1a. Positive cells were counted manually and area measures were computed by computer assisted image analysis software (NIH IMAGE 6.1). Triple label immunofluorescence was performed to determine the presence of Cd4+CD25+ Foxp3+ cells (regulatory T cells).

Summary: We found high numbers of CD1a+ dendritic cells infiltrating epithelial tumor nests. High numbers of CD8+ T cells were associated with SCC as were CD25+ cells and Foxp3+ cells indicating the presence of regulatory T cells in human SCC. Triple label immunofluorescence confirmed the presence of CD4+CD25+Foxp3+ regulatory T cells.

Conclusions: The presence of CD1a+ dendritic cells and regulatory T cells suggests that a potential role for tolerance induction in the pathogenesis of SCC.



4:42 – 4:50 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: Faramarz H. Samie, MD, PhD
TITLE: Immunohistochemical Assessment of PDGF-ß and PDGFR Expression in Dermatofi brosarcoma Protuberans: Implications for Therapy with Ttyrosine Kinase Inhibitors
AUTHORS: Faramarz H. Samie, MD, PhD; Richard T. Cheney, MD; John M. Kane, III, MD; Ari-Nareg Meguerditchian, MD; Mary Vaughan, BS; Nathalie C. Zeitouni, MDCM

Purpose: A chromosomal translocation involving chromosomes 17 and 22, leading to the fusion of collagen-1 α-1 promoter and platelet-derived growth factor (PDGF)-β genes, is implicated in the pathogenesis of dermatofibrosarcoma protuberans (DFSP). Mechanistically, the translocation results in the deregulated expression of PDGF-β, leading to the continuous activation of platelet-derived growth factor receptor (PDGFR), a tyrosine kinase receptor, which promotes DFSP growth. The gold standard for the treatment of the DFSP is wide local excision, however, not all tumors are amenable to surgery and the advent of tyrosine kinase inhibitors, e.g. imatinib mesylate (IM), has led to therapeutic trials in this subset. DFSPs are heterogeneous at the molecular level, therefore, not all patients may benefit from IM therapy. Due to the potential side effects and the cost of the drug, it seems prudent to limit the treatment to patients that harbor the translocation. Immunohistochemical assays are readily available and a potentially useful tool to select patients for molecular targeted therapy. Here, we confirm that PDGF-β, and PDGFR-α and -β can be detected in paraffin-embedded primary DFSP samples with standard immunohistochemical assays, thus, providing an easy method to identify patients that may respond to IM therapy.

Design: Using standard immunohistochemical protocols, 17 paraffin-embedded primary DFSP tumors from patients treated at a single institution were stained with polyclonal anti-PDGF-β, anti-PDGFR-α, and anti-PDGFR-β antibodies. Staining was assessed for the percent and the intensity of staining by an independent dermatopathologist. The percent of staining was graded as $>$ 75%, 50-75%, 50%, 25-50%, $<$ 25%, or 0% for absence of staining. The staining intensity was graded as strong, moderate, or weak.

Summary: Staining patterns were analyzed in all 17 tumors. PDGF-β expression was demonstrated in all 17 samples. In 94% (16/17) and 100% (17/17) of the samples, anti-PDGF-β antibodies stained $>$ 75% and $>$ 50% of the tumor respectively. Here, the intensity of staining was graded as moderate or strong in 88% (15/17) and weak in 12% (2/17) of the samples. In 53% (9/17), and 88% (15/17) of the samples, anti-PDGFR-α antibodies stained $>$ 75% and $>$ 50% of the tumor respectively. In 76% (13/17) of the samples, the staining intensity with anti-PDGFR-α was graded at least moderate. In contrast, PDGFR-β antibodies stained positively in 29% (5/17) of the tumors, however, in 3/5 of these cases, staining was noted in $<$ 50% of the tumor. In the remaining 71% (12/17) of the samples, anti-PDGFR-β antibodies failed to stain the tumor. Moreover, the staining intensity with anti-PDGFR-β antibodies, in the 5 positive cases, was weak to moderate.

Conclusions: The robust PDGF-β expression, as demonstrated by immunohistochemistry, suggests that chromosomal translocation t(17;22) occurs in the vast majority of DFSPs. The role of tyrosine kinase inhibitors may expand from exclusive utility in unresectable DFSP cases to adjuvant therapy following wide local excision. Therefore, proper patient selection is an important consideration, and in this regard, immunohistochemistry may provide a powerful tool to quickly and easily identify patients that harbor t(17;22) translocation.

4:50 – 4:58 pm
CATEGORY: Mohs Surgery
PRESENTER: Basil S. Cherpelis, MD
TITLE: The Use of a Rapid 19 Minute MART-1 Protocol With Comparison Between Frozen and Permanent Sections
AUTHORS: Basil S. Cherpelis, MD; Ren Chen, MD; L. Frank Glass, MD; Sharron Ladd, BS; Richard Moore, MD

Purpose: To determine if there is a significant difference between frozen and permanent MART-1 immunostained sections using a rapid 19 minute protocol.

Design: After receiving IRB approved for the study, dog-ears excised during the reconstruction of defects from patients undergoing nonmelanoma skin cancer surgery were collected. Both frozen and permanent sections (formalin fixed, paraffin embedded) sections were made by dividing the dog ear tissue in half and using half for each protocol. A rapid 19 minute protocol was used to stain the frozen tissue. The sections were examined with 20X and 40X objectives for number, density, confluence, pagetoid spread of melanocytes, and atypical melanocytes. Multiple fields were examined before representative areas were chosen for recording of data. Photomicrographs were obtained via a high resolution digital camera, and histopathologic parameters recorded using SPOT imaging software (Diagnostic Instruments, Inc., Sterling Heights, MI). Melanocyte and keratinocyte densities and nuclear and cytoplasmic diameters of both melanocytes and keratinocytes were recorded using this technology. The sections were examined in a blinded fashion by a dermatopathologist and statistical analysis was performed to analyze the data.

Summary: Of 25 patients, 17 (68%) had basal cell carcinoma and 8 (32%) had squamous cell carcinoma. The mean age of the patients was 65 years (range 41-84 years); 50 % were men and 50% were women. There were 8 (32%) patients with Fitzpatrick Skin Type I, 14 (56%) with Type II, and 4 (16%) with Type III in the study. There was no statistical correlation between melanocyte density, anatomic location, or patient age. In addition, there was no association found between melanocyte density and Fitzpatrick skin type, personal history of dysplastic nevi, family history of melanoma or non-melanoma skin cancer.

No significant difference was found in any of the measurements: numbers of Keratinocytes (t=1.05, p=0.3), nuclear diameter Keratinocytes (t=-1.19, p=0.24), numbers of Melanocytes (t=-0.05, p=0.96), melanocyte nucleus diameter (t=0, p=1), melanocyte cytoplasm diameter (t=-0.26, p=0.79), confluence ($\chi 2$=.015, p=.5), pagetoid spread ($\chi 2$=0.15, p=.19), melanocytic nesting($\chi 2$=0.03, p=.97), or atypical melanocytes($\chi 2$ =0.02, p=.3).

Conclusions: The 19 minute protocol is a rapid and effective MART-1 immunostain. We found no significant differences between frozen and permanent section slides using MART-1, qualitatively, quantitatively, or statistically. Frozen sections stained with MART-1 provide equivalent information as MART-1 stained permanent sections on chronically photodamaged skin. This protocol has the practical advantage of increasing the number of layers that can be taken in a single day, and processed with immunohistochemistry. This increase in efficiency would likely impact on the cost effectiveness of the Mohs surgery unit, by increasing the volume of cases, decreasing histotechnician workload, and ultimately improving the experience for the patient.

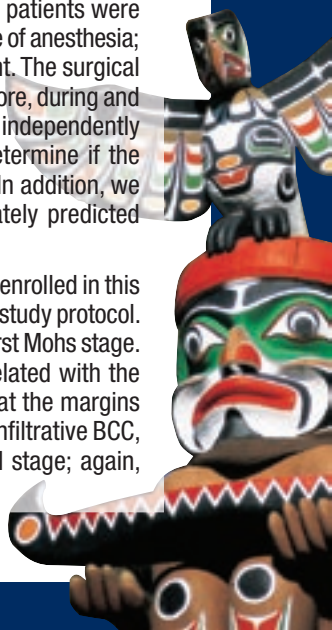
4:58 – 5:06 pm
CATEGORY: Mohs Surgery
PRESENTER: Andrew Nelson, MD
TITLE: Polarization-Enhanced Reflectance and Fluorescence Imaging for Guiding Mohs Micrographic Surgeries
AUTHORS: Andrew Nelson, MD; Munir Al-Arashi, PhD; Victor Allen Neel, MD, PhD; Elena Salomatina, MS; Anna Yaroslavsky, PhD

Purpose: Mohs micrographic surgery requires the histopathologic examination of fresh frozen specimens with hematoxylin and eosin (H&E) stain in order to completely excise cutaneous lesions. Multiple stages are often necessary to ensure complete tumor resection. A method that allowed for rapid and accurate in vivo, real-time imaging of tumors would create more efficient Mohs surgeries.

In this study, we evaluate the potential of a novel imaging device, Polarization-Enhanced Reflectance and Fluorescent Imaging System (PERFIS), to effectively image non-melanoma skin cancer in vivo and ex vivo in real-time during Mohs micrographic surgery. Additionally, we attempt to determine if this device can be utilized to image Mohs surgical margins in vivo, thereby determining if the stage is free of tumor at the time of excision.

Design: All patients had previously biopsy proven non-melanoma skin cancer. After giving written informed consent, patients were injected with intralesional methylene blue at the time of anesthesia; the methylene blue acted as a tumor contrast agent. The surgical sites were then imaged with the PERFIS system before, during and after each Mohs stage. The PERFIS images were independently compared to the H&E fresh frozen sections to determine if the PERFIS images and H&E observations correlated. In addition, we attempted to determine if PERFIS images accurately predicted positive and negative surgical margins.

Summary: A total of 18 patients were recruited and enrolled in this study. Fourteen of these patients completed the full study protocol. Of these 14 cases, 10 were free of tumor after the first Mohs stage. In all of these 10 cases, the PERFIS images correlated with the H&E sections and were able to reliably indicate that the margins were free of tumor. Four cases (2 nodular BCCs, 1 infiltrative BCC, and 1 invasive SCC) were positive after the initial stage; again,



Friday, May 2, 2008 – MG214 Abstract Presentations

the PERFIS images correlated with the H&E sections and indicated that residual tumor was present. These cases were cleared after the second stage. In all cases, the PERFIS images correlated well with the H&E pathology.

Conclusions: PERFIS enables accurate and reliable demarcation of non-melanoma skin cancers. PERFIS was also able to reliably indicate whether the margins of a Mohs layer were positive or negative for tumor at the time of excision. As the technology is further developed, PERFIS may allow for quicker, more efficient Mohs surgeries by allowing the surgeon to better define the true margin of the cancer prior to excision; this could reduce the number of Mohs stages necessary to achieve tumor clearance and potentially eliminate the need for examination of fresh frozen H&E sections during each stage. This small study demonstrates promising results with the PERFIS system. However, further studies and a significantly larger number of cases are necessary to better define the role for this device in Mohs micrographic surgery.

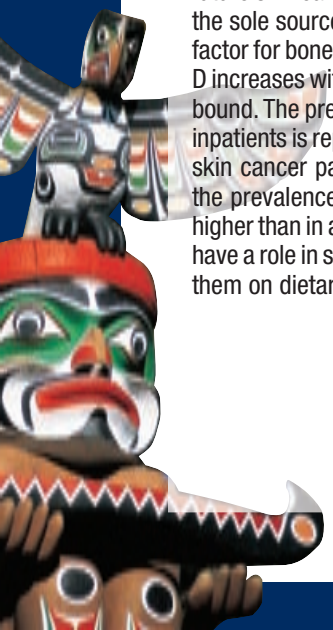
5:06 – 5:14 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: Maral K. Skelsey, MD
TITLE: Hypovitaminosis D in Mohs Surgery Patients
AUTHORS: Maral K. Skelsey, MD

Purpose: To determine the prevalence of Hypovitaminosis D in skin cancer patients.

Design: We measured serum 25-hydroxyvitamin D levels in 15 consecutive patients referred for Mohs surgery of non-melanoma skin cancer. Patients on supplemental vitamin D were not excluded from the study.

Summary: Serum 25-hydroxyvitamin D levels were measured in fifteen consecutive patients referred age 50-85 (average age 67). All but one had a serum 25-hydroxyvitamin D level below 32.0 ng/mL, considered to be the threshold for optimal health. The levels in the patients studied ranged from <7.0 to 33.0 ng/mL.

Conclusions: Skin cancer patients are counseled to avoid all unprotected ultraviolet sun exposure in order to reduce the risk of future skin cancers. Ultraviolet light is a significant source but not the sole source of vitamin D. Vitamin D deficiency is a major risk factor for bone loss and fracture;the incidence of hypovitaminosis D increases with age, winter season, female sex and being housebound. The prevalence of vitamin D deficiency in general medical inpatients is reported to be as high as 57%. The prevalence among skin cancer patients is unknown. This pilot study suggests that the prevalence of the deficiency in skin cancer patients may be higher than in age-matched controls and that Mohs surgeons may have a role in screening patients for this deficiency and counseling them on dietary sources of vitamin D.



5:14 – 5:22 pm
CATEGORY: Mohs Surgery
PRESENTER: Emily P. Tierney, MD
TITLE: Emerging Differences in Dermatologic Surgery: Mohs College Fellowship-Trained vs. Non Fellowship-Trained Dermatologic Surgeons Performing Mohs
AUTHORS: Emily P. Tierney, MD; C. William Hanke, MD; Alexa B. Kimball, MD, MPH

Purpose: The increasing number of Mohs College (ACMS) fellowship positions over the last decade has resulted in a greater number of fellowship trained surgeons in the workforce as well as potentially increasing number and diversity of procedures and complex closures performed by Mohs surgeons. Given the expansion of positions and increasingly specialized training, we examined the volume and types of procedures performed and the academic productivity of Mohs fellowship trained surgeons (MMSFT) vs dermatologists who have not performed a Mohs fellowship but whom incorporate Mohs into their practice (NMMSFT) to see if there were key differences in these two populations of dermatologic surgeon.

Design: Using results from the American College of Mohs Surgery(ACMS) Fellowship Training Statistics, American Academy of Dermatology Practice Profile Survey in 2005 and the Galderma Board review course, trends affecting the demographics of the workforce, the professional roles and practice profiles of dermatologic surgeons were analyzed comparing MMSFT and NMMSFT.

Summary: There has been an expansion of Mohs College fellowships over the last decade: 25 positions in 1995 increasing to 61 positions in 2005. Reflecting this increase in the number of Mohs fellowship positions over the last decade, the mean age of MMSFT dermatologic surgeons in 2005 was 46.2, in contrast to the mean age of NMMSFT was 48.6. In addition, a gender shift is occurring with the youngest cohort of MMSFT surgeons (age 29-39) more likely to be women (47.1%) than MMSFT trained surgeons of all ages (23%, p=.02). However, the youngest cohort of NMMSFT dermatologic surgeons (age 29-39) were less likely to be women (27.7%) than were MMSFT dermatologic surgeons of the same age cohort (47.1%) (p<.05). In 2005, MMSFT were five times more likely to practice full time in an academic setting (10.3% of MMSFT vs 1.9% of NMMSFT, p<.05). Significant differences were also noted in the greater proportion of MMSFT in all practice settings involved in teaching (47.6% of MMSFT vs 16.2% of NMMSFT) and research (22.2% of MMSFT vs 8.1% of NMMSFT). In addition, in 2005 MMSFT dermatologic surgeons were also more likely than all dermatologists as a whole to be involved in teaching (47.0% of MMSFT vs 16.2% of all derms, p<.05) and research (22.2% of MMSFT vs 8.1% of all dermatologists, p<.05). Between 2002 and 2005, a change was observed whereby NMMSFT were slightly more likely than MMSFT to perform cosmetic procedures, including botox, collagen, laser, sclerotherapy and chemical peels. Liposuction, dermabrasion, hair transplantation and PDT exhibited similar prevalence among MMSFT and NMMSFT dermatologic surgeons.

Friday, May 2, 2008 – MG214 Abstract Presentations

Conclusions: With the increased number of ACMS fellowship positions, a widening gap is emerging between the professional activities, practice settings and age and gender distribution of MMSFT and NMMSFT dermatologic surgeons. The greater proportion of MMSFT involved in teaching, research and scientific publications suggests that exposure to activities unique to academic practice during fellowship may stimulate and facilitate academic productivity. The proportion of MMSFT involved in research and teaching was significantly greater than the number in full time academia, suggesting that surgeons in a diversity of settings, including private-full time and academic-part and full-time practice, are academically productive. The evolution of the ACMS fellowship and the expanding Dermatologic Surgery workforce has brought about much scientific, technologic and academic advancement to the field. Following future changes in the workforce of this rapidly expanding field is of great importance to ensuring the training of the next generation of dermatologic surgeons and to providing care for the expanding number of patients with skin cancer.

5:22 – 5:30 pm
CATEGORY: Mohs Surgery
PRESENTER: Leon H. Kircik, MD
TITLE: Comparative Efficacy of Topical Hemostatic Powder vs. Foam Sterile Compressed Sponge in Second Intention Healing After Mohs Micrographic Surgery – Pilot Study
AUTHORS: Leon H. Kircik, MD

Purpose: To assess efficacy of topical hemostatic powder vs. foam sterile compressed sponge in second intention healing after Mohs micrographic surgery.

Design: This is a single-center, open label, randomized, parallel designed pilot study. Study subjects were randomized on 1:1 basis to two groups consisting of group I (topical hemostatic powder) and group II (foam sterile compressed sponge). The duration of the study was 12 weeks. Subjects were assessed at baseline, and visits at weeks 3, 6, & 12. Assessments were wound size, global assessments of efficacy, application site assessment such as erythema, erosion, ulceration, inflammation, swelling, infection, crusting, necrosis, peeling, contact dermatitis, hyper/hypo pigmentation, and scarring. Also, subjects graded site irritation, pruritus, burning, tenderness, and pain at each visit. Time to hemostasis was also measured at each application of the hemostatic agent at the time of surgery. Major inclusion criteria was scheduled treatment with Mohs micrographic surgery for non-melanoma skin cancer on the face that would result in a final defect size of 0.5 to 2.0cm, and at least 50% of the subjects studied were on anticoagulants.

Summary: Group I (topical hemostatic powder) had a mean of 52.5 seconds to achieve hemostasis after the first stage of Mohs micrographic surgery vs. group II (foam sterile compressed sponge) had 60 seconds. Group I had a mean of 32.5 seconds to achieve hemostasis after the second stage of Mohs micrographic surgery vs. group II had 120 seconds.

Group I had a median change in wound size -182mm squared vs. group II had -161.5mm squared at week 12. Group I had 58.3% global assessment of very effective wound healing at week 3 vs. group II that had 25%. Group I had 100% global assessment of very effective wound healing at week 6 vs. group II that had 50%. Group I had 100% global assessment of very effective wound healing at week 12 vs. group II that had 67%.

58.3% of subjects in group I had no erythema at week 3 vs. 16.7% of subjects in group II. However, 92% of both groups had no erythema at week 12. 100% of subjects in group I had no scarring at week 3 vs. 83% of group II subjects. 92% of subjects in group I had no scarring at week 12 vs. 42% of group II subjects. There was no difference in erosion, ulceration, inflammation, swelling, infection, crusting, necrosis, peeling, contact dermatitis, and hypo/hyper pigmentation between the two groups. 67% of subjects in group I reported no itching at week 3 vs. 33% of subjects in group II. 75% of subjects in group I reported no itching at week 12 vs. 42% of subjects in group II. There was no difference between the two groups in irritation, burning, and pain. No serious adverse events were reported.

Conclusions:
1. Topical hemostatic powder (THP) group showed higher efficacy and faster onset of action in the assessment of wound healing after Mohs micrographic surgery compared to foam sterile compressed sponge (FSCS).
2. THP group showed to be more effective in eliminating erythema in wounds following Mohs micrographic surgery than FSCS.
3. THP group showed less scarring following Mohs micrographic surgery than FSCS.
4. Overall both products were safe and effective in wound healing after Mohs micrographic surgery.
5. Since this is a pilot study, further studies with more subjects will be helpful.

