AMERICAN COLLEGE OF MOHS SURGERY

ACMS

WELCOME

43rd Mohs College Annual Meeting

THURSDAY, APRIL 28 - SUNDAY, MAY 1, 2011

LAS VEGAS • CAESARS PALACE

FINAL PROGRAM

http://www.mohscollege.org/annualmeeting

twitter

Follow the Mohs College Annual Meeting on Twitter!
Twitter.com/mohscollege

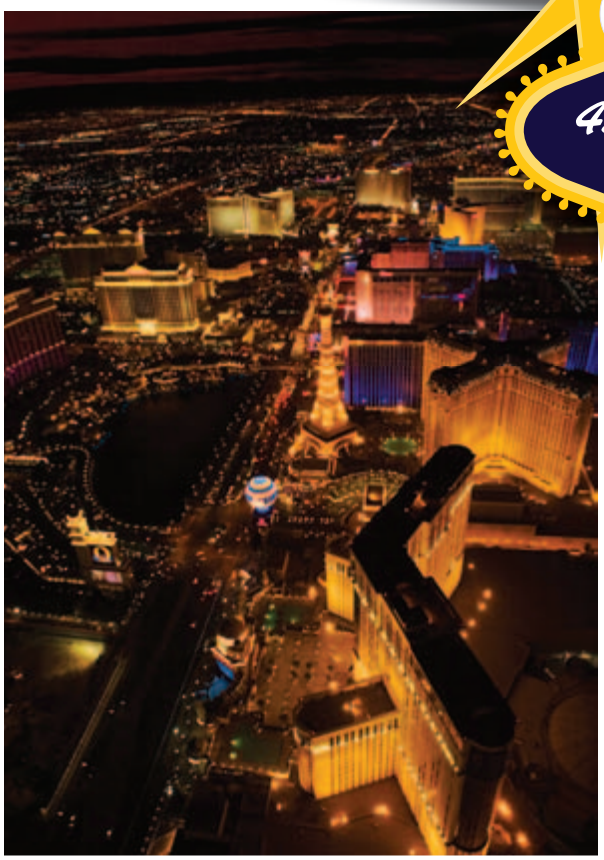
ACMS

WELCOME

43rd Mohs College Annual Meeting

THURSDAY, APRIL 28 - SUNDAY, MAY 1, 2011

LAS VEGAS • CAESARS PALACE



FINAL PROGRAM

Photos courtesy of the Las Vegas News Bureau and Caesars Palace

Photography Policy
The ACMS has arranged for a photographer to be present throughout the 2011 Annual Meeting. ACMS may use these photos on its World Wide Web site or in other official printed publications. Individuals photographed will not receive compensation for the use and release of these photos and will be deemed to have consented to the use and release of photos in which they appear. Individuals also acknowledge ACMS' right to crop or treat the photographs at its discretion. If you are opposed to being photographed, please immediately notify the photographer or an ACMS staff member if your picture is taken. Thank you for your cooperation.

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

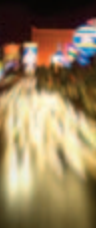
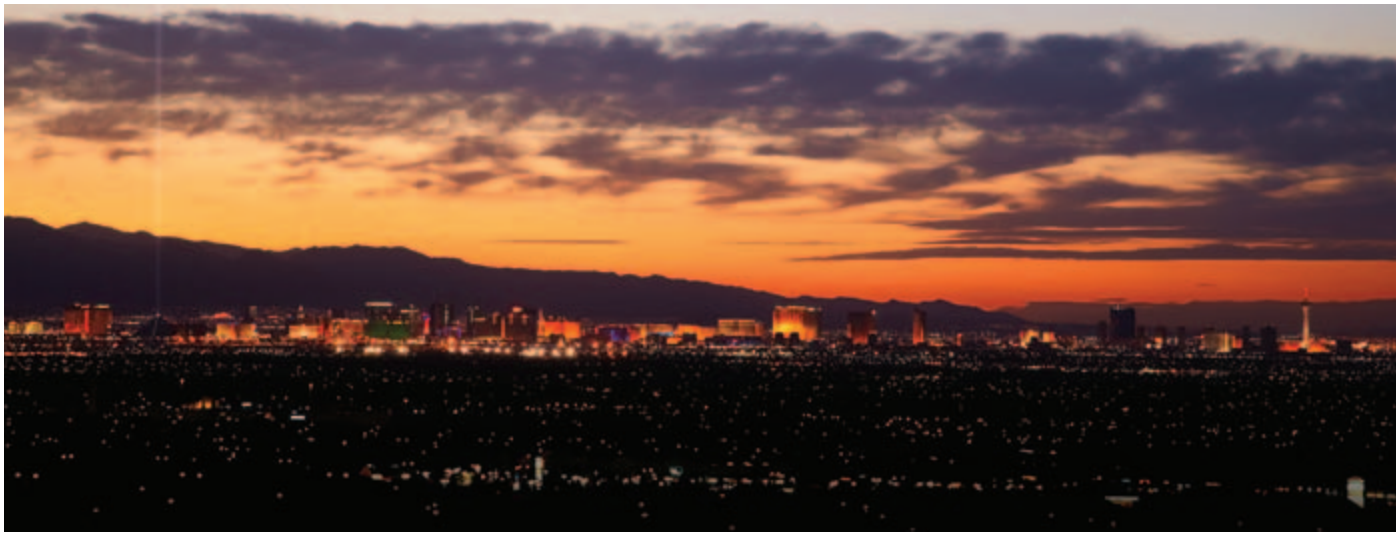


TABLE OF CONTENTS

ACMS Board of Directors . . . 3
ACMS Committees and Task Forces . . . 3
Welcome Messages . . . 4
Program-at-a-Glance . . . 6
Caesars Palace Tear-Out Floor Maps . . . 10
Caesars Palace Concierge & Transportation Info . . . 12
Fellowship Training Director Listing . . . 13
Guest Speaker Biographies . . . 14
Las Vegas Maps & Attractions . . . 17
Faculty and Guest Speaker Listing . . . 19
CME Information . . . 20
Learning Objectives . . . 21
Faculty Disclosure Information . . . 22
Scientific Program Schedule
- Thursday, April 28 . . . 23
- Friday, April 29 . . . 28
- Saturday, April 30 . . . 31
- Sunday, May 1 . . . 34

Abstract Presentations
- Thursday, April 28; Clinical Pearls . . . 35
- Thursday, April 28; Tromovitch Award . . . 42
- Friday, April 29; Research . . . 47

Poster Presentation List . . . 52
Poster Presentation Summaries . . . 56
Exhibitor Floor Plan . . . 86
Exhibitor Listing . . . 87
ASMH Program-at-a-Glance . . . 91
Speaker Index . . . 93



2010-2011 Officers and Board of Directors

Officers

Leonard M. Dzubow, MD
President

Brett M. Coldiron, MD, FACP
Vice President

Marc D. Brown, MD
Secretary Treasurer

Duane C. Whitaker, MD
Immediate Past-President

Board of Directors

John G. Albertini, MD
Frederick S. Fish, III, MD
Glenn D. Goldman, MD
Andrew J. Kaufman, MD, FACP
Gary P. Lask, MD
Ken K. Lee, MD
Gregg M. Menaker, MD
Marcy Neuburg, MD
Suzanne M. Olbricht, MD

Scientific Program Committee

Tatyana R. Humphreys, MD, Chair
Deborah F. MacFarlane, MD, Vice Chair
Leonard M. Dzubow, MD
Brett M. Coldiron, MD, FACP
Marc D. Brown, MD
Roberta D. Sengelmann, MD, Ex-officio

Staff

Kim Schardin, CAE, Executive Director
Erin O'Krongly, Communications Manager
Michelle Ridolfi, Meetings Manager
Susan Sadowski, Education Manager
Josh de Beer, Membership & Meetings Coordinator

Committees and Task Forces - 2011

Bylaws Committee
Vicki J. Levine, MD, Chair

CME and Education Committee
Mary E. Maloney, MD, Chair

Communications & PR Committee
Alysa R. Herman, MD, Chair

Diagnostic Quality Control & Teaching Library Committee
Sumaira Z. Aasi, MD, Chair

Ethics Committee
Marta J. Van Beek, MD, Chair

Finance and Investment Committee
Marc D. Brown, MD, Chair

Frederic E. Mohs Award Committee
Ronald G. Wheeland, MD, Chair

Membership Committee
Brett M. Coldiron, MD, FACP, Chair

Newsletter Committee
Désirée Ratner, MD, Chair

Nominating Committee
C. William Hanke, MD, Chair

Scientific Program Committee
Tatyana R. Humphreys, MD, Chair

Tromovitch Award Committee
Michael Murphy, MD, Chair

Website Committee
Clarence W. Brown, Jr., MD, Chair

Site Inspection & Slide Review Board, LLC

(An ACMS subsidiary)

Fellowship Training Committee
Suzanne M. Olbricht, MD, Chair

Slide Review Committee
Glenn D. Goldstein, MD, Chair

WELCOME FROM THE PRESIDENT

Dear ACMS Members and Colleagues,

On behalf of the ACMS Board of Directors, I welcome you to fabulous Las Vegas for the 43rd Annual Meeting of the American College of Mohs Surgery.

I hope you have been looking forward to this week as much as I have; to join the nearly 900 fellowship-trained skin cancer and reconstructive surgeons to learn, collaborate, and share with one another for the benefit of our patients. My sincere hope is that you are able to take much away from this meeting, which will resonate long after in your own practice.

I extend my sincere appreciation and gratitude to the Scientific Program Committee, headed by Chair, Dr. Tatyana R. Humphreys, who has put together an outstanding program that will highlight many relevant topics to enhance your practice skills in cutaneous oncology, Mohs micrographic surgery, and reconstruction. Special thanks go to the members of the Scientific Program Committee: Drs. Marc Brown, Brett Coldiron, Deborah MacFarlane, and Roberta Sengelmann, for their dedication and contributions in planning this year's events.

In addition to an excellent program, the Exhibit Hall will provide information and extensive resources to benefit your practice. I strongly encourage you to take full advantage of the exhibitors' presence and visit them during their time here (Thursday, 5 – 7 pm, Friday, 12 – 6 pm & Saturday, 8 am – 2 pm).

Aside from the opportunities available at our meeting for you to grow as a Mohs surgeon, take the time to explore Las Vegas. Since it is dubbed *The Entertainment Capital of the World*, I'm sure you will not be at a loss for places to visit and experience.

I hope you enjoy your time here in Las Vegas for what I believe will be another outstanding Annual Meeting of the American College of Mohs Surgery!

Sincerely,

Leonard M. Dzubow, MD
ACMS President

WELCOME FROM THE SCIENTIFIC PROGRAM CHAIR

Dear Colleagues,

I am pleased to present the educational program for the 2011 ACMS Annual Meeting. The program has been created in direct response to your feedback following last year's meeting to enhance your practice skills in Mohs surgery and cutaneous oncology. Member feedback from last year's meeting allowed us to identify specific practice gaps and areas of interest such as dermatopathology and reconstruction.

Since we are in Las Vegas, we made this year's Annual Meeting a star-studded event with several outstanding guest speakers featured in the program. On Thursday, Frank J. Lexa, MD, MBA, from the Wharton School, University of Pennsylvania, will speak on *Health Care Reform*. On Friday, back by popular demand, Clay J. Cockerell, MD, from UT Southwestern, will present *Dermatopathology Challenges in Mohs Surgery* and be a guest panelist on *Mohs Frozen Section Challenges*. Homer A. Macapinlac, MD, FACNM, from University of Texas MD Anderson Cancer Center, will speak on *PET/CT & Cutaneous Tumors* and be a panelist on *Tumor Board* on Friday afternoon. Last, but not least, on Saturday, Frederick J. Menick, MD, world renowned expert on nasal reconstruction from Tucson, AZ, will be guest speaking in the session, *Nasal Reconstruction: Art & Practice* and a panelist in sessions, *How Would You Reconstruct It?* and, *The Undesirable Result*.

Additionally, on Saturday afternoon, we are both pleased and honored to welcome our keynote speaker, Fred Mohs Jr., son of Dr. Frederic Mohs, to the 2011 Annual Meeting. Mr. Mohs will speak to the College membership in his keynote address, *Remembering Dr. Frederic Mohs*. During his address, he will be talking intimately of his father, sharing personal and professional anecdotes, both for the College members who knew him and the younger members who never had the pleasure. You won't want to miss out on this historic occasion.

I extend special thanks to the Scientific Program Committee members: Drs. Deborah MacFarlane, Roberta Sengelmann, Len Dzubow, Brett Coldiron and Marc Brown, who have been an incredible sounding board and shared their time and insights with me so generously to bring this quality program to you. I also thank the members of the CME committee for their guidance, Chair, Dr. Mary Maloney, and Drs. John Albertini and Jeremy Bordeaux.

The Scientific Program Committee hopes that you are as excited as we are about what the 2011 ACMS Annual Meeting offers.

Welcome to the fabulous Las Vegas!

Sincerely,

Tatyana R. Humphreys, MD
Chair, ACMS 2011 Scientific Program Committee

Wednesday, April 27

1:00 – 6:00 pm	Registration	Office 5 Registration Desk; *Emperors Level* (outside of Palace Ballroom)
1:00 – 6:00 pm	Speaker Ready Room	Genoa; *Promenade Level*
1:00 – 6:00 pm	Slide Library & Diagnostic Quality Control Self-examination	Tarranto; *Emperors Level*

Thursday, April 28

6:30 am – 5:00 pm	Registration	Office 5 Registration Desk; *Emperors Level* (outside of Palace Ballroom)
6:30 am – 5:00 pm	Speaker Ready Room	Genoa; *Promenade Level*
7:00 am – 9:00 pm	Slide Library & Diagnostic Quality Control Self-examination	Tarranto; *Emperors Level*
7:00 – 8:30 am	Concurrent Morning Mini-sessions:	
	103.1 Regional Reconstruction	Pompeian Ballroom 1; *Promenade Level*
	103.2 Merkel Cell Carcinoma & Dermatofibrosarcoma Protuberans	Messina; *Promenade Level*
	103.3 Skin Grafts	Anzio; *Promenade Level*
	103.4 Strategies for Practice Efficiency	Pompeian Ballroom 2; *Promenade Level*
	103.5 Treatment of Malignant Nail Tumors	Livorno; *Promenade Level*
	103.6 Lower Extremity Reconstruction & Wound Healing	Pompeian Ballroom 3; *Promenade Level*
	103.7 Lab and Histopath Pearls & Pitfalls	Pompeian Ballroom 4; *Promenade Level*
8:45 – 9:15 am	Welcome & AAD Update	Augustus 1-4; *Emperors Level*
9:15 – 10:15 am	Literature Review: What's New in 2011?	Augustus 1-4; *Emperors Level*
10:15 – 10:30 am	Break	
10:30 – 11:45 am	Clinical Pearls Abstract Session	Augustus 1-4; *Emperors Level*
11:45 am – 12:45 pm	Networking Lunch (provided)	Augustus 5-6; *Emperors Level*
12:45 – 1:45 pm	Controversies in Mohs Surgery ♦	Augustus 1-4; *Emperors Level*
1:45 – 2:45 pm	**Health Care Reform: Ready or not, here it comes!** With Guest Speaker: Frank J. Lexa, MD, MBA	Augustus 1-4; *Emperors Level*
2:45 – 3:00 pm	Break	
3:00 – 4:00 pm	Transplant Update	Augustus 1-4; *Emperors Level*
4:00 – 5:00 pm	Tromovitch Award Abstract Session	Augustus 1-4; *Emperors Level*
5:00 – 7:00 pm	**Exhibit Hall Grand Opening & Welcome Reception** Don't miss this chance to relax and unwind with colleagues before an evening out in *fabulous Las Vegas*. Hors d'oeuvres and beverages will be provided for your enjoyment.	Palace Ballroom; *Emperors Level*

Friday, April 29

6:30 am – 5:00 pm	Registration	Office 5 Registration Desk; *Emperors Level* (outside of Palace Ballroom)
6:30 am – 5:00 pm	Speaker Ready Room	Genoa; *Promenade Level*
7:00 am – 9:00 pm	Slide Library & Diagnostic Quality Control Self-examination	Tarranto; *Emperors Level*
7:00 – 8:30 am	Concurrent Morning Mini-sessions:	
	203.1 Update on Infectious Disease Antibiotics	Messina; *Promenade Level*
	203.2 Facial Reconstruction: An Interactive Session	Pompeian Ballroom 1; *Promenade Level*
	203.3 EMR: What You Need to Know Now	Pompeian Ballroom 2; *Promenade Level*
	203.4 Managing Skin Cancer Without a Knife	Anzio; *Promenade Level*
	203.5 Approach to Reconstruction of the Scalp & Ear	Capri; *Promenade Level*
	203.6 Sebaceous Carcinoma & EMPD	Livorno; *Promenade Level*
	203.7 Reconstruction of Common Nasal Defects	Pompeian Ballroom 3; *Promenade Level*
	203.8 Comprehensive & Concise Update of Melanoma	Pompeian Ballroom 4; *Promenade Level*
8:45 – 9:45 am	**Dermatopathology Challenges in Mohs Surgery: Difficult Cases from UT Southwestern** ♦ With Guest Speaker: Clay J. Cockerell, MD	Augustus 1-4; *Emperors Level*

♦ *Represents advanced expertise level course*

Friday, April 29

9:45 – 10:45 am	**Mohs Frozen Section Challenges: Self Assessment Quiz** ♦ With Guest Panelist: Clay J. Cockerell, MD	Augustus 1-4; *Emperors Level*
10:45 – 11:00 am	Break	
11:00 am – 12:00 pm	Morbidity & Mortality Conference: Case Presentation of Surgical Complications	Augustus 1-4; *Emperors Level*
12:00 – 6:00 pm	Exhibit Hall Open	Palace Ballroom; *Emperors Level*
12:00 – 2:00 pm	**ACMS Annual Business Meeting & Lunch** *Non-Members and guests: lunch on your own; visit the Exhibit Hall* Mohs College members are encouraged to attend the annual membership business meeting and lunch. This important meeting brings members up-to-date on issues of significance. The winners of the prestigious Frederic E. Mohs Award and Distinguished Service Award will be announced.	Augustus 5-6; *Emperors Level*
2:00 – 3:00 pm	**PET/CT & Cutaneous Tumors** With Guest Speaker: Homer A. Macapinlac, MD, FACNM	Augustus 1-4; *Emperors Level*
3:00 – 4:00 pm	**Tumor Board** ♦ With Guest Panelist: Homer A. Macapinlac, MD, FACNM	Augustus 1-4; *Emperors Level*
4:00 – 5:00 pm	Research Abstract Session	Augustus 1-4; *Emperors Level*
5:00 – 6:00 pm	Visit the Exhibit Hall and Posters	Palace Ballroom; *Emperors Level*
5:00 – 7:00 pm	Association of Professors of Dermatology (APD) Meeting	Livorno; *Promenade Level*

Saturday, April 30

6:30 am – 4:00 pm	Registration	Office 5 Registration Desk; *Emperors Level* (outside of Palace Ballroom)
6:30 am – 4:00 pm	Speaker Ready Room	Genoa; *Promenade Level*
7:00 am – 9:00 pm	Slide Library and Diagnostic Quality Control Self-examination	Tarranto; *Emperors Level*
7:00 – 8:30 am	Concurrent Morning Mini-sessions:	
	303.1 Non-surgical & Combination Therapy for Skin Cancer	Anzio; *Promenade Level*
	303.2 Practice Management: East vs. West Coast Strategies for Practice Growth During Uncertain Times	Messina; *Promenade Level*
	303.3 Coding: Up Close and Personal	Pompeian Ballroom 1; *Promenade Level*
	303.4 Reconstructive Challenges: Lip & Perioral Region ♦	Pompeian Ballroom 2; *Promenade Level*
	303.5 Role of Radiation in Cutaneous Oncology	Livorno; *Promenade Level*
	303.6 Interpolation Flaps: Getting Started	Pompeian Ballroom 3; *Promenade Level*
	303.7 Periorbital Reconstruction: From Basic to Advanced	Pompeian Ballroom 4; *Promenade Level*
8:00 – 9:00 am	Continental Breakfast in the Exhibit Hall	Palace Ballroom; *Emperors Level*
8:00 am – 2:00 pm	Exhibit Hall Open	Palace Ballroom; *Emperors Level*
9:00 – 10:00 am	**Nasal Reconstruction: Art & Practice** ♦ With Guest Speaker: Frederick J. Menick, MD	Augustus 1-4; *Emperors Level*
10:00 – 11:00 am	**How Would You Reconstruct It?** With Guest Panelist: Frederick J. Menick, MD	Augustus 1-4; *Emperors Level*
11:00 am – 12:00 pm	**The Undesirable Result** ♦ With Guest Speaker: Frederick J. Menick, MD	Augustus 1-4; *Emperors Level*
12:00 – 1:30 pm	Lunch in the Exhibit Hall	Palace Ballroom; *Emperors Level*
12:00 – 1:30 pm	Women's Dermatology Society Luncheon (Pre-registration was required)	Palace Ballroom 1; *Emperors Level*
12:00 – 1:30 pm	**Ethicon, Inc. Product Demonstration & Lunch** **Suture Selection for Optimal Results** (see Pg. 33 for more details)	Augustus 5-6; *Emperors Level*
1:30 – 2:30 pm	Coding & Documentation Update	Augustus 1-4; *Emperors Level*
2:30 – 3:30 pm	Practice Management Pearls	Augustus 1-4; *Emperors Level*

♦ *Represents advanced expertise level course*

Saturday, April 30

3:30 – 4:30 pm	***Remembering Dr. Frederic Mohs*** **With Keynote Speaker: Frederic E. Mohs, Jr.** Frederic E. Mohs, Jr., son of Dr. Frederic Mohs, joins the ACMS Annual Meeting. In his keynote address, *Remembering Dr. Frederic Mohs*, he will share a first-hand account and personal memories of Dr. Mohs' life and career.	Augustus 1-4; *Emperors Level*
4:30 – 5:30 pm	Fellowship Training Directors' Session	Messina; *Promenade Level*
5:30 – 7:00 pm	**Reception Introducing Fellows-in-Training** All Annual Meeting attendees are invited to attend. This event offers the opportunity for all attendees to network and socialize with each other and congratulate the newest fellows-in-training on their upcoming graduation. The winner of the Tromovitch Award will be announced and hors d'oeuvres and beverages will be provided. Fellows-in-training and training directors should come prepared to introduce themselves to the group.	Emperors Ballroom; *Emperors Level*

Sunday, May 1

7:00 – 10:00 am	Registration	Office 5 Registration Desk; *Emperors Level* (outside of Palace Ballroom)
7:00 – 10:00 am	Speaker Ready Room	Genoa; *Promenade Level*
7:30 – 8:30 am	Diagnostic Quality Control Exam Review	Augustus 1-4; *Emperors Level*
8:30 – 10:00 am	Masters Session on Reconstruction ♦	Augustus 1-4; *Emperors Level*
10:00 am – 12:00 pm	ACGME Session *A formal presentation with Jeanne K. Heard, PhD, Senior VP of the Department of Accreditation Committees*	Augustus 1-4; *Emperors Level*
12:00 pm	Meeting Adjourns	

♦ *Represents advanced expertise level course*

Professional Headshots

Available FREE to all AM11 Attendees

NEW This Year

On **Thursday, April 28**, by the ACMS Registration Desk (Office 5 Registration Desk; *Emperors Level;* outside of Palace Ballroom) from **2:30 – 4:30 pm**, professional headshots will be taken by our photographer. Photo proofs will be sent electronically following the meeting for personal use. All photos will be taken on a first come, first served basis until the 4:30 pm cutoff.

Informal Cryostat Training

Available FREE to all AM11 Attendees

Join members of the ASMH for a 30-45 minute informal cryostat training during the ASMH Annual Meeting. The time frames available for this activity are:

Friday, April 29 from 10 am – 12 pm; 1 – 2 pm
Saturday, April 30 from 10 am – 12 pm; 1 – 2 pm

To participate, you must pre-register at the ASMH Office 5 Registration Desk outside of the Palace Ballroom.

Quick, Accurate, Dependable — Your **Global Pathology** Diagnosis.

Global Pathology puts the patient and physician first by building relationships, not barriers.

We are physician owned and operated, so we know how important your case is. Our professional service emphasizes doctor-to doctor communication and a quick, accurate diagnosis. It's that personal touch that makes Global Pathology the dependable dermatopathology choice.

Superior Diagnosis

- All Board Certified Dermatopathologists
- Clear Specific Diagnosis and Reports

Service

- Complete Histopathology and Dermatopathology Lab Services
- Rapid Turn Around – Nationwide

Paperless Reporting

- Online Web Portal with PDF Downloads
- EMR

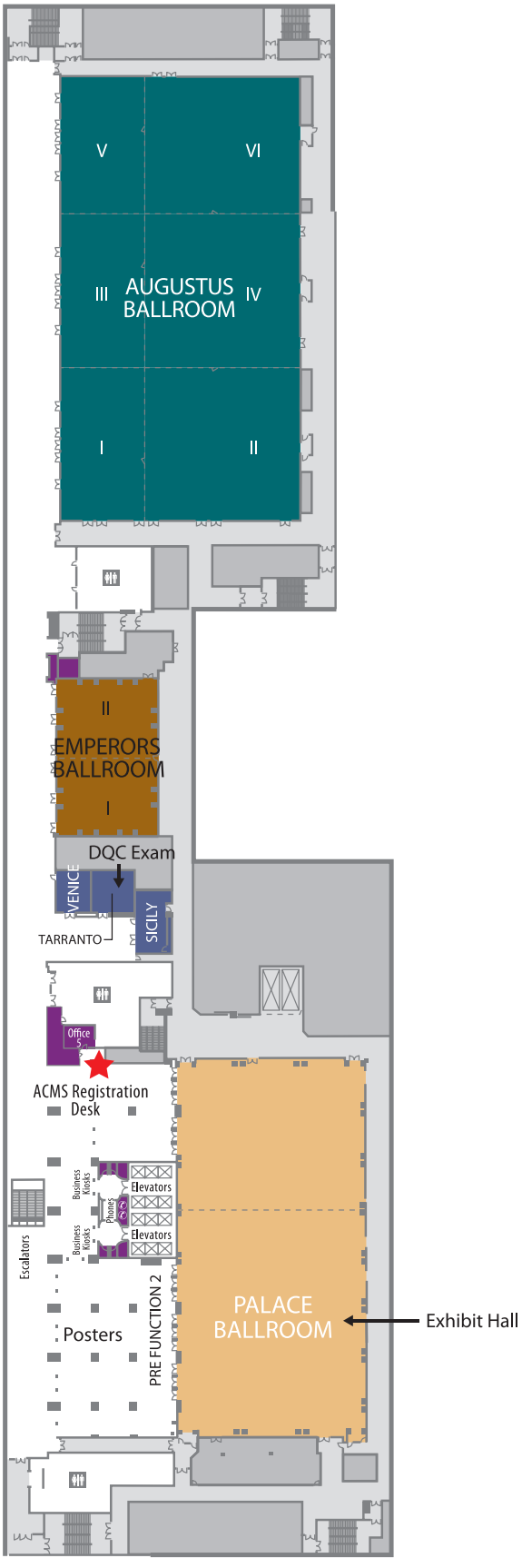
16250 NW 59th Avenue, Suite 201 ▪ Miami Lakes, Florida 33014 ▪ 1.866.825.4422 ▪ www.globalpathlab.com ▪ gary.davis@globalpathlab.com

GLOBAL PATHOLOGY
LABORATORY SERVICES

Say yes to personal, professional service.
Stop by and see us at the ACMS meeting in Las Vegas — **Booth #19**.

PROMENADE LEVEL

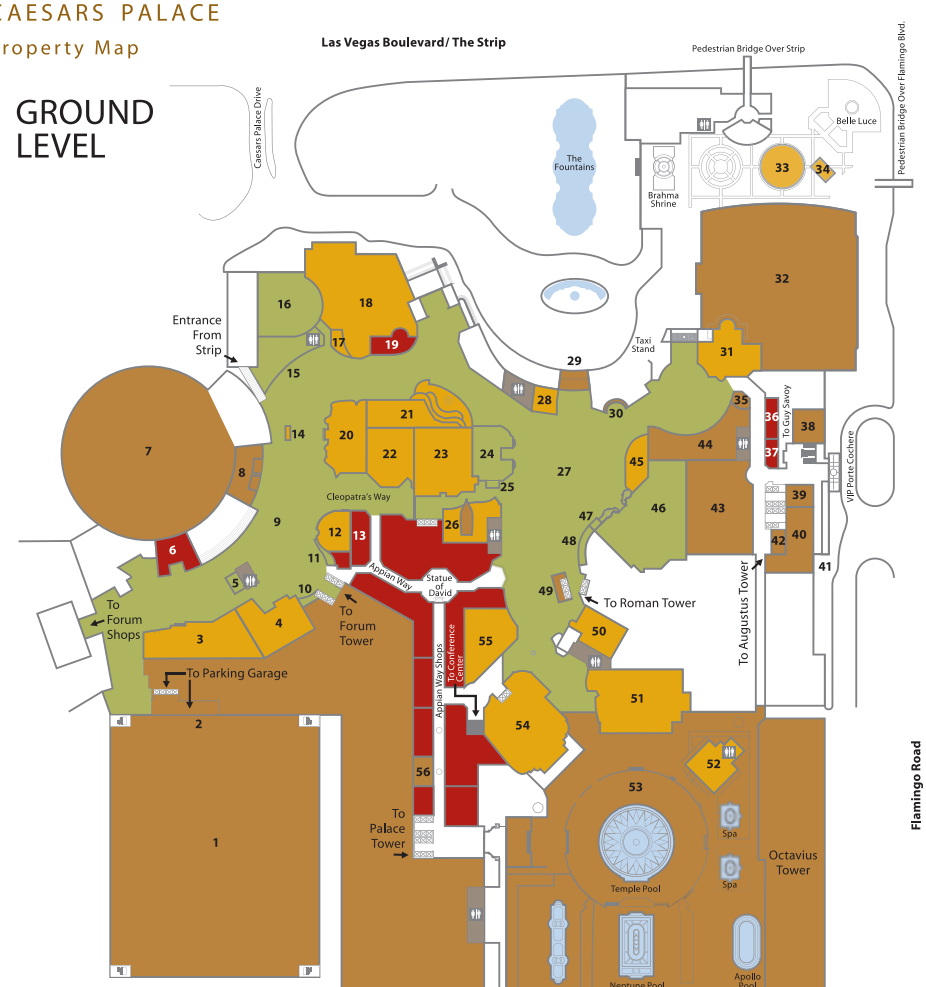
EMPERORS LEVEL



43rd Annual Meeting • April 28 – May 1, 2011 • Caesars Palace • Las Vegas, NV

CAESARS PALACE

Property Map



Restaurants/Bar
3. Cypress Street
4. Bradley Ogden
12. Shadow: A Bar At Caesars Palace
14. Sports Bar
17. Pussycat Dolls Lounge
18. PURE Nightclub
20. Mesa Grill
21. Seahorse Lounge
22. Neros
23. Hyakumi
26. Cleopatra's Barge
28. Restaurant Reservations
31. Augustus Café
33. Spanish Steps
34. Lemonade & Hot Chocolate Stand
45. Galleria Bar
50. 808
51. Café Lago Buffet
52. Snackus Maximus
54. Rao's
55. Payard
58. Neptune Bar
60. Restaurant Guy Savoy

Casino
5. Keno
9. Forum Casino
10. Total Rewards
11. Casino Promotions
15. Race & Sports Book
16. Poker Room
24. Palace Court Slots
25. Security
27. Palace Casino
46. Palace Court Tables
47. Casino Host
48. Cashier
49. Total Rewards

Shopping
6. Bette & Cher Boutique
13. Cartier
19. Elton John Store
36. Caesars Exclusively!
37. Neil Leifer Gallery

Facility
1. Parking Garage
2. Colosseum Valet
7. The Colosseum at Caesars Palace
8. Colosseum Box Office
29. Main Valet
30. Bell Desk
32. Roman Plaza Amphitheater
35. Emperors Salon
38. Wedding Services
39. Diamond Registration
40. Diamond Lounge
41. Shuttles to Flamingo, Harrah's, Paris, and Rio
42. Events Desk
43. Seven Stars Registration & Lounge
44. Concierge & Hotel Registration
53. Garden of the Gods Pool Oasis
56. Business Center
57. Caesars Palace Conference Center
59. Convention Center
61. Classico Wedding Chapel
62. Tuscana Chapel
63. Romano Chapel
64. Color: A Michael Boychuck Salon
65. QUA Baths & Spa

Caesars Palace Concierge Service

Rely on the Concierge at Caesars Palace for all of your needs, including:

- Restaurant reservations
- Show reservations
- Tour reservations
- Nightclub VIP/bottle/table reservations
- Transportation arrangements & information
- Special gift ideas
- Floral arrangements
- Babysitting and nanny services
- Local recommendations
- Golf requests (featuring Cascata and Rio Secco golf courses)
- General questions

Caesars Palace Concierge is open from 6 am until 9 pm daily, and can be reached by phone at (702) 731-7731 or (877) 346-4642, or by email at leisureconcierge@caesarspalace.com.

Caesars Palace Business Center

Contact Information:
Phone: (702) 866-1100
Fax: (702) 866-1700
Email: cpbuscenter@yahoo.com

Hours of Operation
Mon - Fri: 7 am – 6 pm
Sat & Sun: 8 am – 4 pm

Location: Palace Tower across from the Beauty Salon

Services Include (with fee):

- Worldwide shipping
- Photocopies
- Computer access
- Faxing - You may send a fax to a hotel guest at (702) 866-1700
- You may send a hotel guest an e-mail at CaesarsBusinessCenter@yahoo.com

Local Taxi Services

Ace/Vegas Western Cab Company
(702) 736-8383

Desert Cab Company
(702) 386-9102

Henderson Taxi Company
(702) 384-2322

Lucky Cab Company
(702) 477-7555

Nellis Cab Company
(702) 248-1111

Western Cab Company
(702) 736-8000

Whittlesea/Blue Cab Company
(702) 384-6111

Yellow/Checker/Star Cab
(702) 873-2000

Las Vegas Monorail

Hours of Operation:
Mon - Th: 7 am – 2 am
Fri - Sun: 7 am – 3 am
www.lvmonorail.com

Pricing:
Single ride ticket - $5.00 (unlimited ride passes available)

Location of Monorail Stations:

- MGM Grand Las Vegas
- Bally's Las Vegas/Paris Las Vegas
- Flamingo Las Vegas/Caesars Palace*
- Imperial Palace/Harrah's Las Vegas
- Las Vegas Convention Center
- Las Vegas Hilton
- Sahara Hotel and Casino

**Flamingo/Caesars Palace Station is located at the Flamingo Las Vegas on the east side of Las Vegas Boulevard. Head past the Flamingo lobby toward the parking garage to reach the Monorail station.*

ACMS FELLOWSHIP TRAINING DIRECTOR LISTING

Murad Alam, MD
John G. Albertini, MD
Joseph Alcalay, MD
John P. Arlette, MD, FRCPC
Philip L. Bailin, MD
David S. Becker, MD
Anthony V. Benedetto, DO
Richard G. Bennett, MD
Daniel Berg, MD
David G. Brodland, MD
Robert A. Buzzell, MD
John A. Carucci, MD, PhD
Roger I. Ceilley, MD
Armand B. Cognetta, Jr., MD
Brett M. Coldiron, MD, FACP
Brian Cook, MD
Joel Cook, MD
Scott M. Dinehart, MD
Heidi B. Donnelly, MD
Raymond G. Dufresne, Jr., MD
Daniel B. Eisen, MD
Michael J. Fazio, MD
Franklin P. Flowers, MD
Scott W. Fosko, MD
Algin B. Garrett, MD
Roy G. Geronemus, MD
David J. Goldberg, MD
Leonard H. Goldberg, MD
Hugh M. Gloster, Jr., 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
Christopher B. Harmon, MD
George J. Hruza, MD
Conway Huang, MD
Satori Iwamoto, MD, PhD
S. Brian Jiang, MD
Timothy M. Johnson, MD

David E. Kent, MD
Gary Lask, MD
Naomi Lawrence, MD
Susana M. Leal-Khouri, MD
Peter K. Lee, MD, PhD
David J. Leffell, MD
Deborah F. MacFarlane, MD
Mary E. Maloney, MD
Victor J. Marks, MD
Ellen S. Marmur, MD
Michael W. McCall, MD
J. Ramsey Mellette, Jr., MD
Christopher J. Miller, MD
Gary D. Monheit, MD
Greg S. Morganroth, MD
Ronald L. Moy, MD
Christian Murray, MD, BSC, FRCPC
Peter B. Odland, MD
Suzanne Olbricht, MD
Ida F. Orengo, MD
Michael L. Ramsey, MD
Désirée Ratner, MD
Randall K. Roenigk, MD
Arlene S. Rogachefsky, MD
Thomas E. Rohrer, MD
Eli R. Saleeby, MD
Paul J.M. Salmon, MD
Daniel M. Siegel, MD
Ronald J. Siegle, MD
Stephen N. 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
Phillip M. Williford, MD
Christopher Zachary, MD
Nathalie C. Zeitouni, MD
John A. Zitelli, MD
David M. Zloty, MD

Clay J. Cockerell, MD

Clay J. Cockerell, MD is Clinical Professor of Dermatology and Pathology at the University of Texas Southwestern Medical Center and Director of the Division of Dermatopathology. He is the Medical Director of Cockerell and Associates Dermatopathology as well as a diplomate of the American Academy of Dermatology and American Board of Dermatopathology.

Dr. Cockerell is internationally recognized for his contributions to both dermatology and dermatopathology. He is the past president of the American Academy of Dermatology. For many years, Dr. Cockerell has overseen an educational program designed to train the next generation of dermatopathologists. He served as Associate Editor of the Journal of the American Academy of Dermatology and is on the editorial boards of a number of medical journals including the American Journal of Dermatopathology.

Dr. Cockerell will share his experiences on Friday, April 29th as a guest speaker in ***Dermatopathology Challenges in Mohs Surgery: Difficult Cases from UT Southwestern*** from 8:45 – 9:45 am and as a panelist in ***Mohs Frozen Section Challenges: Self Assessment Quiz*** from 9:45 – 10:45 am.

Frank J. Lexa, MD, MBA

Frank J. Lexa, MD, MBA is a neuroradiologist and Professor of Radiology at the Drexel School of Medicine where he is the Vice Chair of the Department of Radiology. He also serves on the adjunct faculty of the Wharton School in the marketing department and worked for programs in the Global Consulting Practicum for over a decade. This has taken him to five continents and he is currently serving in multiple capacities including: the Assistant Academic Director, the United Arab Emirates Country Manager and East Asia Regional manager and as Project Faculty. He also holds an appointment as a Professor of Business Development in the Life Sciences at the Instituto de Empresa in Madrid, the top business school in Spain and the number two business school in the European Union. There he won the prestigious "Prize of Excellence" for outstanding teaching.

Previously Dr. Lexa directed health care investments for the British Technology Group International and worked as a strategic consultant for the Boston Consulting Group. He was also a partner at Philadelphia Ventures-a venture capital firm focusing on high tech medical investments and he continues to work with start up companies in that sector.

Dr. Lexa lectures, consults, and writes extensively on issues at the interface of health care and business science. He is the author of over 75 peer reviewed articles, book and encyclopedia chapters. He served as the first Dean of Executive Education for the American College of Radiology and has chaired, co-chaired and served on several key national committees and task forces for major organizations in radiology. Currently, he serves as both the co-chair of the Future Trends Committee for the ACR and the chair of the Practice Leaders Committee.

Dr. Lexa will share his insights and expertise on the impact of federal health care reform in 2011 during the session ***Health Care Reform: Ready or not, here it comes!*** on Thursday, April 28th, from 1:45 – 2:45 pm.

REMEMBERING DR. FREDERIC MOHS

With Keynote Speaker: Frederic E. Mohs, Jr.

Saturday, April 30th from 3:30 - 4:30pm

Frederic E. Mohs, Jr. was born in Madison in 1937, about the time his father began his research at the McArdle Labs. He graduated from the University of Wisconsin in 1959. Served in the US Army as a Lieutenant in the Military Police, and then graduated from UW Madison Law School in 1964. Mr. Mohs worked for a large law firm beginning in 1964, and since 1979 has been the Senior Partner in the law firm of Mohs, MacDonald, Widder & Paradise, specializing in real estate transactions and corporate representation. He is married to his wife, former Mary McKenzie. They met at Madison West Junior High School in 1949. They have two daughters, Paula who lives with her husband in New York, and Nicole who lives with her husband and family in Chicago.

Since 1958, Mr. Mohs has been actively involved in real estate development and ownership with developments in Florida and Chicago, but is now totally concentrated in Madison, Wisconsin. He was a co-owner and founder of Fox 47 TV in Madison, Wisconsin, and Velcor, a nationwide automobile fleet leasing company.

Mr. Mohs is a director of Placon Corporation, a plastic thermoforming company belonging to his brother Tom Mohs, and Tom's family, from 1964 to present day. He was a director of the Madison Gas and Electric Company from 1975 to 2010, serving as lead director and chairman of the Executive and Compensation Committees. Currently, He is a member of the Chazen Museum of Art at Madison (1994 – present) and a member of the Madison Symphony Orchestra Board (2000 – present); President (2005 – 2009). Mr. Mohs was formerly a member of the University of Wisconsin Board of Regents (1997 – 2004) and a member of the Executive Committee and Chairman of the Education Committee. Additionally, he was a member of the University of Wisconsin Hospital Authority Board (1998-1994) and a member of the Board Directors of the University of Wisconsin Research Park (2002-2004).