Saturday, May 3, 2008 – MG314 Abstract Presentations

12:04 – 12:12 pm
CATEGORY: Laboratory Technique
PRESENTER: Kevan G. Lewis, MD, MS
TITLE: Defining the Role of Real-Time Directly-Conjugated Immunofluorescence for Evaluating Frozen Sections of Nonmelanoma Skin Cancer During Mohs Micrographic Surgery
AUTHORS: Kevan G. Lewis, MD, MS; Raymond G. Dufresne, Jr., MD; Nathaniel J. Jellinek, MD

Purpose: The application of direct immunofluorescence in Mohs micrographic surgery (MMS) is well known. Rapid immunostaining protocols have been developed for use in MMS to assist the interpretation of routine hematoxylin and eosin (H&E) staining of difficult and aggressive forms nonmelanoma skin cancer (NMSC) and melanoma. Staining protocols requiring as little as 1-hour have been published to date and have significantly reduced the time required to render a diagnosis. The techniques utilized in these protocols, however, typically employ traditional immunolabeling methods that require several steps to complete (e.g. separate steps to apply the primary antibody, the secondary antibody and lastly, the chromogen).

Recently, directly-conjugated fluorescent antibodies that target epithelial cell surface antigens have become commercially available, eliminated the necessity for multiple conjugating steps, and substantially shortened the time required to prepare tissue. Reliable staining of frozen sections has made critical diagnostic information available in the intraoperative setting and obviated in some cases the need for permanent sections.

The purpose of this study was to determine the feasibility of incorporating real-time directly-conjugated immunofluorescent labeling of frozen sections of difficult or ambiguous NMSC during MMS.

Design: We developed novel staining protocol and optimized it for the office-based MMS setting. After frozen sections are cut from the specimen block, the immunofluorescence-labelling procedure requires approximately 15 minutes to complete and slides are immediately available for review.

1. Forty-five microliters of both AE1/AE3 (DAKO M3513) and A45B/B3 (Micromet) were conjugated using the Alexa Fluor 555 Monoclonal Antibody Labeling Kit (Molecular Probes A-20181).
2. Frozen tissues were sectioned at 2-4 microns.
3. The slides were washed for 15 seconds in wash buffer (DAKO S2006).
4. Peroxidase Blocking Reagent (DAKO S2001) was added to the slides and incubated for three minutes.
5. The slides were rinsed three times in distilled water.
6. The slides were rinsed one time in wash buffer.
7. The conjugated antibody was diluted 1:2 in antibody diluent (DAKO S3022) and applied to the tissue for 12-15 minutes.
8. The slides were rinsed three times in wash buffer.
9. The slides were rinsed in distilled water and coverslipped with mounting media (Vector H-1200).
10. Detection of immunofluorescent staining at 555 nanometers is observed microscopically.

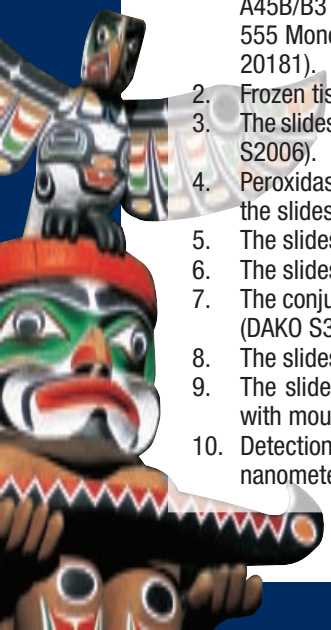
Summary: Tumor-positive staining of a series of representative sections of SCC demonstrates the versatility and potential application of this technique. Digital photomicrographs of frozen Mohs sections stained with routine H&E are compared side by side with sections stained with fluorescent antibody. The novel staining protocol is reliable and reproducible with a minimal degree of interoperator variability.

Conclusions: Real-time immunofluorescence is feasible as an adjunct diagnostic modality to routine H&E during MMS. The advantages of real-time immunofluorescent staining in MMS are potentially significant. Although traditional tissue processing methods used in MMS are associated with a high cure rate, the architecture and cellular morphology of some tumors may be difficult to identify in the context of the surrounding tissue or an inflammatory infiltrate. In addition, the histopathologic evaluation of tumor margins may be obscured due to suboptimal processing (e.g. thickness or folding) of frozen sections. Consequently, an additional Mohs layer may be taken to ensure clearance. These additional steps add time, cost and potentially morbidity to the surgery.

By contrast, directly-conjugated immunofluorescence is interpreted by the presence or absence of labeling, and relies less on the quality of tissue processing than H&E staining. The use of real-time directly-conjugated immunofluorescence may be incorporated into a busy MMS practice, and represents a substantial improvement over previously published protocols. The additional diagnostic information may result in fewer layers, improved efficiency and higher cure rates. Potential limitations include unfavorable reimbursement for direct costs (antibody, reagents) and access to a fluorescence microscope. Prospective investigator-blinded studies are warranted to determine if combination H&E plus directly-conjugated immunofluorescence changes intraoperative management and offers significantly more diagnostic information when examining frozen Mohs sections of difficult and ambiguous tumors compared to H&E alone.

12:12 – 12:20 pm
CATEGORY: Pathology and Unusual Tumors
PRESENTER: Jennifer M. Fu, MD
TITLE: Adenosquamous Carcinoma of the Skin: A Case Series
AUTHORS: Jennifer M. Fu, MD; Tim McCalmont, MD; Siegrid Yu, MD

Purpose: Adenosquamous carcinoma (ASC) is an uncommon cutaneous malignancy with mixed glandular and squamous differentiation and a propensity for aggressive clinical behavior, including invasion of adjacent structures, local recurrence, and rarely distant metastasis. Some authors view ASC as a high-risk subtype of squamous cell carcinoma (SCC). At the present time, our ability to critically evaluate the literature is hampered by the inconsistent application of the terms ASC and mucoepidermoid carcinoma (MEC). Those who favor a distinction between the two consider ASC a locally-aggressive primary cutaneous tumor associated with significant morbidity, and MEC, a mixed glandular and squamous tumor with a reputedly more favorable prognosis,



described most often in extracutaneous sites. The histopathologic attributes that distinguish ASC from desmoplastic SCC, and the relationship between ASC and MEC, deserve further study. ASC typically presents as an indurated, keratotic papule or plaque, most often reported on the head or neck of an elderly patient with a history of actinic damage. Although the mainstay of treatment for ASC is surgical excision, guidelines regarding excisional method, margins, and adjuvant therapy, are lacking. This study aims to elucidate the key histopathologic and epidemiologic features of ASC, as well as describe commonly employed treament modalities and clinical course.

Design: This is a retrospective case series of primary and referral patients diagnosed with ASC by the dermatopathology service at our institution, using standardized microscopic criteria during the period January 1, 1996, through December 31, 2006. Cases were evaluated for histopathologic features as described below. The medical records of a smaller subset of patients managed primarily at our institution were reviewed for demographic information, clinical presentation, treatment, and follow-up.

Summary: The histopathologic attributes of 22 cases of ASC were evaluated. All tumors occurred in actinically damaged skin, showed evidence of squamous and glandular differentiation, and were associated with an infiltrative pattern in the presence of dermal fibrosis/sclerosis. The degree of glandular differentiation was highly variable, ranging from 5% to as high as 80% of total tumor surface area. Nuclear atypia was mild in 5/21 (23.8%), moderate in 8/21 (38.1%), and severe in 8/21 (38.1%) of cases. Other notable findings included cytoplasmic mucin in 7/21 (33.3%), ulceration in 7/21 (31.8%), and contiguous actinic keratosis in 6/21 (28.6%) of cases. Lesional thickness ranged from 1.2mm to at least 8.5mm, with all tumors extensively invading the reticular dermis. Although there was no evidence of lymphovascular invasion in any of the cases, perineural invasion was seen in 5/21 (23.8%). The full medical records of 5 patients treated at our institution were also evaluated; all patients were Caucasian; 4/5 (80%) were male; with an age range from 51-82 years. Of note, 4 out of 5 patients had a history of immunosuppression, secondary to myelodysplastic syndrome, chronic prednisone for temporal arteritis, and in two instances, HIV disease. Although 2/5 tumors were located on the head/neck as described commonly in the literature, 3/5 in our series were on the proximal upper extremity. 3/5 patients presented with primary tumor, whereas 2/5 were referred with recurrent disease; all 5 patients underwent Mohs micrographic surgery (MMS). Over a mean of 12 months of patient follow-up, there has been no evidence of metastatic disease, with the exception of one patient who has had multiple locoregional recurrences with involvement of regional lymph nodes, and is currently status post repeated wide surgical excisions, external beam radiation therapy (EBRT), and most recently, intraoperative EBRT. Of the 3 total patients managed for recurrent disease, 2 have had tumors with significant perineural invasion.

Conclusions: Adenosquamous carcinoma should be considered a locally aggressive high-risk subtype of squamous cell carcinoma, which favors the head/neck and proximal extremities of older men with a history of actinic damage. In our series, immunosuppression was found to be an important clinical risk factor, and perineural invasion a high-risk histopathologic feature. ASC shares many of the characteristics of desmoplastic SCC, including an infiltrative pattern in association with dermal fibrosis/sclerosis, but differs in that it has glandular differentiation. We consider ASC distinct from MEC, a term better reserved for extracutaneous tumors with mixed glandular and squamous differentiation. Although MMS may be the best initial treatment for ASC, patients must be monitored closely for locoregional recurrence. Radiation therapy should be considered as adjuvant therapy.

12:20 – 12:28 pm
CATEGORY: Reconstruction
PRESENTER: Jonathan L. Cook, MD
TITLE: Folded Forehead Flaps for the Reconstruction of Full-Thickness Nasal Wounds: Interesting Ways to Avoid the Need for Intra-Nasal Flaps to Replace Missing Nasal Lining
AUTHORS: Jonathan L. Cook, MD

Purpose: The historic reconstructive approach to difficult full-thickness wounds on the distal nose is to replace lining, cartilage support, and skin coverage as separate entities. There are a number of mucosal lining flaps that originate from the nasal septum that can replace missing nasal lining, but these flaps introduce potentials for significant morbidity and are often difficult to construct properly. Forehead flaps, when folded upon themselves, offer very reasonable alternatives to traditional tri-laminar repairs.

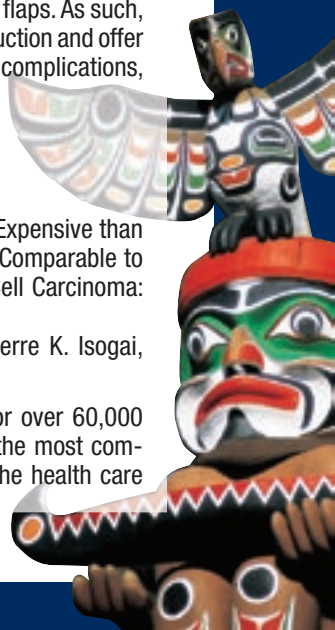
Design: Operative examples of the use of forehead flaps to reconstruct difficult full-thickness wounds of the distal nose will be discussed. Flap design and execution will be explained, and examples of flap success will be provided.

Summary: Folded forehead flaps offer impressive abilities to restore nasal form and function, even when used without mucosal lining flaps.

Conclusions: When properly designed and utilized, folded forehead flaps can certainly be used to repair distal nasal defects that historically have been much more difficult to reconstruct without the use of technically demanding intra-nasal mucosal flaps. As such, these folded forehead flaps simplify nasal reconstruction and offer patients lower operative morbidity, fewer surgical complications, and reduced costs.

12:28 – 12:36 pm
CATEGORY: Mohs Surgery
PRESENTER: Christian Murray, BS, MD, FRCPC
TITLE: Mohs Micrographic Surgery is Much Less Expensive than Radiation or Intra-operative Frozen Sections and Comparable to Standard Excision in Managing High-risk Basal Cell Carcinoma: A Canadian Study
AUTHORS: Christian Murray, BS, MD, FRCPC; Pierre K. Isogai, H.BsC; Nicole Mittmann, MsC, PhD

Purpose: Basal cell carcinoma (BCC) accounts for over 60,000 new cases of cancer in Canada annually and is the most common human malignancy. Although expensive to the health care



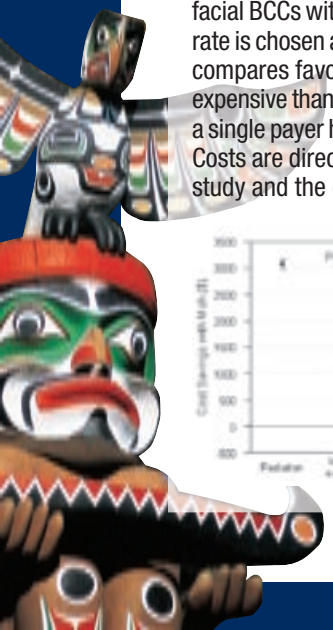
Saturday, May 3, 2008 – MG314 Abstract Presentations

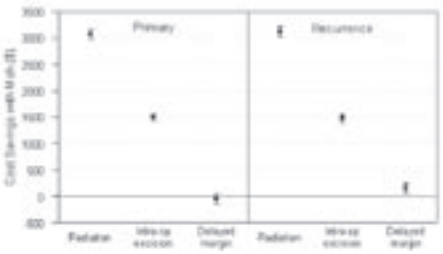
system, few studies have reported the costs involved in management. This study calculates and compares the costs of managing high risk BCCs with four well accepted therapies from a payer perspective.

Design: 49 consecutive, complex BCC cases presenting to a single skin cancer referral centre were collected prospectively. All were located on the head and neck, and were either recurrent or situated in 'at risk' sites such as the eye, ear, lip or nose. All cases underwent Mohs micrographic surgery (MMS), and costs were calculated from actual fees; whereas the costs of radiotherapy (RT), intra-operative frozen section excision (IOFSE) and standard excision (SE) for each case were based on estimates made by experts in the fields of Radiation Oncology, Plastic Surgery, Head and Neck surgery, Pathology and Anesthesia. Costs of treatment with each of the four modalities were calculated for every case using the Ontario provincial schedule of benefits and our single institution fees for technical expenses. All costs were recorded in 2007 Canadian dollars, and included only the direct medical costs related to management. A sensitivity analysis was performed using base case failure rates obtained from published studies to calculate 5 year cure rates. Clinical management resources were based on expert opinion and practice guidelines. 95% confidence intervals based on a 5,000 replicate bootstrap were used to measure robustness.

Summary: The overall average costs to achieve 5 year cure for complex primary BCC were $530 for SE, $599 for MMS, $2092 for IOFSE and $3653 for RT. Treating recurrent BCC's cost $726 for SE, $593 for MMS, $2075 for IOFSE and $3704 for RT to achieve 5 year cure. MMS was significantly ($p<0.01$) less expensive than RT and IOFS, but not SE ($p=0.34$ in primary BCC, and $p=0.08$ in recurrent). MMS provided an average cost savings of $3054 per primary BCC case, and $3110 per recurrent BCC case compared with RT, MMS provided an average cost savings of $1493 per primary BCC case, and $1481 per recurrent BCC case compared with IOFSE. MMS was $69 more expensive per primary BCC case, but would save $132 per recurrent BCC case as compared with SE.

Conclusions: This study compared the costs of treating complex, facial BCCs with four well established therapies. When 5 year cure rate is chosen as the endpoint of cost measurement, Mohs surgery compares favorably to all other methods and is significantly less expensive than intra-operative surgery or radiotherapy. Canada has a single payer health system, with provincial determination of fees. Costs are directly influenced by the fee schedule for the region of study and the choice of surgical repair for each procedure.





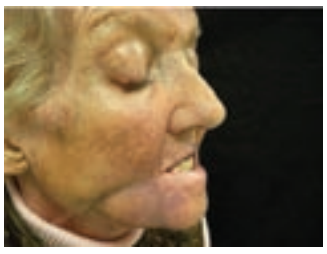
12:36 - 12:44 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: Mariah R. Brown, MD
TITLE: Treatment of Advanced Squamous Cell Carcinoma of the Skin with Capecitabine
AUTHORS: Mariah R. Brown, MD; J. Ramsey Mellette, Jr., MD; G. Richard Nichols, MD; William A. Robinson, MD, PhD

Purpose: Capecitabine has potential applications for the management of cutaneous squamous cell carcinoma, and its use has been minimally explored in the treatment of this disease.

Design: Capecitabine is an oral chemotherapeutic agent that is preferentially converted to 5-fluorouracil in tumor tissues. We studied three patients who had cutaneous squamous cell carcinoma that was deemed too locally advanced for surgical therapy. Their tumors had multiple high risk features, including depth of invasion, recurrence and perineural involvement. All three patients were treated with multiple cycles of capecitabine, dosed 1500 milligrams orally twice daily for two weeks, followed by one week off the medication. Dose adjustments were made as needed for low blood counts and hand-foot syndrome. The length of capecitabine administration was tailored to patient response.

Summary: The three patients in this series demonstrated a dramatic clinical response to therapy with capecitabine. Clinical response was noted after the first course of the medication in the majority of patients. Two patients had clinical resolution of visible disease and are currently continuing on capecitabine therapy. One of these patients required dose reduction due to the development of hand-foot syndrome. A third patient had a greater than 75% reduction in tumor size on capecitabine, but was forced to discontinue the medication due to diarrhea and low blood counts. Capecitabine was well tolerated overall when compared to infused 5-fluorouracil, and the oral route of administration reduced patient discomfort, decreased hospital visits and eliminated infusion related side effects.

Conclusions: The use of capecitabine as single drug chemotherapy for cutaneous squamous cell carcinoma has not previously been reported. In this series of three patients, locally advanced squamous cell carcinoma of the skin had an excellent response to therapy with capecitabine. Side effects did necessitate dose reductions in one patient and discontinuation of the medication in a second patient. For squamous cell carcinoma of the skin that cannot be surgically excised, capecitabine offers an alternative or an adjuvant to radiotherapy. In addition, the medication has potential applications in debulking tumors prior to surgical excision by Mohs surgery. Further controlled studies will be needed to confirm the efficacy of the medication and to establish the optimal dosing schedule.



Patient after five months of treatment with capecitabine, resulting in clinical resolution of plaques of squamous cell

carcinoma on the right cutaneous lip (1 cm) and the right mucosal lip (1.5 cm). Note the extensive scars from prior surgeries and radiation treatments that made further surgical excision not a viable treatment option for this patient's recurrent squamous cell carcinoma.

12:44 – 12:52 pm
CATEGORY: Tumor Oncology and Research
PRESENTER: Matthew E. Halpern, MD
TITLE: Successful Treatment of Four Patients with Adanced Cutaneous Squamous Cell Carcinoma using Cetuximab as Monotherapy
AUTHORS: Matthew E. Halpern, MD; Edward B. Desciak, MD; Yehuda D. Eliezri, MD; Desiree Ratner, MD

Purpose: Although cisplatin-based chemotherapy regimens have traditionally been used for advanced or metastatic cutaneous squamous cell carcinoma, overall response rates to this modality remain below 40%. Cetuximab is a novel monoclonal antibody that targets epidermal growth factor receptor expressed on human epithelial tissues. This agent is FDA approved for the treatment of colorectal carcinoma and locally advanced squamous cell carcinoma of the head and neck (SCCHN) when used in conjuction with radiation therapy.

Design: Patients with locally advanced or metastatic cutaneous squamous cell carcinoma were treated with weekly infusions of intravenous cetuximab as monotherapy for a total of four weeks.

Summary: We report four patients with locally advanced or metastatic cutaneous squamous cell carcinoma who were treated with weekly infusions of intravenous cetuximab as monotherapy for a total of four weeks. By the conclusion of their therapy, all four patients had a complete clinical and radiographic response of their disease with no residual tumor noted on physical exam or CT-PET scan. No patient has experienced a recurrence of disease at 1-6 months follow up, although one patient died of unrelated causes.

Conclusions: In conclusion, cetuximab is an exciting new therapy which appears to hold great potential in the treatment of locally advanced or metastatic cutaneous squamous cell carcinoma.

Poster Presentations

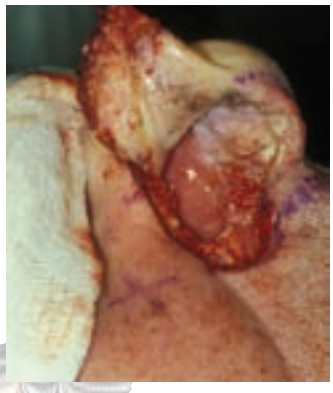
101
CATEGORY: Mohs Surgery
TITLE: Squamous Cell Carcinoma of the Nasal Columella Managed with Mohs' Micrographic Surgery Following Exposure by Lateral Rhinotomy
AUTHORS: Holly A. Sanders, MD; Harry L. Parlette, Jr., MD

Purpose: The twin objectives of this presentation are to draw attention to a rare but deadly malignancy of the central face, squamous cell carcinoma (SCC) of the columella, and review lateral rhinotomy as a method to optimize access to this hard to reach cancer.