Frederic E. Mohs, Jr., joins the ACMS Annual Meeting in his keynote address, ***Remembering Dr. Frederic Mohs,*** on Saturday, April 30th from 3:30 - 4:30pm. He will share a first-hand account and personal memories of Dr. Mohs' life and career.

Homer A. Macapinlac, MD, FACNM

Homer A. Macapinlac, MD, FACNM is the James E. Anderson Distinguished Professor of Nuclear Medicine, Chair of the Department of Nuclear Medicine, and holds a joint appointment in the Department of Experimental Imaging at the University of Texas M.D. Anderson Cancer Center in Houston, Texas.

He joined M. D. Anderson Cancer Center in 2001 as an Associate Professor and Chief of the Section of Positron Emission Tomography. Prior to joining M.D. Anderson, he served as clinical director of the Laurent and Alberta Gershel Positron Emission Tomography Center of Memorial Sloan-Kettering Cancer Center, in New York for six years.

Dr. Macapinlac completed his residency training in Nuclear Medicine at Memorial-Sloan Kettering Cancer Center, serving as chief resident in the Nuclear Medicine Service. He then completed his Oncologic Imaging and PET fellowship at MSKCC and became chief fellow. Dr. Macapinlac is board certified by the American Board of Nuclear Medicine, with a Certificate of Added Qualification (CAQ) in Nuclear Cardiology. He was also elected as a fellow of the American College of Nuclear Physicians.

Dr. Macapinlac is an active committee member of various groups, including the Society of Nuclear Medicine, American College of Nuclear Physicians, Radiological Society of North America, European Association of Nuclear Medicine, American College of Radiology, Academy of Molecular Imaging, ACRIN and American College of Surgeons Oncology Group. He is a Board Member of the Academy of Molecular Imaging and served as past-Chair of the Institute of Clinical PET. He was past-President of the Society of Nuclear Medicine PET Center of Excellence and received the SNM Distinguished Service Award for this role.

Dr. Macapinlac is also an expert consultant to the International Atomic Energy Agency, a member of the International Association for the Study of Lung Cancer (IASCLC), and an International Visiting Professor for the Radiological Society of North America. He has over 140 publications and is considered a national and international expert in the field of nuclear medicine and positron emission tomography. He served as a member of the editorial board of the *Journal of Nuclear Medicine* and *Clinical Nuclear Medicine* and continues to serve on the editorial boards of the *European Journal of Nuclear Medicine* and *Nuclear Medicine Communications* and *Molecular Imaging and Biology*.

Dr. Macapinlac will share his insights and experience on Friday, April 29th in the session entitled ***PET/CT & Cutaneous Tumors*** from 2:00 – 3:00 pm and as a panelist in ***Tumor Board*** from 3:00 – 4:00 pm.

Fred Menick, MD

Fred Menick, MD, world renowned expert on nasal reconstruction, graduated from Yale University medical school. Over 9 years, he completed general surgical training at Stanford University and the University of Arizona. He then specialized in plastic surgery at the University of California, Irvine. Advanced Fellowships in Plastic Surgery followed in England, California, and at the University of Miami.

Dr. Menick is certified by the American Board of Plastic Surgery and is a member of the American Association of Plastic Surgeons, the American Society of Plastic and Reconstructive Surgery, the American Society of Maxillofacial Surgeons (Visiting Professor 2009 — 2010), the American Society for Aesthetic Plastic Surgery, the Canadian Society of Plastic Surgeons, and the Rhinoplasty Society (President 2006).

Currently in private practice, Dr. Menick was Chief of Plastic Surgery (1991 — 1996) at the University of Arizona and Chief of Plastic Surgery (1985 — 1998) at the Tucson Veterans Administration Hospital. He is a Clinical Associate Professor in the Division of Plastic Surgery at the University of Arizona.

Dr. Menick authored 2 textbooks on nasal and facial reconstruction, edited 3 books on facial cosmetic and reconstructive surgery, and published 32 book chapters and 35 peer-reviewed papers. He travels frequently to teach throughout the world. During 15 overseas trips, he has performed charitable reconstructive surgery in Brazil, the Philippines, Korea, Africa, and Vietnam. Dr. Menick is included in The Best Doctors in America and Top Surgeons.

Dr. Menick will share his insights and experience on Saturday, April 30th in the session entitled ***Nasal Reconstruction: Art & Practice*** from 9:00 – 10:00 am as well as a panelist in ***How Would You Reconstruct It?*** from 10:00 – 11:00 am and ***The Undesirable Result*** from 11:00 am – 12:00 pm.


TO DOWNTOWN / FREMONT STREET
STRATOSPHERE TOWER
SIEGEL SUITES PARADISE
SAHARA AVE.
PALACE STATION
SAHARA
SAHARA AVE.
HILTON GRAND VACATIONS
LAS VEGAS HILTON
KAREN AVE.
RIVIERA
Las Vegas Information Center
Las Vegas Convention Center
HOMESTEAD STUDIO SUITES
DESERT INN RD.
DESERT INN RD.
15
TRUMP INTERNATIONAL HOTEL LAS VEGAS
Fashion Show Mall
ENCORE
WYNN LAS VEGAS
RENAISSANCE LAS VEGAS HOTEL
Boulevard Mall
SPRING MOUNTAIN RD.
Grand Canal Shoppes
Sands Expo
SANDS AVE.
TWAIN AVE.
Forum Shops at Caesars
CASINO ROYALE
HARRAH'S
SUMMER BAY RESORT
IMPERIAL PALACE
FLAMINGO
FAIRFIELD INN
LA QUINTA INN AIRPORT
CANDLEWOOD SUITES
GOLD COAST
RIO
CAESARS PALACE
BILL'S GAMBLIN' HALL & SALOON
RESIDENCE INN BY MARRIOTT
HUGHES CENTER
FLAMINGO RD.
BELLAGIO
BALLY'S
TERRIBLE'S
FLAMINGO RD.
JOCKEY CLUB
PARIS
CITY CENTER
PLANET HOLLYWOOD RESORT AND CASINO
University of Nevada Las Vegas
EXTENDED STAY AMERICA
COMFORT INN
EMBASSY SUITES
HARMON AVE.
HARD ROCK
TRAVELODGE SOUTH STRIP
MARRIOTT'S GRAND CHATEAU
CABBAGE HOUSE
ALEXIS PARK
ST. TROPEZ
FAIRFIELD - GRAND DESERT
HYATT PLACE LAS VEGAS
Thomas & Mack Center
Cox Pavilion
POLO TOWERS
MONTE CARLO
Showcase Mall
NEW YORK NEW YORK
MGM GRAND
TROPICANA AVE.
EXCALIBUR
MOTEL 6
TROPICANA AVE.
BEST WESTERN MCCARRAN INN
RENO AVE.
LUXOR
MANDALAY BAY
THE HOTEL AT MANDALAY BAY
FOUR SEASONS
HACIENDA RD.
McCarran International Airport
FAIRFIELD COURTYARD RESIDENCE INN
LAS VEGAS BLVD.
DESERT PARADISE
RUSSELL RD.
PATRICK LN.
SUNSET RD.
SUNSET RD.
CANCUN RESORT


Las Vegas
TO TONOPAH & RENO
157
DESERT NATIONAL WILDLIFE RANGE
LAS VEGAS MOTOR SPEEDWAY
VALLEY OF FIRE
TO ST. GEORGE, SALT LAKE CITY, MESQUITE & VALLEY OF FIRE
North Las Vegas
MT. CHARLESTON REC. AREA
TOIYABE NATIONAL FOREST
LEE CANYON SKI AREA
CRAIG RD.
95
RANCHO DR.
LAS VEGAS BLVD.
N
SOUTH NEVADA ZOOLOGICAL PARK
NEVADA STATE MUSEUM/ HISTORICAL SOCIETY
LAKE MEAD BLVD.
CASHMAN CENTER
167
NORTH SHORE RD.
Meadows Mall
FREMONT STREET EXPERIENCE
Las Vegas Premium Outlets
LAKE MEAD NATIONAL RECREATION AREA
RED ROCK CANYON
CHARLESTON BLVD.
STRATOSPHERE TOWER
LAS VEGAS ART MUSEUM
SAHARA AVE.
159
LAS VEGAS CONVENTION AND VISITORS AUTHORITY
Lake Las Vegas
Lake Mead
CHINATOWN
LAS VEGAS CHAMBER OF COMMERCE
UNIVERSITY OF NEVADA, LAS VEGAS
SAM BOYD STADIUM
166
147
RED ROCK CANYON
215
TROPICANA AVE.
RAINBOW BLVD.
515
MCCARRAN INTERNATIONAL AIRPORT
GALLERIA MALL
SPRING MT. RANCH STATE PARK
BLUE DIAMOND RD.
Las Vegas Outlet Center
215
LAKE MEAD DR.
Henderson
160
TO PAHRUMP
HOOVER DAM
BOULDER HWY.
515
CLARK COUNTY HERITAGE MUSEUM
TO KINGMAN, ARIZONA
15
ST. ROSE PKWY.
95
Boulder City
FASHION OUTLETS OF LAS VEGAS - PRIMM
TO JEAN, PRIMM, BARSTOW & LOS ANGELES
TO LAUGHLIN

INVITED FACULTY AND GUEST SPEAKERS

Sumaira Z. Aasi, *New Haven, CT*
Murad Alam, *Chicago, IL*
John G. Albertini, *Greensboro, NC*
Shawn Allen, *Boulder, CO*
Heidi Anderson-Dockter, *Providence, RI*
David S. Becker, *New York, NY*
Paul X. Benedetto, *Cleveland, OH*
Christopher K. Bichakjian, *Ann Arbor, MI*
Elizabeth M. Billingsley, *Hershey, PA*
Jeremy S. Bordeaux, *Cleveland, OH*
Paul H. Bowman, *Tampa, FL*
David G. Brodland, *Pittsburgh, PA*
Clarence W. Brown, Jr., *Skokie, IL*
Marc D. Brown, *Rochester, NY*
Marc R. Carruth, *Charlotte, NC*
Todd V. Cartee, *Birmingham, AL*
John A. Carucci, *New York, NY*
Sean R. Christensen, *New Haven, CT*
Leslie J. Christenson, *Ames, IA*
Clay J. Cockerell, *Dallas, TX*
Brett M. Coldiron, *Cincinnati, OH*
Siobhan C. Collins, *Farmington, CT*
Joel Cook, *Charleston, SC*
Jonathan L. Cook, *Durham, NC*
Matthew Donaldson, *Cincinnati, OH*
Leonard M. Dzubow, *Media, PA*
Peggy Eiden, *Schaumburg, IL*
Daniel B. Eisen, *Sacramento, CA*
Bart T. Endrizzi, *Minneapolis, MN*
Michael J. Fazio, *Sacramento, CA*
Edgar F. Fincher, *Beverly Hills, CA*
Galen H. Fisher, *Richmond, VA*
Jorge A. Garcia-Zuazaga, *Westlake, OH*
Montgomery O. Gillard, *Ypsilanti, MI*
Hayes B. Gladstone, *Stanford, CA*
Hugh M. Gloster, Jr., *Cincinnati, OH*
Leonard H. Goldberg, *Houston, TX*
Glenn D. Goldman, *Burlington, VT*
Glenn D. Goldstein, *Leawood, KS*
Christopher B. Harmon, *Birmingham, AL*
Ashraf M. Hassanein, *The Villages, FL*
Jeanne K. Heard, *Chicago, IL*
Ali Hendi, *Chevy Chase, MD*
Todd E. Holmes, *Burlington, VT*
George J. Hruza, *Chesterfield, MO*
Tatyana R. Humphreys, *Philadelphia, PA*
Omar A. Ibrahimi, *Sacramento, CA*
Adam Ingraffea, *Cincinnati, OH*
Nathaniel J. Jellinek, *East Greenwich, RI*
Aaron K. Joseph, *Pasadena, TX*
Andrew J. Kaufman, *Thousand Oaks, CA*
Larisa C. Kelley, *West Palm Beach, FL*
Arash Kimyai-Asadi, *Houston, TX*
Bradley Kovach, *Naples, FL*
Ravi S. Krishnan, *Seattle, WA*
Naomi Lawrence, *Marlton, NJ*
Brian C. Leach, *Charleston, SC*
Ken K. Lee, *Portland, OR*
Peter K. Lee, *Minneapolis, MN*
Frank J. Lexa, *Philadelphia, PA*
Jared J. Lund, *Billings, MT*
Homer A. Macapinlac, *Houston, TX*
Deborah F. MacFarlane, *Houston, TX*
Mary E. Maloney, *Worcester, MA*
Margaret Mann, *Solana Beach, CA*
Ellen S. Marmur, *New York, NY*
Holly H. McCoppin, *Atlanta, GA*
Joseph W. McGowan, IV, *Dayton, OH*
J. Ramsey Mellette, Jr., *Aurora, CO*
Frederick J. Menick, *Tucson, AZ*
Stanley J. Miller, *Towson, MD*
Frederic E. Mohs, Jr., *Madison, WI*
Gary D. Monheit, *Birmingham, AL*
Greg S. Morganroth, *Mountain View, CA*
Ronald L. Moy, *Beverly Hills, CA*
Ann G. Neff, *Bradenton, FL*
Marcy Neuburg, *Milwaukee, WI*
Isaac M. Neuhaus, *San Francisco, CA*
Suzanne M. Olbricht, *Burlington, MA*
Kenny J. Omlin, *Vacaville, CA*
Clark C. Otley, *Rochester, MN*
Timothy L. Parker, *Overland Park, KS*
Jeffrey E. Petersen, *Columbus, IN*
Désirée Ratner, *New York, NY*
Saadia T. Raza, *O'Fallon, MO*
Kurtis B. Reed, *Rochester, MN*
Thomas E. Rohrer, *Chestnut Hill, MA*
Kathleen M. Rossy, *Cherry Hill, NJ*
Faramarz Samie, *Philadelphia, PA*
Roberta D. Sengelmann, *Santa Barbara, CA*
Thomas Stasko, *Nashville, TN*
William G. Stebbins, *Nashville, TN*
John M. Strasswimmer, *Delray Beach, FL*
R. Stan Taylor, III, *Dallas, TX*
Valencia D. Thomas, *Houston, TX*
Abel Torres, *Loma Linda, CA*
Joshua A. Tournas, *Saint Louis, MO*
Irene J. Vergilis-Kalner, *Hackensack, NJ*
Allison T. Vidimos, *Cleveland, OH*
Kate V. Viola, *Bronx, NY*
J. Michael Wentzell, *Billings, MT*
Andrea Willey, *Vacaville, CA*
Oliver J. Wisco, *Stoneham, MA*
Yaohui G. Xu, *Madison, WI*
Mark J. Zalla, *Florence, KY*
Nathalie C. Zeitouni, *Buffalo, NY*
Isaac Zilinsky, *Yehud, Israel*
John A. Zitelli, *Pittsburgh, PA*
Fiona O'Reilly Zwald, *Atlanta, GA*

Accreditation Statement

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 Institute for the Advancement of Human Behavior (IAHB) and American College of Mohs Surgery. [IAHB] is accredited by the ACCME to provide continuing medical education for physicians.

Credit Designation Statement

[IAHB] designates this live activity for a maximum of 24.75 *AMA PRA Category 1 Credit(s)*™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The American College of Mohs Surgery (ACMS) Annual Meeting (Program #197100) is recognized by the American Academy of Dermatology for 24.75 AAD Recognized Category 1 CME Credit(s) and may be used toward the American Academy of Dermatology's Continuing Medical Education Award.

AAD Members should self-report their AAD recognized Category 1 Credits via the AAD Online Transcript Program.

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 PAs 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

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 American College of Mohs Surgery will disclose faculty and commercial relationships at the Annual Meeting.

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

The ACCME requires that all faculty presenters identify and disclose any off-label uses for pharmaceutical and medical device products. The American College of Mohs Surgery 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 its content.

Claim your CME only online!

To get your certificate, visit www.CmeCertificateOnline.com.

Locate the (ACMS) American College of Mohs Surgery listing and select "2011 Mohs College Annual Meeting" event. On the site, **you will be asked to enter a password which is 411MCA**, evaluate various aspects of the program (participants must complete an attendance/evaluation form in order to receive a certificate of completion/attendance. Your chosen sessions must be attended in their entirety. Partial credit of individual sessions is not available). Your hours will be automatically calculated.

You may then print your certificate immediately (encouraged), anywhere you have internet access. No more waiting for the mail! A copy of the certificate will also be emailed to you in case you need to print additional copies (check your spam filter and junk email folder if you do not see it come through). The emailed copy is simply a backup if you didn't print it right away.

IMPORTANT!

The online certificate site will be available the end of the day May 1, 2011 through June 13, 2011. After that date, the site will be removed and certificates will no longer be available. If you need a CME/CE certificate, you must complete the evaluation and certificate process prior to that date; otherwise you will forfeit your credit for the course.

Please direct any questions regarding the process to: Jillian Davis at JDavis@smithbucklin.com; (651) 789-3722.

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.

Specific learning objectives, upon completion of the ACMS Annual Meeting include but are not limited to:

- Describe various research projects being pursued within the areas of Mohs surgery, cutaneous oncology, and reconstruction.
- Identify controversial practices in the field of Mohs surgery and cutaneous oncology and explain both arguments for and against particular techniques.
- Describe the correct way to bill for Mohs surgery, reconstruction, and other dermatologic surgery procedures in real clinical situations.
- Discuss novel techniques for repair of surgical defects of the nose, ears, lips and eyes.
- Discuss the principles 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.
- Discuss the optimal management of unusual and difficult tumors.
- Get to know the different laser and non-laser devices available on the market and understand how to use lasers in your practice as an adjunct to Mohs surgery.
- Apply new practice management pearls to your practice.
- Increase your understanding of dermatopathology as it pertains to Mohs micrographic surgery including quality assurance issues in slide preparation.
- Understand the implications of health care reform and how it is likely to impact the specialty of dermatology as well as your practice.
- Acquire a better understanding and broader knowledge of the health care reform law and its implications for both their own practices, and for medicine and the nation at large.
- Understand that the value of Mohs surgery directly correlates with its cost-effectiveness as it is examined by external agencies.
- Implement strategies for proper coding and billing for evaluation and management, as well as procedural services that comply with all federal regulations.
- Identify critical anatomic landmarks and structures that impact functional and cosmetic reconstruction of the nose, eyelids, ears, lips, face, scalp, extremities and nails/digits.
- Compare your current reconstructive outcomes and techniques with experienced master surgeons to critically analyze and improve cosmetic and functional results.
- Incorporate new and established surgical procedures to reconstruct Mohs defects of the nose, eyelids, ears, lips, face, scalp, extremities and nails/digits.
- Recognize the importance of mitosis in melanoma staging.
- Recognize new definition of a positive lymph node.
- Incorporate new staging system into patient counseling and therapy.
- Recognize the appropriate use of antibiotics in cutaneous surgery.
- Identify appropriate management of patients on antiplatelet or anticoagulant medications.
- Implement techniques to repair undesirable outcomes.

FACULTY DISCLOSURE INFORMATION

Interest Disclosures

As an organization accredited by the ACCME to sponsor continuing medical education activities, the Institute for the Advancement of Human Behavior (IAHB) 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 IAHB 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 Z. Aasi, MD
Murad Alam, MD
John G. Albertini, MD
Shawn Allen, MD
Heidi Anderson-Dockter, MD
David S. Becker, MD
Paul X. Benedetto, MD
Christopher K. Bichakjian, MD
Elizabeth M. Billingsley, MD
Jeremy S. Bordeaux, MD, MPH
Paul H. Bowman, MD
David G. Brodland, MD
Clarence W. Brown, Jr., MD
Marc D. Brown, MD
Marc R. Carruth, MD
Todd V. Cartee, MD
John A. Carucci, MD, PhD
Sean R. Christensen, MD, PhD
Leslie J. Christenson, MD
Clay J. Cockerell, MD
Brett M. Coldiron, MD, FACP
Siobhan C. Collins, MD
Joel Cook, MD
Jonathan L. Cook, MD
Matthew Donaldson, MD
Leonard M. Dzubow, MD
Peggy Eiden
Daniel B. Eisen, MD
Bart T. Endrizzi, MD, PhD
Michael J. Fazio, MD
Edgar F. Fincher, MD, PhD
Galen H. Fisher, MD
Jorge A. Garcia-Zuazaga, MD, MS
Montgomery O. Gillard, MD
Hayes B. Gladstone, MD
Hugh M. Gloster, Jr., MD
Leonard H. Goldberg, MD
Glenn D. Goldman, MD
Glenn D. Goldstein, MD
Christopher B. Harmon, MD
Ashraf M. Hassanein, MD, PhD
Ali Hendi, MD
Todd E. Holmes, MD
George J. Hruza, MD
Tatyana R. Humphreys, MD
Omar A. Ibrahimi, MD, PhD
Adam Ingraffea, MD
Nathaniel J. Jellinek, MD
Aaron K. Joseph, MD
Andrew J. Kaufman, MD, FACP
Larisa C. Kelley, MD
Arash Kimyai-Asadi, MD
Bradley Kovach, MD
Ravi S. Krishnan, MD
Naomi Lawrence, MD
Brian C. Leach, MD
Ken K. Lee, MD
Peter K. Lee, MD, PhD
Frank J. Lexa, MD, MBA
Jared J. Lund, MD
Homer A. Macapinlac, MD, FACNM
Deborah F. MacFarlane, MD
Mary E. Maloney, MD
Margaret Mann, MD
Ellen S. Marmur, MD
Holly H. McCoppin, MD
Joseph W. McGowan, IV, MD
J. Ramsey Mellette, Jr., MD
Frederick J. Menick, MD
Stanley J. Miller, MD
Gary D. Monheit, MD
Greg S. Morganroth, MD
Ronald L. Moy, MD
Ann G. Neff, MD
Marcy Neuburg, MD
Isaac M. Neuhaus, MD
Suzanne M. Olbricht, MD
Kenny J. Omlin, MD
Clark C. Otley, MD
Timothy L. Parker, MD
Jeffrey E. Petersen, MD
Désirée Ratner, MD
Saadia T. Raza, MD
Kurtis B. Reed, MD
Thomas E. Rohrer, MD
Kathleen M. Rossy, MD
Faramarz Samie, MD, PhD
Roberta D. Sengelmann, MD
Thomas Stasko, MD
William G. Stebbins, MD
John M. Strasswimmer, MD, PhD
R. Stan Taylor, III, MD
Valencia D. Thomas, MD
Abel Torres, MD
Joshua A. Tournas, MD
Irene J. Vergilis-Kahlner, MD
Allison T. Vidimos, MD
Kate V. Viola, MD, MHS
J. Michael Wentzell, MD
Andrea Willey, MD
Oliver J. Wisco, DO
Yaohui G. Xu, MD, PhD
Mark J. Zalla, MD
Nathalie C. Zeitouni, MDCM, FRCPC
Isaac Zilinsky, MD
John A. Zitelli, MD
Fiona O'Reilly Zwald, MD

7:00 am – 9:00 pm

Slide Library and Diagnostic Quality Control Self-examination *Tarranto*

7:00 – 8:30 am

Concurrent Morning Mini-sessions

103.1 Regional Reconstruction *Pompeian Ballroom 1*

At the conclusion of this session, participants should be able to:

1. Learn different approaches to reconstruct defects on different regions on the face;
2. Learn how to avoid distortion of facial free margins (brow, lid, alar, rim, lips) during facial reconstruction surgery;
3. Learn various surgical pearls that can enhance your outcomes after surgery.

Ali Hendi, MD; Isaac M. Neuhaus, MD

103.2 Merkel Cell Carcinoma & Dermatofibrosarcoma Protuberans *Messina*

At the conclusion of this session, participants should be able to:

1. Identify when and how to complete a systemic work-up for Merkel cell carcinoma and dermatofibrosarcoma protuberans;
2. Identify pitfalls in the management of Merkel cell carcinoma and dermatofibrosarcoma protuberans;
3. Understand current data in the management and outcomes of Merkel cell carcinoma and dermatofibrosarcoma protuberans.

Christopher K. Bichakjian, MD; Leslie J. Christenson, MD

103.3 Skin Grafts *Anzio*

At the conclusion of this session, participants should be able to:

1. Assess the indications for skin grafts;
2. Evaluate the different techniques for skin grafts;
3. Describe the post operative care and potential complications of skin grafts.

Hayes B. Gladstone, MD; Arash Kimyai-Asadi, MD

103.4 Strategies for Practice Efficiency *Pompeian Ballroom 2*

At the conclusion of this session, participants should be able to:

1. Identify mechanisms by which they may optimize the patient experience and satisfaction prior to the exam room: scheduling and the reception desk;
2. Identify mechanisms through which the nurse / physician - patient experience may be enhanced or optimized to improve both patient and provider satisfaction, including increased surgical volume and decreasing patient waiting;
3. Identify techniques that should promote increased back office efficiency resulting in shorter collection times, minimizing appeals, and achieving higher net collections greater than 98%.

Clarence W. Brown, Jr., MD; Aaron K. Joseph, MD

103.5 Treatment of Malignant Nail Tumors *Livorno*

At the conclusion of this session, participants should be able to:

1. Develop a differential diagnosis for nails tumors based on directed history and physical exam;
2. Review relevant anatomy and highlight key points for anesthesia and surgical exposure of the nail unit;
3. Develop and carry out a surgical plan to address longitudinal erythronychia, longitudinal melanonychia, glomus tumors, digital myxoid cysts, and perform Mohs surgery on nail tumors.

Siobhan C. Collins, MD; Nathaniel J. Jellinek, MD

103.6 Lower Extremity Reconstruction & Wound Healing *Pompeian Ballroom 3*

At the conclusion of this session, participants should be able to:

1. Understand the different treatment of modalities for patients with multiple squamous cell carcinomas of the lower extremities;
2. Understand how to close large surgical defects of the lower extremities.

Peter K. Lee, MD, PhD; Jeffrey E. Petersen, MD

103.7 Lab and Histopath Pearls & Pitfalls *Pompeian Ballroom 4*

At the conclusion of this session, participants should be able to:

1. Review the histopathologic features of both common and rare cutaneous malignancies;
2. Identify common pitfalls encountered in the evaluation of frozen sections;
3. Discuss various subtleties of tumor evaluation on frozen sections.

Deborah MacFarlane, MD; Valencia D. Thomas, MD

8:45 – 9:15 am

Welcome & AAD Update *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Understand the challenges and opportunities that the ACMS and AAD will face in the coming year;
2. Understand the AAD's strategic focus and some of the activities in place to advance it.

Welcome: Leonard M. Dzubow, MD, ACMS President

AAD Update: Ronald L. Moy, MD, AAD President

9:15 – 10:15 am

Literature Review: What's New in 2011? *Augustus 1-4*

At the conclusion of this session, participants should:

1. Critically evaluate the most important recent literature in dermatologic surgery and cutaneous reconstruction;
2. Summarize the latest advances and techniques being used for dermatologic surgery and cutaneous reconstruction by Mohs surgeons and plastic surgeons;
3. Use peer-reviewed literature to improve your surgical practice.

Moderator: Thomas E. Rohrer, MD

Panelists:

Cutaneous Oncology Update
Brian C. Leach, MD

ENT/Plastics Update
Galen H. Fisher, MD

Oculoplastics Update
Ann G. Neff, MD

Laser Update
Murad Alam, MD

10:15 – 10:30 am

Break

10:30 – 11:45 am

Clinical Pearls Abstract Session *Augustus 1-4*

At the conclusion of this session, participants should be able to identify new clinical developments in Mohs surgery, reconstruction, and cutaneous oncology.

Moderator: Ken K. Lee, MD

10:32 – 10:38 am

An Alternative Technique for Anchoring Cartilage Grafts along the Alar Rim

Ravi S. Krishnan, MD[1]

1. Mohs Surgery, Virginia Mason Medical Center, Seattle, WA, United States

10:39 – 10:45 am

Halo Grafts-Why You Don't Need to Dread Skin Cancers on the Lower Leg Anymore

Timothy L. Parker, MD[1]

1. Advanced Derm Surgery, Overland Park, KS, United States

10:46 – 10:52 am

Intraoperative Mohs Clearance of Advanced Cutaneous Tumors Resected by Otolaryngology: A Collaborative Approach

Paul X. Benedetto, MD[1], Rahul Seth, MD[2], Michael A. Fritz, MD[2], Christine Poblete-Lopez, MD[1], Allison T. Vidimos, MD[1]

1. Dermatology, Cleveland Clinic Foundation, Cleveland, OH, United States 2. Otolaryngology, Cleveland Clinic Foundation, Cleveland, OH, United States

10:53 – 10:59 am

Assessment of Postoperative Pain Following Mohs Micrographic Surgery and Reconstruction

Boonyapat Limthongkul, MD[1], Faramraz Samie, MD, PhD[1], Tanya R. Humphreys, MD[1]

1. Dermatology, Thomas Jefferson University, Philadelphia, PA, United States

11:00 – 11:06 am

Freehand Split-thickness Skin Grafts to Repair Nasal Defects

Irene J. Vergilis-Kalner, MD[1,2], Leonard H. Goldberg, MD[2,3], Jennifer Landau, BS[2], Megan Moody, MD[2], Paul M. Friedman, MD[2,4], Arash Kimyai-Asadi, MD[2,3]

1. Skin Laser and Surgery Specialists of NY and NJ, New York, NY, United States 2. Derm Surgery Associates, Houston, TX, United States 3. Departments of Dermatology, Weill Cornell Medical College, Methodist Hospital, Houston, TX, United States 4. Department of Dermatology, University of Texas, Houston, TX, United States

11:07 – 11:13 am

The Utility of the Pursestring Stitch for the Repair of Challenging Lip Defects Following Mohs Surgery

Kenny J. Omlin, MD[1,2]

1. Mohs Surgery, Kaiser Permanente, Vacaville, CA, United States 2. Dermatology, University of California at Davis, Medical Center, Sacramento, CA, United States

11:14 – 11:20 am

Electronic Mohs Mapping

Joseph W. McGowan, IV, MD[1], Heidi B. Donnelly, MD[1]

1. Dermatologic Surgery, Dayton Skin Surgery Center, Dayton, OH, United States

11:21 – 11:27 am

Free Cartilage Grafting With Second Intention Healing For Defects on the Distal Nose

Omar A. Ibrahimi, MD, PhD[1], Tracy M. Campbell, MD[1], Summer Youker, MD[1], Daniel B. Eisen, MD[1]

1. Dermatology, UC Davis, Sacramento, CA, United States

11:28 – 11:34 am

Dorsal Nasal Flap for Full Thickness Defects of the Nose

J. Michael Wentzell, MD[1]

1. Billings Clinic, Billings, MT, United States

11:35 – 11:41 am

Sliding and Non-Sliding Z-Plasties: Applications in Vertical Lip Reconstructions and Beyond

J. Michael Wentzell, MD[1], Jared J. Lund, MD[1]

1. Cutaneous Oncologic Surgery, Billings Clinic, Billings, MT, United States

11:45 am – 12:45 pm

Networking Lunch (provided) — *Augustus 5-6*

Enjoy lunch and the time to network with your colleagues!

12:45 – 1:45 pm

Controversies in Mohs Surgery ♦ — *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Identify opposing viewpoints regarding Mohs fellowship training and utilization;
2. Recognize how these issues may affect your practice now and in the future.

Moderator: Deborah F. MacFarlane, MD

Panelists:

EMR Slows Down the Mohs Surgeon

Christopher B. Harmon, MD (Pro); R. Stan Taylor, III, MD (Con)

Should Mohs Fellowship Training Occur in an Academic or Private Practice Setting?

Leonard H. Goldberg, MD (Private); Suzanne M. Olbricht, MD (Academic)

Is Mohs Surgery Overutilized?

David S. Becker, MD (Pro); Gary D. Monheit, MD (Con)

♦ Represents advanced expertise level course

1:45 – 2:45 pm

Health Care Reform: Ready or not, here it comes! — *Augustus 1-4*

The impact of federal health care reform in 2011 and what it means for dermatologic surgeons.

At the conclusion of this session, participants should be able to:

1. Analyze what is driving health care reform at the Federal level in the USA;
2. Understand what elements of health care reform have already been implemented, what is likely to happen in the next five years, and how the midterm election results and the election of 2012 may affect changes in the system;
3. Prepare for the impact on your practice and your future and make changes where you can to thrive during this difficult period.

Introduction: Tatyana R. Humphreys, MD

Guest Panelist: Frank J. Lexa, MD, MBA

Panelist: George J. Hruza, MD

2:45 – 3:00 pm

Break

3:00 – 4:00 pm

Transplant Update — *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Understand the evolution of immunosuppressive therapies used for transplant patients and how it leads to skin cancer;
2. Recognize high risk SCC in organ transplant recipients and how to manage them;
3. Learn appropriate field treatment and prevention strategies to decrease the risk of skin cancer in organ transplant recipients.

Moderators: Marc D. Brown, MD; John A. Carucci, MD, PhD

Panelists:

Lessons I Have Learned: What Taking Care of Transplant Patients Has Taught Me
Clark C. Otley, MD

Decreasing the Risk of Skin Cancer: Prevention Strategies and Field Treatment
Thomas Stasko, MD

Transplantation Dermatology: Scope of the Problem in 2011, Including Evolution of Immunosuppressive Drugs
Fiona O'Reilly Zwald, MD

4:00 – 5:00 pm

Tromovitch Award Abstract Session — *Augustus 1-4*

At the conclusion of this session, participants should be able to:

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. Learn about young investigators research and scholarly activities.

Moderators: Bart T. Endrizzi, MD, PhD (2010 Tromovitch Award Winner); Roberta D. Sengelmann, MD

4:03 – 4:11 pm

Difficulty with Surgical Site Identification: What Role does it play in Dermatology?

Kathleen M. Rossy, MD[1,2], Naomi Lawrence, MD[2]
1. Princeton Center for Dermatology, Princeton, NJ, United States 2. Cooper University Hospital, Cherry Hill, NJ, United States

4:11 – 4:19 pm

Modified Mohs Micrographic Surgery for Lentigo Maligna or Melanoma In-Situ of the Head and Neck Utilizing Overnight En Face Permanent Section Analysis: A Ten-Year Experience of 202 Cases

Oliver Wisco, DO[1], Krista E.B. Reis, PA-C[1], Lisa M. Cohen, MD[2], Donald J. Grande, MD[1]
1. Mohs Surgery, Mystic Valley Dermatology, Stoneham, MA, United States 2. Caris Life Sciences Dermatopathology, Newton, MA, United States

4:19 – 4:27 pm

The Clinical Spectrum of Atypical Fibroxanthoma in Solid Organ Transplant Recipients: A Collective Experience

Holly H. McCoppin, MD[1], Dan L. Christiansen, PGY-1[2], Thomas Stasko, MD[2], Juan-Carlos Martinez, MD[3], Carl V. Washington, Jr., MD[1], Marc D. Brown, MD[4], Fiona O'Reilly Zwald, MD[5]
1. Dermatology, Emory University, Atlanta, GA, United States 2. Dermatology, Vanderbilt University, Nashville, TN, United States 3. Dermatology, Mayo Clinic - Jacksonville, Jacksonville, FL, United States 4. Dermatology, University of Rochester, Rochester, NY, United States 5. Dermatology & Division of Transplantation, Emory University, Atlanta, GA, United States

4:27 – 4:35 pm

Eccrine Porocarcinoma Treated by Mohs Micrographic Surgery: Report of Ten Cases with Literature Review

Yaohui G. Xu, MD, PhD[1], Juliet L. Gunkel, MD[1], B. Jack Longley, MD[1], Stephen N. Snow, MD[1]
1. Dermatology, University of Wisconsin, Madison, Madison, WI, United States

4:35 – 4:43 pm

Trends in Mohs Utilization in 2009: An Analysis of the 5% Sample Medicare Claims Data

Matthew Donaldson, MD[1], Brett M. Coldiron, MD, FACP[1]
1. TriHealth Good Samaritan/The Skin Cancer Center, Cincinnati, OH, United States

4:43 – 4:51 pm

Histologic Evaluation of Surgical Margins in Mohs Micrographic Surgery: Quantification of Margin Distance with Each Section of a Mohs Stage and a Survey of Standard Practices among Mohs Surgeons

Todd V. Cartee, MD[1], Gary D. Monheit, MD[1]
1. Total Skin and Beauty Dermatology Center, Birmingham, AL, United States

4:51 – 4:59 pm

Patient Specific Factors Influencing Incidence of High-Risk Histologic Features in Cutaneous Squamous Cell Carcinoma (cSCC) – A Retrospective Pilot Study

Maulik M. Dhandha[3], Joshua A. Tournas, MD[1], Eric S. Armbrecht, PhD[2], Scott W. Fosko, MD[1]
1. Dermatology, Saint Louis University, Saint Louis, MO, United States 2. Outcomes Research, Saint Louis University, Saint Louis, MO, United States 3. School of Medicine, Saint Louis University, Saint Louis, MO, United States

5:00 – 7:00 pm

Exhibit Hall Grand Opening & Welcome Reception *Palace Ballroom*

Hors d'oeuvres and beverages will be provided.

7:00 am – 9:00 pm

Slide Library and Diagnostic Quality Control Self-examination *Tarranto*

7:00 – 8:30 am

Concurrent Morning Mini-sessions

203.1 Update on Infectious Disease Antibiotics *Messina*

At the conclusion of this session, participants should be able to:

1. Discuss the rationale and controversies surrounding the use of antibiotics prophylaxis in dermatologic surgery;
2. Discuss the role of antibiotic resistance and its relevance to our use of antibiotics in dermatology;
3. Review the current guidelines for the use and choice of antibiotics in postoperative wound infections.

Margaret Mann, MD; William G. Stebbins, MD

203.2 Facial Reconstruction: An Interactive Session *Pompeian Ballroom 1*

At the conclusion of this session, participants should be able to:

1. Analyze a surgical defect to formulate a reconstructive plan;
2. Decide the best operative technique to achieve aesthetic and functional success;
3. Understand the limitations of single staged repairs for more complex surgical defects.

Joel Cook, MD; Isaac Zilinsky, MD

203.3 EMR: What You Need to Know Now *Pompeian Ballroom 2*

At the conclusion of this session, participants should be able to:

1. Understand upcoming government regulations regarding EMR;
2. Understand upcoming inceptive programs related to EMR;
3. Understand how to avoid medical-legal pitfalls involving EMR;
4. Apply the experiences of an early adopter of an EMR/EPM system to one's own selection process and clinical practice; regarding pros and cons, initial proposals, custom templates, staff acceptance, staged implementation, backup, and storage issues.

John G. Albertini, MD; Saadia T. Raza, MD

203.4 Managing Skin Cancer without a Knife *Anzio*

At the conclusion of this session, participants should be able to:

1. Describe the indications to treat skin cancer with creams and lasers, light-based technology, and all proper and available medications;
2. Properly evaluate a patient for surgery and determine proper indications for surgery; identify the indication for radio therapy;
3. Understand some of the limitations of non-invasive skin cancer therapy.

Leonard H. Goldberg, MD; Abel Torres, MD

203.5 Approach to Reconstruction of the Scalp & Ear *Capri*

At the conclusion of this session, participants should be able to:

1. Have an improved understanding of the surgical anatomy of the ear and scalp;
2. Review multiple reconstructive options for both simple and complex wound defects;
3. Incorporate new techniques to improve reconstructive outcomes.

Edgar F. Fincher, MD; Todd E. Holmes, MD

203.6 Sebaceous Carcinoma & EMPD *Livorno*

At the conclusion of this session, participants should be able to:

1. Correctly identify and diagnose sebaceous carcinoma and EMPD using improved clinical skills and utilization and interpretation of laboratory data, including indications and implications of genetic testing;
2. Understand the underlying causes and systemic conditions associated with the diagnoses of sebaceous carcinoma and EMPD;
3. Use newly acquired understanding/information to plan an accurate and clinically relevant/cost effective staging evaluation of patients with sebaceous carcinoma and EMPD.

Bradley Kovach, MD; Marcy Neuburg, MD

203.7 Reconstruction of Common Nasal Defects *Pompeian Ballroom 3*

At the conclusion of this session, participants should be able to:

1. Describe accurately and gain a better understanding of the nasal surgical defects following Mohs surgery and any pertinent functional and cosmetic anatomical considerations;
2. Gain competence in understanding the basic concepts of tissue movement and tension vectors as they relate to primary, flap, and graft closures;
3. Consider critical aspects in designing a closure that both preserve function and improve the cosmetic outcome of your repair.

Shawn Allen, MD; Gary D. Monheit, MD

203.8 Comprehensive & Concise Update of Melanoma — *Pompeian Ballroom 4*

At the conclusion of this session, participants should be able to:
1. Identify current histology and imaging techniques used for melanoma staging;
2. Integrate current evidence-based approach to management of patients with melanoma;
3. Discuss the rationale for adjunct therapy with surgery melanoma;
4. Incorporate Mohs surgery or "slow Mohs" staged excision.

Naomi Lawrence, MD; John M. Strasswimmer, MD, PhD

8:45 – 9:45 am

Dermatopathology Challenges in Mohs Surgery: Difficult cases from UT Southwestern ♦ — *Augustus 1-4*

At the conclusion of this session, participants should be able to:
1. Appropriate use of immunohistochemical stains in Mohs frozen specimens section;
2. Melanocytic proliferations on sun damaged skin and margin assessment of melanocytic lesions;
3. Pitfalls in Mohs section interpretation.