Design: We present 2 cases of extensive primary columellar SCC successfully treated using lateral rhinotomy followed by Mohs micrographic surgery. Reconstruction was coordinated with a facial plastic surgeon.

Summary: SCC of the columella has a poor prognosis, exhibiting a high rate of recurrence and metastasis. It is clinically deceptive, often being advanced at the time of initial diagnosis. The complex architecture of the nose presents structural obstacles to surgical treatment and tumor monitoring. We describe 2 cases of SCC of the columella successfully treated with Mohs surgery in conjunction with lateral rhinotomy without clinical recurrence at 3.2 and 4.5 years. Previously published data is limited, but suggests that Mohs micrographic surgery is superior to wide local excision in the treatment of columellar SCC. Our experience adds further support to the use of Mohs surgery for these tumors. Cooperation with a facial plastic surgeon facilitates both bone removal, if necessary, and complicated reconstruction.

Conclusions: Mohs micrographic surgery in the treatment of SCC of the nasal columella provides the best chance for cure without sacrificing normal tissue. Lateral rhinotomy facilitates successful Mohs surgery for intranasal tumors by allowing adequate exposure and precise mapping, and is readily performed in the outpatient setting.



Extensive squamous cell carcinoma of the columella accessed by lateral rhinotomy

102
CATEGORY: Reconstruction
TITLE: When an M is a V: Vector Analysis Calls for Redesign of the M-Plasty
AUTHORS: Oliver J. Wisco, DO; J. Michael Wentzell, MD

Purpose: The M-plasty was originally designed as a modified fusiform closure used to shorten a linear wound repair. However, the original design leads to varying degrees of tissue entrapment between the shoulders of the "M." We describe a design modification to the M-plasty that utilizes the principles of V-Y and Y-V plasties to limit the potential for standing cutaneous cone formation.

Design: Force vector analysis demonstrates that tissue entrapment develops in the original M-plasty design due to force vectors that compress the tissue between the shoulders of the "M." The analysis also shows that when the M-plasty is modified as a V-Y/Y-V plasty, rather than a modified fusiform closure, compressive force vectors are reduced. As the design is modified to increase the distance between the shoulders of the "M," there is a proportionate decrease of compressive forces that promote tissue protrusion. As the shoulder width of the "M" finally equals or exceeds the height of the defect, compressive forces abate, tissue protrusion subsides, and the design transitions, in principle, from a modified fusiform closure to a V-Y/Y-V plasty, and the force vectors change accordingly.

Summary: The proposed design widens the shoulders of the "M" compared with the original design, while the overall length of the redesigned M-plasty is largely unchanged. In addition, the final tissue force vectors on each side of the wound are non-convergent, thus avoiding standing cutaneous cone formation.

Conclusions: The proposed Y-V M-plasty design improves upon the original fusiform-based design. The design modification effectively shortens an excision and avoids standing cutaneous cone formation.

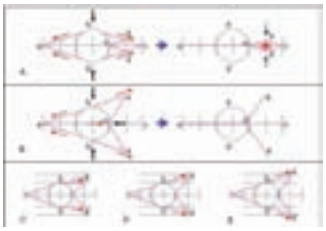


Diagram A. The closure (black arrows) of the M-plasty as a modified fusiform closure creates convergent force vectors (red arrows) toward c that entrap tissue between d and d', creating a tendency for protrusion (red oval). The dashed purple lines are the standard fusiform closure lines superimposed for reference.

Diagram B. The closure (black arrows) of the M-plasty as a V-Y/Y-V plasty creates non-convergent force vectors (red arrows) directed toward d and d', preventing tissue entrapment. Point e experiences a lateral outward force (V-Y type), but it is counteracted by the surgeon's Y-V closure.

Diagrams C-E. Variations of the modified M-plasty. The only requirement of the design is that the shoulders of the "M" (segment dd') are equal to or wider than the height of the surgical defect (bb') in order to create non-converging force vectors at d and d' (red arrows).

103
CATEGORY: Mohs Surgery
TITLE: Prospective Study of Surgery to the Skin in Smokers versus Non Smokers
AUTHORS: Anthony J. Dixon, MD; John B. Dixon, MD PhD; Mary P. Dixon, B Appl Sci; Christopher B. Del Mar, MD PhD

Purpose: It is widely assumed that smoking increases complications with minor surgery and clinicians frequently urge patients to refrain from smoking before and after surgery for this reason.

Design: 5 year prospective observational study of 7224 lesions, (predominantly non melanoma skin cancer) treated on 4197 patients. Patients were not asked to cease smoking prior to surgery. A site to smoke was provided. Analysis was univariate fisher test, then multivariate binary logistic regression and then case controlled analysis to control for confounders.

Summary: 439 smokers (10.5%) underwent 646 procedures (9%) 3758 non smokers (89.5%) underwent 6578 procedures (91%). Smokers were younger (55 years old ± 16) than non smokers (66 ± 17) $p<0.001$.

Infection incidence was not significantly different, 1.5% (10/646) in smokers compared with 1.8% (120/6578) in non smokers ($p=0.61$). There were 2 bleeds with smokers (0.3%) versus 48 in non smokers (0.7%) ($p= 0.22$).

The number of scar complications in non smokers (3) was not different to non smokers (20), ($p=0.49$) However the incidence of scar contour distortion in smokers (3) was greater than non smokers (2), OR 15.3 (95%CI 2.5 – 92).

Total complication incidence was 2.8% in smokers versus 3.4% in non smokers ($p=0.38$).

2371 flaps resulted in 14 (0.6%) cases of end flap necrosis. An incidence of 1.4% on the leg and foot was greater than elsewhere (0.4%). OR 5.7 (95% CI 2.1 – 16). There were 24 cases of wound dehiscence. In a binary logistic regression age, gender, smoking and diabetes were not predictive of flap necrosis or dehiscence.

The case - control analysis compared each smoker with two non smokers matched for age, sex, postal code and outdoor occupational exposure. This again demonstrated no difference in infection, scar complication, bleed, dehiscence, end flap necrosis or total complication incidence.

Limitations - the study involved only one surgeon in a Southern Australian locale. Only 10.5 % of patients were smokers. These data may therefore not generalize to other settings.
Conclusions: Smokers and non smokers suffer skin surgery complications similarly, The increased risk of contour distortion identified was difficult to interpret. While the authors do not smoke and encourage patients not to smoke for broader health reasons, advice to cease smoking in the short term to improve outcomes with skin cancer surgery is not supported by these data.

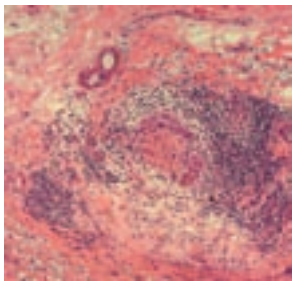
104
CATEGORY: Laboratory Technique
TITLE: Simple, Rapid, and Cost-Effective Method for Recording Histopathology during Mohs Surgery using Handheld Digital Cameras
AUTHORS: Jeffrey K. Lander, MD, PhD; Frederick S. Fish, III, MD

Purpose: Permanent records of interesting or important histopathology observed on frozen sections of skin cancers during Mohs surgery is often not performed by Mohs surgeons in a busy practice due to time, cost, and/or photographic equipment requirements. A simple technique is described that obviates these barriers.

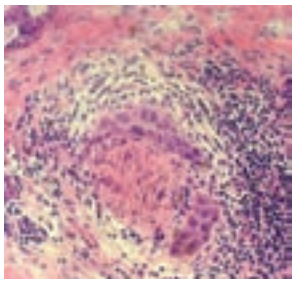
Design: Widely available, inexpensive, popular brand name handheld digital cameras (e.g. Sony, Nikon, Canon) were tested. A basic technique that does not require any extra camera or microscope adaptors was developed to photograph frozen section tissue histology from Mohs specimens at low, medium, and high power under the microscope. The technique can be learned in minutes. Digital images were transferred by USB cable to laptop or desktop computer, and simple commonly used image processing software (office picture manager, Adobe Photoshop or similar) was used to create publication quality images in less than 5 minutes total time.

Summary: Digital photographs of Mohs frozen section histopathology using this technique were of high quality and suitable for teaching, research, or publication. No expensive camera set-ups or adapters were required. The technique facilitated the permanent documentation of histopathology that otherwise would have been lost as frozen sections deteriorate.

Conclusions: A simple technique for permanent digital documentation of Mohs frozen section histopathology is described that is easily learned, fast, cost-effective. This may help Mohs surgeons document and communicate their findings more effectively and aid frozen section histopathology education.



Perineural Invasion by SCC (Medium power)



Perineural Invasion by SCC (High power)

105
CATEGORY: Laboratory Technique
TITLE: Optimization of Conjunctival Biopsy Specimen Processing for Sebaceous Carcinoma: A Novel Technique
AUTHORS: Jason Givan, MD; John Holds, MD; Summer Youker, MD

Purpose: Conjunctival tissue often imparts a significant challenge to the histological technician. The inherent delicacy and pliability of conjunctival tissue frequently results in suboptimal specimen processing and slide preparation. The end result of these challenges often manifests through specimen distortion and redundancy when the tissue is mounted upon the microscope slide. This report describes a novel technique utilized to ensure proper tissue processing of conjunctival biopsy specimens. Other mucosal specimens, such as buccal mucosa, are likely to be enhanced by this method of processing as well.

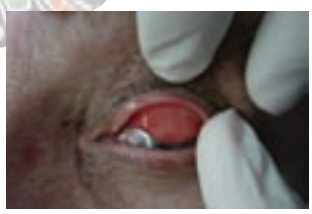
Design: Frequently, patients present to the Mohs surgeon for treatment of sebaceous carcinoma involving the palpebral conjunctiva.

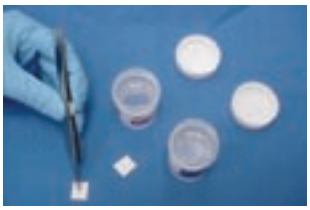
Poster Presentations

In these instances, mapping biopsies are commonly performed in an attempt to define the relative boundaries of the tumor. The following is a report of such an experience and a description of a novel technique utilized to ensure quality tissue processing. The patient was diagnosed with sebaceous carcinoma of the conjunctiva and referred for further evaluation and treatment. As always, anesthesia was paramount and achieved with topical tetracaine drops. Subsequently, the patient's upper eyelashes were grasped between the surgical assistant's thumb and index finger and utilized to evert the upper eyelid. The proximal tarsal plate margin served as a fulcrum in this process. Counter pressure applied to the external upper eyelid at the fulcrum, via the wooden end of a cotton swab, assisted with eversion of the eyelid. With the eyelid everted, the proximal conjunctiva was grasped between the tips of a forceps and elevated. Notably, the palpebral conjunctiva adhered to the underlying tarsus as it approached the lid margin and, therefore, conjunctival elevation in this region was not be easily achieved. A snip biopsy was then performed with scissors. Once the tissue had been released, the specimen was positioned in its native configuration, dermis side downward, on a small piece of heavyweight paper or lightweight cardstock. The specimen was then permitted to air-dry for one (1) to two (2) minutes prior to placing the specimen, now affixed to paper material, into a standard formalin specimen vial. The purpose of air-drying, as described above, was to permit the specimen and paper material to remain adhered throughout the standard specimen processing stages of formalin, ethanol, and ultimately xylose. At the completion of tissue processing, the tissue specimen was significantly less pliable and capable of maintaining form without external structural support. The specimen was, therefore, removed from the adhered paper material. At this point the paper material was discarded and the specimen alone was embedded in paraffin as usual. The end result was a non-distorted, interpretable histological specimen.

Summary: Conjunctival tissue processing is frequently challenging to the histological technician. Resultant suboptimal slide preparation decreases the diagnostic accuracy of the interpreting physician. We believe the above described novel technique greatly enhances tissue processing, and ultimately the interpretation, of conjunctival biopsy specimens.

Conclusions: The processing technique described eliminates conventional conjunctival histological specimen distortion and greatly enhances the interpreting physician's ability to evaluate the tissue for pathology.





106
CATEGORY: Mohs Surgery
TITLE: Patient Safety Practices in Mohs Surgery
AUTHORS: Susan T. Butler, MD; Summer R. Youker, MD; Dana Oliver, MPH; Scott W. Fosko, MD

Purpose: With a shift from the inpatient setting to office-based surgeries in the last decade, there is now attention focused on ensuring patient safety in this new setting.

Mohs surgery is unique in that multiple patients are simultaneously undergoing surgery, necessitating the movement of both patients and instrument trays in and out of surgery suites. The referral-based nature of Mohs surgery creates the additional challenge of locating the correct surgical site based on subtle healed biopsy scars or vague diagrams offered by the referring physician. Research is needed to uncover successful strategies to ensure correct surgical site identification, and to maintain the patient's assigned set of instruments throughout the day of surgery. Because of the unique process of Mohs surgery, it is valuable to determine guidelines relevant to this specialty. Exploring current practices that are helpful in avoiding medical errors or highlighting risk factors for adverse events may prevent these errors and promote patient safety.

Design: An e-mail was sent to all of the members of the American College of Mohs Surgery inviting them to participate in an electronic survey. The list of e-mail addresses was obtained from the ACMS published membership list. No e-mail was sent to the member if they did not provide their e-mail address in the membership book. All data collected was de-identified, encrypted and transmitted over a secure network. The survey collected information regarding demographic data, number of cases/year, number of adverse events including wrong site surgeries and patient/instrument identification errors, and strategies employed to ensure patient safety.

Summary: A recruitment e-mail was sent to all members of the Mohs College that provided an e-mail address, a total of 749. Approximately 130 of those e-mails did not reach the intended participant due to an invalid address or full mailbox, indicated by a return error message. At the time of submission of this abstract, 102 participants had responded to the survey. Forty percent of respondents practiced only Mohs surgery. Most were in private practice (69%). Though exactly 50% were in practice with another surgeon, most (70%) had only one surgeon operating in a given area. Most reported not having fellows, residents, or physician extenders participate in surgery.

Overall, 63/94 (67%) of respondents had performed surgery at an incorrect site at least once. The most common strategy to identify the correct site before surgery was having the patient identify the site in a mirror (95%), followed by taking photographs with visible anatomic landmarks at consultation (71%), obtaining diagrams from referring dermatologists (56%), circling the site with a surgical marker (55%), obtaining photographs from referring dermatologists (52%), and having multiple staff members confirm the site (23%). Those that obtained diagrams from referring dermatologists

were significantly less likely to have had a site error (58%) than those who did not (76%) p=0.03. Those who measured distance from anatomic landmarks at consultation showed a trend toward less site errors, but this was not significant (p=0.138). There was also a trend for those in private practice to have had less site errors than those in academics (p=0.25). Performing a consultation on a separate day prior to surgery made absolutely no difference in frequency of site error (68% vs 67%).

Overall, 32/98 (33%) of respondents had inadvertently used the incorrect set of instruments on a patient. The most common strategy to identify the patient with the correct set of instruments was labeling the tray/instruments/map with patient identifiers (69%), followed by posting alerts when patients have similar names (46%), assigning a patient to a particular room and leaving patient/instruments in that room throughout the day (35%), requiring staff members to initial tray/instruments before each procedure (29%), having required time-outs (22%), having a new tray for each stage and repair (13%), matching the patient wristband with the tray (12%), and having a color-coding system (7%). The only strategy that trended toward a lower frequency of patient/tray identification errors was assigning a patient to their own room throughout the day (p=0.01).

Surgeons operating in an area with other surgeons simultaneously showed a trend toward more site errors and patient/tray identification errors (p=0.23, p=0.22 respectively).

Conclusions: The majority of Mohs surgeons have experienced errors in site identification and patient/tray identification. Mohs surgeons who obtain diagrams from referring dermatologists had significantly fewer site errors than those who did not. Performing a consultation on a separate day prior to surgery did not decrease the number of site errors. Many helpful strategies to avoid wrong site surgery or the use of contaminated instruments can be uncovered through sharing current practices of Mohs surgeons.

107

CATEGORY: Reconstruction

TITLE: A Novel Refinement of the Dorsal Nasal Flap for Nasal Tip Reconstruction

AUTHORS: Kenny Omlin, MD; Rebecca Getachew, PhD-candidate; Tom Rohrer, MD

Purpose: Nasal tip defects pose a significant challenge to the reconstruction surgeon following tumor extirpation. Repair options include full-thickness skin grafts, one stage or two stage flaps. The ideal tissue source should possess similar color, texture, and hair bearing qualities. The dorsal nasal flap has been shown to be an effective closure option for nasal tip defects, however has been traditionally limited to defects of 2.5 cm and smaller. We describe a novel refinement utilizing the infratip lobule and columella as a tissue repository in conjunction with the classic dorsal nasal flap for repairing nasal tip defects up to 3.5 cm in size.

Design: Ten patients underwent Mohs micrographic surgery for basal cell carcinoma located on the nasal tip. Defects sizes ranged from 1.5 cm to 3.5 cm. The initial step in reconstruction is to reduce the size of the primary defect at the inferior margin. The infratip lobule, columella, and soft tissue triangles are meticulously dissected, creating significant laxity. This technique allows the placement of two to three buried vertical mattress sutures in the columella, producing a redundancy. The removal of this redundancy reduces the width of the columella and subsequently reduces the diameter of the primary defect (fig.1a and 1b). In the next step, the flap is designed as described by Rieger. A large sweeping leading edge is critical when closing nasal tip defects. The flap outline mirrors the alar crease, nasal facial grove, medial canthus, and glabellar peak. As described by Marchac, a 30 degree back-cut is performed to allow maximum rotation. When closing large defects, Dzubow described advancing the cheek to reduce the size of the secondary defect. This technique involves a tacking stitch from the cheek to the pyriform aperture. However, we find a suspension stitch to the superior lateral nasal cartilage to be more effective in reducing flap tension and facilitating closure. A critical final step is the removal of the redundancy following rotation of the flap. A triangle of tissue is removed superior to the alar crease contralateral to the flap edge. The superior vector forces created by flap rotation and redundancy removal are counterbalanced by the lateral and inferior vector forces created by the columellar augmentation during the initial steps of the repair (1c and 1d).

Summary: All patients were successfully repaired with excellent functional and aesthetic outcomes.

Conclusions: We described a novel refinement of the dorsal nasal flap, wherein the columella and infratip lobule are utilized as tissue sources for repairing nasal tip defects up to 3.5 cm in size (fig.2). Our modification of the dorsal nasal flap provides an excellent alternative to traditional multi-staged flaps. Our technique utilizes all of the benefits of the dorsal nasal flap which include an excellent blood supply and well concealed incision lines. In addition, when combined with the columellar augmentation, we take advantage of the superior vector forces that normally occur with a large rotation flap. This single stage flap modification allows the surgeon to repair larger nasal tip defects than previously described with the dorsal nasal flap. In addition, our design maintains patent internal/external valve function by distributing vector forces and produces aesthetically pleasing results.

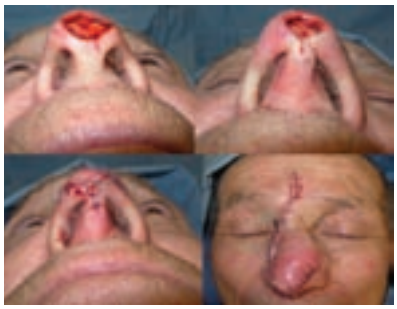


Fig. 1:1a (Top Left);1b (Top Right);1c & 1d (Bottom Left and Right)

Poster Presentations

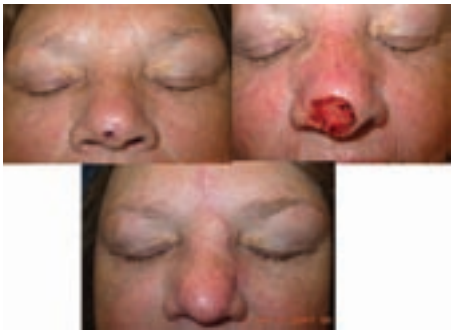


Fig. 2

108
CATEGORY: Mohs Surgery
TITLE: Innovations in and Alternatives to Complete Nail Plate Avulsion
AUTHORS: Katharine Cordova, MD; Siobhan Collins, MD; Nathaniel J. Jellinek, MD

Purpose: To describe innovations in nail plate avulsion and alternatives to traditional total distal or proximal plate avulsion. In many situations, such complete plate removal is required to accurately visualize the entire nail bed and matrix. However, such removal can traumatize the nail bed and matrix epithelium, and may be unnecessary for many nail surgeries. Partial proximal plate avulsions and total "trap door" avulsions have been described in scattered publications but not presented as concise innovations in a single forum. These techniques offer outstanding exposure of the nail apparatus, with fewer potential complications, and facilitate the replacement of the nail plate in anatomic position at the procedure's end. The autologous nail plate provides an anatomic dressing and a hard, protective barrier following surgery. Furthermore, small portions of epithelium that adhere after avulsion to the ventral nail plate may stimulate healing and reduce scarring, perhaps through functioning as a split thickness skin graft.

Design: We present detailed photographic evidence of intraoperative and postoperative nail surgery cases using partial nail plate avulsion and the trap door avulsion techniques. Specific nail surgeries, including the matrix shave biopsy and longitudinal biopsies for erythronychia and melanonychia are performed using these nail plate avulsion modifications.

Summary: Partial, alternative plate avulsion techniques may supplant traditional total nail plate avulsion for most nail surgeries. These newer techniques offer several real and potential advantages, namely reduced trauma, a biological dressing, and enhanced healing.

Conclusions: Some clinical situations necessitate the complete removal of the nail plate for visualization of the entire nail bed and matrix. However, in many instances, partial proximal plate and trap door avulsions provide elegant, less traumatic alternatives.

109
CATEGORY: Tumor Oncology and Research
TITLE: Specific Morphologies for Identifying Lentigo Maligna Melanomas in Reflectance Confocal Microscopy of the Face and Scalp
AUTHORS: Steven Q. Wang, MD; Sanjay Mandal, MD; Kishwer Nehal, MD; Milind Rajadhyaksha, PhD

Purpose: Determining the clinical margin of lentigo maligna melanoma (LMM) is difficult. Many LMMs have subclinical spreads that are not visible with Wood's light and dermoscopy exams. Reflectance confocal laser microscopy (RCM) provides a real time, in vivo and high resolution viewing of cellular and architectural details of the lesions. The objective of the study is to identify RCM morphologies that are specific in LMM but not present in the nearby normal skin.

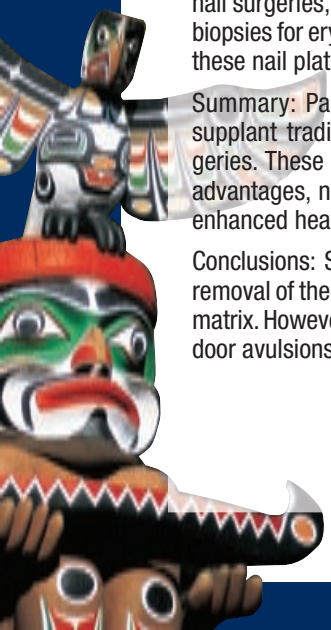
Design: Thirteen patients from the Dermatology Service at Memorial Sloan-Kettering Cancer Center with biopsy-proven LMM on the face and scalp were prospectively enrolled. Clinical margin was determined with the aid of a Wood's light exam. Clinically suspicious areas within the lesion and areas of normal skin outside the lesion were imaged with RCM. The RCM images were collected and evaluated by trained confocal microscopist to examine epidermal architecture, cellular morphology and melanocyte distribution and density. All imaged sites were then biopsied for pathologic confirmation.

Summary: Forty-five areas from 13 lesions were imaged by RCM and referred for biopsy. Of the 45 sites, 15 were positive on RCM and histology, and 23 were negative on both RCM and histology. 4 were positive on histology but negative on RCM, and 3 were negative on histology but positive on RCM. The sensitivity and specificity of confocal and histological correlation were 79% and 88%, respectively. The important features for detecting LMMs were the presence of large bright geometric cells with dendrites in the suprabasal layer, the presence of bright cells around hair follicles, and disarray of epidermal architecture within the suprabasal layer.

Conclusions: The preliminary study demonstrates that specific RCM morphologies may be used to differentiate LMM from benign surrounding skin. Identifying these RCM morphologies may be helpful to better delineate the clinical margin of LMM before surgical intervention.

110
CATEGORY: Reconstruction
TITLE: Fractional Photothermolysis For The Treatment Of Surgical Scars
AUTHORS: Paul M. Friedman, MD; Joy H. Kunishige, MD

Purpose: Traditional laser treatment of hypertrophic surgical scars involves the use of pulsed-dye laser which has limited depth of penetration and is not always completely effective. Six patients with surgical scars from Mohs or trauma repair were treated with the 1550 nm wavelength erbium-doped fiber laser to determine if efficacy could be achieved and maintained, with minimal adverse effects.

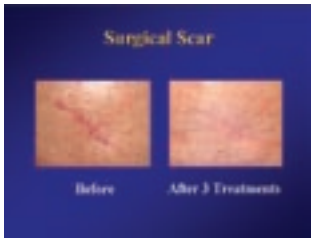


Poster Presentations

Design: Six patients with surgical scars on the face and chest were treated with the 1550 nm wavelength erbium-doped fiber laser. Treatment parameters were selected to target the vessels in the papillary and reticular dermis and adjusted for pain tolerance. In each treatment session, patients were treated with energy levels ranging from 6 - 40 mJ and final densities of 368 - 2500 MTZs/cm 2. A cold air cooling system was used to cool the skin during the treatment and mitigate patient discomfort (fan power 2, 4-6 inches from the skin surface). Treatment sessions were performed at 4-week intervals. Patients underwent 2 – 8 treatment sessions. Photographic documentation and clinical improvement scores were determined by comparing baseline to 2 weeks after final treatment, and patients were followed for 2 months after final treatment. If patients had previously been treated with other lasers, baseline was considered to be the first day of laser therapy. An independent evaluation of the photographs was performed using a quartile grading scale: grade 1 (less than 25%) = minimal to no improvement; grade 2 (25-50%) = moderate improvement; grade 3 (51-75%) = marked improvement; and grade 4 (more than 75%) = near total improvement.

Summary: During treatment, patients experienced mild pain. Moderate post-procedure erythema and edema typically resolved within 24 - 48 hours. No additional adverse effects were observed. At 2 weeks after final treatment, 3 patients experienced grade 4 improvement (greater than 75% overall improvement), and 3 patients experienced grade 2 improvement (25-50% overall improvement). Follow-up evaluation at 2 months confirmed that efficacy was maintained.

Conclusions: These cases demonstrate moderate to marked improvement in the erythema and texture of surgical scars. No adverse effects were observed and the safety profile appears to be fairly broad. Fractional resurfacing is a promising new treatment modality for hypertrophic and atrophic surgical scars, including those that have not fully responded to treatment with 595 nm pulsed-dye or 1450 nm diode laser. Fractional photothermolysis has been postulated to work by normalizing collagen synthesis and degradation. Larger, controlled studies are warranted to confirm efficacy and determine optimal parameters.



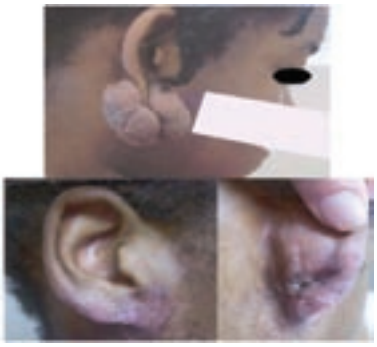
111
CATEGORY: Tumor Oncology and Research
TITLE: An Examination of the Effects of Imiquimod 5% Cream on Keloid Recurrence at Excision Sites Healing by Secondary Intension in 24 Patients
AUTHORS: Wil D. Tutrone, MD; Eyal K. Levit, MD

Purpose: The purpose of this study was to examine the effects of imiquimod 5% cream on keloid recurrences following shave removal of keloids.

Design: Twenty-four consecutive patients seen by a single physician for the removal of keloids on the head and neck from 1999 to 2006 were included in the study. These patients were treated with post-surgical application of imiquimod daily and mupirocin ointment twice daily for six weeks.

Summary: The total recurrence rate was 17of 54 (31.5%) of the total keloids. Separating this population into those greater than 2mm and those less than or equal to 2mm the following rates apply, respectively, 6 of 54 (11.1%), 11 of 54 (20.4%). The reaction to imiquimod was varied among this population most likely due to over use of the medication or improper hygiene of the area. These instances resulted in an emergency room visit for one patient and multiple physician contacts concerning possible adverse events in the cases of 4 other patients. One patient, a 14 year old boy with neck keloids, did not complete the study due to adverse events related to inappropriate imiquimod 5% cream use and was thus disqualified, his case is still reported in the study and entered into the adverse events and decreased efficacy statistics.

Conclusions: Imiquimod appears to successfully inhibit keloid recurrence following shave removal of these lesions. The process does not increase the risk of a larger keloid forming and can be repeated if necessary on the residual keloid to optimize the cosmetic result. Finally, patient education and strict adherence to a once daily and sparing (less than one imiquimod 5% cream packet applied per day) application allows the patient to minimize their chance of adverse events while preventing keloid recurrence.



112
CATEGORY: Reconstruction
PRESENTER: Brian Somoano, MD
TITLE: A Novel Method for Melolabial Flap Division: Shave Contouring
AUTHORS: Brian Somoano, MD; Jeremy Kampp, MD; Hayes B. Gladstone, MD

Purpose: The purpose of this study is to demosntrate a new method for dividing and contouring staged melolabial flaps for nasal reconstruction and evaluating this method's function and cosmesis.

Design: This series consists of 20 consecutive patients who underwent Mohs micrographic surgery for skin cancers on the lower third of their nose. Their defects were reconstructed with staged melolabial interpolation flaps. At three weeks, they were divided. Rather than contouring the flaps in the conventional method of defatting and insetting the flap, it was contoured by sharp shave contouring. The nasal surface was left to granulate. Patients were

Poster Presentations

examined at three months following this division. An independent dermatologist evaluated digital images for contour and symmetry to the contralateral ala; coloration; and a global appearance. A 1-5 scale was used (1=excellent 5= poor).

Summary: An independent evaluator rated symmetry/contour as 2.25. Coloration compared to adjacent nasal skin was rated at 1.85. The overall global appearance was 2.05 which correlated with a very good outcome. Dermabrasion was required in three cases to smooth out the flap. In only one case was there minor retraction of the alar rim. None of the patients had compromise of their nasal valve or breathing difficulties.

Conclusions: The staged melolabial flap is a popular method for repairing alar defects. When dividing the flap it is important to maintain both a normal contour and symmetry with the opposite alar rim. The method of shave contouring the flap at three weeks is a reproducible technique for producing a nornal appearing alar rim without distortion or compromise to the nasal valve.

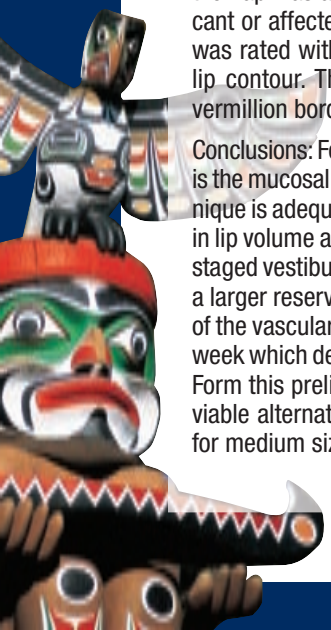
113
CATEGORY: Reconstruction
TITLE: The Staged Vestibular Lip Flap: A Novel Method for Reconstructing Medium Sized Mucosal Lip Defects
AUTHORS: Jeremy Kampp, MD; Brian Somoano, MD; Hayes B. Gladstone, MD

Purpose: The purpose is to introduce and demonstrate a method for repairing medium sized lower lip mucosal defects.

Design: Case Series. Following Mohs micrographic surgery with defects ranging from 1 to 2.5 cm defects on the lower mucosal lip, three patients underwent this reconstruction. Flaps were divided at one week. These patients were followed post operatively for up to six months. At each follow up the patients were evaluated for cosmesis, discomfort, adverse effects and functionality of their lower lip.

Summary: In all three patients, the flap survived and there were no complications. Because the flap did inhibit the intake of large meals, the patients felt that they lost weight during the week that the flap was attached. However, none of them felt it was significant or affected their health. All the flaps healed well. Cosmesis was rated with good to excellent in respect to functionality and lip contour. The only complaint was minor effacement of the vermillion border.

Conclusions: For mucosal defects of the lower lip, a common repair is the mucosal advancement flap. While in small defects, this technique is adequate, in medium size defects, it can lead to decrease in lip volume and a noticeable scar. Because the donor site for the staged vestibular flap is in the upper lip mucosa vestibule, there is a larger reservoir for tissue and the scar can be hidden. Because of the vascularity of this flap, it can successfully be divided at one week which decreases potential patient discomfort and morbidity. Form this preliminary series, we demonstrated that this flap is a viable alternative and provides good functionality and cosmesis for medium sized lower lip mucosal defects.



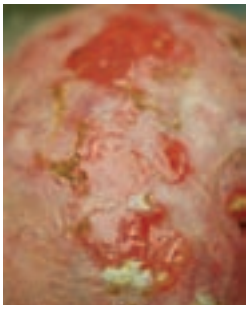
114
CATEGORY: Mohs Surgery
TITLE: Is Erosive Pustular Dermatosis of the Scalp Always Pustular? A Clinicopathologic Study of Nine Patients
AUTHORS: Scott N. Isenhath, MD; Valencia D. Thomas, MD; Brittany A. Wilson, MD; Clifton R. White, Jr, MD; Eric L. Simpson, MD

Purpose: Erosive pustular dermatosis of the scalp is considered to be a rare disease of unknown etiology that is characterized by sterile pustules and non-healing erosions and large thick crusts of the scalp. Patients are generally older and have experienced prior trauma to the area, often times in the form of a surgical procedure such as Mohs micrographic surgery for the treatment of skin cancer.

Design: We report nine patients ranging from 36 to 84 years of age with non healing erosions, ulcers and adherent crusts on the scalp. Each patient had undergone a prior scalp surgical procedure, most commonly Mohs micrographic surgery for the treatment of basal cell carcinoma or squamous cell carcinoma.

Summary: Most patients were not diagnosed for several months after their wounds failed to heal with conservative dressing changes, and skin cultures and skin biopsies proved to be negative. Only four patients had pustules, whereas each patient had refractory erosions, ulcers and crusts, all of which healed within eight weeks after application of high potency topical steroids or topical tacrolimus.

Conclusions: Erosive pustular dermatosis of the scalp is an uncommon, but not rare, chronic condition defined by preceding trauma, persistent erosions and crusts. The presence of sterile pustules is not necessary to make the diagnosis, and dermatologic surgeons should consider this diagnosis after ruling out infection or malignancy for non healing scalp wounds. High potency topical steroids are highly effective and many times curative within a few weeks. Given its chronic non healing erosions and crusts and lack of pustules, perhaps this condition should instead be termed chronic erosive dermatosis of the scalp?



Erosive pustular dermatosis of the scalp. Nine months following removal of a squamous cell carcinoma by Mohs micrographic surgery and complete healing, these ulcerations spontaneously developed and persisted. Repeat biopsies at multiple sites revealed no evidence of squamous cell carcinoma; wound cultures were negative.

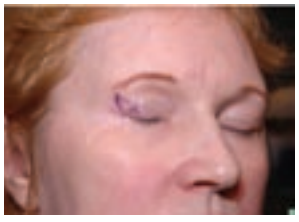
115
CATEGORY: Laboratory Technique
TITLE: A Modified Technique for Histologic Processing of Mohs Wedge Excisions
AUTHORS: Dr.Julie K. Karen, MD; Carole Hazan, MD; Marie Tudisco, HT (ASCP); Barbara Strippoli, HT (ASCP); Vicki J. Levine, MD; Elizabeth K. Hale, MD; Kishwer S. Nehal, MD

Purpose: Excision of skin cancers in certain anatomic locations with free margins, such as the lip, alar rim, helix, and eyelid may require a full thickness wedge excision due to clinical considerations of a large bulky tumor or recurrent tumor. Processing a wedge excision with the standard Mohs tissue processing technique can be technically challenging due to multiple tissue planes of variable consistency and perpendicularly oriented side margins.

Design: We present a case of a recurrent right upper eyelid basal cell carcinoma excised as a full thickness wedge due to recurrence following Mohs surgery and radiation. We demonstrate the utility of a modified histologic embedding technique to overcome obstacles with traditional Mohs tissue processing and facilitate evaluation of all relevant surgical margins with Mohs frozen sections.

Summary: After infiltration of local anesthesia along the right upper eyelid and placement of corneal eye shields, the prior surgical scar and biopsy proven recurrent basal cell carcinoma were excised as a full thickness triangular wedge excision. (Image 1) In the Mohs lab, each perpendicular side margin was inked in a separate color (red and blue) with the free margin of the eyelid clearly identified with eyelashes. The entire undersurface comprising conjunctiva was inked in a third color (yellow). The tissue was then embedded in OCT such that the side margin was cut en face. (Image 2) The tissue block was melted and then re-embedded such that the 2nd side margin was sectioned en face. Finally the tissue block was re-embedded and oriented for en face sectioning of the conjunctival deep margin. All sections were then stained with hematoxylin and eosin.

Conclusions: This modified technique for processing Mohs wedge excisions facilitates processing and evaluation of the entire relevant surgical margins. The advantages of this technique include preservation of proper tissue orientation and architecture as there is minimal tissue manipulation (i.e. no grossing). Additionally, this straightforward approach is easy for the Mohs histotechnician to conceptualize and for the Mohs surgeon to interpret. Disadvantages include a slightly increased tissue preparation time and the need for a technically skilled histotechnician. Precise sectioning is essential as each deeper cut into the block eliminates what represents a true Mohs margin. This modified technique represents an accurate and conceptually simple approach to the processing of Mohs wedge excisions.



116

CATEGORY: Tumor Oncology and Research

TITLE: Insulin-like Growth Factor Binding Proteins in the Development of Basal Cell Carcinoma

AUTHORS: Adam J. Mamelak, MD; Steven Q. Wang, MD; Leonard H. Goldberg, MD; Arwen Stelter, MS; Miao He, DDSc; Xiaoli Zhang, BSc; Stephen Tyring, MD, PhD, MBA; Jingwu Xie, PhD

Purpose: Basal cell carcinomas (BCCs) are the most common type of human malignancy. Activation of the Sonic hedgehog signaling pathway is the major biochemical abnormality of BCCs. However, the molecular mechanisms by which active hedgehog signaling leads to BCCs remain to be identified. The insulin-like growth factors (IGFs) are part of a complex system that cells use to communicate with their physiologic environment referred to as the IGF axis. This axis is comprised of two cell-surface receptors (IGF1R and IGF2R), two mitogenic ligands (IGF-1 and IGF-2) and six IGF binding proteins (IGFBP1-6). The IGF axis has been shown to play roles in promoting cell proliferation and in inhibiting apoptosis. Overexpression of specific IGFBPs is reported to be associated with progression in a number of human cancers. In this study we test whether IGF receptors and IGFBPs contribute to hedgehog signaling mediated signaling in BCCs by correlating the expression of IGF receptors, IGFBPs and hedgehog signaling molecules.

Design: Discarded BCC tumors and normal skin tissue samples collected from patients undergoing Mohs micrographic surgery were evaluated for hedgehog target genes, IGF receptor and IGFBP expression using real time RT-PCR and immunohistochemistry.

Summary: Several components of the IGF axis are regulated by the sonic hedgehog signaling pathway. Abnormal expression of these IGF signaling components is associated with active hedgehog signaling in BCCs.

Conclusions: Our study suggests that the IGF axis may be involved in the growth and proliferation of BCC. Expression of IGFBP and IGF may be regulated by the Sonic hedgehog signaling pathway. IGFBPs may therefore represent a new target for non-invasive therapies in BCC.

117

CATEGORY: Reconstruction

TITLE: Linear Closure for Nasal Defect after Mohs Micrographic Surgery

AUTHORS: Adam J. Mamelak, MD; Steven Q. Wang, MD; Leonard H. Goldberg, MD

Purpose: Repair of Mohs surgery surgical defects of the nose is often complex due to anatomical constraints and the intricate relationship of cosmetic units. Treatment by surgical excision can often leave defects challenging to repair. We present our experience in repairing 2056 nasal defects in patients who underwent Mohs micrographic surgery using linear closure (LC). We also compared the cosmetic outcomes of patients who underwent LCs with those of similar sized defects repaired by adjacent tissue transfer.