Moderator: R. Stan Taylor, III, MD
Guest Speaker: Clay J. Cockerell, MD

♦ Represents advanced expertise level course

9:45 – 10:45 am

Mohs Frozen Section Challenges: Self Assessment Quiz ♦ — *Augustus 1-4*

At the conclusion of this session, participants should be able to:
1. Improve competence in interpreting complex histopathology during Mohs surgery;
2. Consider critical aspects of decision making for histopathologic cases for the typical Mohs practice;
3. Evaluate how their histopathologic decision making compares to other Mohs surgeons.

Moderators: Naomi Lawrence, MD; Mary E. Maloney, MD
Guest Panelist: Clay J. Cockerell, MD
Panelists: Jeremy S. Bordeaux, MD, MPH; Stanley J. Miller, MD; Fiona O'Reilly Zwald, MD

♦ Represents advanced expertise level course

10:45 – 11:00 am

Break

11:00 am – 12:00 pm

Morbidity & Mortality Conference: Case Presentations of Surgical Complications — *Augustus 1-4*

At the conclusion of this session, participants should be able to:
1. Take the necessary steps to prevent hemorrhagic, nail, periocular, and nasal complications;
2. Promptly diagnose hemorrhagic, nail, periocular, and nasal complications;
3. Select the best management strategies for hemorrhagic, nail, periocular, and nasal complications.

Moderators: Elizabeth M. Billingsley, MD; Hugh M. Gloster, Jr., MD
Speakers:
Periocular Complications
Ann G. Neff, MD
Complications of Nail Surgery
Nathaniel J. Jellinek, MD
Surgical Complications on the Nose
David G. Brodland, MD
Bleeding, Hematomas, and Thrombosis in Mohs Surgery
Clark C. Otley, MD

12:00 – 6:00 pm

Exhibit Hall Open — *Palace Ballroom*

12:00 – 2:00 pm

ACMS Annual Business Meeting & Lunch — *Augustus 5-6*

At the conclusion of this session, participants should be able to understand past and future activities, achievements, and goals of the ACMS.
Moderator: Leonard M. Dzubow, MD, ACMS President

2:00 – 3:00 pm

PET/CT & Cutaneous Tumors — *Augustus 1-4*

At the conclusion of this session, participants should be able to:
1. Know the basic mechanisms behind the use of FDG for PET/CT imaging, including patient preparation and image acquisition;
2. Know the approved clinical application of FDG PET/CT imaging in cutaneous tumors including melanoma;
3. Know the future direction of PET/CT imaging including advanced image acquisition and novel tracers in clinical trials.

Guest Speaker: Homer A. Macapinlac, MD, FACNM

3:00 – 4:00 pm

Tumor Board ♦ *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Discuss diverse presentations and management of non-melanoma skin cancer in organ transplant recipients and other high risk patients;
2. Develop an aggressive multidisciplinary management approach for non-melanoma skin cancer in high risk patients, including staging, Mohs surgery, adjuvant therapy, & use of EGFR inhibitors;
3. Discuss unusual presentations and management of malignant melanoma in organ transplant recipients and other high risk patients.

Moderators: Désirée Ratner, MD; Allison T. Vidimos, MD

Guest Panelist: Homer A. Macapinlac, MD, FACNM

Panelists: Elizabeth M. Billingsley, MD; Marc D. Brown, MD; Marcy Neuburg, MD

♦ Represents advanced expertise level course

4:00 – 5:00 pm

Scientific Abstract Session *Augustus 1-4*

At the conclusion of this session, participants should be able to understand and identify new research developments in Mohs surgery and oncology.

Moderators: Faramarz Samie, MD, PhD; Nathalie C. Zeitouni, MDCM, FRCPC

4:02 – 4:10 pm

The Rising Incidence of Malignant Melanoma among Young Adults

Kurtis B. Reed, MD[1], Jerry D. Brewer, MD[1], Lawrence E. Gibson, MD[1], Kariline Bringe, BS[2], Crystal Pruitt, BS[2], Christine M. Lohse, BS[3]

1. Department of Dermatology, Mayo Clinic, Rochester, MN, United States 2. Mayo Medical School, Rochester, MN, United States 3. Statistics, Mayo Clinic, Rochester, MN, United States

4:10 – 4:18 pm

The Use of Mohs Micrographic Surgery for the Treatment of Non-melanoma Skin Cancers in the Medicare Population

Kate V. Viola, MD, MHS[1], Mamta B. Jhaveri[2], Ryan B. Turner, MD[1], Daven N. Doshi, MD[1], Cary P. Gross, MD[3]

1. Dermatology, Albert Einstein College of Medicine, Bronx, NY, United States 2. University of Maryland School of Medicine, Baltimore, MD, United States 3. Cancer Outcomes, Policy, and Effectiveness Research (COPPER) Center, Yale University School of Medicine, New Haven, CT, United States

4:18 – 4:26 pm

The Significance of Floaters in the Nicks of Mohs Frozen Sections

Adam Ingraffea, MD[1], Rawn Bosley[1], Hugh M. Gloster, Jr., MD[1]

1. University of Cincinnati, Cincinnati, OH, United States

4:26 – 4:34 pm

Diagnostic Utility of Cytokeratin 17 Immunostaining in Morpheaform Basal Cell Carcinoma and for Detecting Single Tumor Cells at the Margin

Heidi Anderson-Dockter, MD[1], Todd Clark, MD[1], Jisun Cha, MD[1,2], Satori Iwamoto, MD, PhD[1,2], David Fiore[1,2], Vincent Falanga, MD[1,3]

1. Dermatology and Skin Surgery, Roger Williams Medical Center, Providence, RI, United States 2. NIH Center of Biomedical Research Excellence, Roger Williams Medical Center, Providence, RI, United States 3. Dermatology, Boston University School of Medicine, Boston, MA, United States

4:34 – 4:42 pm

Increased Dermatologist Density Associated with Reduction in Melanoma Mortality

Savina Aneja[1], Sanjay Aneja[3], Jeremy S. Bordeaux, MD, MPH[1,2]

1. Case Western Reserve School of Medicine, Cleveland, OH, United States 2. Dermatology, University Hospitals Case Medical Center, Cleveland, OH, United States 3. Yale University School of Medicine, New Haven, CT, United States

SCIENTIFIC PROGRAM – FRIDAY, APRIL 29

4:42 – 4:50 pm

Histopathologic Assessment of Hair Follicle Involvement in Bowen's Disease: Implications for Treatment Approach

Sean R. Christensen, MD, PhD[1], Jennifer M. McNiff, MD[1], Sumaira Z. Aasi, MD[1], Allison M. Hanlon, MD, PhD[1], David J. Leffell, MD[1]

1. Dermatology, Yale University, New Haven, CT, United States

4:50 – 4:58 pm

Are Patients Satisfied with Second Intention Healing?

William G. Stebbins, MD[1], Victor A. Neel, MD, PhD[2]

1. Dermatology, Vanderbilt University, Nashville, TN, United States 2. Dermatology, Division of Dermatologic Surgery, Massachusetts General Hospital, Boston, MA, United States

5:00 – 6:00 pm

Visit the Exhibit Hall and Posters *Palace Ballroom*

5:00 – 7:00 pm

Association of Professors of Dermatology (APD) Meeting *Livorno*

SCIENTIFIC PROGRAM – SATURDAY, APRIL 30

7:00 am – 9:00 pm

Slide Library and Diagnostic Quality Control Self-examination *Tarranto*

7:00 – 8:30 am

Concurrent Morning Mini-sessions

303.1 Non-surgical & Combination Therapy for Skin Cancer *Anzio*

At the conclusion of this session, participants should be able to:

1. Learn about medical and non-surgical treatment of skin cancer including Lasers, Fraxel Photodynamic Therapy, combination treatments, Peplin, PTCH gene inhibitor, tarceva, Imiquimod, Retinoids, NSAIDS, T4 endonuclease V, etc;
2. Apply these therapies for treatment of various skin cancers;
3. Understand the side effects and complications associated with these therapies and ways to prevent these complications.

Ellen S. Marmur, MD; Amy Taub, MD; Emily P. Tierney, MD

303.2 Practice Management: East vs. West Coast Strategies for Practice Growth during Uncertain Times *Messina*

At the conclusion of this session, participants should be able to:

1. Understand the challenges facing the referral practice of Mohs surgery and strategies to create reliable long-term referrals;
2. Understand the hidden cost centers in the Mohs practice that are typically underutilized to ensure better diversification of revenue streams;
3. Understand and be able to implement two different business models to achieve reinvention of the practice of Mohs surgery during a time of transition for our specialty.

Christopher B. Harmon, MD; Greg S. Morganroth, MD

303.3 Coding: Up Close & Personal *Pompeian Ballroom 1*

At the conclusion of this session, participants should be able to:

1. Properly utilize ICD-9 and begin to recognize the components of ICD-10;
2. Employ the latest CPT coding to appropriately bill for visits and procedures;
3. Append appropriate modifiers to multiple procedures when done concomitantly.

Murad Alam, MD; Glenn D. Goldman, MD

303.4 Reconstructive Challenges: Lip & Perioral Region ♦ — *Pompeian Ballroom 2*

At the conclusion of this session, participants should be able to:

1. Select reconstructive options which will ensure optimal aesthetic results for a variety of perioral defects;
2. Emphasis will be on determination of areas of tissue availability which will allow development of closures including primary, rotation and advancement flaps as well as interpolation flaps, and occasionally, full thickness skin graphs;
3. Techniques to avoid and treat complications will also be discussed.

Paul H. Bowman, MD; J. Ramsey Mellette, Jr., MD

♦ Represents advanced expertise level course

303.5 Role of Radiation in Cutaneous Oncology — *Livorno*

At the conclusion of this session, participants should be able to:

1. Understand the mechanisms, dosing rationale, and side effects of radiation therapy for cutaneous malignancies;
2. List the advantages, disadvantages, and contraindications of radiation therapy for cutaneous malignancies;
3. Understand the indications for radiation therapy as primary or adjunct treatment for cutaneous malignancies.

Jorge A. Garcia-Zuazaga, MD; Allison T. Vidimos, MD

303.6 Interpolation Flaps: Getting Started — *Pompeian Ballroom 3*

At the conclusion of this session, participants should be able to:

1. Confidently perform your first interpolation flap;
2. Efficiently incorporate interpolation flaps into a busy practice;
3. Develop a thoughtful approach to the indications, limitations, design, and execution of straightforward interpolation flaps.

John G. Albertini, MD; Jeremy S. Bordeaux, MD, MPH

303.7 Periorbital Reconstruction: From Basic to Advanced — *Pompeian Ballroom 4*

At the conclusion of this session, participants should be able to:

1. Understand the relevant anatomy of the periorbital area necessary for restoration of form and function following Mohs surgery;
2. Understand the fundamental principles of upper and lower lid reconstruction and maintenance of the canthal support systems;
3. Become familiar with advanced reconstructive techniques required for complex periorbital defects.

Andrea Willey, MD

8:00 – 9:00 am

Continental Breakfast in the Exhibit Hall — *Palace Ballroom*

8:00 am – 2:00 pm

Exhibit Hall Open — *Palace Ballroom*

9:00 – 10:00 am

Nasal Reconstruction: Art & Practice ♦ — *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Categorize a defect in terms of local or regional tissue requirements for repair;
2. Plan the restoration of cover, lining, and support in stages;
3. Re-create the dimension, volume, symmetry, and units of the nose after both minor and massive injury.

Introduction: Tatyana R. Humphreys, MD
Guest Speaker: Frederick J. Menick, MD

♦ Represents advanced expertise level course

10:00 – 11:00 am

How Would You Reconstruct It? — *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Evaluate multiple reconstruction options for common surgical defects;
2. Appreciate nuances in the execution of reconstructive options to greatly enhance outcome;
3. Recognize potential pitfalls for some reconstructive options in certain locations.

Moderator: Roberta D. Sengelmann, MD
Guest Panelist: Frederick J. Menick, MD
Panelists: Leonard M. Dzubow, MD; Michael J. Fazio, MD; Larisa C. Kelley, MD; John A. Zitelli, MD

11:00 am – 12:00 pm

The Undesirable Result ♦ — *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Identify undesirable results in reconstructive surgery;
2. Develop strategies to avoid less than optimal surgical outcomes;
3. Design surgical revision procedures to improve final results.

Moderator: Jonathan L. Cook, MD
Guest Panelist: Frederick J. Menick, MD

♦ Represents advanced expertise level course

12:00 – 1:30 pm

Lunch in the Exhibit Hall — *Palace Ballroom*

—and—

Women's Dermatology Society Luncheon — *Palace Ballroom 1*

—and—

Ethicon, Inc. Product Demonstration & Lunch — *Augustus 5-6*

Suture Selection for Optimal Results
This program is designed to further your knowledge and practical understanding of the latest in suture technology and wound closure techniques, within Mohs and Dermatologic surgical procedures. This session will include a panel discussion of key opinion leaders around optimizing wound closure results. The curriculum will also incorporate experiences utilizing skin closure techniques and the latest in wound closure technologies that can benefit both the patient and surgeon.

CME credit is not offered for attending this demonstration.

1:30 –2:30 pm

Coding and Documentation Update — *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Understand the latest coding changes affecting Mohs surgeons;
2. Be aware of possible 24 hour in a day audits and how to avoid them;
3. Identify what incident to billing is and how to properly do it;
4. Avoid unfair e-prescribe penalties.

Moderator: Brett M. Coldiron, MD, FACP
Panelists: Peggy Eiden; Mark J. Zalla, MD

2:30 – 3:30 pm

Practice Management Pearls — *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Improve competence in practice management and development issues specific to a Mohs surgery practice;
2. Improve performance in management of one's practice.

Moderators: Glenn D. Goldstein, MD; Andrew J. Kaufman, MD, FACP
Speakers:
Adding Permanent Sections to Your Mohs Laboratory
Clarence W. Brown, Jr., MD
Contract Negotiations with Your Insurance Carriers
Greg S. Morganroth, MD
Employee Benefits for Your Practice
Aaron K. Joseph, MD
How to Structure Partnership for Success, not Failure
Thomas E. Rohrer, MD
In Search of the Perfect Mohs Electronic Medical Record
Marc R. Carruth, MD
Ten Coding Tips in 8 Minutes
Brett M. Coldiron, MD, FACP

3:30 – 4:30 pm

Keynote Address — *Augustus 1-4*

Remembering Dr. Frederic Mohs

Introduction: Leonard M. Dzubow, MD
Keynote Speaker: Frederic E. Mohs, Jr.

4:30 – 5:30 pm

Fellowship Training Directors' Session — *Messina*

5:30 – 7:00 pm

Fellows-in-Training Reception — *Emperors Ballroom*

All meeting attendees invited. Hors d'oeuvres and beverages provided.

Suzanne M. Olbricht, MD

7:30 – 8:30 am

Diagnostic Quality Control Exam Review *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Understand the importance of dermatopathology in Mohs surgery;
2. Improve dermatopathology skills to help distinguish benign findings from malignant;
3. Recognize errors in frozen-section tissue processing.

Moderator: Sumaira Z. Aasi, MD
Panelists: Daniel B. Eisen, MD; Montgomery O. Gillard, MD; Ashraf M. Hassanein, MD, PhD

8:30 – 10:00 am

Masters Session on Reconstruction ♦ *Augustus 1-4*

At the conclusion of this session, participants should be able to:

1. Evaluate challenging and complex facial wound to determine what tissue has been lost and to identify appropriate tissue reservoirs for local flap reconstruction;
2. Select appropriate reconstructive options for these defects, and plan aesthetic and functional reconstruction;
3. Actualize the reconstructions for attention to operative technique and detail in order to affect the optimal outcome.

Moderator: Glenn D. Goldman, MD
Panelists: Jonathan L. Cook, MD; Joel Cook, MD

♦ Represents advanced expertise level course

10:00 am – 12:00 pm

ACGME Session *Augustus 1-4*

A formal presentation with Jeanne K. Heard, PhD, Senior VP of the Department of Accreditation Committees and discussion on preparation of the PIF and other pertinent topics.

CME credit is not offered for attending this session.

12:00 pm

Meeting adjourns

10:32 – 10:38 am

PRESENTER: Ravi S. Krishnan, MD

TITLE: An Alternative Technique for Anchoring Cartilage Grafts along the Alar Rim

AUTHOR: Ravi S. Krishnan, MD[1]

INSTITUTION: 1. Mohs Surgery, Virginia Mason Medical Center, Seattle, WA, United States

PURPOSE: Defects of the nasal ala are commonly encountered by Mohs surgeons. When repairing such defects, it is important to ensure that the alar rim has sufficient structural integrity to prevent an unsightly retraction or notching. Free cartilage grafts are commonly used to support the alar rim and prevent such deformities.

The traditional method of securing a cartilage graft for this purpose involves fixing the cartilage subcutaneously with interrupted or figure-of-eight sutures. While this technique is adequate, it can sometimes be difficult to ensure that the cartilage graft is tightly apposed to the inferiormost portion of the alar rim. If the graft is not perfectly apposed to the inferior alar rim remnant, then subtle retraction may occur despite the fact that a cartilage graft was placed.

In this study, we propose an alternative technique which involves securing the cartilage graft by placing sutures through the skin and/or mucosal surface of the inferior alar rim. These sutures create a sling that has the effect of pulling the cartilage graft securely against the remnant of the alar rim so that retraction of the alar rim will not take place.

DESIGN: We performed a review of 20 cases in which cartilage grafts were used to repair inferior alar defects in conjunction with either local flaps or full-thickness grafts.

For these cases, the technique was performed as follows: First, cartilage graft of the appropriate shape and size was harvested by the standard technique and then it was placed along the alar rim. Then two to three 5-0 prolene sutures were placed, starting outside the skin or mucosa and then through the skin/mucosa, around the graft, and then back through the skin/mucosa to create a sling that pulled and secured the graft inferiorly.

Once the cartilage graft was secure, a flap or full-thickness skin graft was performed to complete the repair. The prolene sutures which were anchoring the cartilage graft were removed in 2 weeks.

SUMMARY: In our review, all patients were evaluated at 2 weeks, 2 months, and 6-8 months. No significant alar retraction was noticed by either the patients or the surgeon. All patients tolerated the procedure well.

CONCLUSION: This technique for anchoring cartilage grafts along the alar rim is easy to perform and ensures that the graft will be precisely placed along the inferiormost portion of the alar rim. It reliably prevents even minimal degrees of alar rim retraction and yields reproducible results.

10:39 – 10:45 am

PRESENTER: Timothy L. Parker, MD

TITLE: Halo Grafts-Why You Don't Need to Dread Skin Cancers on the Lower Leg Anymore

AUTHOR: Timothy L. Parker, MD[1]

INSTITUTION: 1. Advanced Derm Surgery, Overland Park, KS, United States

PURPOSE: To demonstrate the use of a novel split-thickness skin graft from the surrounding skin of a leg wound to markedly reduce healing time.

DESIGN: Leg skin cancers are common especially in the elderly. The resulting wounds following surgery often have great difficulty healing in a timely manner. Second intention healing can take months of care and usual skin grafts create a second wound that heals slowly and is very unpopular with patients. The use of halo grafts will be demonstrated as a technique that is fast, easy, does not create a second wound and is very tolerable for patients while allowing healing of the wound in half the time of second intention healing.

SUMMARY: A summary of results of a series of leg wounds following skin cancer excision and reconstruction with halo grafts is demonstrated. From January 2010 to May 2010 there were 12 halo grafts performed on lower leg wounds. The average age of the patients was 71 years. The average defect size was 2.0 cm2. The average time for complete healing was 9 weeks (range 5.3-16 weeks). Overgranulation was present in 11/12 wounds during the post-operative period. The healing times were longer than a previous study by Sharad Paul, MD, but still resulted in the wounds healing in approximately half the time of second intention healing without a second donor site wound.

CONCLUSION: Halo grafts from the periphery of a leg wound following skin cancer removal are simple and well-tolerated resulting in a superior way to get faster healing.

10:46 – 10:52 am

PRESENTER: Paul X. Benedetto, MD

TITLE: Intraoperative Mohs Clearance of Advanced Cutaneous Tumors Resected by Otolaryngology: A Collaborative Approach

AUTHORS: Paul X. Benedetto, MD[1], Rahul Seth, MD[2], Michael A. Fritz, MD[2], Christine Poblete-Lopez, MD[1], Allison T. Vidimos, MD[1]

INSTITUTIONS: 1. Dermatology, Cleveland Clinic Foundation, Cleveland, OH, United States 2. Otolaryngology, Cleveland Clinic Foundation, Cleveland, OH, United States

PURPOSE: Our goal is to report the advantages of Mohs micrographic surgery performed in conjunction with otolaryngology (ENT) in the clearance of advanced cutaneous malignancies traditionally considered beyond the scope of outpatient surgery.

DESIGN: We present a retrospective review of 27 cases of advanced cutaneous malignancies cleared with Mohs surgery and concurrently reconstructed by otolaryngology performed at our institution over a 3 year period.

SUMMARY: Despite its utility in the extirpation of most facial non-melanoma skin cancers, Mohs surgery can be impractical for very large malignancies in the outpatient setting due to extent of tumor involvement, poor patient tolerance, excessive procedure duration, and difficulty coordinating same-day reconstruction. However, resection with wide margins by ENT also often proves inadequate, owing to discordance between intraoperative frozen sections and permanent pathology reports. Our ENT colleagues report frequently performing elaborate same-day reconstructions after false intraoperative reassurance of negative margins only to discover that residual tumor persists and further resection is required.

We present 27 cases of advanced malignancies with aggressive growth patterns, perineural invasion or extensive involvement of underlying structures jointly excised by one ENT surgeon and processed by two Mohs surgeons. In each case, interdepartmental collaboration aided in achieving our aims: tumor clearance; efficient accurate analysis of frozen sections; avoidance of unduly prolonged general anesthesia; reduction in need for further resection after reconstruction. By involving both teams in preoperative planning our goals were accomplished even in cases of large aggressive tumors.

Planning consisted of preoperative assessment of gross clinical margins and review of available imaging. With patients under general anesthesia, the ENT surgeon initially excised the tumors with wide margins with the goal of achieving a negative first Mohs layer. Next, the Mohs surgeon processed the tumor block as a traditional Mohs layer, sectioning it, inking the cut edges and mapping the tumor on a Mohs map. In this way 100% of the cutaneous and subcutaneous margins of the specimen were processed and analyzed histologically. Any tumor involving underlying structures was resected with standard margins and the surgical specimens were assessed with permanent sections only. Despite the large tumor size, the Mohs team was able to provide intraoperative assurance that the cutaneous margins were indeed negative for residual neoplasm in the time required by the otolaryngologist to harvest free flaps or plan a complex reconstruction. As a result, an increased clearance rate was achieved efficiently without subjecting the patient to any undue risk. Furthermore, the chance of the final pathology report contradicting intraoperative frozen section interpretation was mitigated.

CONCLUSION: For advanced facial cutaneous malignancies, we recommend a collaborative approach to tumor extirpation with intraoperative Mohs tissue sectioning and histopathology interpretation in conjunction with ENT tumor debulking and facial reconstruction. This affords the reconstructive surgeon greater assurance of margin control, and provides the patient with an optimized same-day reconstruction. We plan to demonstrate our methods and results with pre-, intra- and postoperative photographs, corresponding histopathology and illustrative radiographic imaging.

Demographics	
Number of patients / tumors	27 / 30
Mean age, years (SD)	68.7 (12.2)
Males, n (%)	14 (53.8%)
Pathology	
BCC, n (%)	14 (46.7 %)
SCC, n (%)	10 (33.3%)
Trichoblastic carcinoma, n (%)	1 (3.3%)
Dermatofibrosarcoma, n (%)	1 (3.3%)
Squamous Porocarcinoma, n (%)	1 (3.3%)
Tumor Characteristics / Indications for Intra-Op Mohs	
Mean Area Resection per Lesion, cm2	63.9
Perineural Invasion	12 (40.0%)
Recurrent Lesion	19 (63.3%)
Transplant History	4 (13.3%)
Anatomic Involvement	
Nasal / Central Face Involvement	12 (40.0%)
Temple/Parotid Involvement	8 (26.7%)
Auricular/Mastoid Involvement	3 (10.0%)
Scalp Involvement	3 (10.0%)
Forehead Involvement	2 (6.7%)
Invasion of dura mater	1 (3.3%)
Mohs Details	
Mean number of layers to clearance, n (SD)	2.1 (0.98)
Additional Therapies Performed	
Free flap reconstruction, n (%)	9 (30.0%)
Post-op Radiation, n (%)	3 (10.0%)

10:53 – 10:59 am

PRESENTER: Tanya R. Humphreys, MD

TITLE: Assessment of Postoperative Pain Following Mohs Micrographic Surgery and Reconstruction

AUTHORS: Boonyapat Limthongkul, MD[1], Faramraz Samie, MD, PhD[1], Tanya R. Humphreys, MD[1]

INSTITUTION: 1. Dermatology, Thomas Jefferson University, Philadelphia, PA, United States

PURPOSE: While most patients experience minimal discomfort during the procedure, postoperative pain following Mohs micrographic surgery has not been well characterized. The objective of this study was to evaluate the amount of postoperative pain following Mohs micrographic surgery and to determine if the degree of pain was correlated with factors such as tumor location, size, number of sites, age or gender of the patient.

DESIGN: One hundred and fifty-eight patients with skin cancer who were treated with Mohs micrographic surgery were included in this study. Information was recorded for each study participant including age, sex, diagnosis, tumor location, number of sites, number of Mohs excision stages and type of repair performed. A daily log was given to the patient to record the amount of pain experienced using the Wong-Baker pain scale (0=none, 5= severe) and any analgesics (acetaminophen or acetaminophen with hydrocodone) that were taken on the day of surgery and 8 consecutive days after.

SUMMARY: The majority of patients reported some degree of pain on day 0 (mean pain score 1.97, SD 1.456) and day 1 (Mean pain score 1.15, SD 1.201). However, the fraction of patients reporting pain and the severity of that pain diminished steadily thereafter. By day 7, only twenty-five patients (16%) were experiencing any pain, with 21 of them reporting only a little pain (score of 1). Acetaminophen was used by about half the patients on day 0 (n=77, 55%), which rapidly declined each subsequent day. Only 26 patients (16%) required prescription analgesics on the day of surgery (day 0) and less on subsequent days. Greater reported pain was significant for scalp procedures and multiple same day procedures. No significant correlation with age or gender was noted.

CONCLUSION: Postoperative pain after Mohs micrographic surgery was associated with only mild to moderate pain on the day of surgery and the first post operative day. Most pain was effectively managed by oral acetaminophen with a minority of patients requiring prescription analgesics. Surgery on the scalp was significantly more painful than other sites. Prospective patients can be reassured that Mohs micrographic surgery and reconstruction is well tolerated and associated with only mild to moderate discomfort postoperatively.

11:00 – 11:06 am

PRESENTER: Irene J. Vergilis-Kalner, MD

TITLE: Freehand Split-thickness Skin Grafts to Repair Nasal Defects

AUTHORS: Irene J. Vergilis-Kalner, MD[1,2], Leonard H. Goldberg, MD[2,3], Jennifer Landau, BS[2], Megan Moody, MD[2], Paul M. Friedman, MD[2,4], Arash Kimyai-Asadi, MD[2,3]

INSTITUTIONS: 1. Skin Laser and Surgery Specialists of NY and NJ, New York, NY, United States 2. Derm Surgery Associates, Houston, TX, United States 3. Departments of Dermatology, Weill Cornell Medical College, Methodist Hospital, Houston, TX, United States 4. Department of Dermatology, University of Texas, Houston, TX, United States

PURPOSE: Freehand split-thickness skin grafts (STSG) are a convenient, effective, and reliable reconstruction option for partial thickness dermal defects on the nose. A flexible blade is used to harvest the grafts, which have a high take and very low necrosis rate.

The objective of this study was to assess clinical outcomes of freehand STSGs on the nose as a function of the location and size of the defect and the location of the donor site.

DESIGN: 118 freehand STSGs on the nose were performed after Mohs surgery. Clinical outcomes were evaluated based on live and photographic assessments.

SUMMARY: 75 grafts were evaluated at short- (mean 3.1 months) and long-term (mean 12.3 months) follow-up visits. The average graft size was 3.1 ± 2.8 cm2. Adverse cosmetic effects included telangiectasia, step deformity, erythema, dyspigmentation, depression, and micro-keratotic cysts, which resolved with incision and drainage. The overall outcome was best for grafts used to repair flat surfaces. In general, smaller grafts had better cosmetic results than their larger counterparts in the short-term follow-up, with no difference being appreciated in the long-term follow-up.

CONCLUSION: The use of freehand STSGs for reconstruction of partial thickness dermal defects on the nose is an efficient, reliable, and cosmetically acceptable repair option.

Figure 1. Defect site

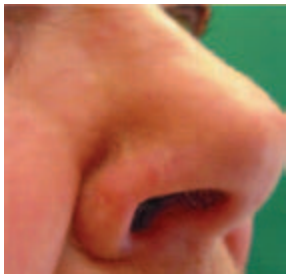


Figure 2. Follow-up of split thickness skin graft

11:07 – 11:13 am

PRESENTER: Kenny J. Omlin, MD

TITLE: The Utility of the Pursestring Stitch for the Repair of Challenging Lip Defects Following Mohs Surgery

AUTHOR: Kenny J. Omlin, MD[1,2]

INSTITUTIONS: 1. Mohs Surgery, Kaiser Permanente, Vacaville, CA, United States 2. Dermatology, University of California at Davis, Medical Center, Sacramento, CA, United States

PURPOSE: Repair of lip defects following Mohs surgery presents a unique challenge to the surgeon. When the surgical defect involves both vermillion and cutaneous subunits the repair can appear imposing. Maintenance of oral sphincter competence is of upmost importance.

Additionally, aesthetics play an integral role in lip reconstruction. Precise alignment of the vermillion border to avoid eclabium is particularly important. Techniques described in the literature include primary closure, wedge repair and a variety of elaborate flaps. We present a novel technique utilizing the pursestring stitch for the repair of lip defects that cross both vermillion and cutaneous boundaries.

DESIGN: 32 patients underwent Mohs surgery for removal of either squamous cell carcinoma or basal cell carcinoma involving the lip. Following tumor extirpation, 24 lesions involved both vermillion and cutaneous subunits. Defect size ranged between 0.5cm x 0.5cm to 3.5cm x 1.5cm, and involved a wide variety of locations including the columella and oral commissure. Immediate repair was performed in all cases utilizing the pursestring stitch. After meticulously undermining the surgical site, an intradermal, absorbable pursestring stitch was placed. Patients were evaluated at 1 week, 1 month, and 2 months.

SUMMARY: After 1 month all patients achieved full oral competence and excellent aesthetic outcome (Figures 1 and 2).

CONCLUSION: The pursestring stitch provides an excellent repair option for lip defects following Mohs surgery. The challenging nature of defects that involve both vermillion and cutaneous subunits are readily handled with this repair. The circumferential nature of the pursestring stitch and resulting centralized vector forces likely play an integral role in the success of this repair in this otherwise challenging location. Further research is needed to determine the mechanism by which the vermillion and cutaneous surfaces communicate to avoid the development of eclabium.

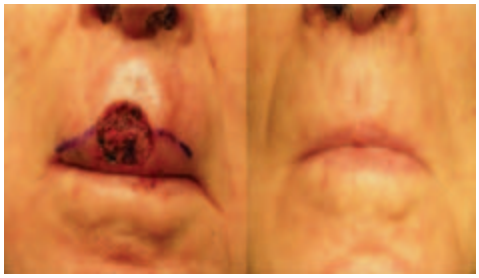


Figure 1. a. Defect b. Final outcome

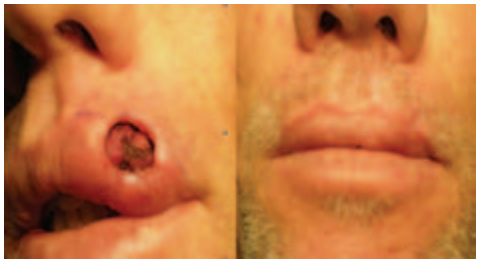


Figure 2. a. Defect b. Final outcome

11:14 – 11:20 am

PRESENTER: Joseph W. McGowan, IV, MD

TITLE: Electronic Mohs Mapping

AUTHORS: Joseph W. McGowan, IV, MD[1], Heidi B. Donnelly, MD[1]

INSTITUTION: 1. Dermatologic Surgery, Dayton Skin Surgery Center, Dayton, OH, United States

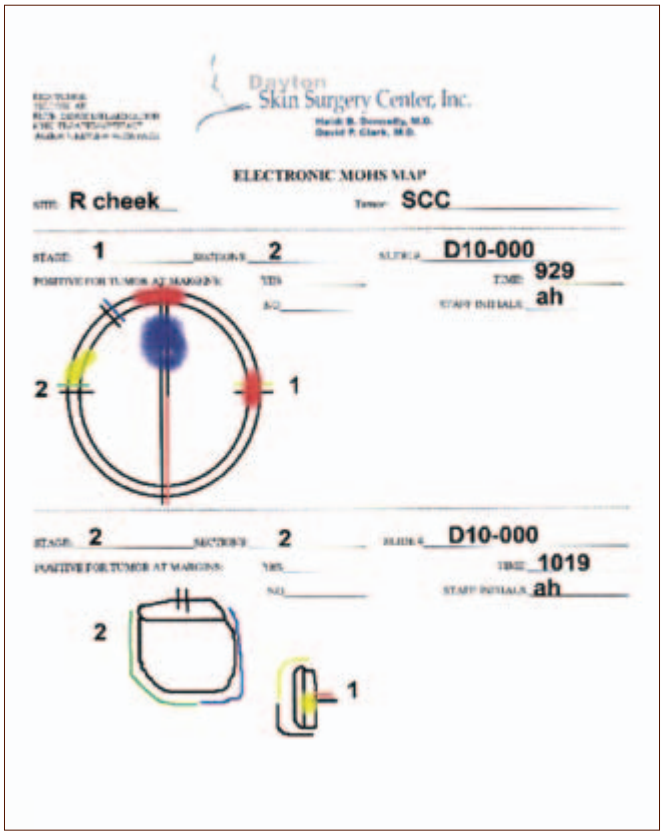
PURPOSE: To identify: (1) the technique, (2) design, (3) accuracy, (4) color coding scheme and (5) the relative advantages/disadvantages involved in the use of electronic Mohs mapping (EMM).

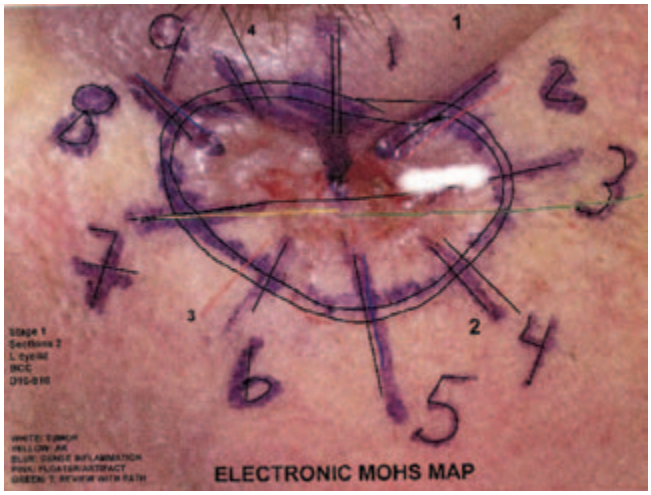
DESIGN: The authors describe a Mohs mapping presentation on EMM in the private practice setting. We will include a discussion of the logistics of template construction using the "image boiler" which can be superimposed on digitized clinical images to produce an electronic "composite" map. The "image boiler" program, accessible through the electronic medical record (EMR) system, allows the histotechnologist to apply concentric circles or geometric shapes to closely reproduce a clinical defect. In essence, a cartoon image is produced. Histotechnologists then use color coding schemes that correspond to dye colors used on microscopic sections for orientation. Physician mapping also utilizes colors with the airbrush-stroke tool to differentiate histologic findings on the EMM. Red indicates tumor; yellow indicates actinic keratosis/diffuse actinic damage; green indicates areas of inflammation; pink designates floaters/artifacts. EMMs can be printed on plain mapping paper for preview by dermatologists- or fellows-in-training.

SUMMARY: Limitations and relative advantages are discussed. Considerations include ease/accuracy for the Mohs surgeon, in-training resident physician, fellow and histotechnologist. A hard copy of the EMM can be generated for purposes of educational value: the Mohs fellow and/or resident dermatologist can construct his own Mohs map independent of the attending Mohs surgeon. Color coding schemes offered in EMM are more efficient than symbolic schemes used in hard-copy Mohs maps, minimizing errors and maximizing ease in interpretation of histologic specimens. Accessioning is also electronic and is a safeguard against inaccuracy. Electronic assignment of patient identifiers also minimizes error in faulty Mohs map assignment. Troubleshooting software- and hardware-specific obstacles are addressed. Digitized composite EMMs are a user-friendly, efficient, organized way of processing, assimilating and displaying clinical and histologic data during Mohs micrographic surgery.

CONCLUSION: EMM (electronic Mohs mapping) is essential for a Mohs surgeon's successful utilization of the Electronic Medical Record system. Limitations in the use of EMM include training of histotechnologists, accessibility, computer malfunction and inefficiency during the transition period. However, a computerized catalog of the EMMs proves useful in patient follow up and clinical mapping.

EMMs are a suitable surrogate for hard-copy Mohs maps, and 'composite' EMMs introduce a further dimension of accuracy and efficiency to geometrically complex defects.





11:21 – 11:27 am

PRESENTER: Omar A. Ibrahimi, MD, PhD

TITLE: Free Cartilage Grafting With Second Intention Healing For Defects on the Distal Nose

AUTHORS: Omar A. Ibrahimi, MD, PhD[1], Tracy M. Campbell, MD[1], Summer Youker, MD[1], Daniel B. Eisen, MD[1]

INSTITUTION: 1. Dermatology, UC Davis, Sacramento, CA, United States

PURPOSE: Defects of the distal nose, particularly the nasal ala, pose a reconstructive challenge due to the lack of loose adjacent tissue and proximity to a free margin. Cartilage struts are often advocated as part of any nasal reconstruction that occurs within 5 mm of the alar margin, to minimize the risk of alar margin distortion or nasal valve collapse. Traditional dogma has been to cover these struts with a concurrent flap or skin graft. We report our experience using free cartilage grafts in combination with second intention healing for nasal ala defects.

DESIGN: In this retrospective case series study, 16 nasal ala defects repaired using free cartilage grafting with second intention healing over the 1-year study period were identified. Detailed data on the quality of the scar, post-operative complications, free margin distortion, functional impairments, and patient satisfaction were recorded. Digital images were also shown to an experienced fellowship-trained Mohs surgeon who did not perform the reconstructive procedure and was asked to assess the overall aesthetic outcome using a 5-point score ranging from poor to excellent.

SUMMARY: Seventeen subjects were identified who had reconstruction using free cartilage grafts with second intention healing during the 1-year study period. Only 16 subjects returned for follow up following the procedure. Complications were common, but minor. Five (~31%) subjects had subtle contour depressions, three (~18%) subjects had post-operative ear pain at the donor site lasting up to 10 days, two (~12%) subjects had excessive granulation tissue, and one (~6%) subject had a hypertrophic scar. There were two occurrences (~12%) of mild alar notching but no occurrences of significant alar margin distortion or nasal valve dysfunction. In terms of aesthetic outcome, six (~43%) were assessed as having excellent aesthetic outcomes, six (~43%) were very good, and two (~14%) were good, while two subjects are awaiting overall aesthetic outcome assessment. All sixteen subjects reported satisfaction on follow-up evaluation.

CONCLUSION: Free cartilage grafting with second intent healing allows for facile, single-step repair of distal nose defects with high patient satisfaction and aesthetically-pleasing results.

11:28 – 11:34 am

PRESENTER: J. Michael Wentzell, MD

TITLE: Dorsal Nasal Flap for Full Thickness Defects of the Nose

AUTHOR: J. Michael Wentzell, MD[1]

INSTITUTION: 1. Billings Clinic, Billings, MT, United States

PURPOSE: Repair of full thickness distal nasal defects traditionally involves a multi-layered reconstruction involving nasal vestibular lining, cartilage graft and external lamellar flap, usually a multi-staged paramedian forehead flap. But in selected cases this approach can be replaced with a single stage dorsal nasal flap employing no nasal vestibular lining flap or cartilage graft. This approach can produce results superior to other reconstructive choices. The purpose of this presentation is to describe the application of the single stage dorsal nasal flap as a complete reconstruction for full thickness defects of the distal nose.

DESIGN: Large, full thickness Mohs surgery defects of the distal nose are presented. The stepwise surgical reconstruction of these defects using the dorsal nasal flap is described. Novel and useful design modifications are presented. Postoperative results are reviewed.

SUMMARY: Over twelve years of experience has demonstrated the reliability and utility of the Dorsal Nasal Flap as a successful one-stage reconstruction in full thickness defects of the distal nose.

CONCLUSION: The Dorsal Nasal Flap can be used as a one-stage, single flap reconstruction of large, full thickness defects of the distal nose. The final cosmetic and functional results can be equivalent to or superior to results obtained by other methods. Patient acceptance is high, results are sustained over time and follow-up procedures have not been necessary. The dorsal nasal flap is an effective method for reconstructing selected full thickness defects of the distal nose.