Poster Presentations

Design: A retrospective analysis of 4765 patients with skin malignancies on the nose that were treated with MMS between July 1997 and January 2006 was performed. Patient demographics, post-operative defect size, types of malignancy, exact defect location, size of the closure and complications were analyzed. The average dimension of the defects repaired by a flap was then calculated. Photographs of patients who underwent LCs that were at least the same size or greater than the average dimension of the total flap repairs were compared with 25 patients who had defects of similar sizes repaired by adjacent tissue transfer. Two physicians (not familiar with the cases) then evaluated and graded the cosmetic outcomes.

Summary: There were 1020 men and 1033 women in the LC group with a mean age of 65.2 (18.6 to 100.3) years. The average pre-operative lesion size was 0.6 x 0.5 cm, and the average post-operative defect size was 1.7 x 0.9 cm. The average post-operative size of the flap group was 1.75 x 1.3 cm. The average closure length of the LC patients was 2.7cm (range 0.6 to 8.5). The two major malignancies treated were basal cell and squamous cell carcinoma. Minimal major short-term complications were noted in the LC group. Evaluation of cosmetic outcomes did not reveal any hypertrophic or keloid scarring, or significant nasal asymmetry in the LC group. Overall cosmetic outcome was comparable to flaps used to repair defects of similar sizes.

Conclusions: Vertical or slightly vertical linear closure for nasal defects after Mohs micrographic surgery is a robust and reliable method to deliver excellent cosmetic and functional results.

118

CATEGORY: Mohs Surgery

TITLE: The Practice of Mohs Surgery Stimulates Patient Confidence and Facilitates Internal Referrals for Cosmetic Surgery

AUTHORS: Ashley Smith, MD; Eric King, BS; Greg S. Morganroth, MD

Purpose: As experts in cutaneous surgery, Mohs surgeons are well positioned to expand their services to include cosmetic surgery. Recent advancements in facial rejuvenation by dermatologic surgeons under local anesthesia have stimulated Mohs surgeons' interest in cosmetic surgery. Mohs surgery, reconstruction, and cosmetic skin surgery involve the same anatomy, tissue handling, instrumentation and sutures. Since cosmetic surgery and Mohs surgery patients represent the same patient population, Mohs patients who are satisfied with their skin cancer surgery outcome should have a high likelihood of becoming a cosmetic patient or referring a friend or relative for cosmetic surgery. This study evaluates the relationship between a Mohs and a cosmetic surgery practice of a busy dermatologic surgeon to determine if the Mohs practice increased patient confidence and patient referrals in cosmetic surgery.

Design: A chart review and phone survey was performed of patients who had undergone cosmetic surgery over the prior 12 months in a private practice. The relationship of the cosmetic patient to the Mohs practice, cosmetic patients' perceptions related to qualifications of Mohs surgeons to perform cosmetic surgery, and perceptions related to skill set, safety, and outcome were evaluated based on a chart review and patient questionnaire.

Summary: There were 226 patients who underwent 695 cosmetic procedures during the study period (see Figure 1), including 203 blepharoplasties (29%), 152 carbon dioxide laser resurfacing (24%), 130 TCA peels (16%), 76 face lifts (12%), 60 liposuction (9%), 41 submentoplasty (6%), 18 mandibular implants (3%), 5 cosmetic scar revision (1%), and 6 hair transplantation procedures (1%).

Twenty-two percent of the cosmetic patients were prior Mohs surgery patients and 5% were referred by family members who were prior Mohs patients. While a minority of patients had undergone Mohs surgery themselves, the overwhelming majority of patients were aware that their surgeon is a Mohs surgeon and reported that it was either "very important" or "important" that their elected cosmetic surgeon performs skin cancer surgery and facial reconstruction.

Forty-six percent of the patients that responded to the survey felt that skin cancer surgeons were "much better" or "better" than plastic surgeons when it comes to cosmetic surgery. This percentage increased to 92% when the reply of "equal" was added. Seventy-five percent of the respondents stated their cosmetic surgery results either "greatly improved," "improved," or "unchanged" their impression of the skill set of dermatologic surgeons performing cosmetic surgery. One-hundred percent of patients agreed that a fellowship-trained Mohs surgeon is preferable to one who acquired their skin cancer surgery skills without a fellowship when seeking cosmetic surgery.

Eighty-one percent of the respondents stated that the use of local anesthesia instead of general anesthesia during their cosmetic surgery was "very important" or "important" to them. Before their cosmetic surgery, 74% of respondents believed that local anesthesia was safer than general anesthesia. After their cosmetic surgery, the percentage increased to 81%.

Conclusions: Mohs surgeons are ideally positioned to develop a thriving cosmetic surgery practice due to their expertise in skin surgery and their established patient population. Whether the Mohs patients themselves elect to have cosmetic surgery or whether they serve as a source of referrals, the practice of Mohs surgery and reconstruction is beneficial to a successful advanced cosmetic surgery practice.

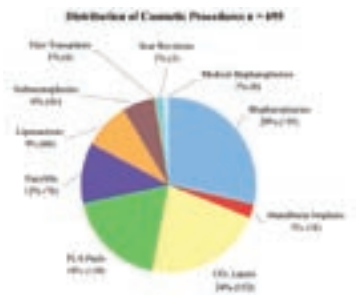
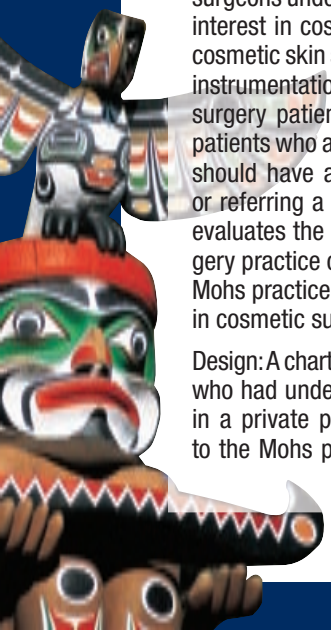


Figure 1. Distribution of Cosmetic Surgery Procedures over 12 months.



Poster Presentations

119
CATEGORY: Pathology and Unusual Tumors
TITLE: Medical and Surgical Management of Primary Cutaneous Mucinous Carcinoma: Structured Review of Case Series Data
AUTHORS: Anjali Butani, MD; Scott Wickless, MD; Dominic Ricci, BS; Murad Alam, MD

Purpose: Primary cutaneous mucinous carcinoma (PCMC) is a rare neoplasm with fewer than 200 documented cases. It occurs primarily on the head (75% of cases), with the eyelid being the most frequent specific location (approximately 40%). The purpose of this paper was to review the medical and surgical management of this rare and potentially locally aggressive tumor.

Design: Literature review, 1965-2008, to collate previous cases of PCMC and its management. Extraction of all cases with data regarding anatomic site, preoperative size, postoperative size, method of treatment, long-term follow-up, and loco-regional recurrence or distant metastases. Meta-analysis of extracted data. Description of 2 new cases.

Summary: Average size of PCMC is 2cm with largest lesions exceeding 10 cm in diameter. Surgical excision by Mohs micrographic surgery or wide local excision is standard care for most lesions, with use of intra-Mohs immunohistochemical staining possibly of value in reducing the high rate of local recurrence seen with all excisional modalities. PCMC is generally chemotherapy and radiation resistant. For patients who are estrogen receptor/progesterone receptor positive, tamoxifen can induce remission in patients with multiple prior local recurrences and regional metastases, and possibly provide symptomatic relief in patients with distant metastases.

Conclusions: PCMC, a rare neoplasm, requires careful management to reduce the substantial risk (approximately 1/3) of local recurrence, the lower risk (approximately 10% of regional metastases), and the very low risk of distant metastases. Given the high rate of local recurrence, Mohs surgery has a role for margin clearance, and modified Mohs with immunostaining may be optimal. For selected patients with resistant disease, treatment with tamoxifen may induce prolonged remission.

120
CATEGORY: Reconstruction
TITLE: Full-Thickness Skin Grafts from the Upper Inner Arm as an Alternative to Split-Thickness Grafts
AUTHORS: Dori Goldberg, MD; Jeremy S. Bordeaux, MD, MPH; Mary E. Maloney, MD

Purpose: Reconstructive surgeons often encounter large defects following Mohs micrographic surgery or surgical excision. Although full-thickness skin grafts are generally preferred over split-thickness grafts, split-thickness grafts are frequently utilized to repair larger defects. We highlight the advantages of utilizing the upper inner arm as a donor site that provides a large reservoir of skin, results in a cosmetically superior outcome, and creates less donor-site morbidity when compared with split-thickness grafts.

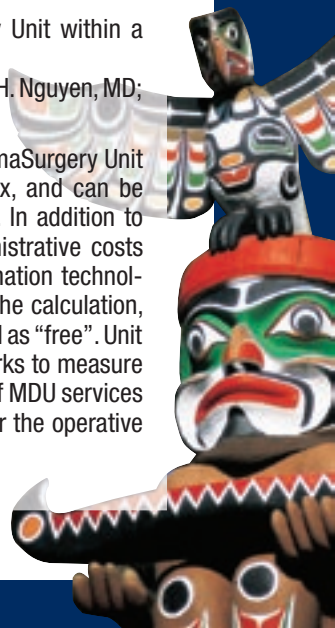
Design: Case series.

Summary: Skin grafts are commonly used in Mohs micrographic surgery repairs. Donor sites for full-thickness grafts thought to provide the best tissue match include burrow's wedge grafts from adjacent sites, preauricular, postauricular and conchal bowl skin. However, use of these donor sites is restricted by defect size. Larger defects are often repaired with split-thickness grafts, but this method may lead to prolonged wound healing, significant scarring and long-term discomfort at the donor site. The upper inner arm provides a large area of relatively thin skin that can be harvested and thinned easily, and closed primarily. Healing at the donor site is generally uncomplicated and results in linear scarring that is hidden from sight, thereby making the procedure significantly more tolerable for patients than split-thickness grafting. Grafts from the upper inner arm are also well-suited to patients who are candidates for grafting but do not have other appropriate donot sites either due to scarring, significant actinic damage or other skin cancers. Although others have reported inferior cosmetic results with inner arm grafts compared with other full-thickness donor sites, split-thickness grafts are also generally thought to provide poor tissue match. In our experience, full-thickness grafts from the upper arm provide a good cosmetic result, superior to that expected with split-thickness grafting. The thickness of skin from the upper inner arm is also a middle ground, intermediate between split-thickness grafts and grafts harvested from the other common donor sites. We present a series of patients who underwent Mohs micrographic surgery in our clinic and had their wounds repaired with grafting from the upper inner arm due to large defect size or to the absence of other appropriate donor sites. We present data comparing the thickness of grafts harvested in our clinic from the inner arm and other donor sites with split-thickness grafts.

Conclusions: The upper inner arm provides a valuable source of full-thickness skin grafts that should be considered for the repair of large defects that would otherwise require split-thickness skin grafting. The advantages of full-thickness upper inner arm skin grafts when compared to split-thickness skin grafts include superior color and texture match and decreased donor site morbidity.

121
CATEGORY: Mohs Surgery
TITLE: Unit Costs in a Mohs and DermaSurgery Unit within a Multi-Specialty Group
AUTHORS: Rungsima Wanitphakdeedecha, MD; Tri H. Nguyen, MD; Teris M. Chen, MD

Purpose: Calculating unit cost in a Mohs and DermaSurgery Unit (MDU) within a multi-specialty group is complex, and can be categorized by function, timing, or controllability. In addition to labor, materials, and capital, general and administrative costs (ie. administrative staff, human resources, information technology, residents, fellows, etc) must be included in the calculation, although historically, these costs have been viewed as "free". Unit cost methodology can provide financial benchmarks to measure MDU performance, as well as, determine pricing of MDU services that is both competitive and high enough to cover the operative costs of the organization.



Poster Presentations

The authors present the principles and methods to calculate the unit costs of a MDU within a multi-specialty group from the healthcare provider perspective.

Design: Case study, retrospective. Cost data was retrieved from the Financial Department for fiscal year (FY) 2006 at the Mohs and DermaSurgery Unit, Department of Dermatology, University of Texas – MD Anderson Cancer Center (Houston, TX), a university based, non-profit practice setting. Patient statistics (visit type, procedures performed, number Mohs cases and layers, closure type) were acquired for the same time period. Time required for clinical activities was sought from subject matter experts. Unit costs were calculated based on hospital accounting methods.

Summary: For FY2006, the total MDU cost and cost categories are listed in Table 1. Indirect cost was derived from a hospital standard of 20% of the total direct cost. MDU unit costs are listed in Table 2. Average unit cost per patient visit was $673.99 (US dollar).

Conclusions: Quality improvement in Mohs and DermaSurgery should aim for low cost, high quality care, which can be achieved using unit cost principles. By connecting costs (direct, indirect) to identifiable and quantifiable outputs (services), ambiguity can be eliminated, and true total cost becomes visible. Managing with unit cost principles will strengthen the planning and monitoring strategies by providing the MDU decision makers (ie. administrative team, department chair, clinic director) with better, more meaningful, and complete financial information.

122
CATEGORY: Pathology and Unusual Tumors
TITLE: The Practical Utility of Immunohistochemistry in Mohs Surgery, Beyond Melanoma
AUTHORS: Fiona Larsen, MD; Joseph S. Susa, DO; Sarah B. Weitzul, MD; R. Stan Taylor, III, MD

Purpose: The success of Mohs micrographic surgery in achieving superior cure rates compared with conventional surgical excision is dependent upon the accurate identification and complete clearance of tumor cells. Immunohistochemical staining may help to overcome limitations of morphologic analysis of routinely prepared hematoxylin-eosin stained frozen sections, particularly when attempting to identify tumor cells obscured by dense inflammation, with spindled morphology or with single and small groups of infiltrative poorly differentiated tumor cells. The diagnostic utility of melanocytic stains in melanoma diagnosis is generally accepted. Other rare cutaneous tumors including dermatofibrosarcoma protuberans, angiosarcoma and merkel cell carcinoma may also be more readily identified at the time of Mohs surgery with the addition of specific immunohistochemistry analysis.

Design: We describe immunohistochemical staining with Mohs frozen sections for rare cutaneous malignancies including dermatofibrosarcoma protuberans, angiosarcoma, and merkel cell carcinoma. These stains are able to be performed in our laboratory on frozen sections in less than one hour.

Summary: For each of these tumors we describe our personal experience with respect to the technique, and present illustrative case examples. We also review the current literature with particular reference to the reliability of these stains.

Conclusions: Knowledge of the application and utility of immunohistochemistry is becoming increasingly important for the dermatologic surgeon. This is an ever expanding field where immunohistochemical analysis with frozen sections may continue to increase the scope of cutaneous malignancies amenable to Mohs surgery.

123
CATEGORY: Tumor Oncology and Research
TITLE: The Use of Oral Capecitabine Chemotherapy for Radioresistant and Large Recurrent Squamous Cell Carcinomas of the Scalp
AUTHORS: Jeffrey E. Petersen, MD

Purpose: Show when it is appropriate to treat patients who have squamous cell carcinoma with a new oral chemotherapeutic agent.

Design: Show the benefit of capecitabine therapy for recurrent squmous cell carcinomas. Demonstrate where this modality of therapy can be beneficial for patients who are poor surgical candidates and patients who have the potential for metastatic disease.

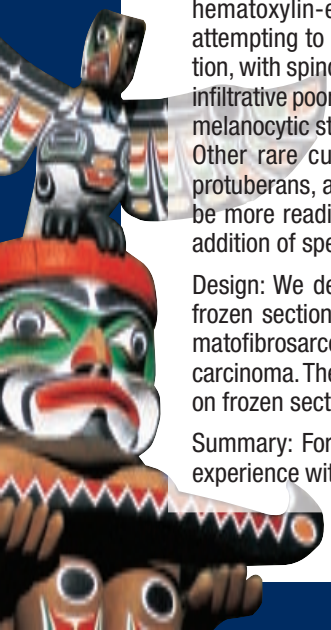
Summary: Capecitabine is a new oral chemotherapeutic agent that is effective in treating patients with squamous cell carcinoma.

Conclusions: Oral capecitabine therapy is an excellent option to treat patients who are poor surgical canditates or who have extensive or potentially metastatic disease.

124
CATEGORY: Mohs Surgery
TITLE: Comparing the Surface Area and Maximum Diameter of Invasive and Non-Invasive Melanoma Lesions Using Pre-Operative and Post-Operative Sizes
AUTHORS: Sofia Chaudhry, BA; Dr.Summer Youker, MD; Yadira Hurley, MD; Dana Oliver, MPH; Scott W. Fosko, MD

Purpose: Identifying indicators of dermal invasion by a melanoma may aid in patient care as there have been reports of initial biopsies failing to detect invasive disease. The purpose of this study was to determine if the surface area of a melanoma lesion is related to the presence of dermal invasion. In addition to examining clinical surface area, post-operative data was used to account for subclinical spread in order to obtain a more accurate measurement of total horizontal growth.

Design: A retrospective chart review was conducted of melanoma lesions evaluated between the years of 2000 and 2006 at an urban academic medical center. Lesions were excluded if they were recurrent, if no final pathology report was available, or if an outside dermatologist had biopsied the lesion leaving only a scar. Lesion surface area was calculated using four different approaches to compare non-invasive (in-situ) and invasive melanomas. There were two clinical size categories, “visual light” and “Wood’s lamp,” which utilized dimensions measured under either plain visual light



or with the aid of a Wood's lamp. In both categories, the maximum lesion diameter (length) and greatest perpendicular dimension (width) were multiplied to find the area. Two post-operative sizes were also calculated for the subset of patients who were treated by one of two Mohs surgeons. These patients underwent "slow Mohs" in which staged surgical excision was performed with rush permanent sections. A "slow Mohs surgical size" was determined by adding the surgical margin of each stage to the appropriate clinical dimensions. The final length and width were multiplied to obtain surface area. The fourth surface area category was called "slow Mohs histopathologic size." After each stage, the rim of tissue excised around the clinically evident tumor was cut into small rectangular pieces and their individual dimensions recorded. The histopathologic surface area was obtained by adding the surface areas of the small pieces to the clinically defined area previously calculated.

Summary: Of the 165 lesions reviewed, a total of 79 melanoma lesions met all inclusion criteria. Males comprised 63%, and the average age was 64 (range 23-90). The most common tumor location was the head and neck region (59%). This study found that under plain visual light, the mean surface areas (SA) of non-invasive and invasive melanomas were not significantly different (mean non-invasive SA = 2.7 cm2 vs. mean invasive SA = 2.8 cm2; p=0.905). The mean visual light maximum diameters were also not significantly different between the two groups (p=0.698). Similarly, the Wood's lamp mean surface areas and maximum diameters were not significantly different between non-invasive and invasive melanomas (Wood's lamp SA p=0.097; Wood's lamp maximum diameter p=0.068). However, for the 39 patients who underwent slow Mohs, the mean slow Mohs surgical surface area was 9.5 cm2 for non-invasive lesions and 20.8 cm2 for invasive lesions (p=0.030). The mean slow Mohs surgical maximum diameters of non-invasive and invasive lesions were 3.2 cm and 4.6 cm respectively (p=0.021). The second post-operative surface area category, slow Mohs histopathologic size, calculated a mean surface area of 7.9 cm2 for non-invasive melanomas and 17.0 cm2 for invasive melanomas (p=0.024). Of note, invasive lesions required a greater mean number of surgical stages to clear all sub-clinical spread compared to non-invasive lesions (mean non-invasive surgical stages = 2 vs. mean invasive surgical stages = 3). The average total slow Mohs surgical margin was 0.75 cm for in-situ lesions and 1.5 cm for invasive melanomas (mean BD = 0.47 mm, range 0.25-1.0 mm).

Conclusions: This study found that clinical, pre-operative melanoma lesion surface area and maximum diameter were not correlated with the presence of invasive disease. However, accounting for sub-clinical spread through surgical data revealed invasive melanomas to have a significantly greater total mean surface area and maximum diameter than in-situ lesions. We conclude that the slow Mohs histopathologic surface area calculation is the more accurate of the two post-operative size methodologies in determining sub-clinical spread because it avoids including tumor free tissue in its measurement.

125

CATEGORY: Laboratory Technique

TITLE: A Novel Technique for Tissue Orientation and Inking for Mohs Surgery; Cutting Processing Times in Half While Maintaining High Accuracy and Orientation

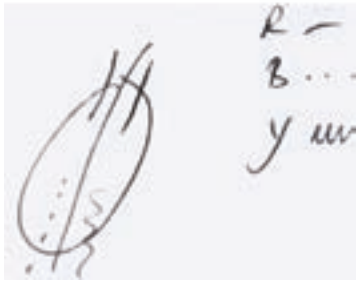
AUTHORS: Imran Amir, MD; David Kriegel, MD; Ellen Marmur, MD

Purpose: To describe a new novel technique for Mohs surgery sample processing and inking.

Summary: Accurate tissue processing and orientation is at the heart of Mohs surgery. Since the origin of Mohs surgery over 60 years ago many intelligent modifications have led to enhanced mapping accuracy and reduced processing times. Nevertheless, efforts continue to reduce processing time while maintaining the accuracy of orientation.

Keeping track of tissue sections in multiple Mohs surgery cases can be difficult and challenging. In addition smaller and thinner samples pose unique problems with embedding, horizontal sectioning and mounting each piece on a separate slide. We frequently use a bendable Gillette blade to remove thin tissue samples in certain anatomic areas. This makes orientation and embedding difficult at times if caution is not exercised.

We describe a novel processing and inking technique that takes advantage of using three inks to process multiple tissue pieces on one slide while maintaining high accuracy of orientation. After removal, tissue sections are kept in orientation by the surgeon while the technician applies one colored ink at one non epidermal margin of both or multiple tissue pieces and then uses different colored inks at the second non epidermal margin of sections as shown in fig.1(Inks are digitally enhanced). The method precisely conserves anatomic relation of removed tissue sections to each other. The map is then drawn, fig, 2. This allows multiple and smaller pieces of tissue kept together for embedding and further processing without losing orientation and accuracy. The finished slides contain entire stage on one slide with sections laid in correct inter-section orientation allowing faster analysis and better mental visualization. The method also allows much smaller and thinner sections embedded and oriented together on one slide avoiding tissue loss and loss of orientation. In our practice this has allowed us to perform one slide per stage in most specimen 0.5-1.5 cm in size. As multiple slides are not prepared the processing times and cost have been greatly reduced. Accurate tissue orientation is maintained while all pieces on one slide can be viewed together thereby increasing surgeon's efficiency. The limitations of



Poster Presentations

the technique include large size or number of tissue samples. The technical part required a well trained histotechnician.

Conclusions: This is a useful, cost effective, and time saving technique in appropriate setting. We are conducting comparisons of accuracy and processing times with standard techniques which will be presented at the meeting.

126
CATEGORY: Reconstruction
TITLE: A Novel Model that Simulates the Elasticity of Human Skin for the Training and Development of Complex Wound Closures
AUTHORS: Daniel Michael, MD, PhD; Sarvenaz Zand, MD

Purpose: The state of the art in reconstruction of Mohs surgery defects continues to advance in an ongoing effort to improve cosmetic outcomes and decrease rates of complications. Understanding the principles of these closures, including the tension vectors and development of redundancies can be challenging. Pig skin has been used to practice suturing, but no good model exists that simulates skin movement in advanced closures. Developing improvements in flap designs often relies on experimenting with cut out paper or trial and error. In addition, training in the principles of wound closures is an important part of learning dermatologic surgery. We describe here a simple, novel method for teaching closures and developing improved closure designs.

Design: We describe a model that mimics the elasticity of skin, reproducing the normal tension vector alterations and redundancies that develop during primary wound closures of defects commonly encountered by dermatologic surgeons. This method has been used to train residents in the design of closures and allow for practicing design modifications. A synthetic polymer fabric with high elasticity was placed in circular frames under minimal tension. Closure designs were marked on the fabric and incisions are made using ether a scalpel or scissors. When key stitches were placed, redundancies developed and alterations in tension vectors became apparent. It was helpful to excise Burrow's triangles last to better demonstrate the importance of their removal. A grid pattern may be applied to better demonstrate redundancies and changes in tension vectors.

By this method, the principles of side-to-side closures, and advancement, rotation, and transposition flaps are demonstrated. This method also clearly demonstrates the increased movement provided by the bilobed flap compared to the single lobed transposition flap and the rhombic with the double 'Z' compared to the standard rhombic flap. The benefits and disadvantages of other modifications to standard flaps are also clearly demonstrated.

Summary: A fabric-in-frame model that simulates the elasticity of human skin was developed to improve training in advanced reconstruction techniques and to facilitate the development of enhanced complex closures. It has been used to demonstrate the principles of wound closures and allow for experimentation in advanced reconstructive design.

Conclusions: This model is useful, not only in the teaching of advanced reconstruction to trainees, but also in the development of novel modifications of complex closures. This inexpensive and simple model can be easily adopted by Mohs fellowship training programs.

127
CATEGORY: Reconstruction
TITLE: Contributors to the Aesthetic and Functional Outcome of Paramedian Forehead Flaps: Mucosal Lining Flaps and Other Factors
AUTHORS: K. W. Foster, MD, PhD; Edgar F. Fincher, MD, PhD; Ronald L. Moy, MD

Purpose: To describe the aesthetic and functional outcomes of patients following recontstruction with a paramedian forehead flap, with emphasis placed on restoration of nasal vestibular lining.

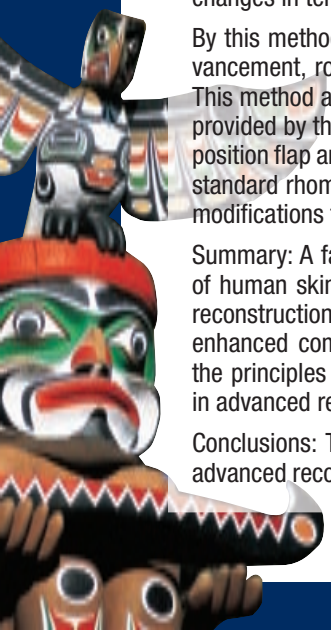
Design: Retrospective case review.

Summary: We report our experience with 15 patients (14 male, 1 female) reconstructed with two-stage paramedian forehead flaps. The average age of patients in the study was 69 years. All patients had prior basal cell carcinomas, one third of which were recurrences or had sclerosing or infiltrative features. The mean number of micrographic stages required for tumor clearance was 3.8 (range: 2-8), and mean postoperative defect length and width were 3.8 cm and 3.2 cm, respectively. Fifty-three percent (8/15) defects were full-thickness, and half of these were reconstructed using septal mucosal hinge flaps. Composite conchal bowl grafts (37.5%) and full thickness grafts (12.5%) were also used to reconstruct full-thickness defects. Days of flap insetting ranged from 14 to 42. Subsequent revisions (flap thinning) were required in 5 cases, and kenalog injection was the most commonly required adjunctive procedure. A 10-point scale was used to assess aesthetic outcomes as: excellent (score or 8 or above), good (score from 7 to 7.99), average (score from 5 to 6.99) or poor (score less than 5). Of reconstructions included in this series, 71.4% were considered excellent, and 14.3% and 14.3% were considered good and average, respectively.

Conclusions: The paramedian forehead flap is an important tool for Mohs surgeons. Optimal aesthetic and functional outcomes depend upon a stepwise restoration of nasal vestibular lining, structural support, and overlying integument. In our practice, septal mucosal hinge flaps are an invaluable means of restoring the nasal lining. With their reliable vascularity, these flaps contribute to cartilage survival and airway patency. Complimentary procedures such as kenalog injection, flap thinning, and dermabrasion are important adjuncts to a successful reconstruction.

128
CATEGORY: Mohs Surgery
TITLE: Treatment of Surgical Scars with Fractional Photothemolysis versus Pulse Dye Laser
AUTHORS: Emily P. Tierney, MD; Bassel Mahmoud, MD, PhD; Divya Srivastava, MD; David Ozog, MD; David J. Kouba, MD, PhD

Purpose: The cosmetic outcome of surgical scars is of paramount importance to surgeons and patients treated with Mohs and subsequent reconstructive surgery. It is difficult for surgeons to



predict the wound healing properties of individual patients. There are a number of treatments of surgical scars which range from non-invasive low-risk approaches, such as topical creams and non ablative lasers to more extensive procedures with greater risk, including scar revision surgery and ablative resurfacing lasers. If novel minimally invasive therapies, such as fractionated resurfacing or Pulse Dye laser, are proven to be both safe and effective for the treatment of surgical scars, patients receiving Mohs surgery and other cutaneous surgery will be significantly allayed in their concern about the resultant cosmetic outcomes of their surgical scars. We performed a Comparative study of the efficacy of fractional photothermolysis for the cosmetic improvement of surgical scars relative to the standard laser utilized for improvement of surgical scars, the Pulse Dye laser.

Design: Randomized, double blinded split scar study in 12 patients who underwent Mohs surgery for a non-melanoma skin cancer on the face, neck or chest (2 or more months prior to study initiation) were treated on one-half of the scar with Fraxel and on the contralateral half with Pulse Dye laser (595nm). Patients were treated with both laser devices for a total of 2-4 treatment sessions at 2 week intervals. Settings utilized for Fraxel were: energy level: 70mJ (corresponding depth 1.359 mm), treatment level: 8 (coverage 23%), number of passes: 16. Settings utilized for Pulse Dye laser were: pulse duration: .45 msec, fluence: 7.5J/cm2, cryogen: 20msec and 20msec, spot size: 10mm x 3mm as was studied previously by Alster et al(1). Clinical response to treatment was determined at each treatment visit and at 1 month after the final treatment session by blinded physician assessors using a quartile grading scale.

(1) Alster TS. Improvement of erythematous and hypertrophic scars by the 585-nm flashlamp-pumped pulsed dye laser. Ann Plast Surg. 1994. 32(2):186-90.

Summary: After a series of 2-4 treatments, greater improvements were noted in the portion of surgical scars treated with Fraxel SR versus Pulse Dye Laser in scar thickness (50-75%, Fraxel vs 0-25%, Pulse Dye laser, $p<.05$) and pigmentary variation (75% Fraxel vs 25%, Pulse Dye laser, $p<.05$). Additionally, clinical improvements were noted in the overall texture of the treated skin of the portion of the scar treated with Fraxel. A total of 4 scars with significant hypopigmentation had significant improvement with Fraxel (50-75% improvement in pigmentation and texture) versus minimal to no improvement with Pulse Dye laser (0% improvement in pigmentation, 0-25% improvement in texture) ($p<.05$). Mean improvement scores increased proportionately with each successive laser session. Side effects with Fraxel were limited to mild pain during the treatment and mild post-treatment erythema and edema, which resolved in 2 to 4 days. Side effects with Pulse Dye laser were also mild and limited to transient erythema and purpura. There was no incidence of dyspigmentation, ulceration, or scarring with either device.

Conclusions: Fractional resurfacing is a potentially effective modality for the treatment of scars on the head, neck and chest after Mohs surgery and appears to be superior to Pulse Dye laser treatments. While Fraxel and Pulse Dye lasers have both been utilized for the treatment of surgical scars, this is the first study to compare the outcome of the two laser devices. The data suggests that greater improvements in the texture and pigmentary variation of scars with the Fraxel versus Pulse Dye laser. The greater depth of penetration and significant skin remodeling induced with the fractional device likely account for its greater improvement in textural change and thickness of surgical scars. Both Fraxel and Pulse Dye Laser appear to be highly safe modalities for the treatment of surgical scars with minimal discomfort and no adverse effects.

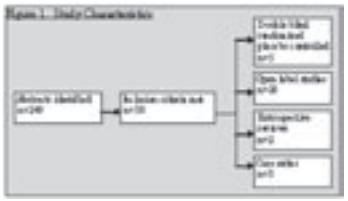
129

CATEGORY: Tumor Oncology and Research
TITLE: Systematic Review of Topical Therapy (Imiquimod or 5-fluorouracil) for Non-Melanoma Skin Cancer
AUTHORS: W. Elliot Love, DO; Jeremy S. Bordeaux, MD, MPH

Purpose: There have been few placebo controlled double blind studies defining cure rates of NMSC using topical therapy. Our objective was to determine the efficacy of topical imiquimod and 5-fluorouracil (5-FU) for the treatment of NMSC.

Design: MEDLINE, Cochrane, and CANCERLIT databases were searched and studies that met inclusion criteria were included for data analysis. Inclusion criteria included prospective, retrospective, and case studies in English published after 1975 containing at least 4 subjects with at least 6 months follow-up after treatment or post-treatment histologic evaluation. Exclusion criteria included publications with less than 4 subjects, less than 6 month clinical follow-up, publications not differentiating tumor subtype, topical and/or surgical combination therapy, use of imiquimod or 5-FU other than topical application, and studies involving immunocompromised patients. For each publication meeting inclusion criteria the topical agent, tumor type and subtype, number of subjects or tumors treated, treatment regimen, clearance rate, and length and type of follow-up were recorded. Seven separate groups were identified. An intent-to-treat (ITT) data analysis was used to determine clearance rates, even if in the original study intent-to-treat data was not reported.

Summary: Overall cure rates and average length of follow up using imiquimod for NMSC are listed: superficial basal cell carcinoma (80%, 2.2 year follow up), nodular basal cell carcinoma (63%, 2.1 year follow up), infiltrative basal cell carcinoma (60%, 5 year follow up), squamous cell carcinoma in situ (81%, 1.3 year follow up), and invasive squamous cell carcinoma (71%, 4 week post-treatment histologic evaluation). Overall cure rates and length of follow-up using 5-FU for NMSC are listed: superficial basal cell carcinoma (90%, 3 week post-treatment histologic evaluation) and squamous cell carcinoma in situ (64%, 2.8 year follow up).



Conclusions: Topical treatment of NMSC may be a viable option in select patients. Caution and close

Poster Presentations

follow-up should be exercised when using this treatment modality because of sub-optimal cure rates based on tumor subtype, treatment regimen, and few studies involving long term follow-up.

130
CATEGORY: Reconstruction
TITLE: Prospective Study of Diabetics and Smokers Undergoing Skin Surgery
AUTHORS: Anthony J. Dixon, MD

Purpose: To study the association between smoking and diabetes and complications following skin surgery.

Design: 5 year prospective observational study of 7224 lesions, treated on 4197 patients. Analysis was univariate fisher test, then multivariate binary logistic regression.

Summary: Diabetics:
- 196 Diabetic patients (4.7%) underwent 551 procedures (7.6%) 4001 non Diabetics underwent 6673 procedures. Diabetics were older (72 years old ± 13) than non Diabetics (64 ± 17) p<0.001.
- Infection incidence was significantly higher, 4.2% (23/551) in Diabetics compared with 2.0% (135/6673) in non Diabetics (p<0.001). There were 5 bleeds with Diabetics (0.9%) versus 47 in non Diabetics (0.7%) (p= 0.58).
- The incidence of wound dehiscence in Diabetics (2) was not different to non Diabetics (22), (p=0.90).

Total complication incidence was greater, 6.0% in Diabetics versus 3.8% in non Diabetics (p=0.02).

Non infective complications were 1.8 % for both procedures on Diabetics (10/551) and non Diabetics, (118/6673).
- 2371 flaps resulted in 14 (0.6%) cases of end flap necrosis but no case occurred in Diabetic patients.
- Multivariate analysis with binary logistic regression demonstrated Diabetes was predictive of infection, OR = 1.66 (95% CI 1.05 – 2.65) and scar hypertrophy.

Smokers:
- 439 smokers (10.5%) underwent 646 procedures (9%) 3758 non smokers (89.5%) underwent 6578 procedures (91%). Smokers were younger (55 years old ± 16) than non smokers (66 ± 17) p<0.001.
- Infection incidence was not significantly different, 1.9% (12/646) in smokers compared with 1.8% (120/6578) in non smokers (p=0.55). There were 2 bleeds with smokers (0.3%) versus 48 in non smokers (0.7%) (p= 0.2).
- The cases of wound dehiscence in non smokers (3) was not different to non smokers (20), (p=0.49) However the incidence of scar contour distortion in smokers (3) was greater than non smokers (2), OR 15.3 (95%CI 2.5 – 92).
- Total complication incidence was 3.6% in smokers versus 4.0% in non smokers (p=0.5).
- Smoking was not predictive of end flap necrosis, dehiscence or infection.

A case - control analysis compared each smoker with two non smokers matched for age, sex, postal code and outdoor occupational exposure. This again demonstrated no difference in infection, scar complication, bleed, dehiscence, end flap necrosis or total complication incidence.

Conclusions: Smokers and non smokers suffer skin surgery complications similarly. Diabetics suffer more skin infections but no other complication is at increased risk in our data.

131
CATEGORY: Laboratory Technique
TITLE: Laboratory Personnel in Mohs Micrographic Surgery: What Laboratory Techniques Are They Practicing?
AUTHORS: Teris M. Chen, MD; Rungsima Wanitphakdeedecha, MD; Tri H. Nguyen, MD

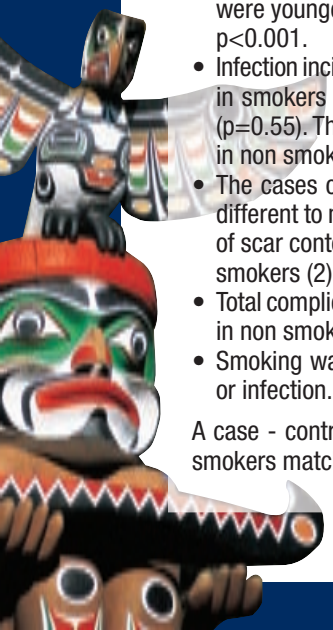
Purpose: The success of Mohs micrographic surgery (MMS) is contingent on high quality frozen tissue sections for histologic interpretation. Laboratory personnel are central to this process. Tissue processing techniques, however, may vary widely as their training is neither standardized nor certified for competence.

The purpose of this study is to determine what tissue processing techniques are followed by laboratory personnel, who are employed by members of the American College of Mohs Surgery (ACMS), in: 1) histology laboratory techniques (HLTs); 2) MMS tissue processing techniques (MMSTPTs); and 3) quality assurance.

Design: Eight hundred forty letters were mailed to Mohs surgeons registered with the ACMS. The letter contained a web link to an online survey for their laboratory personnel to fill out, regarding what tissue processing techniques employed in their practice. The results were tabulated an analyzed.

Summary: **Survey Responders** A total of 205 responses (24%) were collected between January and February 2008. The highest level of training for laboratory personnel was: high school diploma or equivalent (7.8%); bachelors of science, related field (12.2%); bachelors of science, non-related field (7.8%); bachelors of arts (3.9%); medical assistant (14.1%); registered nurse (2.9%); histotechnicians (22.4%) and histotechnologists (1.5%); other (27.3%). Practice settings varied: number of Mohs surgeons in the practice (1.6 ± 1.1; range = 1 to 8); number of Mohs surgeons operating on a single day (1.3 ± 0.5; range = 1 to 3); number of individuals employed in the office (16.6 ±19.2; range = 1 to 130). The average number of Mohs cases per day: 1-5 (18.9%); 6-10 (51.4%); 11-15 (14.3%); 16-20 (1.7%); 20+ (1.7%); other (5.7%). Employers included: private office (60.6%); major medical center (29.1%); small hospital (1.1%); other (9.1%).

HLTs According to survey responders, reagents and stains are changed: daily (23.0%); weekly (42.7%); once every two weeks (8.4%); monthly (10.1%); as needed (4.5%); other (11.2%). When the specimens are brought to the laboratory, they are: labeled (98.3%); covered (51.1%); slightly dampened with saline (41.7%). Tissue sections were taken at an average of 6.1 ± 2.1 microns (range = 0.4 to 16). Slides are prescreened: before staining (55.1%); after staining (68.5%); are not prescreened (7.9%); other (11.2%). Recuts are required in 5.9 ± 6.5% of cases (range = 0



to 40). When fatty tissue sections are encountered, laboratory personnel: freeze longer (45.2%); cut thicker sections (4.0%); both (4.0%); other (4.5%).

MMSTPTs Relaxation slits are required in 49.7 ± 37.4% (range = 0 to 100) of Mohs layers. The surgical margin is inked by: Mohs surgeon (42.8%); laboratory personnel (48.9%); other (8.3%). When asked whether the Mohs surgeon requires complete tissue sections regardless of fat, 83.1% responded in the affirmative.