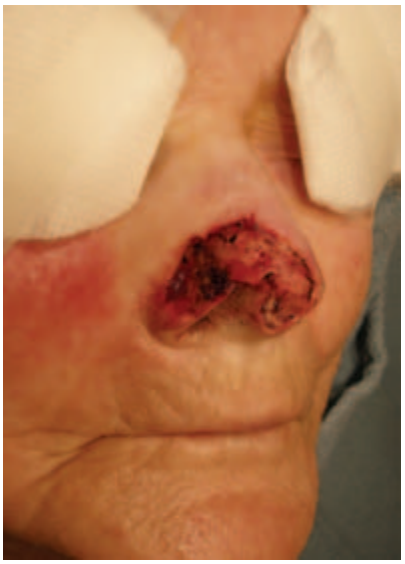


Figure 1. Large, Full-Thickness Defect before Single-Stage Dorsal Nasal Flap.

Figure 2. Long Term Follow-Up. No Additional Intervention.

11:35 – 11:41 am

PRESENTER: Jared J. Lund, MD

TITLE: Sliding and Non-Sliding Z-Plasties: Applications in Vertical Lip Reconstructions and Beyond

AUTHORS: J. Michael Wentzell, MD[1], Jared J. Lund, MD[1]

INSTITUTION: 1. Cutaneous Oncologic Surgery, Billings Clinic, Billings, MT, United States

PURPOSE: The purpose of this presentation is to demonstrate the advantages of Z-plasties in vertical lip reconstructions. A secondary purpose of this article is to explore six distinct causes of lip deformities that arise during reconstructive surgery, and how those complications can be averted by employing either a traditional Z-plasty or a new modification we term the sliding Z-plasty.

DESIGN: We explore the planning and execution of lip reconstructions using traditional Z-plasties and sliding Z-plasties. This analysis utilizes case reports, original illustrations and an in-depth review of the spatial dynamics of lip reconstruction.

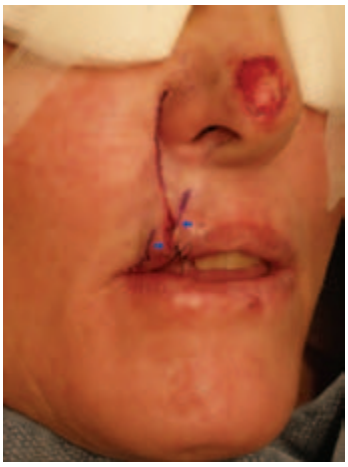
Ultimately, this analysis compels us to challenge the commonly held dogma of lip reconstruction and suggest a paradigm shift in the thinking of lip wound realignment.

SUMMARY: Lip reconstructions frequently have vertical incision lines that may or may not approach or cross the vermillion border. These reconstructions follow lines of relaxed skin tension. Never-the-less, potential complications can adversely affect the final result.

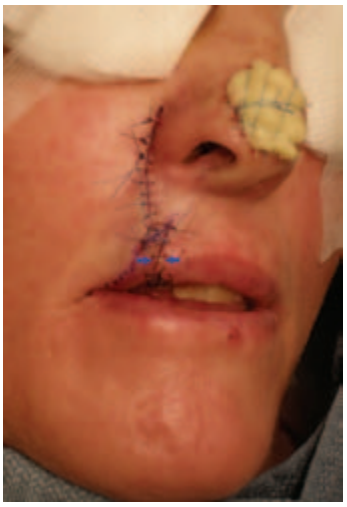
These complications include: A) A cosmetically noticeable step-off at the vermillion border due to misalignment at the time of surgery. B) A functional step-off or misalignment of the wet line. C) A fat lip deformity as a result of externally rolling the labial mucosa. D) Scar contracture. E) A trigone deformity. This is a design-related complication that looks similar to the vermillion displacement of a scar contracture. F) An exaggerated creasing of the vertical scar caused by repeated contraction of the orbicularis oris muscle.

A Z-plasty during the initial reconstruction may avert or minimize these complications. This Z-plasty might be of traditional design or a variation termed the sliding Z-plasty.

CONCLUSION: Either traditional or sliding Z-plasties can improve the final outcome of vertical lip reconstructions while averting or mitigating six distinct potential complications associated with vertical lip repairs.



Lip wound repaired in vertical fashion- wet line is approximated first maintaining the original arc of curvature of the lip and avoiding the fat lip deformity. A step-off at the vermillion border results (4 mm- note blue arrows). A sliding Z-plasty is designed with a shorter central arm compared to the two lateral arms. This unique design compels a sliding displacement of one side of the central arm relative to the other until the 3 arms of the Z-plasty are equal in length. As the flaps are transposed, this relative sliding realigns displaced anatomic borders adjacent to the Z-plasty.



Sliding Z-plasty fine tunes alignment of vermilion border and disguises vertical incision line. Note that after the sliding Z-plasty is performed, the vermilion border laterally is aligned with the border medially (blue arrows).

4:03 – 4:11 pm

PRESENTER: Kathleen M. Rossy, MD

TITLE: Difficulty with Surgical Site Identification: What Role does it play in Dermatology?

AUTHORS: Kathleen M. Rossy, MD[1,2], Naomi Lawrence, MD[2]

INSTITUTIONS: 1. Princeton Center for Dermatology, Princeton, NJ, United States 2. Cooper University Hospital, Cherry Hill, NJ, United States

PURPOSE: The potential for wrong-site surgery is a growing concern in the field of medicine. The purpose of this study was to determine the incidence of difficulty with surgical site identification in dermatology and the possible confounding factors associated with it.

DESIGN: A single center prospective study with multivariable analysis was conducted to evaluate the percentage of patients who had difficulty correctly identifying their surgical site on the day of Mohs micrographic surgery. The sample size consisted of 329 patients with 333 skin cancers. Patients included in the study were over the age of 18 years old, presented for Mohs surgery, and were able to consent for themselves. All cases were evaluated during the allotted period from 4/1/2009- 2/9/2010. All patients included in the study had previously had an office or phone consult where they either reported being able to identify their sites or they were sent back to the referring physician for confirmation prior to their surgical date. On the day of Mohs, data collection forms were used to record the amount of difficulty associated with identification and possible confounding factors. The data sheets were designed to collect information regarding: degree of difficulty in identification, location, age, gender, history of skin cancer, history of multiple treatments on the same day, visual impairment, the presence of referring physician notes or photos, whether lesions were in a location visible to the subject, time between biopsy and surgery date, and the outcome on the day of surgery.

SUMMARY: A total of 333 cases were evaluated, and 9% (30) were unable to confidently identify their surgical sites. The majority of cases (88.5%) were located on the head and neck. When comparing subjects that were able to identify their surgical sites and those that were not, there was a statistically significant difference (p=0.035) in the percentage of lesions residing in a location visible to the subject. Those who were able to see their biopsy sites were 3.5 times (p=0.01) more likely to identify their surgical site. Of the patients evaluated, only 47.6% of subjects had accompanying chart notes, which consisted of a photo, diagram, and/or measurements. On closer evaluation of the chart notes, 5% of these cases were photographs and 23% of these had high quality diagrams. Although a delay in treatment of greater than 3 months from the original biopsy site was higher among those with difficulty in identifying their surgical site, this was not found to be statistically significant. The remaining factors evaluated (gender, age, location, visual impairment, history of multiple treatments on the same day, and history of skin cancer) did not prove to be significantly different among those who were able to identify their site and those who were not.

CONCLUSION: Our study shows a significant issue in site identification which puts us at risk of performing wrong site surgery. We have shown that at least 9% of patients presenting for Mohs surgery, despite pre-procedure screening, are unable to confidently identify their surgical sites. We have also evaluated confounding factors that, in our clinical experience, have contributed to difficulty with biopsy site identification. The results confirmed that lesions located in sites visible to the patient were more likely to be confidently identified on the day of surgery. In our experience, a history of previous procedures, widespread actinic damage, and a longer delay until surgery are factors that also contribute to difficulty with site identification. The results did not support these findings, but we believe with a larger sample size these trends would become more evident.

4:11 – 4:19 pm

PRESENTER: Oliver Wisco, DO

TITLE: Modified Mohs Micrographic Surgery for Lentigo Maligna or Melanoma In-Situ of the Head and Neck Utilizing Overnight En Face Permanent Section Analysis: A Ten-Year Experience of 202 Cases

AUTHORS: Oliver Wisco, DO[1], Krista E.B. Reis, PA-C[1], Lisa M. Cohen, MD[2], Donald J. Grande, MD[1]

INSTITUTION: 1. Mohs Surgery, Mystic Valley Dermatology, Stoneham, MA, United States 2. Caris Life Dermatopathology, Newton, MA, United States

PURPOSE: An on-going debate exists on how to surgically manage lentigo maligna and melanoma in-situ of the head and neck. Standard of care has historically required 5mm margins be used when conducting traditional excision for these malignancies, but recent studies have indicated the need for more precise margin control. Mohs micrographic surgery has become an increasingly effective treatment modality, but its use is controversial due to the difficulty of evaluating melanocytes on frozen sections. MART-1 staining has improved diagnostic accuracy, but reported case series to date have been limited. In order to avoid the frozen section evaluation perils, the use of modified Mohs micrographic surgery with rapid overnight en face permanent paraffin section processing, with or without MART-1 staining, is gaining acceptance. The modified Mohs technique allows for both margin control and permanent paraffin section analysis, thus avoiding the frozen section analysis restrictions. This is particularly important with the institution of the American Academy of Dermatology's upcoming guidelines of care for the management of primary cutaneous melanoma. The recent draft version of the guideline considers permanent paraffin section evaluation as the "gold standard" when excising lentigo maligna/melanoma in situ or invasive melanoma.

DESIGN: Similar to the data for traditional Mohs surgery for lentigo maligna and melanoma in-situ, the research on the modified Mohs technique is also limited. To address this issue, we performed a retrospective chart review study on our experience using the modified Mohs technique for lentigo maligna and melanoma in-situ from January 2000 through January 2010. During this time period, 202 cases were identified. The primary focus of the study was to determine the recurrence rate using this technique, with additional examination on the size of the margins needed to remove the tumor. A subgroup analysis of 33 patients pretreated with Imiquimod for six to eight weeks prior to the use of the modified Mohs technique was also performed.

SUMMARY: The review of our 202 cases of lentigo maligna or melanoma in-situ of the head and neck treated with the modified Mohs technique identified a total of six recurrences. When including only cases that had not undergone prior surgical treatment (n=186), four recurrences were found. In the Imiquimod subgroup, there were no recurrences. Further analysis of the 202 cases revealed that the average margin size needed to clear the tumor was 0.68cm, with an average of 1.66 layers required. The average first layer margin taken was 0.42cm. Of those cases with a positive first layer (n=89), the average percentage of the first layer's peripheral margin found to have residual tumor was 47%.

CONCLUSION: This is the largest case series to date of the modified Mohs technique for lentigo maligna or melanoma in-situ of the head and neck. This retrospective study reinforces the effectiveness of combining a permanent section analysis with a technique that efficiently employs margin control.

4:19 – 4:27 pm

PRESENTER: Holly H. McCoppin, MD

TITLE: The Clinical Spectrum of Atypical Fibroxanthoma in Solid Organ Transplant Recipients: A Collective Experience

AUTHORS: Holly H. McCoppin, MD[1], Dan L. Christiansen, PGY-1[2], Thomas Stasko, MD[2], Juan-Carlos Martinez, MD[3], Carl V. Washington, Jr., MD[1], Marc D. Brown, MD[4], Fiona O'Reilly Zwald, MD[5]

INSTITUTIONS: 1. Dermatology, Emory University, Atlanta, GA, United States 2. Dermatology, Vanderbilt University, Nashville, TN, United States 3. Dermatology, Mayo Clinic - Jacksonville, Jacksonville, FL, United States 4. Dermatology, University of Rochester, Rochester, NY, United States 5. Dermatology & Division of Transplantation, Emory University, Atlanta, GA, United States

PURPOSE: We describe the clinical spectrum of atypical fibroxanthoma (AFX) and it's more aggressive deeper variant, now termed undifferentiated pleomorphic sarcoma (UPS) in solid organ transplant recipients (SOTRs). We believe this tumor should be added to the list of cutaneous malignancies for which our chronically immunosuppressed organ transplant patients are at higher risk. We also wish to evaluate whether these tumors demonstrate a more aggressive clinical course in the SOTRs.

DESIGN: A retrospective chart review of AFX and UPS, previously called malignant fibrous histiocytomas (MFH), in SOTRs was designed and implemented at two universities. Cases from two clinics were also included. A literature search included all cases previously published in the English language (seven articles, 11 cases). Data was collected, tabulated, and compared with published data regarding AFX/UPS in non immunosuppressed patients.

SUMMARY: The majority of patients had undergone renal transplantation (7/15; 47%). The average age of the patient at time of AFX presentation was 58 years, which is younger than the 69 to 72 years typically seen in immunocompetent patients who present with AFX (Fretzin et al 1979, Ang et al 2009). The average interval between transplantation and presentation of AFX was 11 years. There were higher rates of local recurrences (40%) and metastases (27%) in the cases of AFX in immunosuppressed patients than has been reported in immunocompetent individuals. Thirteen out of the 15 tumors were on the head and neck region, with five on the scalp. This mirrors the pattern of tumor growth seen in the immunocompetent population. Rates of recurrence were higher in those treated with excision (50% recurred) versus Mohs micrographic surgery (20% recurred). Five patients (33%) in this series succumbed to their disease.

CONCLUSION: This series demonstrates that AFX with progression to UPS or spindle cell squamous cell carcinoma may occur more frequently in SOTRs, with a greater risk for recurrence, metastatic disease and mortality. In SOTRs with AFX, aggressive treatment with Mohs micrographic surgery (MMS) is warranted to minimize the chance for local recurrence and metastasis. UPS or recurrent tumors should be staged appropriately and treated aggressively with MMS or wide excision, and may benefit from wide field radiation therapy. Reduction of immunosuppression should be considered. Immunohistochemical evaluation by an experienced dermatopathologist is recommended to rule out progression to other spindle cell tumors, especially in the setting of metastasis. Further studies are needed to determine whether histologic features, immunostains or tumor markers may help to further define management and prognosis of these tumors in SOTRs.

4:27 – 4:35 pm

PRESENTER: Yaohui G. Xu, MD, PhD

TITLE: Eccrine Porocarcinoma Treated by Mohs Micrographic Surgery: Report of Ten Cases with Literature Review

AUTHORS: Yaohui G. Xu, MD, PhD[1], Juliet L. Gunkel, MD[1], B. Jack Longley, MD[1], Stephen N. Snow, MD[1]

INSTITUTION: 1. Dermatology, University of Wisconsin, Madison, Madison, WI, United States

PURPOSE: Eccrine porocarcinoma (EPC) is an uncommon malignant tumor of the intraepithelial or acrosyringium portion of the eccrine glands that can behave aggressively. Approximately 250 cases of EPC have been reported since the original description by Pinkus in 1963. Clinical management of this cancer remains a daunting challenge. The majority of patients with EPC have been treated by standard local excision with undefined margins. Local recurrence has been documented in approximately 20% of the cases, regional metastases 20%, and distant metastases 10%. Mortality rate is up to 80% in patients with metastases. Mohs micrographic surgery (MMS) has been shown to be a promising surgical intervention for early-stage EPC.

DESIGN: This is a retrospective case series of all patients of EPC who were treated by MMS between 1984 and 2010 in the Mohs surgery clinic of our institution. Additionally, all reported cases of EPC managed by MMS in the world's literature were reviewed. The clinical characteristics and outcome of each case are summarized.

SUMMARY: In our clinic between 1984 and 2010, 11 patients were diagnosed with EPC and 10 treated with MMS. To the best of our knowledge, this is the single largest case series of EPC treated with MMS. The average age at diagnosis was 65 years (range, 36-86 years). Seventy percent of the patients were male. All patients were Caucasians. Among the 10 lesions, three were located on the lower extremities (30%), three on the chest (30%), and four on the head and neck area (40%), with one each on the nasal bridge, chin, antihelix, and forehead. The average size of the lesions was 17 mm (range, 7-47 mm). The average duration of the growth was 2.9 years (range, 2 weeks-12 years). Four of our ten patients had recurrent tumors; lesions being treated by prior local excision, cryotherapy or topical fluorouracil cream. Clinical presentations varied, resembling non-melanoma skin cancer, seborrheic keratosis, or pyogenic granuloma. Initial histological diagnosis was misinterpreted in three cases as basal cell carcinoma or squamous cell carcinoma. The average Mohs stages required to achieve a tumor-free plane were 2.2. The average post-operative size was 33 mm (range, 11-78 mm). In our series, there have been no local recurrences, distant metastasis or disease specific death to date, with an average follow-up of 47 months (range, 3 months to 7 years). Two patients died from other causes. Only one patient had regional lymph node metastasis and received adjuvant therapy. This patient with EPC on the chest developed left axillary lymph node metastasis 8 months following Mohs surgery. She underwent lymphadenectomy and electron beam radiation therapy, and subsequently had no evidence of recurrence locally or regionally at 7-year follow up. The rest of the 9 patients received MMS as monotherapy.

We reviewed an additional 15 cases compiled from case reports and case series in the literature. The average age at diagnosis was 65 years (range, 36-79 years). Forty percent of the patients were male. Three patients were African Americans. Among the 15 lesions, seven were located on the lower extremities (47%), three on the trunk, and five on the head and neck area, with one each on the antihelix, scalp, temple, and two on the eyelid. The average size of the lesions was 15 mm (range, 5-45 mm). The average duration of the growth was 5.6 years (range, 6 weeks-20 years). Tumor status was not clearly stated in most of the cases; two patients had recurrent lesions following standard surgical excision. The average Mohs stages required to achieve a tumor-free plane were 1.8. None had adjuvant therapy. Thirteen of the 15 patients for whom follow-up was available had seen no local recurrences, regional or distant metastasis to date, with an average follow-up of 20 months (range, 2 months-4 years). One patient died from other causes.

Excluding two patients for whom no follow-up data was stated, a total of 23 patients treated by MMS (10 from our series and 13 from others) had shown no local recurrences, distant metastasis or disease specific death over an average follow-up period of 32 months. One patient from our series had regional lymph node metastasis but remained with no evidence of recurrence 7 years post-operatively.

CONCLUSION: MMS has a 100% success rate in 23 cases of EPC with an average follow-up period of 32 months. This compares favorably to standard local excision in which an approximately 80% success rate was observed. Although MMS may be the best initial treatment for EPC, patients must be monitored closely for local recurrence, regional and distant metastasis.

4:35 – 4:43 pm

PRESENTER: Matthew Donaldson, MD

TITLE: Trends in Mohs Utilization in 2009: An Analysis of the 5% Sample Medicare Claims Data

AUTHORS: Matthew Donaldson, MD[1], Brett M. Coldiron, MD, FACP[1]

INSTITUTION: 1. TriHealth Good Samaritan/The Skin Cancer Center, Cincinnati, OH, United States

PURPOSE: Epidemiologic data suggest the United States is in the midst of a skin cancer epidemic. Recent analyses estimate over 3.5 million cases of non-melanoma skin cancer were treated in the US in 2006. Consequently, Mohs surgery utilization has increased significantly over the past decade. Cases have surged to over 520,000 in 2008 in the Medicare population alone. We evaluate the most recent Medicare claims data to estimate volume of Mohs performed by Mohs surgeon and by region.

DESIGN: Data from the 5% sample Medicare claims set are queried for codes 17311-5 for 2004, 2007, and 2009. Data is stratified by provider to estimate number of cases per Mohs surgeon. Data will be further stratified by provider type and state. The ratio of 17311:17312 and 17313:17314 per UPIN/NPI will be presented. Modifiers -51 and -59 attached to 17311, 17313 will be analyzed to determine frequency of multiple site, same-day surgeries. Volume of repair

codes (12001-13153, 14000-14350, 15400-15420, 15570-15738, 15740, 15760, 15050-15261, 40500-40530) billed per UPIN/NPI billing Mohs will be calculated.

SUMMARY: 2004 analyses showed 1490 providers billing for Mohs. Estimates of Mohs volume ranged from 20 to 3080. A far left shifted curve demonstrated 52% of surgeons performed fewer than 200 cases.

Further data analysis is underway and will be complete upon receipt of 2009 Medicare claims data. Dermatologists are expected to bill nearly all Mohs cases. Correlation, if any, between additional stages and volume/types of repairs with total volume of Mohs by provider and state will be presented. This study is limited to Medicare data only. It provides an imprecise estimate of cases given random 5% sampling. However, the large number of Mohs cases performed and lack of alternative data sources make such an analysis useful.

CONCLUSION: A strongly left-shifted bell curve for Mohs cases per provider was seen in 2004. This trend is expected to be replicated, and exaggerated, in 2007 and 2009. This left shift and right sided plateau likely reflects a bimodal distribution between ACMS-trained and non-trained surgeons. A marked increase in Mohs utilization has been seen over the past decade. This is occurring in the context of an explosion of skin cancer incidence. However, the volume of cases performed by provider and region is not well known. Some data regarding the number of cases needed for Mohs proficiency in a fellowship context have been reported. In the context of limited funding for health care and increasing utilization, appropriate use of Mohs and maximizing cost-effective use will become more important.

4:43 – 4:51 pm

PRESENTER: Todd V. Cartee, MD

TITLE: Histologic Evaluation of Surgical Margins in Mohs Micrographic Surgery: Quantification of Margin Distance with Each Section of a Mohs Stage and a Survey of Standard Practices among Mohs Surgeons

AUTHORS: Todd V. Cartee, MD[1], Gary D. Monheit, MD[1]

INSTITUTION: 1. Total Skin and Beauty Dermatology Center, Birmingham, AL, United States

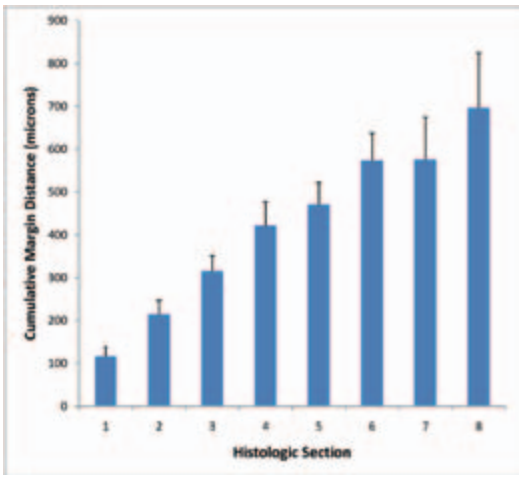
PURPOSE: Based on a 2003 survey, the majority of Mohs surgeons examine 3-9 sections from each processed piece of tissue. When the first or most peripheral section, "the true margin," reveals tumor or when all sections are tumor free, the determination of margin status is unambiguous. However, in a significant minority of cases, no tumor is demonstrable in the initial section only to find cancer lurking in "deeper" cuts. This common quandary is especially challenging because of the dearth of literature to inform the dermasurgeon's evaluation of margin status in such cases. From anecdotal reports, varying opinions exist on how many tumor-free sections are necessary to conclude that margin negativity has been achieved and a given patient will enjoy the 99% cure rate promised by Mohs micrographic surgery (MMS) for primary basal cell and squamous cell carcinoma. This study seeks to provide some empiric data on the association between margin distance and each histologic section of a Mohs stage. We also designed a survey to document the disparate approaches to this clinical question among Mohs surgeons and examine how certain histologic and anatomic considerations impinge on their decision-making.

DESIGN: 3 to 4 primary basal cell and squamous cell carcinomas from the head and neck, which are undergoing MMS, are selected each operative day to include in a prospective study. Our histotechnologists record the cryotome thickness setting and number of cryotome rotations from the moment the tissue is engaged until the first section is applied. They then record the same data between each section applied to a slide until all sections are mounted for a given stage. We are also recording margin status, initial positive section, whether an additional layer was obtained, and the status of the second layer. The target sample size is 200 tumors.

The second part of this study consists of a web-based survey of all members of the American College of Mohs Surgery. The survey was initially piloted among 5 academic Mohs surgeons with experience in survey research. After their feedback was incorporated, the final survey includes 8 questions collecting information on basic demographics and practice characteristics and then explores how the respondent assesses margin status in a variety of clinical scenarios.

SUMMARY: Analysis of preliminary results shows that on average 117 microns of tissue has been discarded before the initial histologic section from a Mohs stage is mounted. The margin distance is over 0.5 mm by the sixth section (Mean 574 microns). Once the target sample size is reached, statistical analysis will be performed and presented at the ACMS meeting. An ongoing survey will complement this empiric data with an assessment of the prevailing methodology employed by Mohs surgeons in determining margin status when positivity is confined to sections deep to the "true margin." Finally, we will present at the meeting our second stage positivity rate on additional layers obtained in our practice on these cases.

CONCLUSION: Given that an initial 2 mm margin from the clinical border of a tumor is a standard approach for MMS for uncomplicated primary keratinocyte cancers, by the 6th histologic section, on average over 25% of this narrow margin distance has already been "cleared." If positivity first appears in these deeper sections, the surgeon may derive comfort from knowing that a significant margin distance has been achieved. While a definitive answer to this question will require long-term prospective, local recurrence data, the second stage positivity rate in cases of isolated deep positivity will provide some relevant immediate information. An analysis of the standard practices among ACMS members may also prove valuable in developing consensus guidelines regarding this previously unexplored oncologic dilemma.



4:51 – 4:59 pm

PRESENTER: Joshua A. Tournas, MD

TITLE: Patient Specific Factors Influencing Incidence of High-Risk Histologic Features in Cutaneous Squamous Cell Carcinoma (cSCC) – A Retrospective Pilot Study

AUTHORS: Maulik M. Dhandha[3], Joshua A. Tournas, MD[1], Eric S. Armbrecht, PhD[2], Scott W. Fosko, MD[1]

INSTITUTIONS: 1. Dermatology, Saint Louis University, Saint Louis, MO, United States 2. Outcomes Research, Saint Louis University, Saint Louis, MO, United States 3. School of Medicine, Saint Louis University, Saint Louis, MO, United States

PURPOSE: Cutaneous squamous cell carcinoma (cSCC) accounts for 20% of cutaneous malignancies and is the second leading cause of cancer in Caucasians. Histologic features of cSCC portending a higher risk of metastasis have been well-described, and include perineural invasion, perineural inflammation, lymphovascular invasion, poorly differentiated tumor, and acantholytic tumor. The current study aims to identify which preoperative and intraoperative factors predict high-risk histologic behavior under the microscope.

Local metastasis of cSCC usually occurs within the first two years after diagnosis, although late presentation up to 8 years has also been reported. The management of metastatic disease is difficult and the prognosis is often quite poor. Within our institution patients with high risk cSCC are usually managed in a multidisciplinary approach from the onset, something that is not uniformly practiced across academic medical centers. It is hoped that the findings of this study and subsequent expansions will allow detection of those high risk tumors with metastatic potential earlier in the course of treatment so appropriate referrals and investigations can be made.

DESIGN: Patient and tumor specific information was collected from a total of 391 patients treated in our institution in 2008 and 2009. Patient specific information included gender, occupation, immune status, use of sunscreen, exposure to radiation, and use of tanning bed. Tumor specific information included type of cSCC, time elapsed before presentation at clinic, primary vs. recurrent, laterality, site, associated symptoms, visual appearance (scar vs. clinical tumor), pre- and post-operative size, number of Mohs stages until clearance, depth of Mohs defect, perineural inflammation, perineural invasion, and lymphovascular invasion. High risk histologic factors were defined as tumors with at least one of the following: perineural invasion, perineural inflammation, lymphovascular invasion, acantholytic tumor, or poor degree of differentiation.

Statistical analysis was performed using SPSS software (SPSS Inc., Chicago). The tumors were divided into histologically low risk and high risk groups based on the above criteria. T-test for independent sample for means was used for continuous variables and chi-square tests were used for categorical variables. Differences were considered significant at $\alpha \leq 0.05$.

SUMMARY: Statistically significant differences in incidence of high risk histologic findings were found with larger pre-operative size, larger post-operative size, increasing number of Mohs stages needed to clear tumor, and tumor penetrating tissue layers deeper than dermis and fat. Interestingly, tanning bed use was found to be inversely related to high risk histologic findings, with more high risk tumors among non-users.

No significant difference was found in the proportion of low risk and high risk tumor incidence with regard to gender, indoor vs. outdoor occupation, radiation exposure, immune status, sunscreen use, primary vs. recurrent tumor, presence of clinical tumor at time of surgery, laterality, or body site.

CONCLUSION: The current pilot study represents all cSCC patients treated during the two years 2008 and 2009 in our institution. Interesting correlations particularly between tumor "width" and tumor "depth" and histologic aggressiveness may help target early interventions in the future with regard to screening for metastasis. It is our hope that identifying such patients early in the course of their disease will lead to increased detection of early or occult metastatic disease and lead to better patient outcomes via early intervention and definitive treatment.

Limitations of the current study include smaller sample size, given the fact that by the aforementioned criteria approximately 15% or 59 tumors qualified as histologically high risk. Factors considered likely to be related to high risk features such as recurrence and tanning bed use similarly were infrequently seen as well, which may or may not be true with a larger sample size. Plans are underway to expand our database retrospectively, which may in turn increase the power of some of our analyses and further refine and support the results obtained from the current data.

4:02 – 4:10 pm

PRESENTER: Kurtis B. Reed, MD

TITLE: The Rising Incidence of Malignant Melanoma among Young Adults

AUTHORS: Kurtis B. Reed, MD[1], Jerry D. Brewer, MD[1], Lawrence E. Gibson, MD[1], Kariline Bringe, BS[2], Crystal Pruitt, BS[2], Christine M. Lohse, BS[3]

INSTITUTIONS: 1. Department of Dermatology, Mayo Clinic, Rochester, MN, United States 2. Mayo Medical School, Rochester, MN, United States 3. Statistics, Mayo Clinic, Rochester, MN, United States

PURPOSE: This epidemiologic study estimated the incidence of malignant melanoma in young adults 15-39 years old, in the County, from 1970-2009. The overall incidence of malignant melanoma is increasing in both adults and children. While the incidence of melanoma among young adults has been reported from national cancer registries, no population-based study has yet estimated the incidence among this age group. This study provides data regarding the population-based incidence of melanoma among patients 15-39 years old, and reports trends in the change in incidence.

DESIGN: The County is an ideal setting for epidemiologic studies. The vast majority of medical care is provided by a limited number of providers. The Rochester Epidemiology Project (REP) is a linkage of medical data from almost all sources of medical care available to the local population of the County.

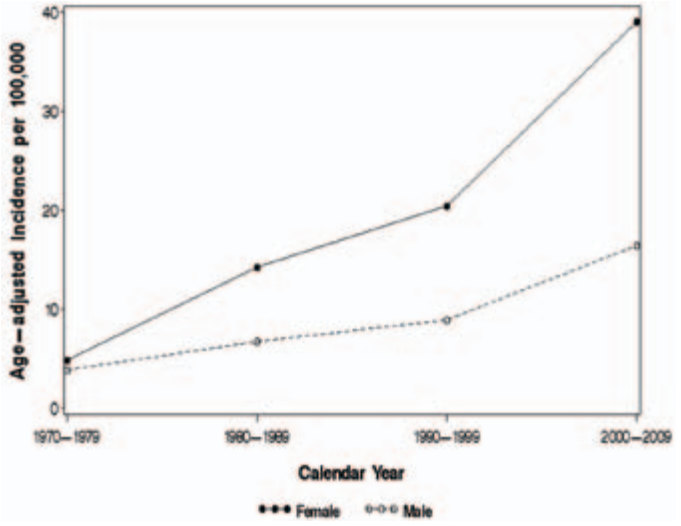
The County residents were identified from the REP databases with a confirmed first lifetime diagnosis of cutaneous melanoma between 15 and 39 years old, with date of diagnosis between January 1, 1970 and December 31, 2009. Age- and sex-specific incidence rates per 100,000 person-years were calculated, with the denominator obtained from decennial census data during this period. The relationships between the incidence of malignant melanoma and age at diagnosis, sex, and calendar year of diagnosis were assessed by fitting generalized linear models. Incident cases were grouped into four calendar year intervals (1970-1979, 1980-1989, 1990-1999, 2000-2009). Disease-specific survival was estimated using the Kaplan-Meier method. Associations of calendar year of diagnosis with death from disease were evaluated using Cox proportional hazards regression models and summarized with hazard ratios and decade specific mortality rates.

SUMMARY: The population-based incidence of melanoma among young adults has increased from approximately 4.3/100,000 people in the 1970's to 27.6/100,000 in the 2000's. This increase is most marked among young females, with an approximately 8-fold increase in incidence from the 70's to the 2000's, compared to a 4-fold increase among young men.

The overall estimated disease-specific 5-year survival was 97%. 5-year survival increased from an estimated 91% in the 1970's to 100% in the 2000's. The hazard ratio for the association of calendar year of diagnosis with death from malignant melanoma was 0.91 (95% CI 0.85 – 0.98; p=0.013), indicating that each 1-year increase in calendar year of diagnosis was associated with a decreased risk of death from melanoma. There were no statistically significant interactions among age at diagnosis, sex, and calendar year of diagnosis.

CONCLUSION: The incidence of malignant melanoma among young adults is increasing exponentially. This increase is most pronounced among young females. While the incidence is increasing, the risk of disease-specific death is decreasing, suggesting possible improved surveillance, earlier treatment, and increased awareness and education.

This retrospective, population-based study was not designed to assess potential risk factors associated with the increased incidence. Other investigators have found that certain high-risk behaviors, such as excessive sun exposure and artificial indoor ultraviolet tanning, are increasingly common among adolescents and young adults, and may contribute to the findings in this study.



4:10 – 4:18 pm

PRESENTER: Kate V. Viola, MD, MHS

TITLE: The Use of Mohs Micrographic Surgery for the Treatment of Non-melanoma Skin Cancers in the Medicare Population

AUTHORS: Kate V. Viola, MD, MHS[1], Mamta B. Jhaveri[2], Ryan B. Turner, MD[1], Daven N. Doshi, MD[1], Cary P. Gross, MD[3]

INSTITUTIONS: 1. Dermatology, Albert Einstein College of Medicine, Bronx, NY, United States 2. University of Maryland School of Medicine, Baltimore, MD, United States 3. Cancer Outcomes, Policy, and Effectiveness Research (COPPER) Center, Yale University School of Medicine, New Haven, CT, United States

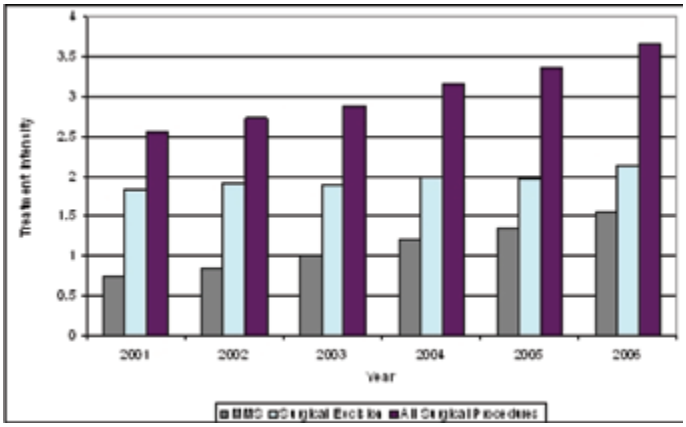
PURPOSE: Mohs micrographic surgery (MMS) is associated with low recurrence rates and optimal preservation of normal tissue. The American Academy of Dermatology has set forth guidelines for the use of MMS in patients with skin cancer where adequate excision and negative margins is essential. Little is known about current physician practices for patients with non-melanoma skin cancers (NMSC) undergoing surgical treatment. Our objective was to identify Medicare utilization rates of MMS and other surgical interventions for the treatment of NMSC over time, as well as to identify patient, tumor and geographic determinants associated with treatment choice.

DESIGN: We performed a retrospective review of Medicare beneficiaries receiving surgical intervention for the treatment of NMSC from 2001 through 2006 utilizing a 5% random sample of Medicare claims data from the Surveillance, Epidemiology and End Results (SEER) database, representing 26% of the US population and 16 national cancer registries. Our cohort included patients who had ICD codes for NMSC and CPT codes for surgical treatment of NMSC including MMS, wide excision, and simple excision. We performed a bivariate analysis between surgical procedure types (MMS versus other surgical excision) for variables including age, gender, race, tumor location, and geographic region. We also calculated the Mohs surgeon density by SEER region in 2004 and current 2010 density by state.

SUMMARY: There were 26,931 persons surgically treated for NMSC from 2001 to 2006, of which 9,802 (36%) received MMS. From 2001 to 2006, the total utilization of surgical treatment increased, primarily due to the increase in MMS over time. In 2001, every 0.7 of 100 Medicare beneficiaries received MMS treatment for NMSC. This number doubled by 2006 (1.5 of 100 beneficiaries). A similar percentage of men and women received MMS (37%, 36% respectively); however a higher proportion of MMS was performed in younger individuals. MMS comprised >50% of all surgeries performed on the head and neck compared to 9-12% of the surgeries performed on the trunk and extremities. Atlanta had the highest proportion of NMSC patients treated with MMS (45%). SEER Regions with similar utilization rates included New Jersey (43%) and Los Angeles (42%). Areas with lower MMS utilization included Louisiana (11%), Hawaii (19%), and New Mexico (23%). Mohs surgeon density within the SEER regions was highest in the San-Jose Monterey region and Rural Georgia (0.142 and 0.103 surgeons per 1,000 Medicare beneficiaries respectively); whereas Detroit and Los Angeles County had the lowest density of Mohs surgeons (0.003 and 0.007, respectively). When plotting surgeon density versus MMS utilization by SEER region, we demonstrated an inconsistent correlation between surgeon density and MMS utilization rates. In our bivariate analysis, age, race, regional demographics and lesion location were significantly associated with utilization of MMS for skin cancer treatment (all $p<0.001$).

CONCLUSION: Our study demonstrated that 36% of all Medicare recipients with NMSC were surgically treated with MMS between 2001 and 2006. The number of Medicare beneficiaries receiving MMS for NMSC doubled over this time period. We also found significant differences in utilization rates depending on lesion location, favoring MMS when treating the face. Geographical utilization significantly varied by SEER region, although the density of Mohs surgeons did not consistently correlate with MMS utilization rates. To our knowledge this is only study examining the national utilization pattern of MMS for NMSC.

Figure 1. Annual Treatment intensity for each surgical type.



Treatment intensity was calculated by dividing the total number of each procedure by the total number of Medicare beneficiaries each year multiplied by 100.

4:18 – 4:26 pm

PRESENTER: Adam Ingraffea, MD

TITLE: The Significance of Floaters in the Nicks of Mohs Frozen Sections

AUTHORS: Rawn Bosley[1], Hugh M. Gloster, Jr., MD[1], Adam Ingraffea, MD[1]

INSTITUTION: 1. University of Cincinnati, Cincinnati, OH, United States

PURPOSE: The purpose of this study is to determine the clinical significance of "floaters" within the nicks (score marks) of Mohs frozen sections and whether their presence necessitates further surgical excision.

DESIGN: During microscopic examination of frozen sections during Mohs surgery, the surgeon may notice islands of tumor cells "floating" within the orientation nicks. These "floaters" frequently induce the surgeon to excise more tissue because of reluctance to conclude that a patient is tumor-free with the continued presence of tumor cells on the frozen section, despite the theoretical and highly probable possibility that tumor cells were implanted from the surface of the specimen to the deep margin by the #15 blade or half razor blade during accentuation of the nicks. The nicks are often accentuated prior to frozen section processing to permit adequate penetration of colored dye into the tissue, which improves visualization during microscopic examination. It has

been the author's practice to take an additional layer during Mohs surgery if a floater is seen in one of the nicks during microscopic examination.

Frozen sections from 40 patients who underwent Mohs micrographic surgery for basal cell carcinoma were included in the study. All frozen sections, which were examined by the author, were noted to have islands of basal cell carcinoma within one of the inked nicks. Once a "floater" was located microscopically, it was marked on the Mohs map and an additional 1mm layer of tissue was excised around and under corresponding nick on the wound edge of the patient. This additional layer of tissue was then taken to the lab for traditional horizontal section tissue processing, except the histotechnician was instructed to cut through and prepare sections of the entire tissue block to search for the presence of residual tumor.

SUMMARY: After microscopic examination, none of the 40 additional frozen sections were found to contain residual basal cell carcinoma.

CONCLUSION: This study provides evidence that floaters in the nicks of Mohs frozen sections do not indicate residual tumor in the patient and are probably implanted during accentuation of the nicks. The presence of residual tumor cells within nicks on frozen sections should not induce the Mohs surgeon to take an additional layer of tissue, thus permitting further conservation of normal tissue, which is one of the main advantages of Mohs micrographic surgery.