Quality Assurance For the common everyday hematoxylin and eosin stain, daily quality control consists of: first slide of the day (39.9%); quality control slide (27.0%); Mohs surgeon (10.7%); other (22.5%). With regards to reagents and stains, quality assurance records are maintained for: which ones are used (90.0%); when they are changed (88.9%); when they are opened (80.6%). The Mohs surgeon reviews slides with the laboratory personnel for teaching and clarification: never (23.7%); once a week (17.2%); twice a week (5.3%); three times a week (5.3%); four times a week (3.6%); daily (27.2%); as needed (9.5%); other (7.1%).

Conclusions: The training of the laboratory personnel needs to be reevaluated, as nearly 1 of 5 survey responders stated that the Mohs surgeon did not require a complete section regardless of fat. Patient care may be compromised because of the variable practice of laboratory techniques, quality assurance, and quality control. Standardization of training and demonstration of competency may be necessary to ensure the integrity of the specialty.

132

CATEGORY: Tumor Oncology and Research

TITLE: Split Approach Study for the Treatment of Actinic Keratoses and Non-Melanoma Skin Cancers with ALA Mediated Photodynamic Therapy versus Treatment with Topical Imiquimod Cream

AUTHORS: Irene Vergilis-Kalner, MD; Maria M. Tsoukas, MD, PhD

Purpose: Actinic keratoses (AKs) and superficial non-melanoma skin cancers (NMSC) are very common in elderly as well as in immunosuppressed populations. The main goal of our study series is to compare the efficacy of ALA Photodynamic Therapy (PDT) versus topical application of conventional therapies, in particular imiquimod (Aldara), for the treatment of AK and superficial NMSC.

Design: According to our approved protocol, a “split” technique is followed. A total of 30 patients with actinic keratoses are included in the study. 20% 5-aminolevulinic acid (5-ALA) is applied on lesional skin, followed by exposure to 417 nm blue light (Blu-U, DUSA), for 16 minutes, in order to deliver total light dose of 10 J/cm2 to irradiated skin area. ALA incubation time is 3 hours. Light exposure is interrupted only if there is unbearable discomfort or if subjects develop any adverse reaction to light exposure. Conventional therapies including topical application of imiquimod, (or 5-fluorouracil, or cryotherapy as designed in further arms of the study), are applied on lesional skin and on equivalent body sites where PDT has been applied, three times per week for 12 weeks.

Participants under 18 years of age, with history of isotretinoin treatment less than 1 year prior to procedure, or adverse reactions to light exposure are excluded. Patients with history of recurrent herpes simplex episodes receive standard antiviral therapy.

Clinical evaluation and photography are obtained to monitor erythema, edema, scaling, scab or eschar, necrosis, scarring, and alopecia resulting form the treatment and are graded according to a prearranged scale, before and after treatment on days 1, 2, 7, 15, 30 post exposure. Following the completion of treatments, partial/complete clearance and re-occurrence of skin lesions are monitored and graded in a bi-monthly intervals during the 18 months follow-up period. Number of the PDT treatments ranges from 2 to 5 sessions, every 2-4 weeks apart, pending on response. Experienced pain or discomfort are graded from 0 (none) to 10 (maximum simulating bee sting). Patient preference and cost effectiveness for the applied modalities have been monitored as well.

Summary: Our data supports ALA-PDT as an efficient method for the treatment of AK and superficial NMSC. Clinical responses of erythema, edema, scaling, pruritus are significantly more pronounced on post-treatment days 1-4 on the ALA-PDT treated sites and resolve completely in 7-10 days with complete recovery and without any skin scarring or pigment changes during a two month follow up. Topical application of imiquimod results in redness, scaling and crusting of lesional skin but onset of symptoms is demonstrated following 7-10 days of application and duration of treatment is much longer (12 weeks total) compared to PDT. Treatment compliance and reproducibility are better when ALA PDT is applied in clinic compared to 12-week topical imiquimod treatment, which relies on patient application of the medication at home. Data is in progress regarding the re-occurrence of AKs at the treated skin areas during the 18 months follow-up period, in healthy elderly patients versus immunocompromised participants. However, our observations do demonstrate significant response to ALA-PDT for the treatment AK and NMSC for patients with immunosuppression, who have been non-responsive to topical imiquimod.

Conclusions: In recent years, new therapies and technologies are evolving to provide an effective, selective, and tolerable treatment of AKs and superficial NMSCs, especially in the immunocompromised patient population. The results of this study are pointing towards photodynamic therapy being potentially the treatment of choice in the dermatology practice for the treatment of these commonly encountered neoplasms and comprise a modality of choice for chemoprevention in patients under chronic immunosuppression.

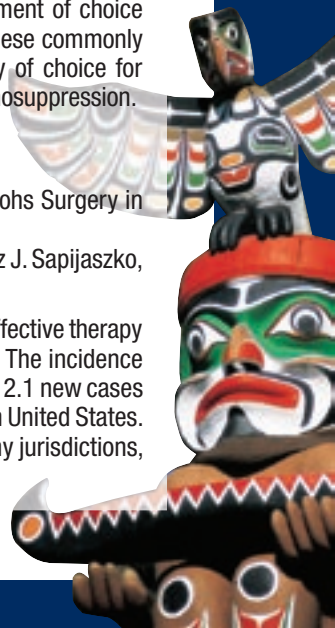
133

CATEGORY: Mohs Surgery

TITLE: The First Comprehensive Assessment of Mohs Surgery in Canada

AUTHORS: Christian A. Murray, MD, FRCPC; Mariusz J. Sapijaszko, MD, FRCPC, FAACS

Purpose: Mohs surgery is recognized as the most effective therapy for complex non-melanoma skin cancers (NMSC). The incidence of NMSC in Canada is growing and estimated to be 2.1 new cases in 2007 per 1000 population, compared with 3.2 in United States. Despite being regarded as standard of care in many jurisdictions,



Poster Presentations

access remains limited even within North American locations. This study examined the patterns of practice of Mohs surgeons in Canada and compared these services with patient access.

Design: A detailed survey was developed to collect demographic information, physician training, practice patterns and complexity of Mohs surgical procedures. Each physician was contacted personally via telephone to complete the study.

Summary: All 14 identified Mohs physicians completed the study (100% response), of which 93% were male. Fifty-seven percent of physicians were below the age of 40 and 86% were below age 50. All reside within relatively large cities, are associated with academic university centres, are involved with research and teach medical trainees. The proportion of Mohs surgeons to provincial populations with access ranged from 1:749 000 (New Brunswick) to 1:6.35 million (Ontario). Only half of Canada's provinces and none of its territories have access to Mohs surgery. Mohs surgeons repaired over 95% of cases, including a full range of reconstructive options. The majority of 'out-repairs' involved cases referred by a surgeon with an understanding of return for reconstruction.

Conclusions: Canadian health care is regulated by a single payer, provincially regulated system. Canada is under-serviced by Mohs surgery with less than one sixth the number of Mohs surgeons per capita compared with the United States despite a comparable incidence. Mohs practices are limited to select academic centres in larger cities. All identified Mohs surgeons contribute to academic teaching and research, and all have completed accredited fellowship training.

134
CATEGORY: Mohs Surgery
TITLE: Recurrence Rates of Squamous Cell Carcinomas of the Scalp Following Surgical Treatment.
AUTHORS: Payam Tristani-Firouzi, MD; Eric Smith, BS; Michael Hadley, MD; Glen Bowen, MD

Purpose: Squamous cell carcinoma (SCC) of the scalp is a common malignancy particularly in males who have significant alopecia and actinodermatosis. Risk of metastasis increases with larger tumors and in transplant patients. Recurrence rates of head/neck SCC is felt to be ~ 0.5 to 5.2%, but are higher for "high risk" anatomic areas such as the lip or ears. We sought to examine the recurrence of scalp SCC following surgical treatments.

Design: This is a retrospective study. We examined the recurrence of SCC of scalp in 130 patients who underwent Mohs micrographic surgery (MMS) (2005-2007). Information reviewed included the patient's age, sex, location and number of SCC treated on the scalp, surgical treatments, hisotolgy, use of prior treatments such as cryotherapy or topical chemotherapy and recurrence. Surgical treatments considered were MMS, excision, and electrodessication and curettage. Photographs were used, when available to determine the location of each skin cancers to determine recurrence.

Summary: 129 patients (111 males, 18 females, age range 39-94) underwent MMS for 171 SCC on the scalp. 7 of these patients were organ transplant recipients. 31 patients (25 males, 6 females) had recurrences with in the study period with 40 tumors. Recurrences occurred in 5 organ transplant recipients. Of the 40 recurrences, 24 occurred following MMS, 16 following electrodessication and curettage (ED&C), and 3 following standard surgical excisions. All males with recurrences had moderate to severe alopecia and extensive actinodermatosis. Women had mild to moderate alopecia. All patients had received prior treatments with cryotherapy, and/or field chemotherapy with 5-flurouracil or imiquimod. There was no correlation between the histologic degree of differentiation and the risk of recurrence. 3 patients developed regional metastasis, requiring lymph node dissections, and adjuvent radiation treatment.

SCC treated initially with ED&C were primarily in situ, but recurred subsequently with an infiltrative pattern. Of the 24 tumors that recurred following MMS, only 4 recurred with a more aggressive histology.

The overall recurrence rate for SCC of the scalp in this group was 23% (all combined treatment modalities) and 14% following MMS which is higher than the reported rate.

Conclusions: These data highlight the difficulties in completely eradicating SCC of the scalp, particularly in patients with significant alopecia and actinic damage. Rates of recurrence of scalp SCC may be higher than previously reported and therefore the scalp is potentially a "high risk" anatomic area. The higher rate of recurrence is most likely due to the high burden of actinic damage with field cancerization effect.

Better understanding of the biologic behavior of these tumors will help in their optimal treatment and ultimately lower risk of recurrence.

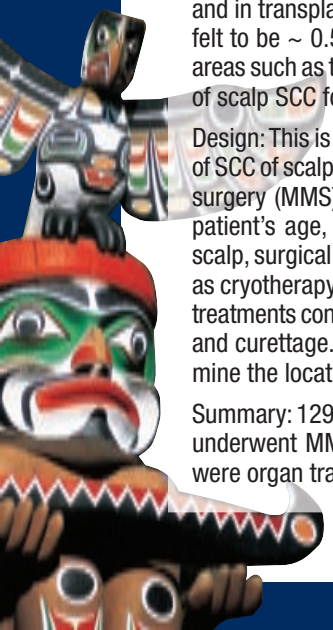
135
CATEGORY: Laboratory Technique
TITLE: Laboratory Personnel in Mohs Micrographic Surgery: How Do They Learn Laboratory Techniques?
AUTHORS: Teris M. Chen, MD; Rungsima Wanitphakdeedecha, MD; Tri H. Nguyen, MD

Purpose: The success of Mohs micrographic surgery (MMS) is contingent on high quality frozen tissue sections for histologic interpretation. Laboratory personnel are central to this process, and to date, their training is neither standardized nor certified for competence.

The purpose of this study is to determine what processes are utilized to train laboratory personnel, who are employed by members of the American College of Mohs Surgery (ACMS), in: 1) histology laboratory techniques (HLTs) and 2) MMS tissue processing techniques (MMSTPTs).

Design: Eight hundred forty letters were mailed to Mohs surgeons registered with the ACMS. The letter contained a web link to an online survey for the laboratory personnel to fill out, regarding their training process. The results were tabulated an analyzed.

Summary: **Survey Responders** A total of 205 responses (24%) were collected between January and February 2008. The highest



level of training for laboratory personnel was: high school diploma or equivalent (7.8%); bachelors of science, related field (12.2%); bachelors of science, non-related field (7.8%); bachelors of arts (3.9%); medical assistant (14.1%); registered nurse (2.9%); histotechnicians (22.4%) and histotechnologists (1.5%); other (27.3%). Practice settings varied: number of Mohs surgeons in the practice (1.6 ± 1.1; range = 1 to 8); number of Mohs surgeons operating on a single day (1.3 ± 0.5; range = 1 to 3); number of individuals employed in the office (16.6 ±19.2; range = 1 to 130). The average number of Mohs cases per day was: 1-5 (18.9%); 6-10 (51.4%); 11-15 (14.3%); 16-20 (1.7%); 20+ (1.7%); other (5.7%). Employers included: private office (60.6%); major medical center (29.1%); small hospital (1.1%); other (9.1%).

HLTs Survey responders received their training in HLTs: on the job, but not the surgeon (61.3%); on the job, the Mohs surgeon (29.9%); formal histotechnician or histotechnologist program (27.8%); hired expert Mohs histotechnician (22.7%); textbook (18.0%); procedure manual created by the Mohs surgeon (12.4%); course (8.8%); other (11.9%). On the job training from other laboratory personnel was perceived to be the most helpful (45.4%), and textbook to be the least helpful (42.8%). When a problem was encountered with HLTs, laboratory personnel sought help from: another Mohs technician at the office (28.4%), Mohs technician at another office (21.1%), Mohs surgeon (19.6%), textbook (5.7%), Mohs technician with a company (3.1%), procedure manual created by the Mohs surgeon (1.5%), other (20.6%). On average, survey responders had 9.6 ± 9.1 years (range = 0 to 40) of experience with HLTs and felt it took 7.8 ± 7.6 months (range = 1 to 48) to become proficient.

MMSTPTs Survey responders received their training in MMSTPTs: on the job, but not the surgeon (65.4%); on the job, the Mohs surgeon (41.1%); hired expert Mohs histotechnician (25.4%); textbook (13.0%); procedure manual created by the Mohs surgeon (13.0%); course (7.0%); other (10.8%). On the job training from other laboratory personnel was perceived to be the most helpful (47.6%), and the textbook to be the least helpful (41.6%). When a problem was encountered with MMSTPTs, laboratory personnel sought help from: Mohs technician at the office (31.9%), Mohs technician at another office (21.6%), Mohs surgeon (25.9%), textbook (2.2%), Mohs technician with a company (2.2%), procedure manual created by the Mohs surgeon (1.1%), other (15.1%). On average, survey responders felt it took 4.9 ± 4.3 months (range = 0 to 24) to become proficient.

Conclusions: Laboratory technique proficiency is achieved after several months, with HLTs requiring more time than MMSTPTs. At this time, the techniques are primarily learned on the job from another member of the clinic. Neither the surgeon nor the reference textbooks are the primary resources for training, as well as, troubleshooting when problems are encountered with tissue processing.

136

CATEGORY: Pathology and Unusual Tumors

TITLE: Giant Basal Cell Carcinoma: A Case Report, Discussion of Considerations for Operation vs. Palliation and Treatment Algorithm

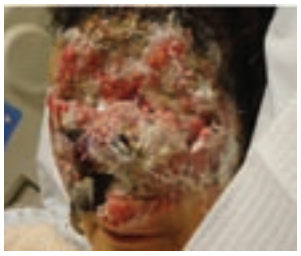
AUTHORS: Jeffrey C. Dawes, MBA, MD; David McKenzie, MD; Pauline Alakija, MD

Purpose: Giant basal cell carcinomas are a rare, often aggressive variant of typical basal cell carcinomas that may lead to metastasis and death. They are often recurrent and deeply invasive into the underlying soft and bony tissues. Resection and reconstruction of these three-dimensional masses is complex and may lead to significant functional deficits. The purpose of this paper is to discuss the characteristics of giant basal cell carcinomas, including their potential for local destruction, various treatment options and the multitude of considerations for operation vs. palliation, including technical, tumor and patient factors. A case is described which effectively illustrates these points and an algorithm for the treatment of giant basal cell carcinomas is presented. Focus to be placed on histology of giant basal cell carcinomas and other factors related to their metastasis.

Design: Case report and literature review.

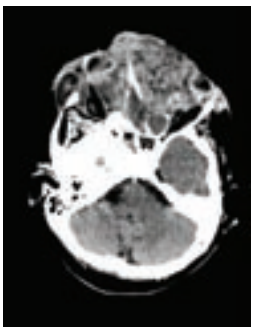
Summary: The largest giant basal cell carcinoma of the face reported to date is described in a 53 year-old female. The lesion started 3 years prior to presentation and had obliterated most of the soft tissue and bony architecture of the mid-face and anterior head, with substantial skull base and dural involvement. She was blind with only a remnant of right eyelid identifiable. The tumor was deemed inoperable by the multidisciplinary surgical team and the patient was treated palliatively with radiation.

Conclusions: The decision of whether to reconstruct a defect left from an extensive giant basal cell carcinoma resection is currently influenced by the perceived difficulty and morbidity associated with the procedure. When considering palliative or curative resection and reconstruction, other factors, including the patient's ability to do well peri-operatively should be considered. In particular, focus should be placed on the extent to which major surgery would alter the patient's quality of life. Metastasis should be ruled out definitively prior to consideration of an operation and should not be determined solely on the basis of the size, histology, recurrence or prior treatment. A standardized approach is impractical and each patient should be evaluated individually. The algorithm presented provides general guidance with respect to the wider range of considerations.



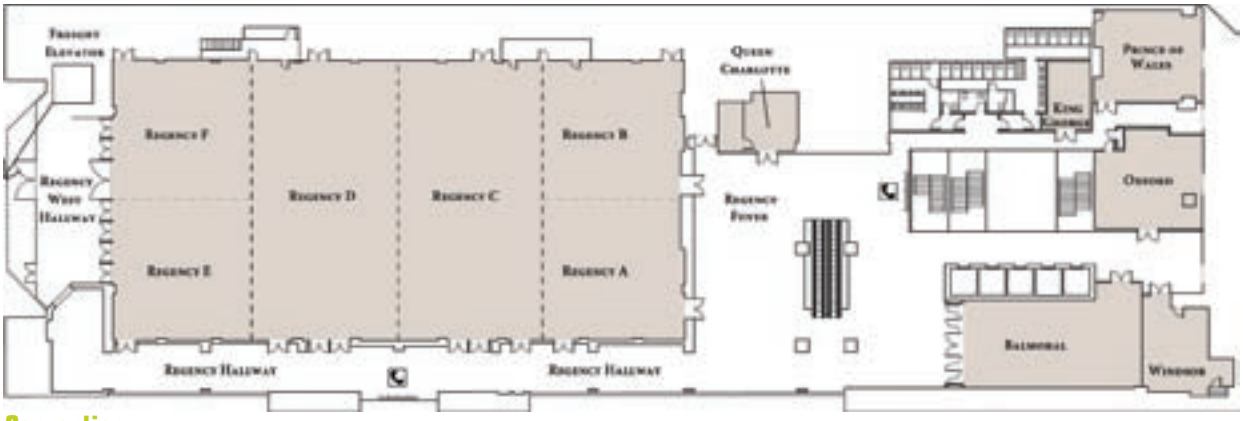
53 year-old female with a giant basal cell carcinoma of the mid-face and anterior head.

Poster Presentations

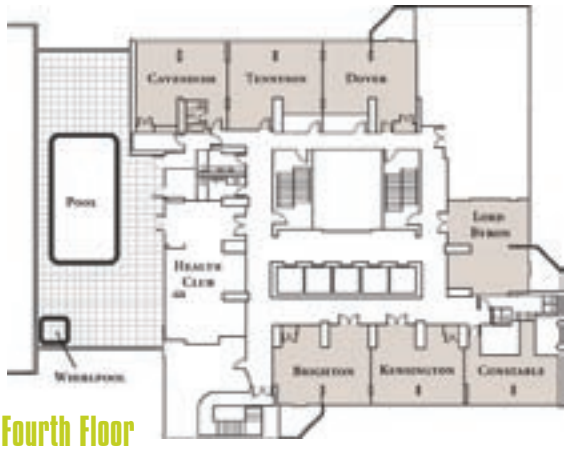


CT scan, soft tissue window of the same 53 year-old female with a giant basal cell carcinoma of the mid-face and anterior head.

Hyatt Regency Vancouver Floor Plans

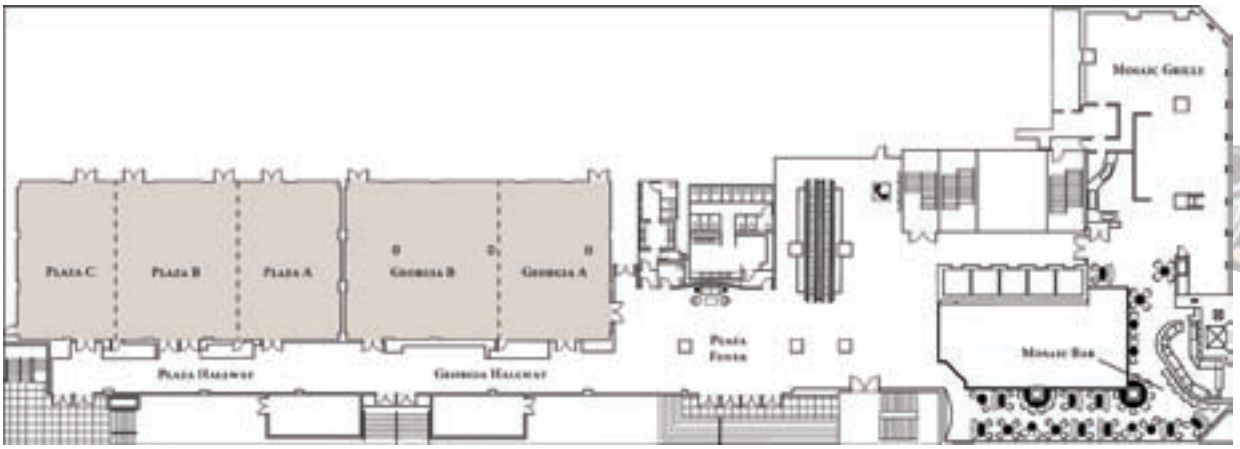


Convention



Fourth Floor

34th Floor Perspectives



Plaza

Exhibitor Floor Plan

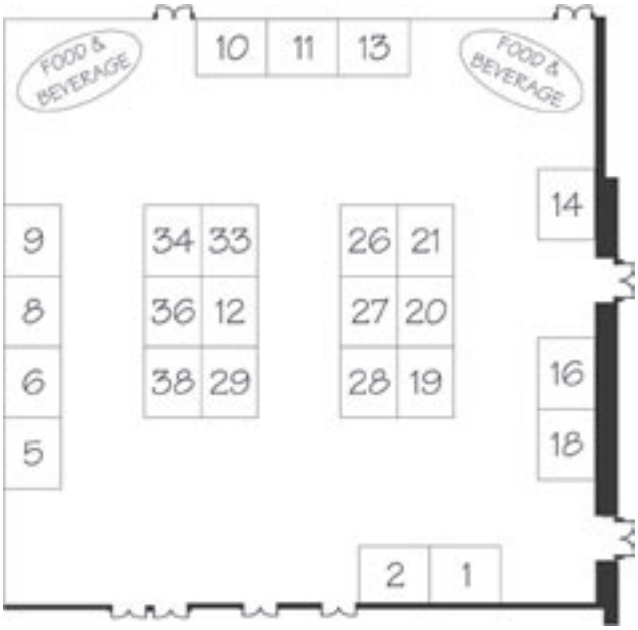


Exhibit Hall hours are:
Thursday, May 1, 12 – 7 pm
Friday, May 2, 12 – 6:30 pm
Saturday, May 3, 12 – 3 pm

Exhibitors

American Academy of Dermatology **11**
930 East Woodfield Road
Schaumburg, IL 60173
Tel: (866) 503-7546
Fax: (847) 240-1859
Email:
Web: www.aad.org
American Academy of Dermatology: The AAD offers a wide variety of professional and public education products for dermatologists. Browse our latest Continuing Medical Education resources, Practice Management publications, and patient education pamphlets. Stop by our booth to view all of our products and ask how the AAD can lower your practice expenses!

Care-Tech Laboratories, Inc. **34**
3224 S. Kingshighway Blvd.
Saint Louis, MO 63139
Tel: (314) 772-4610
Fax: (314) 772-4613
Email: caretech@swbell.net
Web: www.caretechlabs.com

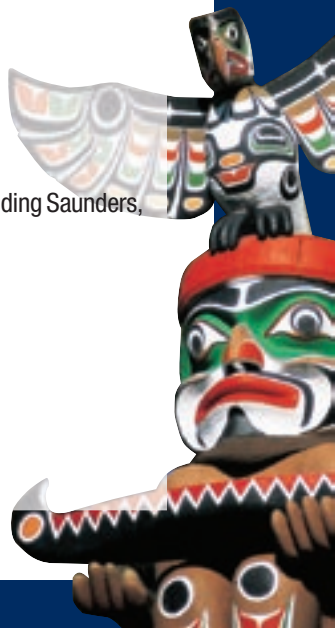
CryoEmbedder, Inc. **21**
3434 E. 7800 S., Ste. 131
Salt Lake City, UT 84121
Tel: (801) 944-0745
Fax: (801) 453-0718
Email: jackie@cryoembedder.com
Web: www.cryoembedder.com
The cryoEmbedder® System is a simple and extremely fast, embedding process for frozen sectioning. This unbreakable instrument has no disposable parts. It adapts to all makes of cryostats and provides an eye-level view while freezing specimens. It's efficient, fast, accurate, economical, indestructible and it works. Learn more at www.cryoembedder.com.

Derm Education Foundation **6**
223 N. Route 21, Ste. 4
Gurnee, IL 60031
Tel: (897) 599-9156
Fax: (707) 982-1044
Email: amit@derm.md
Web: www.dermed.org
Our goal is to educate healthcare providers using the latest technological advances and custom-designed software applications. In so doing, we hope to facilitate the learning process and ultimately enhance patient care.

Designs For Vision, Inc. **16**
760 Koehler Ave.
Ronkonkoma, NY 11779
Tel: (800) 345-4009
Fax: (631) 585-3404
Email: sales@dvimail.com
Web: www.designsforvision.com
Just See It™ with Designs for Vision's lightweight custom-made Surgical Telescopes – now available with Nike® frames. These Telescopes improve visual acuity and reduce back and neck pain. See It Even Better™ with the L.E.D. Daylite™ or Twin Beam™ L.E.D. providing the brightest and safest un-tethered illumination.

DUSA Pharmaceuticals, Inc **7**
25 Upton Drive
Wilmington, MA 01887
Tel: (978) 657-7500
Fax: (978) 657-9193
Email: customerservice@dusapharma.com
Web: www.dusapharma.com
DUSA® specializes in dermatology products including Levulan® PDT and BLU-U® for actinitic keratosis; BLU-U light alone treatment for acne vulgaris; Nicomide®, a nonantibiotic acne treatment; its new item ClindaReach™ for hard-to-reach acne.

Elsevier Canada **38**
905 King Street West
4th Floor
Toronto, Ontario M6K 3G9 Canada
Tel: (416) 253-3640
Fax: (416) 255-5456
Email: d.freitas@elsevier.com
Web: www.elsevier.com
Elsevier Canada is a team of leading publishers including Saunders,



Exhibitors

Mosby, Churchill Livingstone, Butterworth-Heinemann, Hanley & Belfus, MDConsult and FIRSTConsult dedicated to meeting the information needs of health science professionals. We publish high-quality textbooks, references, periodicals, and electronic products for medicine, nursing, dentistry, veterinary medicine, and health professionals.

EltaMD Skincare **29**
2055 Luna Road #126
Carrollton, TX 75006
Tel: (972) 385-2900
Fax: (972) 385-7930
Email: info@elta.net
Web: www.eltamd.com
EltaMD™ is sold exclusively to physicians. With six unique sun care formulas, EltaMD™ offers sun protection for every patient need. EltaMD™ products focus on prevention, healing, and maintenance for all skin types, including the most sensitive skin. All products are hypoallergenic, sensitivity-free, and fragrance-free.

Expeditor Systems, Inc **5**
4090 Nine McFarland Drive
Alpharetta, GA 30004
Tel: (770) 442-0405
Fax: (770) 644-5214
Email: expeditor1@expeditor.com
Web: www.expeditor.com
Expeditor is a privately owned company founded in 1982; our team of dedicated individuals is proud of its record of excellence in patient flow consulting, in-service training, installation and service. Expeditor's specialty is the turn-key implementation of custom designed light-signaling systems to meet the individual requirements of private offices, clinics, hospitals, and emergency departments; delivering a complete, cost effective, carefully planned system which fits easily into practices, without forcing to rearrange any office.

Global Pathology Laboratory Services **33**
16250 NW 59th Ave., Ste. 201
Miami Lakes, FL 33014
Tel: (305) 825-4422
Fax: (786) 639-0712
Email: pattya@globalpathlab.com
Web: www.globalpathlab.com
Providing personal, precise Dermatopathology services by professionals focused on patient care. Diagnoses rendered only by Board Certified Dermatopathologist. 24 hour turn around time to all physicians throughout the United States. Toll free: 866-825-4422

Mercedes Medical **1**
7590 Commerce Court
Sarasota, FL 34243
Tel: (941) 355-3333
Fax: (800) 359-8807
Email: canziano@mercedesmedical.com
Web: www.MercedesMedical.com
Mercedes Medical is a privately held, woman-owned national medical distribution company in Sarasota, Florida. Mercedes for 15 years has prided itself on being the low cost leader in the medical supply market. Don't forget to request your FREE fresh baked cookies and Henry the Histo-potamus gear with every order!

Mohs Histology Consulting Services **18**
2507 S. Manito Boulevard
Spokane, WA 99203
Tel: (509) 954-7134
Fax: (509) 624-3926
Email: mickie25@netzero.net
Web: www.mohshistotemp.com
Mohs Histology Consulting Services is dedicated to providing comprehensive Mohs technician training, maternity/vacation relief (www.mohslabstaffing.com) and consultation services for Mohs and histology laboratory design and equipment procurement including a CLIA compliant procedure manual. References from highly satisfied physician-clients available at: www.mohshistotemp.com. Outcomes guaranteed to fit your needs.

Mohs Technical Consulting **36**
894 Buck Falls Road
Highlands, NC 28741
Tel: (866) 235-2476
Fax: (828) 668-1402
Email: histobarb@msn.com
Web: www.mohstechnicalconsulting.com
Mohs Technical Consulting, training techs to be a cut above the rest. Available for extensive technical assistance with little or no experience. Training is done at your office for your staff to be proficient in cutting Mohs sections. Consulting services are available from lab layout, to full training of new techs with little or no experience. For improved turnaround time and or trouble shooting. Training includes laboratory regulations for CLIA/OSHA, and all documentation for your office to become CLIA compliant. We have a zero deficiency rating with CLIA inspections in all our labs. A complete procedure manual is designed specifically for your office.

MTI Medical Technology Industries **8**
3655 West Ninigret Drive
Salt Lake City, UT 84104
Tel: (801) 887-5114
Fax: (801) 952-0548
Email: info@mti-inc.us
Web: www.mti-inc.us
MTI manufactures and sells a full line of surgery-examination chairs and tables, stools and accessories. MTI designed the newest technology in its surgery-examination chairs/tables with industry leading 24 volt DC motors. Low voltage motors are quieter, smoother, safer, less complex and more reliable than the traditional 115 volt AC motors.

Tiemann Surgical **19**
25 Plant Ave.
Hauppauge, NY 11788-3804
Tel: (800) 843-6266
Fax: (800) 577-6050
Email: sales@georgetiemann.com
Web: www.georgetiemann.com
Manufacturers of Quality Surgical Instruments since 1826. Specializing in Instruments and Accessories for Dermatology, Mohs, Liposuction, Dermabrasion and Hair Transplant Surgery. Stop by our booth for ACMS and New Practice Specials.

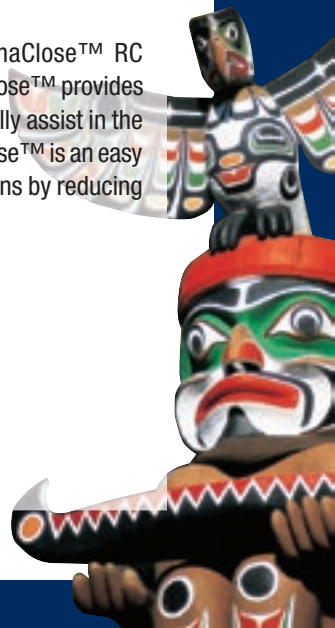
Travel Tech Mohs Services, Inc. **10**
2341 W. 205th St., Ste. 114
Torrance, CA 90501
Tel: (310) 328-7846
Fax: (310) 328-0690
Email: tanja@gotmohs.com
Web: www.gotmohs.com
TRAVEL TECH Mohs Services, Inc is a technician service specializing in Mohs Micrographic Surgery. Our team of technicians has been providing the highest quality Mohs frozen sectioning available for the past 15 years. We provide all the machinery as well as a skilled professional in Mohs histology.

Triangle Biomedical Sciences, Inc. **14**
3014 Croasdaile Drive
Durham, NC 27705
Tel: (919) 384-9393
Fax: (919) 384-9595
Email: vabbott@trianglebiomedical.com
Web: www.trainglebiomedical.com
Triangle Biomedical Sciences, Inc. designs, manufactures and markets a comprehensive line of innovative instrumentation, apparatus and consumables for clinical and histology research laboratories.

Verdure Botanoceuticals **26**
1301 20th St., Ste. 520
Santa Monica, CA 90404
Tel: (800) 993-1301
Fax: (310) 315-0324
Email: info@verdureskin.com
Web: www.verdureskin.com
VERDURE BOTANOCEUTICALS: Verdure Matte Moisturizing Physical Sunscreen with Antioxidants SPF 28 is ideal for sunscreen-allergic patients. It is the first sunscreen on the market with Broccoli extract, as well as Green and Red Tea. Free of fragrance, oil, propylene glycol and parabens, this "very water resistant" sunscreen is well-liked by patients.

Wiley-Blackwell **9**
350 Main Street
Malden, MA 02148-5018
Tel: (781) 388-8250
Fax: (781) 388-8255
Email: agriffin@wiley.com
Web: www.wiley-blackwell.com
Wiley publishes an enormous range of top quality consumer, professional, educational and research material. Wiley-Blackwell, the scientific, technical, medical and scholarly publishing business of John Wiley & Sons, is the leading society publisher and offers libraries peer-reviewed primary research and evidence based medicine across 1250 online journals, books, reference works, and databases.

Wound Care Technologies **2**
19023 Magenta Bay
Eden Prairie, MN 55347
Tel: (800) 896-0436
Fax: (952) 906-3473
Email: info@woundcaretech.com
Web: www.woundcaretech.com
Wound Care Technologies introduces the DermaClose™ RC Continuous External Tissue Expander. The DermaClose™ provides physicians a practical and useful device to surgically assist in the closure of moderate to large wounds. The DermaClose™ is an easy to use, safe device that expands your clinical options by reducing the need for flaps and grafts.



14th ANNUAL MEETING SCIENTIFIC PROGRAM

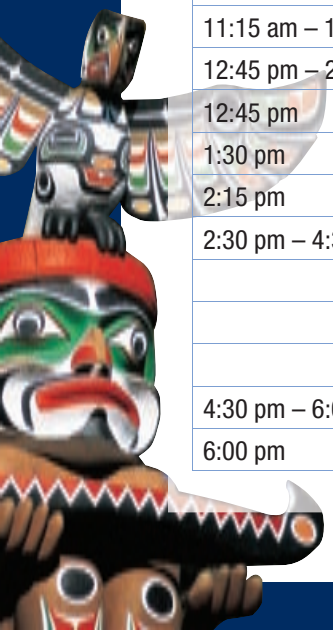
May 2-3, 2008

Thursday, May 1

7:00 am – 5:00 pm	Visit Mohs Slide Library	(Balmoral – 3rd Floor)
2:00 pm – 5:00 pm	Exhibit Set-up	(Georgia A & B – 2nd Floor)
2:00 pm – 5:00 pm	Meeting Registration	(Plaza Foyer – 2nd Floor)
5:00 pm – 7:30 pm	Board of Directors' Meeting	(Constable – 4th Floor)

Friday, May 2

7:00 am – 5:00 pm	Visit Mohs Slide Library	(Balmoral – 3rd Floor)
7:30 am – 8:30 am	Continental Breakfast in ASMH Exhibit Area	(Georgia A & B – 2nd Floor)
7:30 am – 4:30 pm	Meeting Registration/Information	(Plaza Foyer – 2nd Floor)
7:30 am – 6:00 pm	Visit ASMH Exhibits	(Georgia A & B – 2nd Floor)
8:30 am – 9:45 am	General Session 1	(Plaza Ballroom – 2nd Floor)
8:30 am	Opening Remarks/Welcome - Cindy Rice, HT (ASCP), ASMH President	
8:45 am	Principles of Mohs Surgery – Stephen Spates, MD	
9:15 am	A Comparison of Mohs Micrographic Surgery Processing using Porcine Skin - Norma Anderson, HT (ASCP)	
9:45 am	Break – ASMH Exhibit Area	(Georgia A & B – 2nd Floor)
10:00 am – 2:15 pm	Informal Training for Mohs Fellows and Surgeons in Exhibit Hall	(Georgia A & B – 2nd Floor)
10:00 am – 11:15 am	General Session 2	(Plaza Ballroom – 2nd Floor)
10:00 am	Ear Wedges – William Lear, MD, FRCPC	
10:30 am	Stereo Orientation of Slide vs. Map – Carol Stewart, HT (ASCP)	
11:00 am	2008 Abstract Award Winner - The 20-Minute Rapid Mart-1 Immunostain for Malignant Melanoma Frozen Sections - Gabriel Ayala, HT (ASCP)	
11:15 am – 12:45 pm	Lunch on Your Own	
12:45 pm – 2:15 pm	General Session 3	(Plaza Ballroom – 2nd Floor)
12:45 pm	Troubleshooting Open Forum – Beth Uri, HT (ASCP)	
1:30 pm	Immunohistochemistry: The Basics – Jackie Cruz, HT (ASCP)	
2:15 pm	Break – ASMH Exhibit Area	(Georgia A & B – 2nd Floor)
2:30 pm – 4:30 pm	Workshops	
	• Cryostat Workshop for Technical Training	(Georgia A & B – 2nd Floor)
	• Slide Troubleshooting Workshop	(Cypress – 34th Floor)
	• MART 1 Immuno Staining Workshop	(Stanley – 34th Floor)
4:30 pm – 6:00 pm	Networking Reception in ASMH Exhibit Hall	(Georgia A & B – 2nd Floor)
6:00 pm	Dinner on Your Own	



14th ANNUAL MEETING SCIENTIFIC PROGRAM

May 2-3, 2008

Saturday, May 3

6:30 am – 8:30 am	HQA Training Session – Exhibit Hall	(Georgia A & B – 2nd Floor)
7:00 am – 2:00 pm	Visit Mohs Slide Library	(Balmoral – 3rd Floor)
8:00 am – 4:00 pm	Meeting Registration/Information	(Plaza Foyer – 2nd Floor)
8:30 am – 4:00 pm	Visit ASMH Exhibits	(Georgia A & B – 2nd Floor)
8:30 am – 9:00 am	Continental Breakfast in ASMH Exhibit Area	(Georgia A & B – 2nd Floor)
9:00 – 10:00 am	General Session 4	(Plaza Ballroom – 2nd Floor)
9:00 am	Opening Remarks - Cindy Rice, HT (ASCP), ASMH President	
9:00 am	Open and Clear Lines of Communication in the Mohs Laboratory – Saadia Raza, MD	
9:30 am	Challenging Skin Cancers – Marc Brown, MD	
10:00 am	Break – ASMH Exhibit Area	(Georgia A & B – 2nd Floor)
10:30 am – 2:00 pm	Informal Training for Mohs Fellows and Surgeons in Exhibit Hall	(Georgia A & B – 2nd Floor)
10:30 am – 11:30 am	General Session 5	(Plaza Ballroom – 2nd Floor)
10:30 am	Are You a CLIA Survivor? – Barbara Beck, HT (ASCP)	
11:30 am – 1:00 pm	Lunch on Your Own	
1:00 pm – 2:00 pm	General Session 6	(Plaza Ballroom – 2nd Floor)
1:00 pm	ASMH Membership Meeting	
1:30 pm	Clinical and Microscopic Tumor Morphology – Paul Bowman, MD	
2:00 pm – 4:00 pm	Workshops	
	• Cryostat Workshop for Technical Training	(Georgia A & B – 2nd Floor)
	• Slide Troubleshooting Workshop	(Cypress – 34th Floor)
	• MART 1 Immuno Staining Workshop	(Stanley – 34th Floor)
4:00 pm	Meeting Adjourned	

Visit the ACMS Annual Meeting Exhibits

Regency Ballroom A, B & C
Thursday, May 1, 12:00 pm – 6:45 pm
Friday, May 2, 12:00 pm – 6:00 pm
Saturday, May 3, 12:00 pm – 3:00 pm

SAVE THE DATE

Mohs College 42nd Annual Meeting

Marriott Marquis • New York, NY

April 29-May 2, 2010