4:26 – 4:34 pm

PRESENTER: Heidi Anderson-Dockter, MD

TITLE: Diagnostic Utility of Cytokeratin 17 Immunostaining in Morpheaform Basal Cell Carcinoma and for Detecting Single Tumor Cells at the Margin

AUTHORS: Heidi Anderson-Dockter, MD[1], Todd Clark, MD[1], Jisun Cha, MD[1,2], Satori Iwamoto, MD, PhD[1,2], David Fiore[1,2], Vincent Falanga, MD[1,3]

INSTITUTIONS: 1. Dermatology and Skin Surgery, Roger Williams Medical Center, Providence, RI, United States 2. NIH Center of Biomedical Research Excellence, Roger Williams Medical Center, Providence, RI, United States 3. Dermatology, Boston University School of Medicine, Boston, MA, United States

PURPOSE: The morpheaform subtype of BCC often presents a diagnostic histological challenge, and its true margin or extent may be difficult to determine with accuracy. This tumor may also be difficult to distinguish from other adnexal neoplasms having a more benign clinical course. Previous published work has shown that cytokeratin 17 (K17) expression is increased in basal cell carcinoma (BCC). Our aim was to first confirm the uniform and marked expression of K17 in BCC, across the subtypes of superficial, nodular and morpheaform variants. Secondly, we analyzed the expression of K17 in BCC and compared this to two other but benign adnexal neoplasms.

DESIGN: Tissue specimens from each tumor category (the three BCC subtypes, desmoplastic trichoepithelioma, and trichoblastoma) were randomly collected unselectively and were immunolabeled and scored for K17 expression by intensity and extent of immunostaining.

SUMMARY: Our results indicate that K17 is a very useful marker in the identification and outlining of BCC. Moreover, in morpheaform BCC, K17 immunostaining was able to clearly detect individual putative tumor cells (78% of specimens) well away from the dermal tumor strands and margins that otherwise had initially seemed well defined by hematoxylin and eosin staining alone. In addition, we report that the increased expression of K17 in morpheaform BCC is capable (100% of specimens; $p<0.0001$) of distinguishing this tumor from desmoplastic trichoepithelioma, a neoplasm that often mimics BCC clinically and histologically.

CONCLUSION: We propose that our findings with K17 immunostaining could improve the diagnostic and clinical management of patients with these tumors.

4:34 – 4:42 pm

PRESENTER: Jeremy S. Bordeaux, MD, MPH

TITLE: Increased Dermatologist Density Associated with Reduction in Melanoma Mortality

AUTHORS: Savina Aneja[1], Sanjay Aneja[3], Jeremy S. Bordeaux, MD, MPH[1,2]

INSTITUTIONS: 1. Case Western Reserve School of Medicine, Cleveland, OH, United States 2. Dermatology, University Hospitals Case Medical Center, Cleveland, OH, United States 3. Yale University School of Medicine, New Haven, CT, United States

PURPOSE: We sought to determine the association between dermatologist density and melanoma mortality in US counties. We also examined the effect of age, race, education, income, unemployment rate, health insurance rate, density of primary care physicians, melanoma incidence, county demographics (metropolitan vs. non metropolitan), access to hospitals with oncologic services and health professional shortage area classification on melanoma mortality.

DESIGN: Data were collected from the Area Resource File, US Centers for Disease Control, and National Cancer Institute's Surveillance, Epidemiology, and End Results and National Program for Cancer Registries. Multivariate analysis was performed to determine factors that are associated with melanoma mortality.

SUMMARY: Multivariate analysis demonstrated that the presence of >0 to 1 dermatologist per 100,000 people was associated with a 35% reduction in melanoma mortality (95% CI 13.4% to 56.6%) when compared to counties with no dermatologist. The presence of >1 to 2 dermatologists per 100,000 people was associated with a 53% reduction in melanoma mortality (95% CI 30.6% to 75.4%). Having more than 2 dermatologists per 100,000 people did not

further decrease melanoma mortality. Melanoma mortality was also decreased in metropolitan counties (30.3%, 95% CI 17.3% to 43.3%) and in counties where there are hospitals with oncology departments (1.9%, 95% CI 0.6% to 3.1%). Melanoma mortality rates were increased in counties with higher incidence of melanoma (2.3%, 95% CI 1.6% to 3.1%), greater Caucasian population (1.5%, 95% CI 1.1% to 1.9%), and greater health insured populations (1.5%, 95% CI 0.2% to 2.8%). Age, education, income, primary care provider density, health professional shortage area classification, and unemployment rate were not associated with melanoma mortality.

CONCLUSION: We found that a greater dermatologist density is associated with a significant reduction in melanoma mortality when compared to counties that lacked a dermatologist.

4:42 – 4:50 pm

PRESENTER: Sean R. Christensen, MD, PhD

TITLE: Histopathologic Assessment of Hair Follicle Involvement in Bowen's Disease: Implications for Treatment Approach

AUTHORS: Sean R. Christensen, MD, PhD[1], Jennifer M. McNiff, MD[1], Sumaira Z. Aasi, MD[1], Allison M. Hanlon, MD, PhD[1], David J. Leffell, MD[1]

INSTITUTION: 1. Dermatology, Yale University, New Haven, CT, United States

PURPOSE: Bowen's disease (cutaneous squamous cell carcinoma in situ) has been reported to have the potential to extend deeply into the hair follicle and sebaceous gland, but the relative incidence of this feature has not been quantified. Deep follicular extension has been cited as one reason why non-excisional treatment may result in a higher recurrence rate. The purpose of this study was to define the frequency of deep follicular involvement in histopathologic specimens of Bowen's disease.

DESIGN: All cases with a diagnosis of Bowen's disease (n = 175) treated with Mohs microscopically controlled surgery (MMCS) at one institution over a six month period were retrospectively reviewed, and cases with positive margins on any stage (n = 60 cases) were selected for analysis. MMCS histopathologic specimens with evidence of Bowen's disease were reviewed by three Mohs surgeons and one dermatopathologist in a blinded fashion and scored for involvement of Bowen's disease in the follicular infundibulum and the deeper pilosebaceous unit below the level of the sebaceous duct. Bowen's disease was defined as disordered epidermal maturation with cytologic atypia affecting the entire thickness of the epidermis. Cases that did not meet criteria for Bowen's disease (n = 7), cases with evidence of invasive squamous cell carcinoma (n = 2), cases without pilosebaceous units within 2 mm of Bowen's disease (n = 8), and cases without preserved tissue specimens (n =1) were excluded. Pairwise comparison of agreement between readers was performed with Cohen's kappa coefficient and total agreement between readers was expressed as a percentage.

SUMMARY: Four readers scored 42 cases with 59 tissue specimens. The majority of cases were located on the head and neck (88.1%). Bowen's disease involving the deep pilosebaceous unit below the level of the sebaceous duct was observed in 8.33% of cases (range for each reader, 4.76 – 11.9%) and 6.36% of specimens (range, 3.39 – 10.2%). Involvement of the superficial follicular infundibulum was more common, and was observed in 61.3% of cases (range, 19.0 – 81.0%) and 56.4% of specimens (range, 15.3 – 76.3%). A consistent finding in several specimens was prominent cytologic atypia and disordered maturation of the interfollicular epidermis and the upper follicular infundibulum that abruptly normalized just above the level of the sebaceous duct (Figure 1). Concordance among the four readers was variable. Agreement for deep follicular involvement was 69.5%, with pairwise kappa coefficients from -0.012 to 0.210. Agreement for infundibular involvement was 44.4%, with pairwise kappa coefficients from 0.012 to 0.280. There was no significant correlation between deep follicular involvement and lesion size, final defect size, number of Mohs stages or lesion location.

CONCLUSION: Deep extension of Bowen's disease along pilosebaceous units is an uncommon finding. Although cytologic atypia and disordered maturation frequently involved the interfollicular epidermis and follicular infundibulum, these changes did not extend below the level of the sebaceous duct in the majority of our cases. This suggests that non-excisional ablative therapies may be appropriate for Bowen's disease in certain clinical situations, as has been suggested in the literature. Further studies will be required to determine the long-term efficacy of such treatments. Intraoperative tissue specimens from MMCS were selected for this study because typical shave biopsy specimens are not of adequate depth to assess the entire pilosebaceous unit. One limitation of the study design, however, is the selective examination of the peripheral margins of the tumor and the inherent assumption that these specimens are representative of the entire lesion. Further studies are planned to assess the entire volume and distribution of Bowen's disease with systematic sampling throughout the tumor.

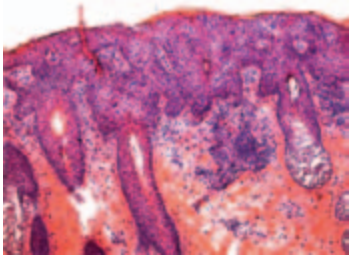


Figure 1. Bowen's disease involving the superficial follicular infundibulum without extension to deeper portions of the follicle.

4:50 – 4:58 pm

PRESENTER: William G. Stebbins, MD

TITLE: Are Patients Satisfied with Second Intention Healing?

AUTHORS: William G. Stebbins, MD[1], Victor A. Neel, MD, PhD[2]

INSTITUTIONS: 1. Dermatology, Vanderbilt University, Nashville, TN, United States 2. Dermatology, Division of Dermatologic Surgery, Massachusetts General Hospital, Boston, MA, United States

PURPOSE: Second Intention Healing (SIH) has been shown to be a functionally and cosmetically acceptable means of wound healing after Mohs micrographic surgery (MMS), yet there is little research evaluating patient satisfaction during and after the healing process. We sought to compare the patient satisfaction after primary closure versus satisfaction after SIH of surgical defects following MMS for the treatment of non-melanoma skin cancer (NMSC).

DESIGN: This was a retrospective observational study of 728 patients who underwent MMS for NMSC, followed by either primary closure or SIH. Patients completed a 5-question survey that evaluated satisfaction with physical appearance, difficulty of wound care, and social impact of their wounds during both the short- and long-term post-operative healing periods.

SUMMARY: Regardless of closure type, the majority of patients demonstrated a high level of satisfaction across all measures in both the short- and long-term post-operative healing periods. Overall, there were no differences in patient satisfaction when comparing primary closure versus SIH.

Factors associated with lower satisfaction scores during the immediate post-operative healing phase included younger age, female gender, increased tumor size, and certain tumor locations (ear, lip, nose, and scalp). Age less than 68 was the only statistically significant predictor of lower patient satisfaction in the long-term post-operative course.

CONCLUSION: Second intention healing may be underutilized by Mohs surgeons. Although a good deal of literature exists supporting the use of SIH, this is the first study to evaluate healing by second intention from the patient's perspective. We conclude that, in the majority of patients, second-intention healing is very well-tolerated and results in excellent functional and cosmetic outcomes. In appropriately selected patients, immediate and long-term satisfaction equals that of patients with primarily closed wounds. Furthermore, knowledge of the preferences of certain patient demographics described in this study may help to guide surgeons when deciding the optimal management of a given patient's surgical defect.

Posters will be displayed outside of the Palace Ballroom. Posters will be displayed from 1:00 pm Thursday, April 28 through 2:30 pm Saturday, April 30.

101

The Efficacy of Second-intention Healing in the Management of Defects on the Dorsal Surface of the Hands and Fingers after Mohs Micrographic Surgery

Rawn Bosley[1], Matt J. Turner, MD, PhD[1], Hugh M. Gloster Jr., MD[1]
1. University of Cincinnati, Cincinnati, OH, United States

102

Intralesional Methotrexate Treatment for Keratoacanthoma Tumors: A Retrospective Case Series

Jimmy Alain, MD[1], Marie-Michele Blouin, MD[1], Nicolas Aubut, MD, MsC[1], Joel Claveau, MD, FRCPC[1]
1. Dermatology, University of Laval, Quebec, QC, Canada

103

Can Tumor Cells be Implanted by Surgical Instruments during Skin Cancer Surgery?

Kyung Hee Chang, MD, PhD[1], Antonio P. Cruz, MD[1], Leslie Robinson-Bostom, MD[2], Gladys Telang, MD[2], Raymond G. Dufresne, Jr., MD[1]
1. Dermatologic Surgery, Department of Dermatology, Alpert Medical School of Brown University, Providence, RI, United States 2. Dermatopathology, Department of Dermatology, Alpert Medical School of Brown University, Providence, RI, United States

104

Pre-operative Expectations and Values of Patients Undergoing Mohs Micrographic Surgery_Micrographic Surgery

Gary S. Chuang, MD[1], Brian C. Leach, MD[1], Lee Wheless, MSCR[2], Pearon G. Lang, MD[1], Joel Cook, MD[1]
1. Dermatology & Dermatologic Surgery, Medical University of South Carolina, Charleston, SC, United States 2. Medicine-Division of Biostatistics & Epidemiology, Medical University of South Carolina, Charleston, SC, United States

105

Building Confidence in the Treatment of Extramammary Paget's Disease: the Cytokeratin-7 Immunostain

Scott Freeman, MD[1], David G. Brodland, MD[1,2], John A. Zitelli, MD[1,2]
1. Zitelli and Brodland PC, Pittsburgh, PA, United States 2. University of Pittsburgh Medical Center, Pittsburgh, PA, United States

106

Mycobacterium Chelonae Infection Masquerading as Cutaneous Squamous Cell Carcinoma in a Lung Transplant Recipient

Ashley L. Kittridge, DO[1], Jorge A. Garcia-Zuazaga, MD[1]
1. Dermatology, University Hospitals Case Medical Center, Cleveland, OH, United States

107

Automated 15-minute Cytokeratin 7 Immunostaining Protocol for Extramammary Paget's Disease in Mohs Micrographic Surgery

Matthew S. Petrie, MD[1], Anthony V. Benedetto, MD[1, 2]
1. Dermatologic SurgiCenter, Philadelphia, PA, United States 2. Department of Dermatology, University of Pennsylvania, Philadelphia, PA, United States

109

Freehand Split-thickness Skin Grafts of the Chest for the Prevention of Hypertrophic Scars and Keloids in Wounds After Mohs Surgery: A Prospective Study

Aton M. Holzer, MD[1], Leonard H. Goldberg, MD[1], Irene J. Vergilis-Kalner, MD[1], Megan N. Moody[1], Jennifer M. Landau[1], Paul M. Friedman, MD[1], Arash Kimyai-Asadi, MD[1]
1. Dermatology, Weill Cornell-Methodist Hospital, Houston, TX, United States

110

Patient Perceptions of Non-melanoma Skin Cancer

Molly Yancovitz, MD[1], Carina H. Rizzo, MD[1], Susan A. Oliveria, ScD, MPH[3,2], David S. Becker, MD[1,2]
1. David Becker, M.D., P.C., New York, NY, United States 2. Weill Cornell Medical Center, New York, NY, United States 3. Memorial Sloan-Kettering Cancer Center, New York, NY, United States

111

The Role of Cortical Bone Fenestration in the Management of Mohs Surgical Scalp Wounds Devoid of Periosteum

Kashif Ahmad, MBBS, MMSC, MRCP[1], Rupert B. Barry, MB, BCh, BAO[1], James A. Langrty, MD[1]
1. Dermatology, Royal Victoria Infirmary, Newcastle Upon Tyne, United Kingdom

112

A Novel Immunotherapeutic Adjuvant for the Treatment of Cutaneous Malignancies

Todd C. Becker, MD, PhD[1], Jenny J. Kim, MD, PhD[1]
1. Dermatology/Medicine, UCLA, Los Angeles, CA, United States

113

Burow's Grafts in Dermatologic Surgery: A Case Series

Mary A. Mina, MD[1], Navid Bouzari, MD[1], Suzanne M. Olbricht, MD[1]
1. Dermatology, Lahey Clinic/ Harvard Medical School, Burlington, MA, United States

114

Mohs Micrographic Surgery or Wide Excision for the Treatment of Primary Dermatofibrosarcoma Protuberans

Novie Sroa, MD[1], Ari-Nareg Meguerditchian, MD[2], Jiping Wang, MD, PhD[3], Bethany Lema, MD[1], William G. Kraybill, Jr., MD[4], John M. Kane, III, MD, FACS[1], Nathalie C. Zeitouni, MDCM, FRCPC[1]
1. Roswell Park Cancer Institute, Buffalo, NY, United States
2. McGill University Health Centre, Montreal, QC, Canada
3. State University of New York, Buffalo, NY, United States
4. Saint-Luke Hospital, Kansas City, MO, United States

115

Intralesional Interferon α 2b for Refractory, Recurrent Squamous Cell Carcinoma of the Head and Neck

Allison M. Hanlon, MD, PhD[1], June Kim, MD[1], David J. Leffell, MD[1]
1. Dermatologic Surgery, Yale, New Haven, CT, United States

116

Use of the Bovine Collagen Xenograft for Post-Mohs Surgical Reconstruction

M. Laurin Council, MD[1], Joshua A. Tournas, MD[1], Scott W. Fosko, MD[1]
1. Dept. of Dermatology, St. Louis University, St. Louis, MO, United States

117

Use of Goulian Knife with a Weck Blade for Mohs Layers When Tumor Extends to the Perichondrium of the Ear

Nicholas B. Countryman, MD[1], Barry Leshin, MD[2]
1. Northwest Dermatology, Spokane, WA, United States 2. The Skin Surgery Center, Winston-Salem, NC, United States

118

Prolonging the Primary Pivoting Point: Mathematical Effect of Prolonging the Primary Burow's Triangle on Bilobed Flap Rotation

Jamie L. McGinness, MD[1], Tri H. Nguyen, MD[2,3]
1. Dermatology, University of Cincinnati, Cincinnati, OH, United States 2. Northwest Diagnostic Clinic, Mohs & Dermatology Associates, Houston, TX, United States 3. Dermatology, University of Texas Medical School, Houston, TX, United States

119

Evaluating the Management of Malignant Fibrous Histiocytoma: Mohs Micrographic Surgery versus other Surgical Treatments

Eugene B. Kirkland, MD[1], Hayes B. Gladstone, MD[1]
1. Dermatology, Stanford University, Redwood City, CA, United States

120

Exenteration as an Outcome in Periocular Non-melanoma Skin Cancers

Kashif Ahmad, MBBS, MMSC, MRCP[1], Rupert B. Barry, MB, BCh, BAO[1], C. M. Lawrence, MD, FRCP[1], James A. Langrty, MD[1]
1. Dermatology, Royal Victoria Infirmary, Newcastle Upon Tyne, United Kingdom

121

An Analysis of Mohs Surgery Recurrences Referred to a Head and Neck Center

Abdel Kader El Tal, MD[1], Deborah F. MacFarlane, MD[1]
1. Dermatology, University of Texas MD Anderson Cancer Center, Houston, TX, United States

122

Fenestration of Nasal Alar Cartilage Grafts: A Modification of a Technique, which Facilitates Rapid Coverage with Granulation Tissue and Aids in the Recreation of Alar Contour

Rajib R. Rahim, MBChB, MRCP[1], James A. Langtry, MD[1], Rupert B. Barry, MD, BCh, BAO[1]
1. Department of Dermatology, Royal Victoria Infirmary, Newcastle upon Tyne, United Kingdom

123

Characteristics of Periorbital Cancers Treated with Mohs Surgery in the Private Practice Setting: A Series of 1078 Cases

Karen L. Connolly, MD[1], Adrian L. Connolly, MD[2]
1. Medicine, Pennsylvania Hospital, Philadelphia, PA, United States 2. St. Barnabas Medical Center, Livingston, NJ, United States

124

A Multi-site Prospective Study of the Adverse Events and Complications Associated with Mohs Surgery for the Treatment of Skin Cancer

Bradley G. Merritt, MD[1], David G. Brodland, MD[2], John A. Zitelli, MD[2], Joel Cook, MD[3]
1. Dermatology, UNC Chapel Hill, Chapel Hill, NC, United States 2. Dermatology and Otolaryngology, University of Pittsburgh, Pittsburgh, PA, United States 3. Dermatology, Medical University of South Carolina, Charleston, SC, United States

125

Histological and Biological Parameters of Melanoma in African American Patients

Doru T. Alexandrescu, MD[1], Lisa C. Kauffman, MD[2], Haleh Farzanmehr, MD[2], Constantin A. Dasanu, MD, PhD[3], Thomas E. Ichim, PhD[4], Fern P. Nelson, MD[5]
1. Dermatology, University of California at San Diego, San Diego, CA, United States 2. Dermtology, Georgetown Dermatology, Washington, DC, United States 3. Oncology, St Francis Hospital and Med Ctr, Hartford, CT, United States 4. Medistem Inc, San Diego, CA, United States 5. Dermatology, VA Med Ctr, San Diego, CA, United States

126

Basosquamous Carcinoma and Metatypical Basal Cell Carcinoma: A Review of Treatment with Mohs Micrographic Surgery

Kattie J. Allen, MD[1], Jerry D. Brewer, MD[1], Mark A. Cappel, MD[2]
1. Dermatology, Mayo Clinic, Rochester, MN, United States
2. Dermatology, Mayo Clinic, Jacksonville, FL, United States

127

High-Risk Squamous Cell Carcinoma of the Scalp: Predictive Factors of Aggressive Behavior and an Approach to Management

Seema S. Sheth, MD[1], Mary E. Maloney, MD[1], Dori Goldberg, MD[1], David E. Geist, MD[1], Maryanne Makredes, MD[1], heila Greenlaw, MD[1]
1. Dermatology, UMass Memorial Medical Center, Worcester, MA, United States

128

Current Trends in the Treatment of Melanoma in situ/ Lentigo Maligna and Melanoma with Mohs Micrographic Surgery

Alan Levy, MD[1], Thomas Stasko, MD[1]
1. Dermatology, Vanderbilt University, Nashville, TN, United States

129

A Standardized Assessment of Cosmetic Outcomes of Different Repair Techniques for Defects on the Nose after Mohs Micrographic Surgery

Bahar F. Firoz, MD, MPH[1], Leonard H. Goldberg, MD[2], Maj. J. Scott Henning, DO[1], Paul M. Friedman, MD[2], Arash Kimyai-Asadi, MD[2]
1. Dermatology, UTHSCSA, San Antonio, TX, United States
2. DermSurgery Associates, Methodist Hospital, Houston, TX, United States

130

A Comparison of Mohs Micrographic Surgery Aided by MART-1 Immunostain for Melanoma and Melanoma In Situ on the Head and Neck vs. Trunk and Extremities: Retrospective Review of 274 Patients

Christopher R. Urban, MD[1], Joseph F. Sobanko, MD[2], Christopher J. Miller, MD[2]
1. Medicine, Pennsylvania Hospital, Philadelphia, PA, United States 2. Dermatology, University of Pennsylvania, Philadelphia, PA, United States

131

Fascial Flaps for Auricular Reconstruction When the Postauricular Skin is Not a Viable Option

Quenby L. Erickson, DO[1]
1. St. Louis University, St. Louis, MO, United States

132

The Presence of Inflammation May Predict Carcinoma in Mohs Sections

Michelle F. Henry, MD [1], Nina F. Abraham, MD[1], Claudia I. Vidal, MD, PhD[1], Robert G. Phelps, MD [1], Ellen S. Marmur, MD[1]
1. Dermatology, Mount Sinai School of Medicine, New York, NY, United States

133

HPV Types in Transplant-Associated Squamous Cell Carcinomas

Todd C. Becker, MD, PhD[1], Teresa T. Soriano, MD[1]
1. Dermatology/Medicine, UCLA, Los Angeles, CA, United States

134

Influence of Pre-Operative Viewing of Educational Videos about Mohs Micrographic Surgery on Patients' Perceptions

Kaleena B. Noland, RN, BSN[1], Mark A. Hyde, MMS, PA-C[1], Glen M. Bowen, MD[1,2]
1. Cutaneous Oncology, Huntsman Cancer Institute at the University of Utah, Salt Lake City, UT, United States 2. Dermatology, University of Utah, Salt Lake City, UT, United States

135

Locally Aggressive Atypical Fibroxanthoma – Case Series

Renata Prado, MD[1], Alisa A. Funke, MD[1], J. Ramsey Mellette, Jr., MD[1], Mariah R. Brown, MD[1]
1. Dermatology, University of Colorado Denver, Denver, CO, United States

136

The Role of PET/CT Imaging in the Evaluation and Management of Merkel Cell Carcinoma

Sherrif F. Ibrahim, MD, PhD[1], Iris Ahronowitz, BS[2], Miguel H. Pampaloni, MD, PhD[3], Siegrid S. Yu, MD[2]
1. Dermatology, University of Rochester, Rochester, NY, United States 2. Dermatology, University of California San Francisco, San Francisco, CA, United States 3. Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States

137

Partial Subunit Island Pedicle Flap (IPF) for Small Defects Isolated to the Alar Subunit

Christopher J. Miller, MD[1], Joseph F. Sobanko, MD[1]
1. Dermatology, University of Pennsylvania, Philadelphia, PA, United States

138

The Impact of Cutaneous Squamous Cell Carcinoma Thickness on Mohs-assisted Excisions: A Pilot Study

Abdel K. El Tal, MD[1], Valencia D. Thomas, MD[1]
1. Dermatology, UT Houston/MD Anderson Cancer Center, Houston, TX, United States

139

Increasing Rates of Non-melanoma Skin Cancer in the US, 1995-2007

Ashley Wysong, MD, MS[1], Tina M. Hernandez-Boussard, MPH, PhD[2], Eleni Linos, MD, MPH[1], Jean Y. Tang, MD[1], Hayes B. Gladstone, MD[1]
1. Department of Dermatology, Stanford University, Redwood City, CA, United States 2. Stanford University School of Medicine, Stanford, CA, United States

140

The Off Label Use of Imiquimod 5% Cream as an Adjuvant Treatment to Staged Surgical Excisions in Lentigo Maligna: A Retrospective Review of 311 Patients

Nicholas R. Blickenstaff, BS[1,2], Mark A. Hyde, MMS, PA-C[2], Glen M. Bowen, MD[2]
1. Dermatology, University of Utah School of Medicine, Salt Lake City, UT, United States 2. Huntsman Cancer Institute, Salt Lake City, UT, United States

141

Perception versus Reality in Academic Dermatologic Surgery: A Study of Motivation, Retention, and Loss

Katharine L. Arefiev, MD[1], Hayes B. Gladstone, MD[1]
1. Department of Dermatology, Division of Dermatologic Surgery, Stanford, Redwood City, CA, United States

142

Surgeon, Sex, Age, Location, and Orientation; Do They Affect The Closure Length to Wound Diameter Ratio For Primary Repairs Following Mohs Surgery?

Shelbi Jim On, MS4[2], April W. Armstrong, MD, MPH[1], Thomas H. King, MD[1], Daniel B. Eisen, MD[1]
1. Dermatology, University of California, Davis, Sacramento, CA, United States 2. Medicine, University of Hawaii, Honolulu, HI, United States

143

Novel Use of MOC-31 Antibody to Distinguish Basal Cell Carcinoma Cells From Normal Epidermal and Hair Follicle Cells and Its Possible Applications in Mohs Surgery

Liliana J. Saap, MD[1], Catherine M. Breen, MD, MPH[1], Todd J. Vinovrski, MD[1], Alex T. Iwamoto[1], Vincent Falanga, MD[1,2], Satori Iwamoto, MD, PhD[1]
1. Dermatology and Cutaneous Surgery, Roger Williams Medical Center affiliated with Boston University, Providence, RI, United States 2. Dermatology and Biochemistry, Boston University School of Medicine, Boston, MA, United States

144

Acceleration of Mouse and Human Wound Healing Using Systemic GCSF: A Novel Approach to Healing of Wounds and Potential Application to Mohs Surgery

Liliana J. Saap, MD[1], Xiaofeng Lin, MD, PhD[1], Scott Hammerman, MD[1], Kendra Kobrin, BA[1], Polly Carson, CWS[1], Tatyana Yufit, MD[1], Vincent Falanga, MD[1,2], Satori Iwamoto, MD, PhD[1]
1. Dermatology and Cutaneous Surgery, Roger Williams Medical Center affiliated with Boston University, Providence, RI, United States 2. Dermatology and Biochemistry, Boston University School of Medicine, Boston, MA, United States

101

TITLE: The Efficacy of Second-intention Healing in the Management of Defects on the Dorsal Surface of the Hands and Fingers after Mohs Micrographic Surgery

AUTHORS: *Rawn Bosley*[1], *Matt J. Turner, MD, PhD*[1], *Hugh M. Gloster Jr., MD*[1]

INSTITUTION: 1. University of Cincinnati, Cincinnati, OH, United States

PURPOSE: The purpose of the study is to evaluate the efficacy of second-intention healing in the management of defects on the dorsal surface of the hands and fingers after Mohs micrographic surgery. In addition, the study will attempt to define optimal parameters such as diameter, location, and depth of the wound for choosing second-intention healing for the management of defects in these areas.

DESIGN: The authors contacted by telephone and retrospectively reviewed photographic and medical records of 59 patients who underwent second intention healing after Mohs micrographic surgery for the treatment of non-melanoma skin cancer involving the dorsal surface of the hands and fingers between July 23rd, 2008 and June 15th, 2010. Eight of the patients either were lost to follow-up or refused to participate, one patient's wound had not completely healed, and two patients died of unrelated causes. The remaining 48 patients were interviewed to evaluate healing by second-intention based on four outcome variables including functional ability (overall function, ability to make a fist, and ability to open the hand), durability (presence or absence of skin break down or bleeding of the scar after healing), sensation, and cosmetic result. Patient satisfaction was documented and rated on a Likert scale of 1 to 4 (1= Poor, 2= Fair, 3= Good, 4= Excellent). The mean duration of follow-up for patient self-evaluation was 10 months (range, 1-23 months). In addition to telephone follow up with the patient, the medical records and photographs (preoperative and postoperative) of all 48 patients were reviewed. All 48 patients had been evaluated at least twice postoperatively until the wound had completely healed. The follow up visits in the medical records were evaluated for documentation of problems with function, durability, sensation, cosmesis, and wound infection.

SUMMARY: Thirty-seven patients had defects on the dorsal hand, 10 patients had defects on the dorsal finger, and 1 patient's defect was located on the dorsal web space of the hand. None of the defects crossed joints, and only one defect extended below subcutaneous fat (exposed tendon with intact paratenon was present in the center of this defect). The defects ranged in size between 0.8 cm to 6.0 cm in diameter. All thirty-seven patients with defects of the dorsal hand reported excellent or good functional results, normal sensation within the scar, and excellent or good scar durability. Thirty-four of 37 patients reported excellent or good cosmetic results, while three patients reported fair cosmetic results.

Ten patients with Mohs defects of the dorsal finger also underwent second-intention healing. All 10 patients reported excellent or good functional results. Nine patients reported excellent or good durability, and only one patient had a fair response. Nine patients also reported excellent or good cosmetic results, and only one patient reported fair cosmetic results. All 10 patients reported excellent or good sensation.

One patient with a defect of the dorsal web space underwent second-intention healing. This patient reported no functional impairment and excellent durability, sensation and cosmetic results.

Review of the follow up visits and photographs in the medical records of all 48 patients revealed no documented problems with function, durability, sensation, cosmesis, or wound infection.

CONCLUSION: The hand is a unique and intricate part of the human anatomy that is important both aesthetically and functionally. It is imperative to consider function and aesthetic appearance when deciding which repair is appropriate for defects on the dorsal surface of the hand and fingers. Preservation of normal function should take precedence over a favorable cosmetic appearance.

The decision to use second-intention healing should include consideration of the location and depth of the defect. In general, defects may be allowed to heal by second intention if they do not traverse joints and if they do not extend below the subcutaneous fat to exposed tendon. Based on the excellent result in one patient, it is possible to allow a defect with exposed tendon to heal secondarily as long as the paratenon is intact. In our study, we did not find that size was a limiting factor in choosing second intention healing, since several patients with large defects over 3 cm in diameter obtained excellent results.

Although limited by its retrospective design, this study indicates that second-intention healing in an excellent option for repair of selected defects on the dorsum of the hand and fingers because of its ability to preserve normal function, durability, sensation and cosmesis.

102

TITLE: Intralesional Methotrexate Treatment for Keratoacanthoma Tumors: A Retrospective Case Series

AUTHORS: *Jimmy Alain, MD*[1], ***Marie-Michele Blouin, MD***[1], *Nicolas Aubut, MD, MSc*[1], *Joel Claveau, MD, FRCPC*[1]

INSTITUTION: 1. Dermatology, University of Laval, Quebec, QC, Canada

PURPOSE: We sought to determine the response rate and adverse events in keratoacanthomas (KA) treated with intralesional methotrexate. The main objective was to determine whether IL-MTX could ultimately prevent morbidity associated with surgical options.

DESIGN: All cases of KA treated with intralesional methotrexate (IL-MTX) at our institutions from 2001 to 2009

were systematically reviewed. The inclusion criteria for this study were a typical clinical presentation and rapid tumor evolution (less than 2 months). A thorough clinical discussion regarding treatment options (surgery versus IL-MTX) was the rule for all patients. MTX-IL was not offered to patients if there was any clinical suspicion of SCC. We deliberately chose to include cases in which a skin biopsy was not performed prior to treatment with IL-MTX, mainly because the biopsy if often equivocal, as previously mentioned. In order to minimize biases, we chose to apply the following exclusion criteria: prolonged course of evolution, atypical clinical presentation, immunosuppressed patients and tumors which were not well defined. The standard technique used was injection of MTX at a concentration of 25 mg/ml diluted with xylocaine 1% with epinephrine using a 25G. KA location was noted and tumoral diameter was measured. A single injection was performed if the tumor was smaller than 0.5 cm; 5 injections per session were performed if the tumor exceeded 0.5 cm (one injection in each quarter of the tumor and one injection in the center). The goal was the objectification of a uniform tumor blanching. The procedure was repeated on an as-needed basis during the follow-up visits. The variables we chose to study were: age and sex of patients, tumor size and location, cumulative MTX dose, number of treatments needed to achieve clinical healing, treatment outcome and total patient follow-up time.

SUMMARY: In all, 45 cases of KA treated with IL-MTX were identified at our institutions. The average age at diagnosis was 68 years and the average tumor diameter was 1.3 cm. Tumors were located on the face in 76% of patients. Patients were treated with 1 to 4 total injection sessions (mean 1.8 injection session). The mean cumulative dose of IL-MTX was 10.2 mg. A complete response rate was achieved in 71% (32/45) of the treated KA tumors. Therapeutic failure occurred in 29% of patients (13/45); these patients had to undergo Mohs surgery in order to cure the disease. The subsequent evolution of these non-responders was recorded. The follow-up period ranged from 1 to 17 months (mean duration 5.6 months). Histological confirmation of diagnosis before IL-MTX treatment was obtained in just one case, as the working diagnosis was clinically established for this study. Conversely, post-treatment histological confirmation of diagnosis was performed in one single patient and showed no remaining tumor after the procedure. Tumor resolution was determined by physical examination and clinical behavior in the vast majority of cases (44/45). The average tumor diameter in the unsuccessful cases was 2.8 cm, which is somewhat larger than the mean diameter of all treated lesions (1.3 cm). Tumors that failed to respond to IL-MTX were all located on the face except two which had different locations (hand and leg). No significant adverse effect was noted throughout the study.

CONCLUSION: Our study demonstrates a 71% success rate in treating KA with IL-MTX. This treatment modality is appealing because of its low cost, minimally invasive procedure, excellent safety profile and cosmetic outcome. It seems that there is a dose-response relationship with IL-MTX, because using higher doses tend to result in better efficacy, less treatment sessions and no more side effects.

103

TITLE: Can Tumor Cells be Implanted by Surgical Instruments during Skin Cancer Surgery?

AUTHORS: *Kyung Hee Chang, MD, PhD*[1], *Antonio P. Cruz, MD*[1], *Leslie Robinson-Bostom, MD*[2], *Gladys Telang, MD*[2], *Raymond G. Dufresne, Jr., MD*[1]

INSTITUTIONS: 1. Dermatologic Surgery, Department of Dermatology, Alpert Medical School of Brown University, Providence, RI, United States 2. Dermatopathology, Department of Dermatology, Alpert Medical School of Brown University, Providence, RI, United States

PURPOSE: Surgical implant of tumor is a significant concern during cancer surgery for non-cutaneous adenocarcinoma, sarcoma, urothelial carcinoma, and renal cell carcinoma. This concept has not been investigated in skin cancer surgery.

This study used a model of tumor cell implantation using basal cell carcinoma (BCC) curettage specimens to investigate if tumor cells could possibly be implanted by surgical techniques used during Mohs micrographic surgery (MMS).

DESIGN: BCC curettage specimens and residual redundant tissue from reconstruction were collected from patients undergoing MMS. The curetted carcinoma material were placed above the tissue in 5 different manners: 1) tumor bulk placed above intact epidermis, 2) tumor bulk placed above eroded epidermis, 3) saline suspended tumor cells placed above intact epidermis, 4) saline suspended tumor cells placed above eroded epidermis, 5) saline suspended tumor cells placed above eroded epidermis then wiped using a gauze. Saline suspended tumor cells were prepared from the tumor bulk, as it was cut into pieces ranging in sizes from 1 to 3 mm then scraped and crushed with a curette in saline. Then the saline was drained with filter paper and the cells were collected with a 15 blade to place over either intact or eroded epidermis. A 15 blade was used to cut through the tumor material and tissue to the level of reticular dermis simulating the niches during MMS. The tissue was frozen on the cryostat, cut at 6 micron thickness, and stained with hematoxylin and eosin stain. A total of 450 cuts were analyzed to determine if tumor cells or bulk was implanted by the blade. Statistical analysis was done using a p-value of 0.05 for significance.

SUMMARY: The implant rates were as follows in the 5 groups:
1) tumor bulk above intact epidermis: 2.2% (2/90)
2) tumor bulk above eroded epidermis: 7.8% (7/90)
3) suspended tumor cells above intact epidermis: 12.2% (11/90)
4) suspended tumor cells above eroded epidermis: 23.3% (21/90)

5) suspended tumor cells above eroded epidermis then wiped: 1.1% (1/90)

The implant rate was statistically significantly higher ($p<0.05$) than all the other groups when the suspended tumor cells were cut above the eroded epidermis.

CONCLUSION: We have demonstrated that basal cell carcinoma can be implanted during skin cancer surgery. It will be crucial to investigate whether if the implanted cancer cells will survive and develop into a tumor in vivo with animal experiments for basal cell carcinoma and other cutaneous carcinomas.

104

TITLE: Pre-operative Expectations and Values of Patients Undergoing Mohs Micrographic Surgery_Micrographic Surgery

AUTHORS: *Gary S. Chuang, MD*[1], *Brian C. Leach, MD*[1], *Lee Wheless, MSCR*[2], *Pearon G. Lang, MD*[1], *Joel Cook, MD*[1]

INSTITUTIONS: 1. Dermatology & Dermatologic Surgery, Medical University of South Carolina, Charleston, SC, United States 2. Medicine-Division of Biostatistics & Epidemiology, Medical University of South Carolina, Charleston, SC, United States

PURPOSE: Mohs micrographic surgery (MMS) has been championed by dermatologists because of its unsurpassed treatment success for skin cancers, safety profile, cost-effectiveness, and tissue-sparing quality. It is unclear whether these characteristics are also valued by patients undergoing MMS. This study aims to evaluate patients' pre-operative expectations of MMS and identify those factors which may influence such expectations.

DESIGN: The study prospectively recruited subjects who were newly diagnosed with skin cancers and referred for MMS. A questionnaire listing the characteristics of MMS was given to the subjects, asking them to score the importance of each characteristic on a 10-point scale. The subjects were also asked to provide information regarding their gender, age, subjective health status, education level, family annual income, and their referral source.

SUMMARY: The subjects, on average, placed the highest value, in descending order, on the following characteristics: a treatment which yielded the highest cure rate, reconstruction initiation only after complete tumor removal, and the surgeon being a skin cancer specialist. Overall, the subjects placed high values in characteristics of MMS that have long been esteemed by dermatologists.

CONCLUSION: Our data corroborate that MMS is a valuable procedure that meets the expectations of not just physicians, but also our population of patients.

Average assigned values (standard deviations) to the corresponding statements regarding Mohs micrographic surgery
(0=not important at all, 10=extremely important)

It is important that my surgeon had one or more years of formal training (fellowship) beyond residency to specialize in skin cancer surgery and management.	9.3 (1.3)
It is important my surgeon is a skin-cancer specialist.	9.6 (1.0)
It is important that my surgeon is a member of the American College of Mohs Surgery.	8.7 (2.2)
It is important that my surgeon is a member of the American Society of Mohs Surgery.	8.5 (2.2)
It is important that my surgery takes the minimal amount of normal skin possible to remove the skin cancer.	9.2 (1.6)
It is important that my surgery may minimize scar size.	8.7 (1.9)
It is important that my surgery has highest cure rate of all treatment options	9.9 (0.5)
It is important that my surgery is done in an outpatient office (not in an operating room).	7.8 (2.4)
It is important that my surgery may be done without being "put to sleep" under general anesthesia.	8.2 (2.2)
It is important to me that pain is well controlled during my surgery.	9.3 (1.2)
It is important for me to have the pathology results confirming successful removal of skin cancer on the same day.	9.3 (1.5)
It is important that the reconstructive surgery is NOT done until the skin cancer is removed.	9.6 (1.1)
It is important for me that I may be accompanied by family and friends in between stages of the procedure.	7.2 (2.9)
It is important that I can eat/drink before and during the day of surgery.	7.3 (2.7)

105

TITLE: Building Confidence in the Treatment of Extramammary Paget's Disease: the Cytokeratin-7 Immunostain

AUTHORS: *Scott Freeman, MD*[1], *David G. Brodland, MD*[1,2], *John A. Zitelli, MD*[1,2]

INSTITUTIONS: 1. Zitelli and Brodland PC, Pittsburgh, PA, United States 2. University of Pittsburgh Medical Center, Pittsburgh, PA, United States

PURPOSE: To report an immunostaining technique that can be easily incorporated into the MMS technique, which has elucidated H&E negative margins of EMPD and is corroborated by our clinical experience of lower recurrence rates.

DESIGN: Retrospective chart review of all patients with EMPD treated in our office with MMS using the CK-7 immunostain method. Demographic data, tumor data, treatment characteristics and follow-up data were tabulated. Data was compared to a series of EMPD patients treated in our office with MMS using H&E staining only.

SUMMARY: 23 tumors in 15 patients were treated with MMS using CK-7 technique. There were eighteen primary and 5 recurrent tumors. This represents every patient with EMPD treated in our office from 2004 to the present. The recurrence rate after treatment with MMS with CK-7 was 5.5% (1/18) for primary EMPD and 0% (0/5) for recurrent EMPD. The overall recurrence rate was therefore 4% (1/23). The mean number of MMS stages was 4.6 (range: 1-13 stages) and the mean margin to clear all tumors was 5.6 cm (range: 0.7-24.5 cm). The overall cure rate using MMS with CK-7 for cutaneous EMPD was 100%. The overall recurrence rate from a previously published series using MMS and H and E only was 26% (7/27). The mean number of MMS stages in this series was 3.1 (range: 1-9 stages) and the mean margin to clear all tumors was 2.5 cm (range: 0.6-11 cm). Literature search identified articles reporting local recurrence rates ranging from 33-60% for standard surgical treatments and 8-26% for MMS using H&E.

CONCLUSION: The preliminary data from the current series suggests that the CK-7 immunostain improves the efficacy of MMS in the treatment of this difficult tumor. Based on the experience of the authors, the use of CK-7 makes reading the slides much less time consuming and much more accurate. Anecdotally, CK-7 has identified areas of EMPD margin positivity invisible to the authors on H&E. This immunostain gives the Mohs surgeon a sense of confidence that can be so elusive in treating this disease.

106

TITLE: Mycobacterium Chelonae Infection Masquerading as Cutaneous Squamous Cell Carcinoma in a Lung Transplant Recipient

AUTHORS: *Ashley L. Kittridge, DO[1], **Jorge A. Garcia-Zuazaga, MD[1]***

INSTITUTION: 1. Dermatology, University Hospitals Case Medical Center, Cleveland, OH, United States

PURPOSE: Rapidly growing nontuberculous mycobacteria (NTM) species have emerged as important causes of localized soft-tissue infections particularly in immunocompromised hosts. Diagnosis is often delayed given the variable clinical presentations. The difficulty of diagnosis and the impact associated with infections due to NTM, particularly in immunosuppressed hosts, necessitates that to ensure prompt diagnosis and early initiation of therapy, a high level of suspicion for NTM be maintained. We report a case of Mycobacterium Chelonae masquerading as cutaneous squamous cell carcinoma in an immunosuppressed patient.

DESIGN: A 71 year-old gentleman with past medical history of lung transplant secondary to pulmonary fibrosis, idiopathic thrombocytopenic purpura, hypogammaglobulinemia, and multiple squamous cell carcinomas previously treated with Mohs presented for evaluation of three non-healing ulcers of the left leg. The patient reported history of trauma 3 months prior. He subsequently developed additional lesions at the medial ankle and medial calf. These areas started as slightly erythematous, tender nodules that ulcerated 10-14 days later. He denied systemic symptoms, swimming in fresh or salt-water, Jacuzzi bathing or prolonged immersion of the lower extremities. He had been on several immunosuppressive medications including prednisone, tacrolimus and mycophenolate mofetil. Examination revealed a well-appearing Caucasian man in no acute distress with bilateral pitting edema. Involving the left posterior calf, left medial calf and left ankle superior to the medial malleolus were three well-demarcated, dusky plaques with violaceous raised border and central ulcer. There was no significant lymphadenopathy.

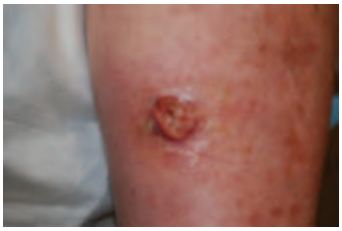
Histopathology showed irregular epidermal hyperplasia with a superficial lymphocytic and neutrophilic infiltrate. Stain for an acid-fast bacillus was positive. Tissue culture grew Mycobacterium Chelonae susceptible to amikacin, clarythromycin and tobramycin.

The patient was initially treated with clarithromycin and ciprofloxacin but these were subsequently discontinued because of drug interactions leading to toxic levels of tacrolimus. He was started on azithromycin monotherapy without further drug interactions. He completed a 6-month course of antibiotics and has complete resolution of the lesions.

SUMMARY: Our patient presented with multifocal, cutaneous M. Chelonae infection masquerading as cutaneous squamous cell carcinoma. The rapidly growing nontuberculous mycobacterium have emerged as important causes of localized soft-tissue infections in otherwise healthy persons and disseminated disease in patients with impaired immune function. The optimal treatment regimen for skin and soft tissue infection has not been well established. Current guidelines recommend susceptibility testing of all isolates, with use of empirical therapy until sensitivity and susceptibilities are known. Isolates are often sensitive to clarithromycin but azithromycin can be an acceptable alternative. Combination therapy with an aminoglycoside or a quinolone is recommended. The use of monotherapy has been recommended only in extenuating circumstances, as in this case. The optimal duration of antibiotic therapy is 6 or more months of treatment for skin and soft tissue infections in immunocompromised patients. Surgical excision is also an important adjunctive treatment for isolated lesions.

CONCLUSION: Cutaneous infections with M. Chelonae are frequently misdiagnosed because of the organism's polymorphic and nonspecific clinical presentations. The cutaneous manifestation depends on the stage of the disease and can present as cellulitis, vasculitis, abscesses, ulcerating nodules, or even display a squamous cell carcinoma-like clinical picture as described in this report. This case emphasizes the need to maintain high clinical suspicion for NTM, particularly in immunocompromised patients who present with chronic lower extremity ulcers.

Figure 1. At the left medial calf is a well-demarcated, dusky plaque with violaceous raised border and central ulcer.



107

TITLE: Automated 15-minute Cytokeratin 7 Immunostaining Protocol for Extramammary Paget's Disease in Mohs Micrographic Surgery

AUTHORS: ***Matthew S. Petrie, MD***[1], *Anthony V. Benedetto, MD*[1, 2]

INSTITUTIONS: 1. Dermatologic SurgiCenter, Philadelphia, PA, United States 2. Department of Dermatology, University of Pennsylvania, Philadelphia, PA, United States

PURPOSE: Extramammary Paget's disease (EMPD) is a rare cutaneous neoplasm with propensity for wide local spread and indistinguishable clinical borders. Local excision with wide margins yields a recurrence rate of up to 60%. Mohs micrographic surgery (MMS) decreases recurrences to 16%. While better than conventional surgery, the MMS recurrence rate for EMPD is strikingly higher than for other skin cancers treated by MMS. Possible explanations include 1) non-contiguous nature of EMPD 2) difficulty in recognizing Paget's cells in H&E stained frozen sections, especially in the presence of freeze artifact.

Immunohistochemical (IHC) staining of frozen sections has been reported for treating EMPD. However, most MMS laboratories do not utilize this technique due to long incubation times, constant oversight and manual steps required of the histotechnician, and difficulty with antibody reagent consistency. However, recent advances in IHC systems now offer the Mohs surgeon rapid, automated IHC staining of frozen tissue specimens, thus freeing the histotechnician, dramatically improving consistency, and shortening incubation times.

We report a novel 15-minute immunostaining protocol for EMPD using cytokeratin 7 (CK7) antibody in a fully automated staining system. This system provides multiple advantages compared to traditional staining protocols: 1) pre-loaded reagent cartridges that eliminate human error in preparing the antibodies 2) mechanized dispensing, incubation, and rinsing steps that enhance accuracy and consistency 3) staining procedures that are human input free, allowing the technician to perform other tasks.

DESIGN: An 85 year-old man presented with a 6-month history of a 3.5X3.2 cm erythematous and non-pruritic groin plaque, proven to be EMPD by biopsy. MMS surgery was initiated excising the obvious cancer plus a 5 mm margin. Mohs horizontal sectioning of frozen tissue, traditional fixation, and staining using H&E was performed on one set of slides, while a duplicate slide set was used for the following 15 minute CK7 immunostaining protocol.

Slide fixation: 1) Acetone fixation for 1 min 2) Air-dry for 1 min 3) Buffer soak for 1 min 4) Slide placement into staining instrument.

Staining protocol used by instrument: 1) Buffer rinse 2) CK7 primary antibody incubation for 4.56 min 3) Buffer rinse 4) HRP incubation for 2.3 min 5) Buffer rinse 6) Chromogen incubation of 2.04 min 7) Buffer rinse 8) Hematoxalin counterstain incubation for 6 sec 9) Buffer rinse.

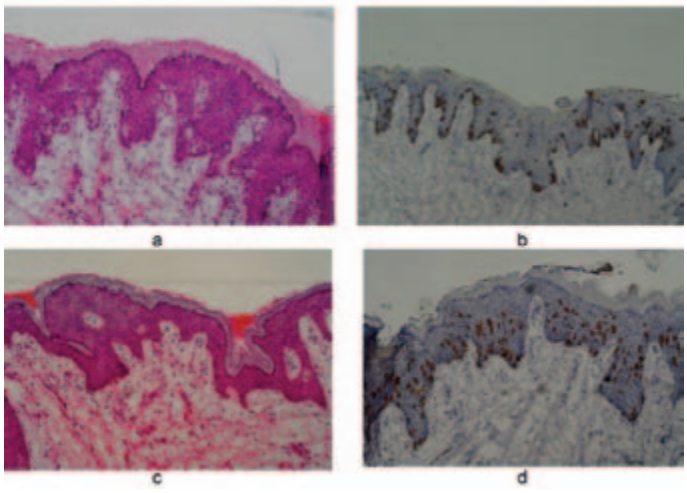
Final manual steps: 1) Slide removal and buffer soak for 3 min 2) Distill water soak for 1 min 3) Coverslip slides.

SUMMARY: The first Mohs layer contained 8 sections, all positive for EMPD: numerous Paget's cells were readily identifiable singly and in nests in the epidermis. IHC was therefore not run on the first layer. The second Mohs layer consisted of 10 sections. H&E staining showed 4 positive sections, 4 negative sections, and 2 equivocal sections. IHC was run on all sections of the second layer. IHC confirmed our 4 positive diagnoses and 4 negative diagnoses. The 2 equivocal sections were negative on IHC, thus preserving tissue that otherwise would be removed. Figure 1a and 1b are examples of EMPD on H&E and IHC, respectively. Interestingly, CK7 stained sections that were negative for EMPD did display CK7 staining of glandular structures. This physiologic staining pattern is a useful positive control.

Frozen tissue sections from all remaining layers were processed with H&E staining. We selectively used CK7 staining from this point onward for sections that were negative or equivocal on H&E. We also performed IHC on a few sections that were positive on H&E to determine whether the IHC stains altered our Mohs map on these sections. Overall CK7 staining enabled us to change 4 sections from equivocal to negative, and 1 section from equivocal to positive. Furthermore, IHC staining revealed additional regions of tumor on 2 sections that were focally positive on H&E. Figure 1c shows an area that was interpreted as negative for EMPD on H&E. Figure 1d is the same area stained with CK7, showing that there actually was EMPD present.

CONCLUSION: Adjunctive immunohistochemical staining using CK7 can reveal otherwise missed EMPD cells in frozen sections, thus hopefully decreasing the recurrence rate. By utilizing this rapid and fully automated staining protocol, Mohs laboratories will find that many of the traditional barriers to using immunohistochemistry can be removed.

Figure 1



109

TITLE: Freehand Split-thickness Skin Grafts of the Chest for the Prevention of Hypertrophic Scars and Keloids in Wounds After Mohs Surgery: A Prospective Study

AUTHORS: ***Aton M. Holzer, MD***[1], *Leonard H. Goldberg, MD*[1], *Irene J. Vergilis-Kalner, MD*[1], *Megan N. Moody*[1], *Jennifer M. Landau*[1], *Paul M. Friedman, MD*[1], *Arash Kimyai-Asadi, MD*[1]

INSTITUTION: 1. Dermatology, Weill Cornell-Methodist Hospital, Houston, TX, United States

PURPOSE: To assess clinical outcomes of freehand STSGs on the chest. The anterior chest is prone to hypertrophic scarring or keloid formation resulting in cosmetically displeasing outcomes. Freehand split-thickness skin grafts (STSG) are an excellent alternative for reconstruction of partial thickness dermal defects on the anterior chest.

DESIGN: 13 freehand STSGs on the anterior chest were performed after Mohs surgery. A flexible blade was used to harvest the grafts, which have a high take and very low necrosis rate. Clinical outcomes were evaluated based on live and photographic assessments.

SUMMARY: 13 grafts were evaluated at one or more follow-up visits up to 7 months following reconstruction of the defect with the graft. The average graft area was 3.3 cm2 (range 0.9 cm2 to 9.1 cm2). Erythema, telangiectasia, and swelling were present in all grafts at suture removal, but had completely resolved by the 4 month follow up visit. No other adverse effects for which these grafts were evaluated, such as infection, necrosis, dissimilar color match, uneven texture match, tenderness/pain, itching, and bleeding, were detected in any of the patients at any of the assessment times. No hypertrophic scarring and/or keloid formation were detected at short- or long-term follow-up.

CONCLUSION: The use of freehand STSGs for reconstruction of partial thickness dermal defects on the anterior chest is quick and easy to perform, safe and efficient, resulting in excellent cosmesis, low complication rates, and high patient satisfaction.

110

TITLE: Patient Perceptions of Non-melanoma Skin Cancer

AUTHORS: ***Molly Yancovitz, MD***[1], *Carina H. Rizzo, MD*[1], *Susan A. Oliveria, ScD, MPH*[3,2], *David S. Becker, MD*[1,2]

INSTITUTIONS: 1. David Becker, M.D., P.C., New York, NY, United States 2. Weill Cornell Medical Center, New York, NY, United States 3. Memorial Sloan-Kettering Cancer Center, New York, NY, United States

PURPOSE: There is a paucity of data regarding patient perceptions of non-melanoma skin cancers. Early self-identification of these tumors could decrease the morbidity associated with delayed diagnosis. Information about how patients conceptualize non-melanoma skin cancers prior to diagnosis could aid in formulating appropriate educational strategies and could theoretically lead to earlier detection of these skin cancers.

DESIGN: We are enrolling 300 consecutive patients undergoing treatment for non-melanoma skin cancers into this IRB-approved self-administered survey study. The survey is designed to assess: 1) what patients' impressions of their skin cancers were prior to diagnosis, 2) if patients sought medical attention for these cancers, and 3) what factors may play a role in the timing of skin cancer diagnosis. Patient charts are reviewed to identify type and subtype of skin cancer, treatment modality, tumor size and location.

SUMMARY: The primary endpoint is to define patients' concepts of what the malignancy represented (e.g. malignancy, acne lesion, wart, sore) prior to pathologic diagnosis. Secondary data points of interest include who first noted the lesion, if patients sought medical attention for this lesion, and what the reason for the medical visit was at the time of diagnosis. These data will be correlated with patient demographic features to help identify appropriately targeted strategies for patient education.

CONCLUSION: Understanding how patients perceive their skin cancers may aid in targeting educational strategies to patients, in order to increase their awareness of their skin cancer risk and encourage them to seek medical attention early for concerning skin lesions.

111

TITLE: The Role of Cortical Bone Fenestration in the Management of Mohs Surgical Scalp Wounds Devoid of Periosteum

AUTHORS: ***Kashif Ahmad, MBBS, MMSC, MRCP***[1], *Rupert B. Barry, MB, BCh, BAO*[1], *James A. Langrty, MD*[1]

INSTITUTION: 1. Dermatology, Royal Victoria Infirmary, Newcastle Upon Tyne, United Kingdom

PURPOSE: Mohs micrographic surgery may result in large, full-thickness scalp wounds (including periosteum) with resultant exposure of underlying bone. The inelasticity of scalp skin may preclude primary or flap closure. Grafts placed on exposed bone without a periosteal covering will not survive. Secondary intention healing is a well-recognized, simple, relatively pain-free wound management technique for scalp defects. However, wounds containing exposed bone devoid of periosteum heal slowly, or not at all, due to a lack of granulation. Fenestration of the exposed bone is a technique which can facilitate granulation in poorly healing bone-exposed wounds.

The bones of the skull are flat bones composed of an inner and outer table of compact bone and an intervening layer of spongy bone called the diplöe. The diplöe contains red bone marrow and is a reservoir of both differentiated and undifferentiated cells. Bone fenestration enables migratory fibroblasts to pass from the diplöe to the base of the exposed bone wound via multiple shallow pits which are drilled into the outer table of the skull. These migratory diplöic fibroblasts can then lay down a matrix of granulation tissue on the exposed bone wound surface which facilitates re-epithelialisation1.

DESIGN: Fenestration can be performed in theatre as a local anesthetic day-care procedure. Aseptic technique is of paramount importance. Sedation is rarely required. We discuss usage of the Micro E hand-held electric bone drill (Hall)2. This is a widely used, compact, high-powered (90,000 cycles/minute) bone drill which enables precise fenestration. Multiple small shallow pits are drilled into the diplöe via the outer bony table at 5-10 millimeter intervals. Sterile saline is trickled onto the bone during the fenestration procedure to prevent heating and thermal injury. Small bleeding points indicate that the correct depth has been attained. When sufficient pits are created, the wound is covered with a topical antibiotic ointment and a hydrocolloid occlusive dressing. An occlusive dressing maintains a clean, moist wound surface and is changed three times per week.

SUMMARY: We have discussed the relevant skull anatomy, patient selection, fenestration technique, and potential hazards.

CONCLUSION: We present fenestration technique to help in facilitating wound healing in exposed bone wounds.

112

TITLE: A Novel Immunotherapeutic Adjuvant for the Treatment of Cutaneous Malignancies

AUTHORS: ***Todd C. Becker, MD, PhD***[1], *Jenny J. Kim, MD, PhD*[1]

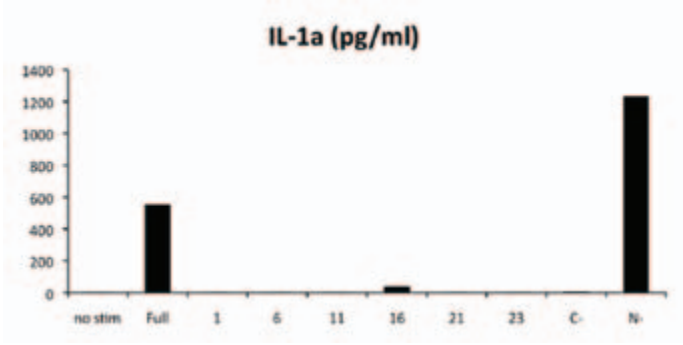
INSTITUTION: 1. Dermatology/Medicine, UCLA, Los Angeles, CA, United States

PURPOSE: Surgical excision, including Mohs surgery, is the treatment of choice for non-melanoma skin cancers. However, medical treatment is sometimes indicated for patients who are poor surgical candidates or as adjuvant therapy when it is not possible to achieve complete removal. In addition, some have advocated treatment with immunotherapy prior to Mohs surgery to maximize tissue preservation. The only topical immunomodulator currently in clinical use is imiquimod, which acts on the toll-like receptor 7. This receptor is found in the skin only on the rare plasmacytoid dendritic cell population. There is a need for an immunomodulator that can act more broadly on resident skin cells to more potently immune responses to non-melanoma skin cancers. A modulator to act on keratinocytes, the cell population responsible for basal and squamous cell carcinomas, is particularly attractive. We have utilized an endogenous immunostimulatory peptide able to act on keratinocytes. In addition, we have made modifications that have increased its immunostimulatory ability.

DESIGN: Primary human keratinocytes were cultured in an adherent monolayer to 70-80% confluence. These cultures were then stimulated with synthetic peptides corresponding the native immunostimulatory peptide and numerous truncated peptides. The cultures were maintained for 24 hours before levels of cytokines were measured in culture supernatants.

SUMMARY: The native peptide induced production of immunomodulatory cytokines by keratinocytes. In particular, IL-1alpha, a potent initiator of cell-mediated immunity, was strongly induced. Truncations at the C-terminus eliminated the stimulatory ability of the peptide, while truncation at the N-terminus yielded a peptide with a 2-fold increase in stimulatory ability. Shorter peptides were unable to stimulate keratinocytes.

CONCLUSION: An immunomodulator that targets keratinocytes would be a valuable tool in the treatment of non-melanoma skin cancers that are derived from these cells. We have developed a modified form of an endogenous peptide with potent immunostimulatory ability. Animal studies will be needed to assess the effectiveness of this approach to treating non-melanoma skin cancers.



113

TITLE: Burow's Grafts in Dermatologic Surgery: A Case Series

AUTHORS: *Mary A. Mina, MD[1], **Navid Bouzari, MD[1]**, Suzanne M. Olbricht, MD[1]*

INSTITUTION: 1. Dermatology, Lahey Clinic/ Harvard Medical School, Burlington, MA, United States

PURPOSE: While the concept of Burow's grafts is not new, most reports in the literature are limited to small case series. We aimed to further evaluate Burow's grafts as a viable closure method in defects on various anatomic locations by assessing for graft survival and overall complication rates.

DESIGN: A retrospective review of the Burow's graft undertaken in 2006 to 2010. Primary outcome included graft survival at follow-up wound checks and clinic visits and the presence or absence of graft necrosis. Secondary data was recorded including patient sex, type of primary lesion, how the defect was closed, and any post-operative complications.

SUMMARY: A total of 67 patients with 69 cutaneous malignancies and respective defects closed using a full thickness dog-ear graft were included. Nine of the grafts were on the extremities. 42 cases were uncomplicated with 100% graft survival. Four grafts had initial epidermolysis and sloughing which was resolved with general wound care and none resulted in graft failure or necrosis. There were no cases of complete necrosis with graft failure.

CONCLUSION: To our knowledge, this is the largest case series examining the use of Burow's grafts as modified full thickness skin grafts on a number of anatomic locations in the repair of large or complicated defects. In addition, this is the first report of Burow's graft used on the extremities. Our experience details the usefulness of these types of skin grafts in the closure of defects of varying sizes not only on the face, but arms, legs, hands, and feet.

114

TITLE: Mohs Micrographic Surgery or Wide Excision for the Treatment of Primary Dermatofibrosarcoma Protuberans

AUTHORS: *Novie Sroa, MD[1], Ari-Nareg Meguerditchian, MD[2], Jiping Wang, MD, PhD[3], Bethany Lema, MD[1], William G. Kraybill, Jr., MD[4], John M. Kane, III, MD, FACS[1], Nathalie C. Zeitouni, MDCM, FRCPC[1]*

INSTITUTIONS: 1. Roswell Park Cancer Institute, Buffalo, NY, United States 2. McGill University Health Centre, Montreal, QC, Canada 3. State University of New York, Buffalo, NY, United States 4. Saint-Luke Hospital, Kansas City, MO, United States

PURPOSE: Wide excision (WE) has been the standard of treatment for primary dermatofibrosarcoma protuberans (DFSP), but ideal margin width is poorly defined and Mohs micrographic surgery (MMS) is considered a favorable alternative procedure. This large case series from a single institution examines the differences between recurrence rate, operative time, defect size, and closure technique in the treatment of primary DFSP by WE versus MMS.

DESIGN: A retrospective chart review was performed of 48 primary DFSP cases treated surgically from 1971 to 2006; 28 with WE and 20 with MMS. Choice of surgical resection technique was based on physician preference without standardized criteria for tumor size or location. WE consisted of circumferential resection margins of 2 to 3 cm surrounding the clinically visible tumor. For MMS, a layer of uninvolved tissue measuring 0.5 to 1.0 cm was taken around and under the tumor, processed via frozen sections and examined microscopically. Wound closure techniques were based on the extent of the surgical defect. Operative times were measured for each surgical modality.

SUMMARY: Local recurrence rate for patients treated with MMS was 0% at a median follow-up of 49.9 months (1.5-230.7) versus 3.6% (one patient) for WE at 40.4 months (0.6-147.0), *P* value = 1.0. Six patients (21.4%) treated by WE had positive resection margins. Two (33%) out of 6 positive resection margin patients were treated with repeat WE until negative margins were obtained, while the remaining 4 cases (67%) underwent MMS. Median maximal defect size was similar between the 2 groups (10 cm for WE vs. 9.4 cm for MMS, *P* value = 0.76). Closures with skin grafts or flaps were accomplished more frequently in the MMS group (65%) as compared with the WE group (18%). Median operative time was also significantly higher in the MMS group at 257 versus 77 minutes for WE, respectively (*P* value < 0.001). Operative features for DFSP patients treated with MMS and WE are summarized in Table 1.

CONCLUSION: Positive margin resection was more common with WE, but local control rate was not significantly different between WE or MMS. MMS had higher operative times and involved more complex closure techniques. The choice of WE versus MMS should be based on individualized patient/tumor characteristics and institutional expertise in these modalities.

Table 1. Operative features for DFSP patients treated with MMS versus WE

	MMS	WE	P
Median maximal defect size (cm)	9.4 (range, 3.5-20)	10 (range, 4-23)	0.48
Simple primary closure	7 (35%)	23 (82%)	0.001
Closure by flaps/grafts	13 (65%)	5 (18%)	0.001
Median operative time (min)	257 (range, 82-655)	77 (range, 82-655)	<0.001

115

TITLE: Intralesional Interferon α 2b for Refractory, Recurrent Squamous Cell Carcinoma of the Head and Neck

AUTHORS: *Allison M. Hanlon, MD, PhD[1], **June Kim, MD[1]**, David J. Leffell, MD[1]*

INSTITUTION: 1. Dermatologic Surgery, Yale, New Haven, CT, United States

PURPOSE: Squamous cell carcinoma is the second most common cutaneous neoplasm with 200,000 new cases per year. The majority of cutaneous squamous cell carcinomas (SCC) are managed effectively with surgical treatments. A subset of SCC has an aggressive clinical course with recurrence or metastasis. The management of recurrent SCC is difficult due to the tumor's aggressiveness and the lack of randomized control trial data to guide care. Surgical re-excision is a possible therapeutic option; however, nonsurgical approaches may be needed for these refractory, complicated lesions.

Intralesional Interferon α (IFNα), a pro-inflammatory cytokine that induces immune mediated anti-tumor activity, has been described in the treatment of primary squamous cell carcinomas and basal cell carcinomas. Case series in stage III and IV head and neck SCC have shown combining subcutaneous IFNα 2b with systemic 13 cis retinoic acid and vitamin E as an adjuvant therapy to surgery and radiation led to a decrease in tumor recurrence. IFNα may be beneficial in the treatment of aggressive, recurrent cutaneous SCC.

DESIGN: Retrospective chart review of patients with refractory SCC treated with adjuvant subcutaneous IFNα 2b.

SUMMARY: We present two patients with aggressive, recurrent squamous cell carcinomas of the head and neck refractory to surgical and radiation therapies. RK is a 71 year old male with a SCC of the right cheek treated with wide local excision. The SCC recurred twice despite excision with clear surgical margins and adjuvant radiation. Following his third surgery, he received adjuvant intralesional IFNα 2b 1.5 million units three times a week for 7 weeks and the epidermal growth factor receptor inhibitor cetuximab. He remains recurrence free at five years from treatment. MW is a 69 year old female with a recurrent, aggressive SCC of the right lower lip with perineural involvement of the mental nerve. Her previous treatments included surgical excision and radiation. After her sixth recurrence, she was treated with adjuvant intralesional IFNα 2b 1.5 million units three times a week for three months. She remains recurrence free at eight years from IFNα treatment.

CONCLUSION: The management of recurrent SCC refractory to previous therapies is a challenge to the dermatologic surgeon. Adjuvant IFNα 2b treatment showed long term benefit in the two patients described. Despite multiple previous recurrences, both patients remain recurrence free for over five years. Thus, intralesional IFNα 2b should be included in the armamentarium of treatments for aggressive SCC.

116

TITLE: Use of the Bovine Collagen Xenograft for Post-Mohs Surgical Reconstruction

AUTHORS: *M. Laurin Council, MD[1], Joshua A. Tournas, MD[1], Scott W. Fosko, MD[1]*

INSTITUTION: 1. Dept. of Dermatology, St. Louis University, St. Louis, MO, United States

PURPOSE: Reconstructive options after Mohs surgery are numerous and include healing by secondary intention, primary closure, a local flap, and grafting. Collagen xenografts are widely used to promote healing of chronic wounds, but their use in post-surgical reconstruction is less prevalent. The purpose of this study is to review the use of the bovine collagen xenograft in post-Mohs reconstruction at a single institution.

DESIGN: Two-hundred and eighty-one consecutive patients reconstructed with a bovine collagen xenograft after Mohs surgery by a single surgeon between July 1, 2009 and June 30, 2010 were selected for inclusion in this study. Data collected included patient demographics, tumor characteristics, surgical details, and the incidence of further reconstruction after xenograft placement. Subjects were followed until complete re-epithelialization had occurred and patients were satisfied with the wound healing process. During follow-up, patients were given the option of continued monitoring, re-application of the collagen xenograft, or other reconstructive surgery.

SUMMARY: Patients selected for xenograft application had wounds located on the face (n=212), extremity (n=35), scalp (n=14), trunk (n=14), or neck (n=6). The size of the post-surgical defect ranged from 0.12 cm^2- 91.8 cm^2, with a mean of 4.1cm^2. Defects extended to the level of dermis (n=21), fat (n=67), fascia (n=115), muscle (n=28), perichondrium/periosteum (n=26), cartilage (n=23), or bone (n=1).

Of the 281 patients initially treated with a bovine collagen xenograft, 263 (94%) required or desired no additional reconstruction. Re-application of the xenograft occurred during follow-up in three patients (1%). Twelve patients (4%) required further surgery with either a full-thickness skin graft (n=11, 4%) or a local tissue flap (n=1, 0.3%). Three patients underwent a scar revision procedure, one of whom subsequently required a delayed full-thickness skin graft in addition to the revision. One patient underwent postoperative dermabrasion to improve cosmesis.

Optimal outcomes were observed in patients with lesions in areas of natural concavities, such as the alar groove, medical canthus, conchal bowl, and temple. Use of the xenograft resulted in simplified wound care for the patient, and patient satisfaction was high. Complications were infrequent, but included hypergranulation tissue, easily treated with silver nitrate application or daily acetic acid soaks. Cost analysis revealed that xenograft application is less costly than other reconstructive options such as full-thickness skin grafts, flaps, and complex closures.

CONCLUSION: Bovine collagen xenografts offer patients acceptable cosmetic results with a minimally invasive application procedure, and should be considered alongside other reconstructive options. Ideal candidates have wounds located in favorable areas, as described above, and/or are unwilling or unable to undergo lengthy reconstructive procedures. Xenografts offer minimal risk and minimal morbidity to patients and have the added benefit of simplified wound care. Further study is necessary to better understand the role of bovine collagen xenografts in immediate post-Mohs surgical wound management.

117

TITLE: Use of Goulian Knife with a Weck Blade for Mohs Layers When Tumor Extends to the Perichondrium of the Ear

AUTHORS: *Nicholas B. Countryman, MD*[1], *Barry Leshin, MD*[2]

INSTITUTIONS: 1. Northwest Dermatology, Spokane, WA, United States 2. The Skin Surgery Center, Winston-Salem, NC, United States

PURPOSE: We present a simple clinical pearl using the Goulian knife with a Weck blade to obtain a layer during Mohs surgery when the prior stage reveals tumor histologically deep to perichondrium. Excision of skin cancers on various locations on the ear is one of the most common challenges in Mohs surgery and the thinness of the auricular skin and the cartilaginous convolutions pose particular challenges. Ulcerated, aggressive, and neglected tumors often demonstrate cancer extending deep to the perichondrium. The surgeon then faces the challenge of obtaining a complete layer that achieves a tumor free plane while preserving subjacent cartilage. Use of a 15 blade to dissect the perichondrium off of the cartilage or to excise an ultrathin layer of cartilage can be difficult. Our technique is novel and overcomes this challenge.

DESIGN: When removing ulcerated, aggressive and neglected tumors, tumor is frequently noted at the deep margin of the initial or subsequent layers. The first stage of most Mohs layers performed on the anterior lamella of the ear is most commonly incised down to, but does not include, the perichondrium. Using the map made following our first stage, we use gentian violet on a cotton tipped applicator to delineate the portion of the remaining tissue in which tumor is still present at the deep margin. In order to preserve the maximal amount of underlying cartilage a layer encompassing the inked perichondrium as well as a thin piece of underlying cartilage is removed using a 0.010 inches Goulian guard (Figure 1). This method provides a clean specimen without jagged cartilage that our histotechnicians have found simple to process and produce consistent, complete slides for interpretation. Additionally, the underlying cartilage remains intact (Figure 2).

CONCLUSION: One of the main tenets of Mohs surgery is the preservation normal tissue while maintaining the highest possible cure rate. The surgeon described a technique using the scalpel blade on edge with a pushing, sweeping motion to dissect perichondrium from cartilage. This technique can be frustrating as well as destructive to the underlying tissue and often produces tissue that is challenging to process. Using our technique, we were able to maintain adequate intact underlying cartilage to support fairly complex transposition flaps. We have used this on the posterior ear and antihelix, and in select cases, from the conchal bowl.

Limitations of this method include the need to buy additional equipment if the Goulian knife set has not already been incorporated into the Mohs practice. Additionally, the use of the Goulian knife is less useful when taking stages on tumors that invade deeply into the cartilage. Familiarity with this tool in the harvesting of small split thickness skin grafts certainly facilitates learning its application as we have described. If the surgeon is inexperienced in its use however, then using the Goulian knife may pose a challenge initially but likely would be easily overcome with minimal experience. Otherwise we have found this to be a simple and useful tool.

Figure 1. Removal of inked cartilage and overlying involved perichondrium with tumor involvement using Goulian knife technique.

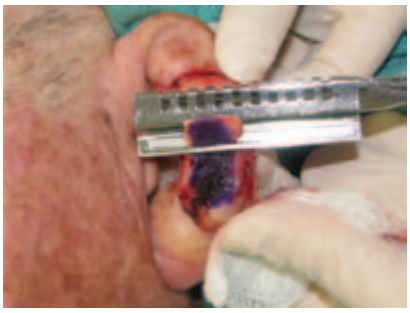
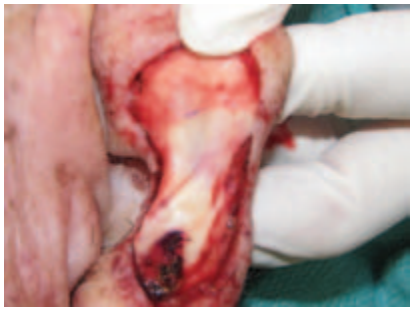


Figure 2. Intact underlying cartilage after layer removed.



118

TITLE: Prolonging the Primary Pivoting Point: Mathematical Effect of Prolonging the Primary Burow's Triangle on Bilobed Flap Rotation

AUTHORS: ***Jamie L. McGinness, MD***[1], *Tri H. Nguyen, MD*[2,3]

INSTITUTIONS: 1. Dermatology, University of Cincinnati, Cincinnati, OH, United States 2. Northwest Diagnostic Clinic, Mohs & Dermatology Associates, Houston, TX, United States 3. Dermatology, University of Texas Medical School, Houston, TX, United States

PURPOSE: To evaluate the lengthening of the primary Burow's triangle and its effects on the total angle of rotation for a bilobed transposition flap (BLTF).

DESIGN: Utilizing Zitelli's modified design of the BLTF and AutoCad (engineering design software); the length of the primary Burow's triangle was progressively lengthened. The effect of this lengthening on the total degree of rotation (from secondary lobe to primary lobe) was analyzed on two common variations of BLTF designs: 1) when both the primary and secondary lobe equals the defect diameter/size, 2) the primary lobe equals the defect size and the secondary lobe is 80% of the defect size.

SUMMARY: An inverse relationship exists between the length of a primary Burow's triangle and the total angle of rotation for a BLTF. As the Burow's triangle or pivot point of a BLTF is lengthened, the flap's total angle of rotation is decreased (Figure 1). Further, as the Burow's triangle and pivot point lengthens, the flap's pedicle increases. The formula of Sin (angle of rotation/4) = radius of the defect/(radius of the defect + length of the Burow's triangle) can be used to calculate the Burow's triangle length for a given angle of rotation when using sizes for the primary and secondary lobes equal to the size of the defect. Table 1 describes the relationship of different lengths of the primary Burow's triangle and the total angle of rotation when the two common BLTF designs are considered.

CONCLUSION: The BLTF is an effective reconstructive option for defects on the lower third of the nose. Dzubow[1] described the concept of pivotal restraint and its effects on rotational movements. As the angle of rotation of a BLTF is increased, the pivotal restraint of the flap increases, which may lead to secondary anatomic distortion. This pivotal restraint may be mitigated by lengthening the Burow's triangle or pivot point, which inversely decreases the total angle of flap rotation and thus pivotal restraint. Zitelli[2] stressed that the Burow's triangle should be at least the length of the defect's diameter and even up to 1.5 times the diameter to overcome pivotal restraint. Varying the length of the Burow's triangle and pivot point can also be used to improve and modify the placement of the secondary lobe of the BLTF[3]. This inverse relationship is critical to consider when designing the BLTF.

As a result, lengthening the primary Burow's triangle in a BLTF design achieves three effects: 1) decreases the total angle of flap rotation, 2) decreases pivotal restraint, and finally 3) increases the flap's pedicle.

1. Dzubow LM. The dynamics of flap movement: Effect of pivotal restraint on flap rotation and transposition. J Dermatol Surg Oncol. 1987;13:1348-1353.

2. Zitelli J. Comments on a modified bilobed flap. Arch Facial Plast Surg. 2006;8:410.

3. Krathen RA, Donnelly HB. The tertiary arc for the bilobed flap. Dermatol Surg. 2008;34:1152-6; discussion 1157.

Figure 1. As the Burow's triangle or pivot point of the BLTF is lengthened, the flap's total angle of rotation is decreased.

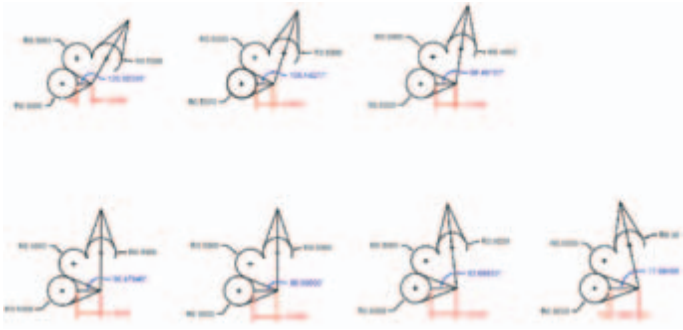


Table 1.

Burow's triangle length (pivot point) measured from defect edge	Total degree of rotation (primary lobe equal to defect size and secondary lobe 80% of defect size)	Total degree of rotation (primary and secondary lobe equal to defect size)
Radius	110.4788	120
60% diameter or 120% radius	99.887	108.14277
70% diameter or 140% radius	91.21053	98.49727
80% diameter or 160% radius	83.95903	90.47946
90% diameter or 180% radius	77.80023	83.69933
Diameter	72.49975	77.88488
1.6131259 radius		90

119

TITLE: Evaluating the Management of Malignant Fibrous Histiocytoma: Mohs Micrographic Surgery versus other Surgical Treatments

AUTHORS: ***Eugene B. Kirkland, MD***[1], *Hayes B. Gladstone, MD*[1]

INSTITUTION: 1. Dermatology, Stanford University, Redwood City, CA, United States

PURPOSE: Malignant fibrous histiocytoma (MFH) is one of the most aggressive of the fibrohistiocytic tumors. In particular, the high recurrence rate and metastatic potential of MFH make proper diagnosis and management crucial

to a successful outcome. The primary aim of this study was to examine recurrence rates of MFH following Mohs micrographic surgery versus other popular treatment modalities at our institution.

DESIGN: We performed a retrospective chart review using our institutional electronic medical record and pathology databases to identify all patients diagnosed with MFH of the head and/or neck at our institution from January 1995 – December 2010.

SUMMARY: Thirty-nine total tumors of the head and neck were identified in 36 patients. Patient ages ranged from 6 – 87 years old at the time of initial diagnosis with an average age of 67. Most frequent sites of tumor involvement included the scalp (12), neck (7), cheek (5), calvarium/brain (4), forehead (4), ear (3), tongue (1), orbit (1), eyebrow (1), and nose (1). Mean follow-up after diagnosis was 32.7 months. Of the 36 patients, 16 (44.4%) developed recurrence of their tumor after initial treatment, and 7 patients (19.4%) developed metastatic disease. Average tumor diameter was 2.9 cm (range 0.6 – 10 cm). Recurrence was noted in 16 of 39 tumors (41.0%) after initial treatment.

Ten patients (11 tumors) were treated with Mohs surgery either at our institution or by referring physicians prior to subsequent management. Five of these patients had tumors that were initially diagnosed and treated as atypical fibrous xanthoma (AFX), with subsequent pathology specimens revealing MFH. Of the 10 patients treated with Mohs surgery, 7 developed recurrent disease. However, three of these patients also experienced recurrence after treatment with other modalities. In total, 7 of 11 tumors (63.6%) treated with Mohs surgery recurred after treatment. Three of the six patients treated at our institution were eventually cured. Three patients (30%) treated with Mohs surgery progressed to metastatic disease.

Alternative management included various combinations of wide local excision, chemotherapy, and radiation therapy (both post-operative and intra-operative), subtotal resection, or palliative care. The most commonly employed of these treatments included wide local excision (17 patients, 18 tumors) and wide local excision with post-operative radiation therapy (15 patients, 15 tumors). Ten of 17 patients (58.8%) treated with wide local excision developed recurrent disease following treatment, and 4 patients (23.5%) developed metastases. In comparison, 5 of 15 patients (33.3%) treated with wide local excision and post-operative radiation therapy developed recurrent disease following treatment. However, 5 of these 15 patients (33.3%) also developed metastatic disease after treatment.

CONCLUSION: We identified a large cohort of patients with MFH of the head and/or neck treated with a variety of modalities. Similar to published recurrence rates of 40-50%, the MFH recurrence rate at our institution (41.0%) remains high. Published data also suggests that prognosis typically correlates with depth of invasion of the MFH tumor. Estimates place the rates of metastatic disease at less than 10% for superficial MFH and up to 40% to 45% with deeper tumors. The rate of distant metastatic disease in our cohort (19.4%) is consistent with this data.

Mohs micrographic surgery is often used as an alternative to wide local excision for the surgical management of MFH. When compared to either wide local excision or wide local excision with post-operative radiation therapy, the larger recurrence rate of MFH following treatment with Mohs surgery was not statistically significant in our cohort.

MFH can be challenging to treat with Mohs surgery because of in-transit skin metastases. The primary tumor may be cured but there can be "recurrences" in the same anatomic region. Therefore, if Mohs surgery is performed for MFH, close follow-up is important, and multiple surgeries may be necessary to eradicate the tumor. Given its aggressive nature, multidisciplinary management may be the most prudent strategy. Ultimately, patients with MFH or with a presumptive diagnosis of AFX require early diagnosis followed by prompt and comprehensive treatment.

120

TITLE: Exenteration as an Outcome in Periocular Non-melanoma Skin Cancers

AUTHORS: *Kashif Ahmad MBBS, MMSC, MRCP*[1], *Rupert B. Barry, MB, BCh, BAO*[1], *C. M. Lawrence, MD, FRCP*[1], *James A. Langrty, MD*[1]

INSTITUTION: 1. Dermatology, Royal Victoria Infirmary, Newcastle Upon Tyne, United Kingdom

PURPOSE: Non-melanoma skin cancers (NMSC) may invade the orbit as a result of an aggressive histological growth pattern, tumor recurrence or neglected disease. Orbital tumor invasion may result in disease not amenable to excision with loss of the eye, a devastating outcome in the pursuit of local disease control.

We analyze patients that had undergone orbital exenteration due to NMSC over a 10 year period.

DESIGN: Patients were identified retrospectively from a histopathology data-base at a tertiary referral centre in the Northeast of England serving a population of 4 million. All patients with orbital exenteration in treatment of NMSC were included. Exenteration resulting from cutaneous and choroidal melanoma was excluded. Patients' demographics, presenting complaints, duration, size, site and histopathology of primary tumor, treatments and histopathology prior to exenteration were recorded. Data was obtained on date of exenteration, reconstruction, adjuvant treatment and outcome.

SUMMARY: Three men and 4 women, (one basal cell carcinoma (BCC), 3 squamous cell carcinoma and (SCC) and 3 sebaceous carcinoma underwent orbital exenteration (Table 1). Age at time of exenteration was 71 to 91 years (mean 81 years). Duration of tumor at time of presentation ranged from 3 months to 84 months (mean 24.8 months). Site of the primary

Detail of patients with exenteration

Case no	Age / sex	Tumor duration (months)	Site / size of primary tumor (mm)	Histology	PNI	Procedure before exenteration	Exenteration	Metastasis	Radio-therapy
1	80/M	8	Right eyebrow 15x14	Poorly diff SCC	yes	MMS	Right Orbit	no	no
2	87/F	3	Left supra-orbital area 15x12	Moderately diff SCC	yes	Excision	Left orbit	no	no
3	71/F	9	Right supra-orbital area 23x18	Moderately diff SCC	yes	MMS	Right Orbit	no	yes
4	90/M	6	Right lower lid / not recorded	Sebaceous Ca	no	MMS	Right Orbit	Right parotid gland	yes
5	91/F	24	Right upper lid 10x8	poorly diff Sebaceous Ca	no	no	Right Orbit	no	no
6	75/F	40	Left upper lid 30x20	Poorly diff Sebaceous Ca	no	no	Left orbit	no	yes
7	76/M	84	Left medial canthus 14x9	BCC micro-nodular	no	Wide local excision	Left orbit	no	no

skin tumor included: supraorbital area (3), upper eyelid (2), lower eyelid (1) and medial canthal area (1).

Treatment of the primary tumor included Mohs micrographic surgery (MMS) in 3 patients, wide local excision in 2 and 2 patients did not have any prior surgical procedure before exenteration. The 3 patients with SCC had perineural invasion (PNI) in the primary tumor. One patient had radiotherapy before exenteration.

Four patients underwent exenteration including excision of upper and lower eyelid. Two patients had exenteration with resection of lateral and medial bony orbital wall. Two patients had positive tumor margins on exenteration.

Reconstructive techniques included 6 patients who had myocutaneous flaps with split skin grafting and one patient had split skin grafting with secondary intention healing. One patient had metastasis of SCC to the right parotid gland (tumor margins positive on exenteration) and treated with adjuvant radiotherapy. Five patients are attending the clinic with 2 lost to follow up.

CONCLUSION: Exenteration may be performed for treatment of potentially life-threatening malignancies arising from the orbit, paranasal sinuses or periocular skin. Periocular skin malignancy can invade the orbit and may not be amenable to excision without loss of the eye. About 40–50% of exenterations are required for tumors originating in the eyelid or periocular skin.1

Nasab et al reported 32 patients with orbital exenteration (over a 20 year period) including 17 patients with BCC, 6 melanomas, 4 sebaceous carcinoma and 3 SCC. BCC was also the most common eyelid malignancy for which exenteration was performed in another series, the most commonly affected sites being the lower eyelid and medial canthus2. In our series, 3 patients had SCC, 3 sebaceous carcinoma and only one patient had BCC.

Complete excision of tumor at the initial treatment is likely to reduce the chances of orbital invasion. PNI is a marker of aggressive disease and in our series all 3 SCC had PNI.

The majority of periocular NMSC has been treated by MMS at our centre for more than 10 years, which may explain the low numbers of exenteration for BCC in our case series compared to those reported elsewhere. It is likely that MMS resulting in tumor negative margins (where the tumor is not too advanced and sight is not threatened by Mohs excision) minimizes exenteration as an outcome.

We propose orbital exenteration for BCC as a surrogate marker for outcomes in periocular BCC. Medial canthus and eyelid BCC should be treated by MMS.

References:
1. Goldberg RA, Kim JW, Shorr N. Orbital exenteration: results of an individualized approach. Ophthal Plast Reconstr Surg 2003; 19(3): 229–236.

2. Simons JN, Robinson DW, Masters FW. Malignant tumours of the orbit and periorbital structures treated by exenteration. Plast Reconstr Surg 1966;37: 100e4.

3. Chao AN, Shields CL, Krema H, Shields JA. Outcome of patients with periocular sebaceous gland carcinoma with and without intraepithelial invasion. Ophthalmology 2001; 108(10): 1877–1883.

121

TITLE: An Analysis of Mohs Surgery Recurrences Referred to a Head and Neck Center

AUTHORS: ***Abdel Kader El Tal, MD***[1], *Deborah F. MacFarlane, MD*[1]

INSTITUTION: 1. Dermatology, University of Texas MD Anderson Cancer Center, Houston, TX, United States

PURPOSE: To examine those cases of non-melanoma skin cancer (NMSC) which had recurred following Mohs micrographic surgery (MMS) and been referred to a Head and Neck Center.

DESIGN: A retrospective chart review was performed of the Head and Neck surgery database and cases of recurrent NMSC following MMS treated between January 1, 1996 and January 1, 2009 were identified.

SUMMARY: Of the 23 eligible patients, 20 were males and 3 were females. The majority were white; one patient was Hispanic and another African American. Patient age at recurrence ranged from 15-91 years (mean 59 years).

Fourteen patients (61%) had squamous cell cancers (SCC); 9 (39%) had basal cell cancers (BCC). Approximately half (N=10) of the patients had had one or more prior excisions before MMS, and 3 had prior irradiation. In 8 cases the Mohs surgeon had performed a second Mohs surgery following the first recurrence and in 2 cases there was a third Mohs surgery.

Where the name of the Mohs surgeon had been recorded (N=12), it was possible to ascertain that 8 surgeons were trained by the American College of Mohs Surgery; 3 by the American Society for Mohs Surgery, and one was a dermatologist with no formal Mohs training.

Following MMS, approximately half of the patients developed clinical signs of neurologic involvement (anesthesia, palsy or facial pain) and five were noted clinically to have an enlarged lymph node or parotid mass. The approximate mean time from MMS until clinical recurrence was 29 months (range 1-164 months). In those cases where size of tumor recurrence was recorded, BCCs had a mean size of 2.1 cm (N=8) and SCCs 2.95 cm (N=8). A third of the tumors were located on the temple/forehead and of these, the majority were SCC (7/8). A further 4 cases (2 SCC; 2 BCC) were located in the orbital region.

Radiologic workup (CT, MRI, ultrasound, fusion PET/CT) performed at the time of Head and Neck assessment revealed a mass invading the orbital cavity and/or contents, or bone in 5 cases, involvement of a named cranial nerve in 5 cases and raised the possibility of perineural involvement in 3 other cases. A mass was identified in 4 cases, residual tumor in 2 cases and the possibility of residual tumor was raised in one case. An intraparotid lymph node was seen in one case and suspicious lymph nodes were noted in two more cases. A possible metastasis was seen on PET/CT. No tumor was seen in 2 cases and 2 patients did not have a radiologic workup.

Management by Head and neck surgery consisted of wide local excision for 21 patients with or without radiation therapy (XRT) for 18 patients (2 of which were treated with XRT alone) and 5 received chemotherapy, which was always as an adjunct to excision or XRT. Six patients underwent a neck dissection (selective or modified radical), 6 had a parotidectomy (4 full, 1 superficial), 4 had orbitectomies, 10 nerve resection and 7 underwent bone resection.

Histologic exam of this tissue revealed tumor (SCC) in one of the 6 parotidectomies, and SCC was also found in 7 nodes from a total of 210 nodes submitted. In seven of ten cases were a specimen of a major cranial nerve was submitted, SCC was identified. All of the cases with neural involvement cleared with surgery save one case which underwent radiosurgery. Poorly differentiated SCC was found in 2 of the four orbitectomies. One of the bone specimens contained poorly differentiated SCC.

Cases were followed on average 45 months post head and neck surgery and a total of five cases, all of which were SCC, recurred. The only immunosupressed patient, a 15 year old African American, died from metastatic SCC, while another 5 patients died from causes unrelated to their NMSC.

CONCLUSION: This case series demonstrates that Mohs surgeons should be particularly vigilant when presented with facial SCCs which have recurred following prior excision, irradiation or Mohs surgery and should monitor these patients very closely for the possible development of neurologic or nodal involvement post operatively. The importance of radiologic work up is emphasized.

122

TITLE: Fenestration of Nasal Alar Cartilage Grafts: A Modification of a Technique, which Facilitates Rapid Coverage with Granulation Tissue and Aids in the Recreation of Alar Contour

AUTHORS: *Rajib R. Rahim, MBChB, MRCP*[1], *James A. Langtry, MD*[1], *Rupert B. Barry, MD, BCh, BAO*[1]

INSTITUTION: 1. Department of Dermatology, Royal Victoria Infirmary, Newcastle upon Tyne, United Kingdom

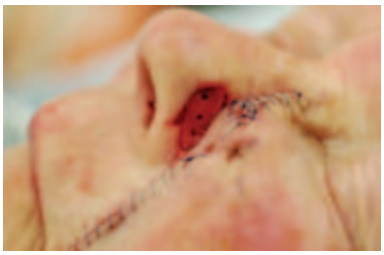
PURPOSE: Tumor extirpation of non-melanoma skin cancers located on the ala nasi may result in large or deep defects that may require structural support in the form of an auricular cartilage graft. These cartilage grafts may be required to prevent alar rim distortion or to prevent air inflow obstruction due to internal nasal valve compromise. Recent reports have described the successful reconstruction of alar defects with placement of free cartilage grafts and subsequent full thickness skin graft placement or secondary intention healing. We describe a modification of the technique whereby the free cartilage graft is fenestrated with a 2mm punch biopsy. This allows for faster coverage of the dorsal surface of the cartilage graft with healthy granulation tissue, thereby hastening healing by secondary intention or permitting earlier placement of a full thickness skin graft. Fenestration also enables the cartilage graft to be more pliable and this may aid in the recreation of the convex alar contour. Finally, we believe that fenestration of the cartilage graft facilitates fixing of the graft to the underlying nasal wound bed, thereby optimizing patency of the nasal airway. There is also less

likelihood that the cartilage graft will be traumatized from the anchoring sutures as these can be passed through the "fenestration ports" which minimizes trauma to the graft.

DESIGN: We describe the technique of fenestration of the cartilage graft and how the fenestrated graft is manipulated to recreate the convex alar contour. We describe how the cartilage graft is sutured to the underlying wound bed (nasal mucosa), making use of the "fenestration ports" to optimize the "bracing" effect of the cartilage graft which prevents alar rim retraction and internal nasal valve collapse. We illustrate this technique with several clinical examples including the placement of subsequent full thickness skin grafts as well as use of secondary intention healing.

SUMMARY: Eleven patients underwent Mohs micrographic surgery for non-melanoma skin cancers of the ala nasi. The resultant surgical defects were reconstructed with placement of fenestrated free auricular cartilage grafts and subsequent secondary intention healing or placement of a full thickness skin graft. When the surgical defect extended beyond the alar, local tissue rearrangement was utilized so that the residual alar defect was managed as a cosmetic subunit reconstruction. No patients had evidence of postoperative nasal airflow obstruction. A healthy granulation wound bed developed rapidly on the dorsal surface of the cartilage graft. Two patients had mild hypertrophy of the scar (secondary intention healing) whilst the third patient had mild scar hypertrophy as well as some loss of ala/alar crease/medial cheek junction definition. All three declined the offer of scar revision.

CONCLUSION: Surgical defects of the ala nasi may require complex local reconstruction. This may not be appropriate in all patients. Alar subunit reconstruction may be achieved through placement of free auricular cartilage grafts and subsequent granulation or placement of full thickness skin grafts. We propose that fenestration of the cartilage graft optimizes such reconstruction as it hastens the development of a healthy granulation bed on the dorsal surface of the graft. It also facilitates recreation of the convex alar contour and minimizes potential suture trauma to the cartilage graft.



123

TITLE: Characteristics of Periorbital Cancers Treated with Mohs Surgery in the Private Practice Setting: A Series of 1078 Cases

AUTHORS: *Karen L. Connolly, MD*[1], *Adrian L. Connolly, MD*[2]

INSTITUTION: 1. Medicine, Pennsylvania Hospital, Philadelphia, PA, United States 2. St. Barnabas Medical Center, Livingston, NJ, United States

PURPOSE: Mohs micrographic surgery (MMS) plays an important role in tumors of the periorbital area due to both its tissue-sparing capability and the possibility for margin control. The characteristics of periorbital non-melanoma skin cancers (NMSC) including basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) treated with MMS have been previously described in studies involving tertiary centers. However, the majority of Mohs surgeons operate in the private practice setting. Therefore characteristics of periorbital skin cancers treated with Mohs in the private practice setting are important but not described.

The purpose of this study was to describe the characteristics of periorbital skin cancers treated with MMS in the private practice setting. These include patient demographics, tumor site, histological subtype, preoperative tumor size, postoperative defect size, number of Mohs stages, mucosal involvement, and type of surgical repair.

DESIGN: A one-center retrospective study of patients who underwent MMS for periorbital skin cancers over an 8 year period (January 2001 to August 2009). All surgeries were performed by a single Mohs surgeon in a suburban private practice. Medical records of 1078 consecutive cases (996 patients) were reviewed. The collected data includes patient age and sex, patient immunologic status, tumor site, preoperative tumor size, postoperative surgical defect, histologic subtype, presence of mucosal involvement, number of Mohs stages, reconstruction status, and referring physician specialty.

SUMMARY: The patient population consisted of 996 patients, all Caucasian. The average age of patients studied was 70.28 ± 13.8 years. For patients with BCC the average age was 69.4 ± 14.1 and for SCC it was slightly higher at 75.1 ± 10.6. The female to male ratio of patients with BCC was 1.4:1, while the ratio was reversed for SCC with a male to female ratio of 1.3:1. Of 1078 individual tumors, 921 (85.4%) were BCC, 143 (13.3%) were SCC, 11 (1%) were sebaceous carcinomas, and 1 each of microcystic adnexal carcinoma, Merkel cell carcinoma, and melanoma in situ were treated. Left-sided lesions predominated for both BCC and SCC, accounting for 474 (51.5%) of BCC and 83 (58%) of SCC.

Table 1. identifies lesion site distribution of BCC and SCC tumors.

Table 2. describes the average values for measured parameters of BCC and SCC tumor.

CONCLUSION: The burden of NMSC in the periorbital region is well-known, as is the importance of Mohs surgery as a treatment modality for these tumors. The majority of these tumors are treated in the private practice setting, yet the characteristics of periorbital NMSC treated with MMS have only previously been described in tertiary treatment centers.

Our data describes these tumors and their characteristics in a single center private practice setting.

Table 1. Distribution of Periocular BCC and SCC by Location

	LL	UL	MC	LC	Total
BCC	488 (53%)	143 (15.5%)	216 (23.5%)	74 (8%)	921
SCC	60 (41.9%)	40 (28%)	22 (15.4%)	21 (14.7%)	143

SCC = squamous cell carcinoma, BCC = basal cell carcinoma, LL = lower lid, UL = upper lid, MC = medial canthus, LC = lateral canthus

Table 2. Characteristics of Periocular BCC and SCC tumors

	BCC (n=921)	SCC (n=143)
Preoperative size	6.54±5mm	6.19±4.25mm
Postoperative defect	12±7.5mm	11.3±6.8mm
Number of Mohs stages	2.19±1.1	1.89±0.99
Mucosal involvement	343 cases (37.2%)	31 cases (21.7%)
Underwent reconstruction	571 (62%)	64 (44.8%)
Immunosuppressed host	18 cases (1.95%)	10 cases (6.99%)

SCC = squamous cell carcinoma, BCC = basal cell carcinoma

124

TITLE: A Multi-site Prospective Study of the Adverse Events and Complications Associated with Mohs Surgery for the Treatment of Skin Cancer

AUTHORS: ***Bradley G. Merritt, MD***[1], *David G. Brodland, MD*[2], *John A. Zitelli, MD*[2], *Joel Cook, MD*[3]

INSTITUTIONS: 1. Dermatology, UNC Chapel Hill, Chapel Hill, NC, United States 2. Dermatology and Otolaryngology, University of Pittsburgh, Pittsburgh, PA, United States 3. Dermatology, Medical University of South Carolina, Charleston, SC, United States

PURPOSE: Mohs surgery is a proven method for the removal of skin cancer and well-designed, single-center studies have demonstrated the safety and low complication rate of the technique. Well-designed, multi-center studies provide a higher order of clinical evidence and will further establish the rate of adverse events and complications associated with the treatment of skin cancer using Mohs surgery.

The purpose of this study was to prospectively track serious adverse events and acute complications associated with Mohs surgery in a cooperative, multi-center investigation including 13 ACMS Mohs surgeons in 12 practices.

DESIGN: IRB approval was obtained for each of the 13 surgeons. Over the course of 4 weeks at each treatment site, patients were consented to allow treatment related data to be collected and analyzed. Data collected included demographic information, medication history, and past medical history. Additional information recorded included tumor location, type, size before and after treatment, number of stages, method of reconstructive surgery, if any, and the use of preoperative/intraoperative/post-operative antibiotics, anxiolytics or post-operative analgesics. Serious adverse events occurring during the procedure day were recorded.

The second portion of the study involved collecting post-operative data. Patients who followed-up in the office within 14 days of treatment had episodes of post-operative bleeding, hematoma formation, infection, wound dehiscence, flap/graft/wound edge necrosis, as well as serious adverse medical events and post-operative pain recorded.

Patients not following-up in the office were given a written questionnaire to complete, and were asked to mail this back to the primary research center in a pre-addressed, postage paid envelope. Patients who did not return the questionnaire were contacted by phone to complete the follow-up survey.

SUMMARY: A total of 1777 treatment events were recorded during the study. At this time, 1589 treatment events have follow-up (89%). There were no serious adverse events intraoperatively for 1777 of 1777 events. Of the 1589 treatment events with follow-up, only one patient experienced a serious adverse event after surgery, consisting of syncope leading to an ER visit. Of the 1589 treatment events with follow-up, 1511 experienced no complication (95%). There were 25 episodes of active bleeding that required physician intervention (1.5%), 10 hematomas (0.6%), 17 infections (1%), 10 cases of at least partial dehiscence (0.6%) and 15 cases of at least partial flap/graft/wound edge necrosis (0.9%). More detailed data analysis is underway.

CONCLUSION: In this multi-center, prospective 4 week study of serious adverse events and acute complications associated with Mohs surgery for the treatment of skin cancer, Mohs surgery is proven to be a very safe outpatient procedure. The rate of minor complications is low, at 5%. Active bleeding is the most commonly experienced complication, occurring in 1.5% of patients. Hematoma formation, infection, dehiscence, and flap/graft/wound edge necrosis occur at a rate of less than 1% each.

125

TITLE: Histological and Biological Parameters of Melanoma in African American Patients

AUTHORS: ***Doru T. Alexandrescu, MD***[1], *Lisa C. Kauffman, MD*[2], *Haleh Farzanmehr, MD*[2], *Constantin A. Dasanu, MD, PhD*[3], *Thomas E. Ichim, PhD*[4], *Fern P. Nelson, MD*[5]

INSTITUTIONS: 1. Dermatology, University of California at San Diego, San Diego, CA, United States 2. Dermtology, Georgetown Dermatology, Washington, DC, United States 3. Oncology, St Francis Hospital and Med Ctr, Hartford, CT, United States 4. Medistem Inc, San Diego, CA, United States 5. Dermatology, VA Med Ctr, San Diego, CA, United States

PURPOSE: To define the histological and biological parameters of melanoma in African American patients.

Melanoma occurrence in African American patients is relatively rare. Clinical diagnosis is frequently delayed, contributing to an advanced clinical stage at presentation and a decreased median overall survival of patients.

DESIGN: We analyzed histopathologically the biopsy specimens from seventy African American patients with cutaneous melanoma. All slides were read by an experienced pathologist (LCK) using multiple morphological criteria for melanoma, including the current ADA criteria.

SUMMARY: The mean Breslow dept of invasion was 3.4 mm, and 72% of lesions presented a vertical growth phase. Histological factors predicting survival with statistical significance are: presence of ulceration (log rank 6.7, p=0.01), Breslow dept (log rank 3.9, p=0.04), Clark level (log rank 8.5, p=0.03), number of mitoses (log rank 13.2, p=0.0003), neurotropism (log rank 5.0, p=0.02), and microvascular density (8.7, p=0.03), and lymph node involvement by tumor (log rank 9.0, p=0.003). In a multivariate model, the factors most closely associated with survival are, in the order of importance, Clark level, microvascular density under the tumor, presence of residual melanoma, number of mitoses, Breslow depth, and presence of neurotropism. The overall survival of African American patients was significantly decreased compared to a general melanoma population seen in a Pigmented Lesions Clinic (OS 47.0 mo vs. 80.0 mo, AA=46mo, log rank 23, p<0.0001). A progressively diminished average survival was correlated with advancement in the Breslow depth (129.30 mo vs. 80.00 mo vs. 69 mo vs. 48 mo for depths of 0-1, 1.01-2.00, 2.01-4.00, and >4.01 mm, respectively [log rank 4.0, p=0.04]).

CONCLUSION: Some of the classical histological predictors of survival in melanoma confirm their prognostic value in African American patients. However, few histological features behave differently from the known standard, pointing towards a possibly different biological behavior of melanoma occurring in pigmented skin.

126

TITLE: Basosquamous Carcinoma and Metatypical Basal Cell Carcinoma: A Review of Treatment with Mohs Micrographic Surgery

AUTHORS: ***Kattie J. Allen, MD***[1], *Jerry D. Brewer, MD*[1], *Mark A. Cappel, MD*[2]

INSTITUTIONS: 1. Dermatology, Mayo Clinic, Rochester, MN, United States 2. Dermatology, Mayo Clinic, Jacksonville, FL, United States

PURPOSE: The purpose of this study was to analyze the efficacy of Mohs micrographic surgery (MMS) as a treatment for basosquamous carcinoma (BSC) and metatypical basal cell carcinoma (MBCC).

DESIGN: A retrospective review of medical records and histologic tissue samples was conducted for 288 patients with 293 biopsy-proven BSCs or MBCCs treated with MMS between the years 1996 and 2004. Prior to inclusion in the study, the histologic samples were reviewed by the primary author and a dermatopathologist to confirm the diagnoses, which resulted in a total of 32 BSCs and 129 MBCCs. The other 132 cases were reclassified as tumors including other subtypes of basal cell carcinomas (BCC) and squamous cell carcinomas (SCC). Surgical and follow up data was then collected for analysis.

SUMMARY: The K-M estimates of recurrence-free survival (95% CI) following MMS was 100% for the first year for both tumors and 95.5% for BSC and 93.8% for MBCC at 5 years. The median number of required Mohs layers was 1 for both tumor subtypes with initial mean sizes of 1.5cm for BSC and 1.3cm for MBCC. Approximately 7% (6.9% for BSC and 7.3% for MBCC) represented recurrent tumors at the time of presentation for MMS. Of the 8 patients who experienced recurrences, none of them developed known metastatic disease in the median 85 months of follow up.

CONCLUSION: Previously published studies report a recurrence rate for BSC/MBCC of 12 to 45% with wide local excision. In comparison, recurrence rates with MMS have been estimated to be 4.1% in a recent published study. Our study showed a similar recurrence-free survival, thus helping to confirm MMS as the standard of care for these BCC subtypes.

127

TITLE: High-Risk Squamous Cell Carcinoma of the Scalp: Predictive Factors of Aggressive Behavior and an Approach to Management

AUTHORS: ***Seema S. Sheth, MD***[1], *Mary E. Maloney, MD*[1], *Dori Goldberg, MD*[1], *David E. Geist, MD*[1], *Maryanne Makredes, MD*[1], *Sheila Greenlaw, MD*[1]

INSTITUTION: 1. Dermatology, UMass Memorial Medical Center, Worcester, MA, United States

PURPOSE: The scalp has recently been recognized as a special site for squamous cell carcinoma (SCC), with increased risk of deep local invasion, recurrence, and metastasis. Not surprisingly, we have encountered several such tumors at our institution which have proven difficult to treat and manage long-term. The purpose of this study was to contribute our experience to this difficult topic, by examining risk factors for the development of high-risk SCCs of the scalp, reviewing patient outcomes, and proposing an approach to the management of these challenging tumors.

DESIGN: In this retrospective analysis, all SCCs and SCC in situs (SCCISs) on the scalp treated at our academic institution between 2003 and 2010 were reviewed. Inclusion criteria for tumors considered "high-risk" were as follows: tumors greater than 2cm in diameter (post-operative size), recurrent tumors, tumors exhibiting perineural invasion or poor differentiation, and/or tumors in immunosuppressed patients. For each case, data regarding patient demographics (age,

sex), degree of scalp alopecia, tumor location, post-operative size, number of stages, clinical node status, imaging results, sentinel lymph node biopsy status, post-operative radiation, eventual course, and follow-up time was obtained and tabulated. Additionally, histopathology slides from corresponding Mohs layers were reviewed to document final tumor histology, depth of involvement, and scalp thickness.

SUMMARY: Of the 192 SCCs on the scalp identified, 110 (58.5%) met criteria for being considered "high-risk." The majority of these tumors were treated successfully with Mohs micrographic surgery (MMS). Four cases, however, (2.1% of all SCCs on the scalp, and 3.6% of high-risk SCCs of the scalp), proved to be extraordinarily aggressive, with affected patients developing multiple recurrences and local metastases. All patients with aggressive tumors were Caucasian; three of the patients were male (75%) and 1 was female (25%). All four aggressive tumors were located on the parietal/vertex scalp, and all affected male patients had stage 7 androgenic alopecia. In contrast, only 62.7% of the other high-risk tumors were located on the parietal/vertex scalp, and the average stage of alopecia in these male patients was 5.4. One of the four patients with aggressive tumors was immunosuppressed (25%), while 12.5% of total patients were immunosuppressed.

Two of the four aggressive tumors were well-differentiated (50%), one was moderately differentiated (25%), and one was poorly differentiated (25%). Of the other high-risk tumors, 47.3% were well-differentiated, 29.1% were moderately differentiated, and 5.5% were poorly differentiated; the remaining tumors were SCCISs. These findings highlighted the fact that well-differentiated tumors can be aggressive, and furthermore, not all poorly differentiated tumors indicate a bad prognosis. The average post-operative area of the aggressive tumors was 29.17cm2; meanwhile, the average area of all other high-risk tumors was 6.41cm2. Additionally, all four aggressive tumors extended down to periosteum, involving galea, suggesting that tumor depth and volume may also be important in identifying aggressive tumors. Perineural invasion was found in only two of the high-risk tumors (1.0%), both of which went on to behave aggressively, suggesting that when present, PNI can herald aggressive behavior, but is not necessary for poor outcomes.

CONCLUSION: With this review, we confirm that SCCs of the scalp should be considered a special subset of tumors, and even well-differentiated SCCs can demonstrate high-risk behavior. A more aggressive approach to diagnosis and treatment should be considered in the following cases: patients with extended field cancerization secondary to alopecia, relatively immunosuppressed patients, tumors greater than 20cm2, and tumors involving galea or periosteum. Future prospective studies are needed to determine whether changes in management (such as cytokeratin staining of final Mohs layers to confirm clear margins, preemptive bone burring or resection for tumors extending to periosteum, and/or post-operative radiation) affect patient outcomes and overall morbidity and mortality.

128

TITLE: Current Trends in the Treatment of Melanoma in situ/Lentigo Maligna and Melanoma with Mohs Micrographic Surgery

AUTHORS: ***Alan Levy, MD***[1], *Thomas Stasko, MD*[1]

INSTITUTION: 1. Dermatology, Vanderbilt University, Nashville, TN, United States

PURPOSE: Surgical excision is the standard of care for melanoma and melanoma in-situ. The optimal surgical method employed is a subject of much debate in the medical literature even among those of the same specialty. Dermatologists and dermatologic surgeons are trained in the diagnosis and management of cutaneous melanocytic tumors and are usually the first physicians to diagnose melanoma. The American College of Mohs Surgery (ACMS) is an organization whose members are comprised of those physicians who have completed a 1 to 2 year fellowship in surgical dermatology including Mohs micrographic surgery. No consensus guidelines have been written regarding the optimal surgical modality for the treatment of melanoma. Given the discrepancyover the optimal surgical treatment method and the negative implications of suboptimal staging and treatment for this potentially lethal malignancy, investigation into the current practices of members of the American College of Mohs Surgery has become relevant to improving outcomes and moving towards meaningful comparative trials that could drive a consensus statement supporting the optimal surgical method for treating melanoma. We present the results of a web-based survey of the members of the ACMS covering current practice trends in the treatment of melanoma and melanoma in-situ.

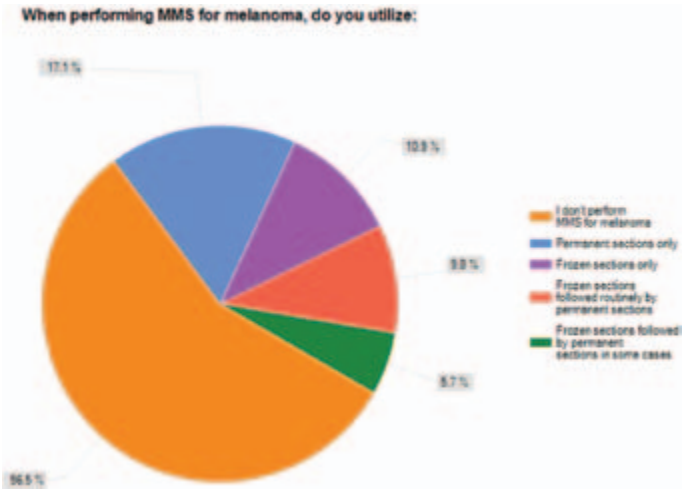
DESIGN: We used an Internet-based web survey service to obtain a perspective on current practices of ACMS surgeons with regard to treatment of melanoma.

SUMMARY: There was an almost even split among ACMS members that do and do not (51.1% vs. 48.9%) perform Mohs surgery for melanocytic lesions. All of those surgeons who perform Mohs for melanocytic lesions do so for melanoma in-situ and fewer do so for thicker melanomas. As expected, the percentage of surgeons performing Mohs surgery declined as the thickness of melanoma increased: 40.5% (64/158) use Mohs for invasive melanoma < 1 mm., 19.6% (31/158) for invasive melanoma 1-2 mm in thickness, and 14.6% (23/158) for invasive melanoma > 2 mm in thickness. Of those that do perform Mohs for melanoctyic lesions, the mean number of annual cases was 45.1.

CONCLUSION: Complete surgical excision is accepted as the standard of care for the treatment of localized cutaneous melanoma. No randomized, controlled studies exist to directly compare locoregional recurrence or disease free survival rates for Mohs surgery with any of its modifications or with conventional surgical excision. The more recent literature has cast doubts on the adequacy of current recommended surgical margins, particularly for melanoma in situ.

There is general agreement among Mohs surgeons that Mohs surgery is appropriate and effective for melanoma in-situ. However, this survey evoked strong opinions from both sides of the table on using Mohs surgery for invasive melanoma. Many College members hold the belief that Mohs surgery has not been established as an effective treatment modality for melanoma; others believe it has based on previously published studies. When scrupulous surgical and pathological technique is applied, Mohs surgery may be successful in treating localized melanoma while sparing normal tissue.

Given the discrepancy in the medical literature over the optimal surgical treatment method for and the potentially negative implications of suboptimal treatment in melanoma, exploring what Mohs surgeons decide on a daily basis gives us a start in identifying treatments for comparison in long-term randomized controlled trials. Information gleaned from this survey may help to narrow the practice variability among those treating melanoma. As this discrepancy narrows, general agreement on the best way to treat these lesions may emerge. Then perhaps we will be better prepared in designing high-powered, multicenter long-term randomized controlled clinical research comparing methods of treating cutaneous melanocytic tumors.



Tables: A debulking layer is taken by the majority of the survey respondents. Trends in the width of typical margins taken for it and subsequent layers are displayed here.

Table 1: Do you perform a debulking layer for permanent sections?

	Yes	No	Totals
LM/MIS	125 (79.1%)	33 (20.9%)	158
Melanoma < 1 mm	59 (80.1%)	14 (19.1%)	73
Melanoma 1-2 mm	31 (77.5%)	9 (22.5%)	40
Melanoma > 2 mm	23 (76.6%)	7 (23.5%)	30

Table 2: What margin do you typically take for the debulking layer?

	1 mm	2 mm	3 mm	4 mm	5 mm	Greater than 5 mm	Response Count
LM/MIS	58 (46.4%)	24 (19.2%)	30 (24.0%)	2 (1.6%)	9 (7.2%)	2 (1.6%)	125
Melanoma < 1 mm	24 (40.7%)	11 (18.6%)	15 (25.4%)	0 (0.0%)	4 (6.8%)	5 (8.5%)	59
Melanoma 1-2 mm	13 (14.9%)	3 (9.7%)	10 (32.3%)	0 (0.0%)	2 (6.5%)	3 (9.7%)	31
Melanoma > 2 mm	8 (34.8%)	3 (13.0%)	7 (30.4%)	0 (0.0%)	2 (8.7%)	3 (13.0%)	23

Table 3: What margin do you typically take for stage 1 of MMS?

	1 mm	2 mm	3 mm	4 mm	5 mm	Greater than 5 mm	Response Count
LM/MIS	3 (1.9%)	44 (27.6%)	43 (27.2%)	11 (7.0%)	51 (32.3%)	6 (3.8%)	158
Melanoma < 1 mm	2 (2.7%)	12 (16.4%)	18 (24.7%)	2 (2.7%)	22 (30.1%)	17 (23.3%)	73
Melanoma 1-2 mm	1 (2.5%)	5 (12.5%)	11 (27.5%)	1 (2.5%)	7 (17.5%)	15 (37.5%)	40
Melanoma > 2 mm	1 (3.3%)	5 (16.7%)	9 (30.0%)	1 (3.3%)	5 (16.7%)	9 (30.0%)	30

Table 4: What margin do you typically take for the subsequent MMS stages?

	1 mm	2 mm	3 mm	4 mm	5 mm	Greater than 5 mm	Response Count
LM/MIS	6 (3.8%)	58 (36.7%)	62 (39.2%)	11 (7.0%)	21 (13.3%)	0 (0.0%)	158
Melanoma < 1 mm	1 (1.4%)	19 (26.0%)	31 (42.5%)	3 (4.1%)	16 (21.9%)	3 (4.1%)	73
Melanoma 1-2 mm	1 (2.5%)	8 (20.0%)	20 (50.0%)	1 (2.5%)	7 (17.5%)	3 (7.5%)	40
Melanoma > 2 mm	1 (3.3%)	5 (16.7%)	17 (56.7%)	0 (0.0%)	6 (20.0%)	1 (3.3%)	30

129

TITLE: A Standardized Assessment of Cosmetic Outcomes of Different Repair Techniques for Defects on the Nose after Mohs Micrographic Surgery

AUTHORS: *Bahar F. Firoz, MD, MPH*[1], *Leonard H. Goldberg, MD*[2], *Maj. J. Scott Henning, DO*[1], *Paul M. Friedman, MD*[2], *Arash Kimyai-Asadi, MD*[2]

INSTITUTIONS: 1. Dermatology, UTHSCSA, San Antonio, TX, United States 2. DermSurgery Associates, Methodist Hospital, Houston, TX, United States

PURPOSE: The decision between repair options for post-surgical defects on the nose is complicated and subject to defect characteristics including size, depth, location, patient anatomy, and surgeon preference and/or bias. A systematic analysis comparing the cosmetic appearance of post-surgical scars after different repair techniques on the nose would be helpful for surgeons when planning reconstruction of post surgical defects.

OBJECTIVE: To objectively evaluate the cosmetic appearance of post-surgical scars of the nose in patients after Mohs surgery. The inclusion criterion was any patient who presented for follow-up photographs after MMS of the nose between September 2008 and April 2009.

DESIGN: Three dermatologists independently rated standardized photographs for cosmesis using the Vancouver Scar Scale (VSS). Repair types, cosmetic subunit of the nose, size of the post-operative defect, and length of time after surgery were used in the assessment.

SUMMARY: 104 patients were photographed post-operatively when seen in follow-up. Surgical characteristics are presented in Table 2. Linear closures and healing by second intention had lower mean scar scores than flaps or grafts, and this was statistically significant ($F(3,100)=12.001$, $p=0.000$.) Post-hoc analysis after one-way Analysis of Variance (ANOVA) revealed that the difference between scar scores at zero to three months verses greater than twelve months was statistically significant (mean difference 2.5, $p=0.005$). The total scar scores of the 29 patients who followed up more than once after Mohs surgery were also analyzed over time. A paired samples t-test showed that the average scar scores were statistically significantly lower over time for the same patient (mean difference 0.95, $p=0.004$). Location on the nose was not significantly associated with higher or lower scar scores, ($F(4,99)=1.968$, $p=.105$). Age at the time of surgery and gender were also not statistically significantly associated with total scar score. A linear regression was performed to predict the total scar score from post-operative defect size in square centimeters, and follow-up time in weeks. Both relationships were statistically significant. As length of follow-up increased, the total scar score decreased, or improved significantly. As defect size increased, the total scar score increased, or worsened significantly.

CONCLUSION: Scar scores improved significantly over time with the best cosmesis at twelve months or greater. Patients who were evaluated more than once over time had statistically significant improvement in scar scores over time. Lowest scar scores (best cosmesis) were associated with complex linear closures and healing by second intention, while higher scores (poor cosmesis) were associated with flaps and grafts. Age, gender, and location on the nose were not associated with cosmesis. Smaller post-operative defects were associated with improved cosmesis, and higher length to width ratios of the post-operative defect was associated with complex linear closures. Alar defects were most often associated with graft closures, whereas nasal sidewall and bridge defects were most often associated with linear closures.

Table 1. Vancouver scar scale

Pigmentation	Pliability	Height	Vascularity
Normal 0	Normal 0	Normal 0	Normal 0
Pink 1	Supple 1	<2 mm 1	Hypopigmentation 1
Red 2	Yielding 2	2-5 mm 2	Hyperpigmentation 2
Purple 3	Firm 3	>5 mm 3	Mixed 3
	Ropes 4		
	Contracture 5		

Table 2. Patient and surgical characteristics

	Frequency	Percent
Nasal tip & Supratip	30	4.8 1.0 1.0
Nasal ala	26	25.0
Nasal sidewall	25	24.0
Nasal bridge	15	14.4
Alar groove	8	7.7
Basal cell carcinoma	83	79.8
Squamous cell carcinoma	21	28.8
Male	44	42.3
Female	60	57.7
Complex Linear	37	35.6
Skin graft	30	28.8
Second intention	15	14.4
Advancement	10	9.6
Transposition	5	4.8
Combination	5	4.8
Island Pedicle	1	1
Rotation	1	1

130

TITLE: A Comparison of Mohs Micrographic Surgery Aided by MART-1 Immunostain for Melanoma and Melanoma In Situ on the Head and Neck vs. Trunk and Extremities: Retrospective Review of 274 Patients

AUTHORS: *Christopher R. Urban, MD[1], Joseph F. Sobanko, MD[2], Christopher J. Miller, MD[2]*

INSTITUTIONS: 1. Medicine, Pennsylvania Hospital, Philadelphia, PA, United States 2. Dermatology, University of Pennsylvania, Philadelphia, PA, United States

PURPOSE: The purpose of this study was to analyze the elements involved in the management of invasive melanomas and melanomas in situ of the head and neck compared with that of the trunk and extremities when treated with Mohs micrographic surgery aided by MART-1 immunostaining.

DESIGN: A retrospective chart review was performed of 274 patients treated with Mohs micrographic surgery for biopsy-proven invasive melanomas and melanomas in situ. All cases were aided by MART-1 immunostaining and performed between March 2006 and November 2010. All patients were treated with a similar protocol. Data points for invasive melanomas and melanomas in situ on the head and neck were compared to that of the trunk and extremities.

SUMMARY: A total of 274 cases (comprised of 213 melanomas in situ and 61 invasive melanomas) treated by Mohs surgery aided by MART-1 immunostains were reviewed. 230/274 (83.9%) cases were located on the head and neck and 44/274 (16.1%) were located on the trunk and extremities.

Preoperative biopsies were diagnosed as melanoma in situ in 213/274 (77.7%) cases, invasive melanoma in 54/274 (19.7%) cases, and atypical melanocytic lesions in 7/274 (2.6%) cases. Pathologic examination of the debulk specimens showed melanoma in situ in 167/274 (60.9%) cases, invasive melanoma in 15/274 (5.5%) cases, and atypical melanocytic lesions in 18/274 (6.6%). Examination of 74/274 (27%) of the debulk excision showed scar without any residual melanocytic lesion.

The likelihood of detecting residual tumor on the debulking excision was higher for tumors on the head and neck vs. trunk and extremities. Of all tumors on the head and neck, 166/230 (72.2%) showed residual melanoma. 30/50 (60%) of invasive melanomas on the head and neck had residual disease and 136/180 (75.6%) of melanomas in situ on the head and neck had residual disease. By comparison, 16/44 (36.4%) of all tumors from the trunk and extremities had pathologic evidence of tumor on the debulk excision. 5/11 (45.5%) invasive melanomas on the trunk and extremities had residual disease and 11/33 (33.3%) of melanomas in situ on the trunk and extremities had residual disease.

The average number of stages to clear the tumors was greater for both invasive melanoma (1.52 stages) and melanoma in situ (1.49 stages) located on the head and neck compared to the average number of stages for tumors on the trunk and extremities (1.18 stages for both invasive melanoma and melanomas in situ on the trunk and extremities). The number of stages required to clear the tumor did not differ between in situ and invasive disease (average of 1.46 stages for invasive melanoma versus 1.45 stages for melanoma in situ). 65% of tumors on the head and neck were cleared with 1 stage compared to an 82% clearance rate for those on the trunk and extremities.

Complexity of reconstruction was greater for tumors located on the head and neck versus the trunk and extremities. For tumors located on the head and neck, 92/230 (40%) were repaired with complex closure, 85/230 (37.0%) with flaps, and 31/230 (13.5%) were referred. For lesions on the trunk and extremities, 35/44 (79.5%) were repaired with complex closure, 3/44 (6.82%) were closed with a flap, 3/44 (6.82%) were allowed to heal by secondary intention, and 3/44 (6.82%) were referred. Reconstruction method did not vary for melanoma in situ vs. invasive melanoma.

CONCLUSION: Melanoma in situ and invasive melanoma of the head and neck provide multiple challenges compared to similar lesions on the trunk and extremities.

First, since lesions on the head and neck are more likely to have residual tumor detected in the debulking excision there is an increased likelihood of upstaging at the time of Mohs surgery compared to lesions on the trunk and extremities. While only 4 (1.88%) of the cases in this series upstaged, previous authors have published upstaging in the range of 21-26%. Mohs surgeons must be aware of the possibility of upstaging, because the discovery can change prognosis and may influence timing of the reconstruction, if sentinel lymph node biopsy is desired.

Second, determination of surgical margins by examination of clinically visible lesions is less reliable on the head and neck vs. trunk and extremities, as evidenced by the greater number of stages required for melanomas and melanomas in situ of the head and neck.

Third, reconstruction after excision of melanomas in situ and invasive melanoma of the head and neck is more complex and requires a higher frequency of flaps, compared to lesions on the trunk and extremities.

These important differences between head and neck melanomas versus melanomas of the trunk and extremities were present for both melanomas in situ and invasive melanoma.

131

TITLE: Fascial Flaps for Auricular Reconstruction When the Postauricular Skin is Not a Viable Option

AUTHOR: *Quenby L. Erickson, DO*[1]

INSTITUTION: 1. St. Louis University, St. Louis, MO, United States

PURPOSE: The postauricular interpolation flap is commonly employed to reconstruct large helical rim defects after Mohs micrographic surgery (MMS). Occasionally, the glaborous postauricular skin is not a viable option; too photodamaged or sacrificed in tumor extirpation. The use of a random pedicled fascial flap in this circumstance is a strong alternative. The superficial temporoparietal fascia (STPF) flap has been described as an axial flap, however, due to the robust nature of the blood supply, a random fascial flap either from the STPF or the postauricular fascia (PAF) can successfully be employed to reconstruct extensive auricular MMS defects.

DESIGN: Case 1) An 85 year old male presented missing the superior third of the left helix after resection of a basal cell carcinoma by a rural dermatologist with intraoperative frozen sections positive for additional tumor. (Figure 1a) After MMS, the defect was extensive, (Figure 1b) with a remnant of exposed cartilage for the superior half of the helix and revealing the STPF around the helix. Reconstruction involved a preauricular transposition flap to the anterosuperior aspect of the helix and a STPF flap to the posterosuperior aspect of the helix covered with a full thickness skin graft. The STPF flap was created with an arcuate incision through the STPF at the outer edge of the MMS defect. The flap was dissected carefully off the muscle from posterior to anterior, leaving a broad pedicle anteriorly and sutured to the posterior aspect of the helix covering the exposed cartilage and recreating the superior aspect of the helix. Needing visibility for hemostasis, a linear incision posterosuperiorly from the edge of the MMS defect toward the vertex approximately 5cm in length, hemostasis was achieved and the scalp skin was sutured closed, and a xenograft of purified collagen (Puracol Plus, Medline) was used to cover the remaining scalp defect. (Figure 1c) Postoperatively, the patient's course was uncomplicated. He healed very well with a nearly normal appearing ear. (Figure 1d)

Case 2) An 81 year old male presented with a basal cell carcinoma on the left helical rim. MMS resulted in a cartilaginous defect of the rim. (Figure 2a) It was determined that due to severe photo damage and limited glaborous postauricular skin that a random PAF would best restore the normal contour of the helix. The PAF flap was created by incising along the postauricular sulcus apx 5 cm to fascia and then posteriorly apx 7cm followed by a perpendicular incision creating a "T". The scalp was undermined broadly between the fat and PAF. (Figure 2b) An arcuate incision of the PAF was made posteriorly and dissected off the muscular base leaving a broad pedicle anteriorly. The PAF was draped over the helical rim defect and sutured into place. (Figure 2c) Pedicle division occurred after three weeks. This reconstruction resulted in a normal appearance to the ear, restoring the normal contour of the helical rim. (Figure 2d)

CONCLUSION: Fascial flaps have a robust blood supply and can provide an excellent alternative to the postauricular skin interpolation flap in auricular reconstruction when the skin flap is not a viable option.

Figure 1. Superficial temporoparietal facial flap

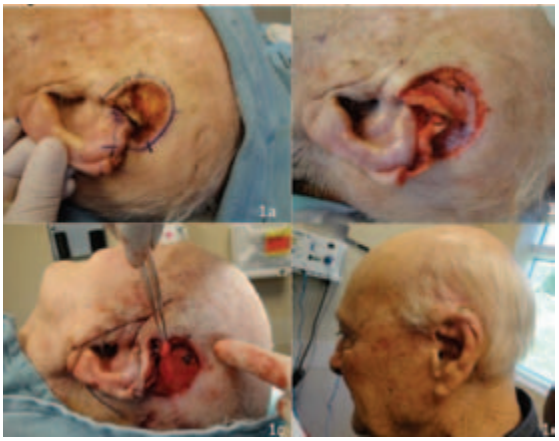
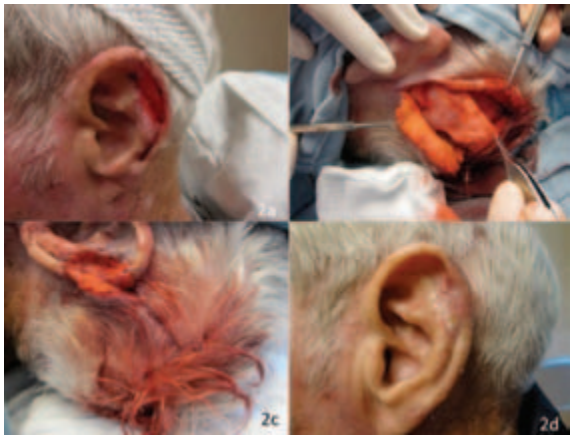


Figure 2. Postauricular fascial flap



132

TITLE: The Presence of Inflammation May Predict Carcinoma in Mohs Sections

AUTHORS: ***Michelle F. Henry, MD*** [1], *Nina F. Abraham, MD*[1], *Claudia I. Vidal, MD, PhD*[1], *Robert G. Phelps, MD* [1], *Ellen S. Marmur, MD*[1]

INSTITUTION: 1. Dermatology, Mount Sinai School of Medicine, New York, NY, United States

PURPOSE: The histopathologic evaluation of tissue obtained from Mohs micrographic surgery is important in obtaining complete tumor removal. Areas of dense inflammation are commonly removed during Mohs surgery because of the concern that they may mask or predict areas of tumor. As the goals of Mohs surgery are trifold: tumor clearance, maintaining functionality through margin minimalization and providing an aesthetically acceptable scar, it is important to

delineate surgical techniques that provide tumor clearance while optimizing the two secondary objectives.

OBJECTIVE: We sought to evaluate whether inflammation predicted carcinoma Mohs sections in order to determine if surgical margins should always include all inflammation

DESIGN: Serial sections and immunohistochemical technique with anticytokeratin antibodies (AE1/AE3 and CK8/18) were performed on Mohs frozen sections found to have moderate inflammation on histology.

SUMMARY: A total of 31 Mohs cases were examined. 19 (61%) showed evidence of moderate inflammatory infiltrate and were chosen for further evaluation. Tumor was found in 7 of the 19 cases (39%). This included 4 squamous cell carcinoma, 2 basal cell carcinoma, and 1 keratoacanthoma. 2 of 7 cases (29%) detected tumor on serial sections not detected on routine histology. 12 (39%) showed none or mild inflammatory infiltrate.

CONCLUSION: Areas of inflammation may predict carcinoma during Mohs surgery. Step sections and immunohistochemistry may provide additional information that can aid in definitive therapy. Further studies are warranted.

133

TITLE: HPV Types in Transplant-Associated Squamous Cell Carcinomas

AUTHORS: *Todd C. Becker, MD, PhD*[1], *Teresa T. Soriano, MD*[1]

INSTITUTION: 1. Dermatology/Medicine, UCLA, Los Angeles, CA, United States

PURPOSE: Solid organ transplant recipients are among the most challenging patients in Mohs surgery practice. Immunosuppression dramatically increases patients' risk of developing non-melanoma skin cancer. Skin cancers ultimately affect over 50% of transplant recipients. In particular, the risk of squamous cell carcinoma is increased 65-250 fold in transplant recipients. While some patients have numerous and frequent skin cancers, others go many years without any lesions. There is not yet a way to predict whether a patient will be in a high- or low- risk group. Immunosuppression leads to increased infection with human papillomavirus (HPV), and these infections may play a role in promoting cutaneous malignancies. The goal of this study is to detect HPV types in transplant-associated SCCs. We hope to discover specific HPV types that may identify transplant patients who are at highest risk for developing squamous cell carcinomas.

DESIGN: Biopsy specimens were collected from patients in the university transplant dermatology clinic undergoing Mohs surgery for squamous cell carcinoma. Lesions were limited to sun-exposed skin, including head and neck, forearms and hands. DNA was isolated from paraffin-embedded specimens and subjected to general-primer-PCR reverse-line-blotting to specifically detect cutaneous HPVs.

SUMMARY: HPV typing was performed on SCCs from solid organ transplant patients presenting for Mohs excision. We detected between 0 and 6 HPV types per lesion, including 11 unique HPV species. The most prevalent HPV types were HPV20 (6/11), HPV9 (3/11) and HPV4 (2/11). The mean number of HPV types identified was 1.2±0.3 in renal transplant patients versus 3.4±0.8 for cardiac transplant patients.

CONCLUSION: The majority of squamous cell carcinomas from transplant patients had detectable HPV DNA. SCCs from cardiac transplant patients had, on average, more HPV types than those from renal cell transplant patients. This is particularly interesting given the clinical observation that cardiac transplant patients appear to be at greater risk for developing SCCs than renal transplant patients. The most frequently detected species, HPV20, has been associated with malignant transformation in animal studies and in human cells in vitro. However, a role for HPV20 has yet to be demonstrated in humans. It will require a larger patient cohort to assess the association and possible causative role of specific HPV types in transplant-associated SCCs. In the future it may be possible to treat with vaccination or HPV-directed immunotherapy to prevent the development of SCCs in immunosuppressed patients.

134

TITLE: Influence of Pre-Operative Viewing of Educational Videos about Mohs Micrographic Surgery on Patients' Perceptions

AUTHORS: *Kaleena B. Noland, RN, BSN*[1], *Mark A. Hyde, MMS, PA-C*[1], *Glen M. Bowen, MD*[1,2]

INSTITUTIONS: 1. Cutaneous Oncology, Huntsman Cancer Institute at the University of Utah, Salt Lake City, UT, United States 2. Dermatology, University of Utah, Salt Lake City, UT, United States

PURPOSE: The purpose of this study is to determine if showing patients pre-operative educational videos about Mohs micrographic surgery will enhance their satisfaction and preparedness.

DESIGN: In our clinic, patients are contacted by a pre-operative phone call to discuss the Mohs procedure. All patients are given access to two videos via internet intended to educate them about Mohs surgery. One video is the "Patient Education Video" accessed through the web site for the American College of Mohs Surgery. The other video is a wound care video developed by the Melanoma and Cutaneous Oncology Program at the Huntsman Cancer Institute. During post-operative nurse calls all new patients were asked if they watched the educational videos. Additional questions explored how well the patient felt they were prepared for the procedure and their overall satisfaction.

SUMMARY: A total of 22 patients who had never had Mohs surgery were contacted following their Mohs procedure. Of

the 22 patients, 11 (50%) patients viewed both the Mohs educational video and the post-operative wound care video. The average preparedness of patients who watched both videos was 9.27 out of 10. The average preparedness for the 11 patients who watched neither of the videos was 8.72 out of 10. Of those patients who felt most prepared for their procedure (10 out of 10) 70% watched both educational videos.

CONCLUSION: Patient preparation is key to the patient experience during their Mohs procedure. It seems patients benefit from viewing pre-operative educational videos that discuss the procedure, timing expectations, and post-operative wound care instructions. As a result we feel patients who watch these videos pre-operatively are more prepared, understand the possible outcomes, and feel empowered going into their Mohs procedure.

Further data is being gathered and will be available at the time of presentation to the Mohs College.

135

TITLE: Locally Aggressive Atypical Fibroxanthoma – Case Series

AUTHORS: ***Renata Prado, MD***[1], *Alisa A. Funke, MD*[1], *J. Ramsey Mellette, Jr., MD*[1], *Mariah R. Brown, MD*[1]

INSTITUTION: 1. Dermatology, University of Colorado Denver, Denver, CO, United States

PURPOSE: Atypical fibroxanthoma (AFX) is a low-grade tumor that is typically characterized by its relatively small size and confinement to the dermis. We present three cases of AFX that are unique due to their size and the depth of invasion.

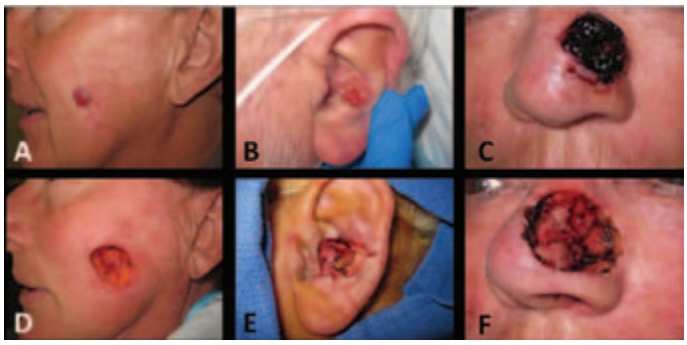
DESIGN: Atypical fibroxanthoma (AFX) is a malignancy that usually occurs on sun-damaged skin of the head and neck in elderly patients. Despite marked cellular atypia, the lesion is considered a low-grade sarcoma and is known to follow a benign clinical course. The largest case series of AFXs reports a median size of 10 mm, with tumor cells confined predominantly to the dermis. Smaller case series by Mohs surgeons document larger tumors, with a median size of 13 mm in one study. Mohs surgeons also report that almost all AFXs are cleared within 2 stages of Mohs, with an average margin of 4 mm in one study.

We present three cases of locally aggressive AFX of the head and neck, treated with MMS. Patient #1 is a 65 year-old male who presented with a fast growing nodule on the left cheek. The initial lesion measured 1.1 x 1.2 cm (Figure 1A) and tumor-free plane was achieved after 2 stages. The final defect measured 2.6 x 2.7 cm (Figure 1D), with tumor extension into the subcutis. Patient #2 is a 69 year-old male who presented with a new bleeding nodule on his left conchal bowl, measuring 2 x 1.5 cm preoperatively (Figure 1B). During MMS, extensive tumor invasion into the cartilage was found and a tumor-free plane was achieved after 2 stages. The final surgical defect measured 3.1 x 3 cm (Figure 1E). Patient #3 is a 64 year-old woman who presented with a rapidly growing lesion on the nose, complicated by constant bleeding. The initial size of the lesion was 2.5 x 2.0 cm (Figure 1C). Seven stages of MMS were required to clear the tumor, including removal of cartilage, and the final defect measured 5.1 x 4.3 cm (Figure 1F).

All three patients continue to be followed closely, and there has been no evidence of recurrence or metastatic disease after an average of 7 months of follow-up. Of note, prior to MMS, the diagnosis of AFX was achieved after histological examination of the tumor with special stains, including negative S100, negative pan-cytokeratin, and positive pro-collagen 1.

CONCLUSION: Our three cases highlight the potential for AFX to demonstrate locally aggressive behavior. These tumors were typical in their location (sun-exposed areas) and the age of the patients, but were characterized by a larger size and larger margins to clear the tumors than is typically seen in AFX. These cases also demonstrated much deeper tumor invasion, with penetration into the cartilage and subcutis, than is reported in the literature and that we normally see in our practice. In such cases, MMS is the preferred treatment modality, as it would be difficult to clear margins, particularly the deep margin, with standard excision. In addition, these cases illustrate the importance of special stains in diagnosing AFX, as these tumors could clinically and histologically be mistaken for amelanotic melanoma or spindle cell squamous cell carcinoma.

Figure 1: Pre-operative appearance of the lesions from patient #1 (A), patient #2 (B) and patient #3 (C) and final defect after tumor free plane was achieved of patient #1 (D), patient #2 (E) and patient #3 (F)



136

TITLE: The Role of PET/CT Imaging in the Evaluation and Management of Merkel Cell Carcinoma

AUTHORS: ***Sherrif F. Ibrahim, MD, PhD***[1], *Iris Ahronowitz, BS*[2], *Miguel H. Pampaloni, MD, PhD*[3], *Siegrid S. Yu, MD*[2]

INSTITUTIONS: 1. Dermatology, University of Rochester, Rochester, NY, United States 2. Dermatology, University of California San Francisco, San Francisco, CA, United States 3. Radiology and Biomedical Imaging, University of California San Francisco, San Francisco, CA, United States

PURPOSE: Merkel cell carcinoma (MCC) is among the deadliest of cutaneous malignancies with a mortality rate twice that of malignant melanoma. Management of this disease has been hindered by a lack of consensus evaluation and treatment guidelines. The utility of simultaneous positron emission tomography and computed tomography (PET/CT) scanning has been demonstrated for a variety of tumors. The purpose of this study was to report the contribution of PET/CT imaging in the initial workup and ongoing care of MCC patients, and to determine if any patient and/or tumor characteristics may predict when PET/CT is more likely to have greater impact.

DESIGN: A single institution, retrospective chart review was conducted of all patients diagnosed with MCC that underwent PET/CT scanning between 2007 – 2010. The outcome of each of these studies was evaluated as to the influence on patient staging and management. Patient information as well as gross and histologic tumor characteristics were collected and analyzed.

SUMMARY: Twenty-one patients (9 men, 12 women; median age 60, range 34 – 80 years) underwent a total of 40 PET/CT scans, comprising the largest reported cohort to date. Patient age, size and location of primary tumor, stage at presentation, history of immunosuppression, disease treatment history, maximum standardized uptake values (SUV), the presence of tumor infiltrating lymphocytes, depth of tumor invasion, and histologic growth index were noted for each patient when possible. Seven patients (33 %) had known metastatic disease at time of initial PET/CT. Of the 40 studies, 19 were performed for initial staging, 9 for longitudinal surveillance, and 12 to monitor the response to specific therapy. PET/CT resulted in changes in staging in 3 (7.5 %) instances, however, had PET/CT been performed earlier in the workup of patients, this number may have increased to as many as 8 (20 %). Of these 8 cases, 3 were in patients who originally presented with local disease that progressed to metastatic disease. There were no cases where PET/CT findings contradicted those of pathologic nodal staging and no cases of recurrence in the setting of negative PET/CT. Two patients were noted to have incidental second primary malignancies.

CONCLUSION: PET/CT is a valuable tool in the management of patients with MCC in 3 settings: (1) initial staging; (2) serial monitoring; (3) to gauge response to therapy. When performed as part of an initial workup it is a sensitive method for the detection of metastatic disease. Furthermore, because 90 % of all recurrences of MCC occur within 2 years of presentation, close monitoring of these patients within this time frame is critical. Lastly, in this study, PET/CT scans were a useful method to monitor response to treatment. Ultimately, a positive effect on survival would need to be demonstrated to confer the impact of serial PET/CT scanning with sensitivity and cost effectiveness greater than that of other imaging modalities.

137

TITLE: Partial Subunit Island Pedicle Flap (IPF) for Small Defects Isolated to the Alar Subunit

AUTHORS: *Christopher J. Miller, MD*[1], *Joseph F. Sobanko, MD*[1]

INSTITUTION: 1. Dermatology, University of Pennsylvania, Philadelphia, PA, United States

PURPOSE: To present a novel modification of the island pedicle flap, termed "partial subunit" repair, which allows reliable reconstruction of small defects isolated to the alar subunit.

DESIGN: In a series of 9 consecutive patients, we present indications, flap design, flap undermining, suturing technique and immediate and long-term follow-up. This flap is indicated for defects <5 mm in width and isolated to the anterior ½ of the alar subunit. A column extending from the superior aspect of the defect to the alar groove and from the inferior aspect of the defect to the free margin of the ala is excised to the depth of the alar mucosa. Superiorly, an incision is made through the dermis but above the levator labii superioris alaque nasi and alar portion of the nasalis muscle from the superior aspect of the newly excised column to the base of the alar groove at the hairless triangle. Inferiorly, an incision is made along the alar rim from the inferior aspect of the newly excised column to the base of the alar groove. The inferior incision is made at the junction of the alar mucosa and the alar portion of the nasalis muscle.

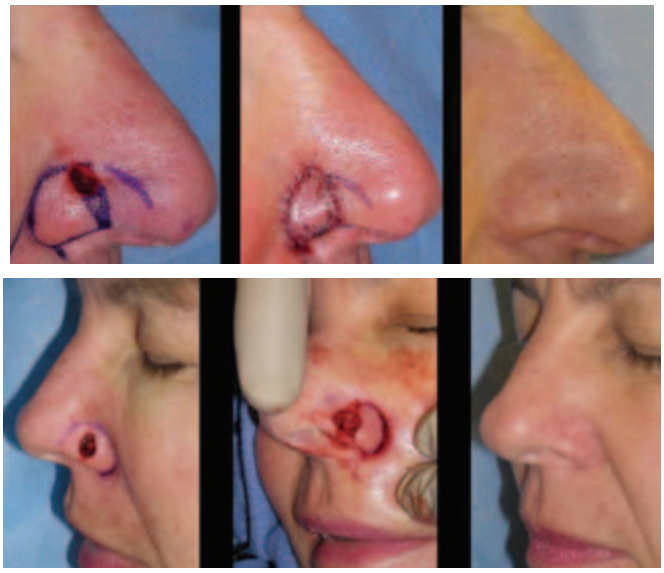
Undermining occurs in 2 planes. Superiorly and laterally, the nasal sidewall, cheek, and apical triangle of the lip are undermined immediately under the dermis, taking care to preserve the branches from the angular artery. At the incision along the alar rim, the flap is undermined in below the alar portion of the nasalis muscle, immediately superior to the hair bulbs of the alar mucosa.

The key suture is placed at the leading edge of the flap to close the vertical columnar defect. The cheek and apical lip are advanced medially to close the secondary defect using a horizontal tension vector to avoid alar lift. Finally, the mucosa at the alar rim is sutured to the inferior margin of the flap. The excess volume of the alar mucosa can usually be distributed by a rule of halves; if not, the excess tissue should be distributed toward the base of the ala near apical triangle of the lip, and excised as necessary.

SUMMARY: 9 patients underwent Mohs micrographic surgery for tumors of the ala. All patients had small defects (<5 mm in width), which were successfully repaired with a partial subunit island pedicle flap. All patients had excellent cosmetic and functional outcomes with preservation of the normal position and contour of the ala. Function of the external nasal valve was preserved.

CONCLUSION: Previous authors have described the island pedicle flap for repair of alar defects with either the inferior limb of the flap located in the middle of the alar subunit

or a nasal sidewall donor site requiring bridging the alar groove. We present a novel modification, termed a "partial subunit" IPF which allows reliable reconstruction of small defects isolated to the anterior one half of the alar subunit. Compared to previously described IPFs, this flap optimizes placement of scars within cosmetic subunit junction lines and the free margin of the ala, and it avoids borrowing any tissue from outside of the alar subunit. By moving the flap on a muscle sling, the flap advances medially with minimal to no buckling of the alar margin. The position of the free margin of the ala and the function of the external nasal valve are preserved. Additionally, skin color, texture, and volume are optimized.



138

TITLE: The Impact of Cutaneous Squamous Cell Carcinoma Thickness on Mohs-assisted Excisions: A Pilot Study

AUTHORS: *Abdel K. El Tal, MD[1], **Valencia D. Thomas, MD[1]***

INSTITUTION: 1. Dermatology, UT Houston/MD Anderson Cancer Center, Houston, TX, United States

PURPOSE: In 2010, the College of American Pathologists (CAP) revised the criteria for aggressive squamous cell carcinomas (SCCs) of the skin to include tumors greater than 2 mm. Prior to 2010, tumors greater than 4mm in thickness were classified as aggressive. This study seeks to examine the relationship between SCC thickness and the number of Mohs micrographic surgery (MMS) stages required for complete tumor extirpation.

DESIGN: This study is a retrospective chart review of SCCs with histologically-documented tumor thickness that underwent Mohs-assisted excisions between July 1, 2009 to December 31, 2010.

SUMMARY: A total of 87 histologically-measured SCCs subsequently underwent MMS. Fifty-six tumors measured less than 2 mm in thickness and required an average of 1.32 MMS stages for complete clearance. The remaining thirty-one tumors measuring 2mm or greater in thickness required an average of 1.33 stages for complete tumor extirpation.

CONCLUSION: At this time, the thickness of SCC is not correlated with the number of MMS stages required for complete tumor clearance.

139

TITLE: Increasing Rates of Non-melanoma Skin Cancer in the US, 1995-2007

AUTHORS: *Ashley Wysong, MD, MS[1], Tina M. Hernandez-Boussard, MPH, PhD[2], Eleni Linos, MD, MPH[1], Jean Y. Tang, MD[1], Hayes B. Gladstone, MD[1]*

INSTITUTIONS: 1. Department of Dermatology, Stanford University, Redwood City, CA, United States 2. Stanford University School of Medicine, Stanford, CA, United States

PURPOSE: We previously reported overall demographic patterns of NMSC in the US over the last 10 years. This subset analysis aims to better elucidate the overall trends in incidence and treatment patterns of NMSC over the last decade.

DESIGN: This is a cross sectional analysis of the National Ambulatory Medical Care Survey (NAMCS) between 1995 and 2007. NAMCS is an annual federal survey conducted by the National Center for Health Statistics of office visits made by ambulatory patients to a sample of approximately 1,500 non-federally employed physicians selected from the American Medical Association database. A weighted sampling technique allows for calculation of nationally representative estimates of the number of patient visits and patient characteristics. Data are obtained on patients' symptoms, physicians' diagnoses, medications, demographic characteristics, diagnostic procedures, and treatment. Our analysis was restricted to Non-Hispanic white patients over 18 years of age who had NMSC recorded as a reason for their physician visit (ICD9 codes 173, 232). Benign skin conditions including seborrheic keratoses, corns, scars as well as actinic keratoses and malignant melanoma were excluded. All analyses were weighted to account for survey sampling in order to make results applicable to the entire US population. Population adjusted rates of NMSC were calculated and linear regression models determined the annual percent change (APC). In addition, multivariate logistic regression was used to evaluate the effects of age, gender, provider type, insurance, and region of the country on treatment patterns.

SUMMARY: Overall population adjusted prevalence of NMSC increased in 1995 to 2007 from 9.1/1000 to 16.6/1000 (Figure 1). The rates were significantly increased in men (APC = +5.23, p=0.02), particularly those over age 65 (APC: +4.80, p=0.01) (Figure 2). In addition, an increase was noted in all individuals over the age of 65 compared to those under 65 years (APC: +3.49, p=0.04). Among all individuals less then 65, a trend was noted toward increased rates in women (from 6.6/1000 to

9.1/1000) while rates in men less than 65 remained stable. Despite these increases in rates of NMSC, the number of procedures has not been increasing over time in terms of total number, percentage of those with NMSC, and in multivariate models. The most important predictors of receiving a procedure for NMSC using multivariate logistic regression (including destruction by freezing, ED&C, local excision, and Mohs) included male sex (OR 1.3, p=0.01), being seen by a dermatologist (OR 5.13, p<0.0001), and having private pay insurance (OR 1.9, p=0.0003). In addition, there was a trend toward increased procedures in urban environments, though not statistically significant.

CONCLUSION: Non-melanoma skin cancer rates are increasing and the rate of increase appears to be climbing faster in men than women, particularly over the age of 65. This study also suggests that patients who have access to a dermatologist may receive more prompt definitive treatment, and that there is a discrepancy in treatment for NMSC based on insurance type and gender. NMSC poses a significant and increasing burden to our healthcare system and providers.

Figure 1.

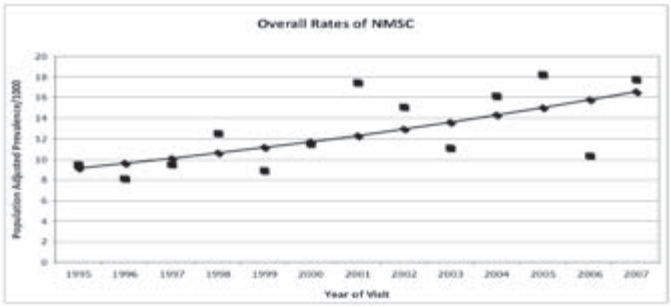
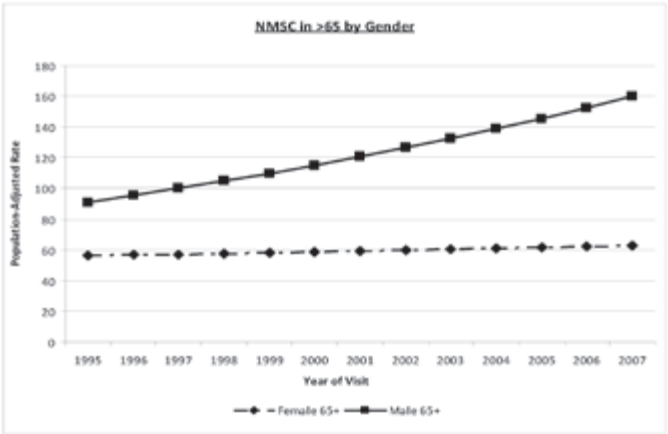


Figure 2.



140

TITLE: The Off Label Use of Imiquimod 5% Cream as an Adjuvant Treatment to Staged Surgical Excisions in Lentigo Maligna: A Retrospective Review of 311 Patients

AUTHORS: *Nicholas R. Blickenstaff, BS[1,2], Mark A. Hyde, MMS, PA-C[2], Glen M. Bowen, MD[2]*

INSTITUTIONS: 1. Dermatology, University of Utah School of Medicine, Salt Lake City, UT, United States 2. Huntsman Cancer Institute, Salt Lake City, UT, United States

PURPOSE: The current standard of care for the treatment of lentigo maligna (LM) is to perform staged surgical excisions in an attempt to verify clear perimeter margins before surgical repair. This approach has reduced, but not eliminated, perimeter recurrences. Although staged excisions have reduced recurrence rates for LM, they result in significant morbidity due to the relative large sizes of the defects compared to other melanoma subtypes. We report on the off label use of imiquimod 5% cream as an adjuvant treatment for LM to allow for more conservative staged excisions.

In this study, we retrospectively reviewed 311 patients with a histological diagnosis of LM who had been pretreated with imiquimod 5% cream with or without tazarotene 0.1% gel followed by conservative staged excisions with two millimeter margins. We sought to evaluate whether the level of inflammation achieved or the length of treatment might predict complete tumor clearance rates.

DESIGN: A total of 311 patients who were treated for an average of two months with imiquimod 5% cream five days a week (Monday thru Friday). All patients were evaluated after the first four weeks of treatment to assess inflammation. If no appreciable inflammation was clinically present, tazarotene 0.1% gel was added twice a week (Saturday thru Sunday) in hopes of decreasing the stratum corneal lipid barrier to penetration of the topical agent. In all cases, the patients underwent a staged surgical excision two months after stopping the topical therapy to assess for residual tumor and perimeter margin control. Outcomes were sorted by the histologic absence of disease at the time of surgery, residual histologic disease not requiring additional surgery, and residual disease requiring an additional stage of surgery.

SUMMARY: 209(67.2%) patients received imiquimod alone. 102(32.7%) patient received imiquimod and tazarotene. 223(72.1%) patients were male and 88(27.9%) patients were female. Further descriptive statistics are pending.

CONCLUSION: Pending.

141

TITLE: Perception versus Reality in Academic Dermatologic Surgery: A Study of Motivation, Retention, and Loss

AUTHORS: *Katharine L. Arefiev, MD*[1], *Hayes B. Gladstone, MD*[1]

INSTITUTION: 1. Department of Dermatology, Division of Dermatologic Surgery, Stanford, Redwood City, CA, United States

PURPOSE: Published studies have looked at academic dermatology as a whole regarding issues of recruitment and retention, but very little has focused on the subspecialty of academic dermatologic surgery. Our goal was to survey fellowship trained Mohs surgeons to review factors that motivated a career in academics and factors that influenced some surgeons to leave. We also wanted to compare the actual influences for leaving academia versus the reasons perceived by current academic surgeons.

DESIGN: An online survey was sent in December 2010 to members of the American College of Mohs Surgery whose email address was available on the ACMS website. The survey was designed so that based on answers to an initial set of questions, respondents were separated into three groups: 1) currently an academic dermatologic surgeon, 2) formerly an academic dermatologic surgeon, and 3) never practiced in academics. Questions were asked using a combination of five-point Likert scales, multiple choice, and open response sections.

SUMMARY: Preliminary data from 67 respondents (36 current academic dermatologic surgeons, 12 previously in academics, and 19 who never practiced in academics) was analyzed. It suggests that initial motivating factors to work in academia are similar between current and former academic surgeons: 75% of both groups stated a desire to teach. Additionally, 67% of current and 83% of former academic surgeons stated the opportunity for collaboration as a motivating factor. It also reveals differences between the surgeons' perception of why their colleagues left academics and the actual factors: 92% of current versus 55% of former academic surgeons 'agreed' or 'strongly agreed' that they leave for higher financial reimbursement. In contrast, the strongest factor influencing the decision to leave academia was for greater control over staff (92%). Other significant factors included too much bureaucracy (82%) and family or lifestyle reasons (50%).

The preliminary data also revealed that half of former academic dermatologic surgeons were directors of their programs at the time they left, and the majority of respondents indicated that they would return to a full time academic position if the reason(s) they left were rectified.

CONCLUSION: Retention of fellowship trained Mohs surgeons in academia is critical for the future of our subspecialty. Unfortunately many dermatologic surgeons who have been leaders in academics have left. The early responses of our survey have illustrated some of these factors and how they vary with the perceived influences. It is important for the departmental, medical school and hospital leadership to understand these actual motivations in order to retain current and future academic dermatologic surgeons.

142

TITLE: Surgeon, Sex, Age, Location, and Orientation; Do They Affect The Closure Length to Wound Diameter Ratio For Primary Repairs Following Mohs Surgery?

AUTHORS: *Shelbi Jim On, MS4*[2], *April W. Armstrong, MD, MPH*[1], *Thomas H. King, MD*[1], *Daniel B. Eisen, MD*[1]

INSTITUTIONS: 1. Dermatology, University of California, Davis, Sacramento, CA, United States 2. Medicine, University of Hawaii, Honolulu, HI, United States

PURPOSE: When planning a skin excision, most authorities state that the length of the wound needs to be approximately 3-4 times as long as it is wide in order to avoid cutaneous redundancies. However, there appears to be little data other than one small study and the results of mathematical models to support this notion. Previous studies have shown that skin varies considerably in nature depending on anatomic location, patients' age, and the distribution and magnitude of the surrounding tension field. Our study hopes to determine whether a patient's age, sex, orientation of closure, location of closure, surgeon, and presence of resident or fellow during the procedure will affect closure length. Additionally we hope to determine whether the actual closure length adheres to the 3:1 length to width ratio guidelines. Knowing the likely length of the planned repair can help in patient education and wound closure planning.

DESIGN: In this retrospective chart review study, data previously accumulated within two University affiliated outpatient surgery facilities was used to identify a cohort of patients who underwent Mohs surgery with repair by primary closure within a ten-year span. Our databases collectively contained information on 3211 patients with primary repairs following Mohs surgery by three different dermatologic surgeons. Data regarding the patients' age, sex, length and width of Mohs defect, location of closure, orientation of closure, surgeon and presence of resident or fellow during procedure were collected. Location of closure was limited to ten groups: temple, cheek, forehead, nasal tip, scalp, upper lip, lower eyelid, neck, nose sidewall, and chin. Digital images taken following the procedure were used to determine the orientation of closure compared to relaxed skin tension lines at the body site involved. Closure ratios were determined by dividing the length of the wound closure by the mean of its length and width. Statistical analysis will be performed to determine the effects of age, sex, location, orientation and presence of residents/fellows affect the overall length of the closure.

SUMMARY: An interim analysis indicates the median closure length ratio is 2.53:1. Nasal tip closures had the largest average closure length ratio. The average closure length

ratio at each of the ten different locations is summarized in Table 1. Moreover, our preliminary data revealed that the average closure length ratio at each of the ten sites varied by dermatologic surgeon (Table 1). Interestingly, closure length ratios appeared similar even with different closure orientations relative to the relaxed skin tension lines (Table 2). Statistical analysis of the effects of the patients' age, sex, closure orientation, surgeon, location of closure, and presence of resident/fellow during the procedure is underway and will be completed prior to the meeting.

CONCLUSION: Preliminary data suggests that closure length, with the exception of the nasal tip, appears to vary little based upon location. Conversely, considerable variability appears to exist among different surgeons. Definitive conclusions await full completion of data collection and final statistical analysis to be complete prior to the annual meeting.

Table 1. Average closure length ratio for all three surgeons combined and separately at each of the ten sites.

Location	Average Closure Length Ratio- All Surgeons	Average Closure Length Ratio (Surgeon 1)	Average Closure Length Ratio (Surgeon 2)	Average Closure Length Ratio (Surgeon 3)
Cheek	2.55	2.57	2.81	2.47
Chin	2.22	-	2.73	2.14
Forehead	2.50	3.04	2.68	2.31
Lower Eyelid	2.53	2.47	2.97	1.82
Neck	2.32	2.45	2.59	2.16
Nose Sidewall	2.61	1.20	2.89	2.18
Nose Tip	3.43	1.0	2.30	3.12
Scalp	2.35	2.46	2.95	2.19
Temple	2.54	-	3.10	2.21
Upper Lip	2.54	2.72	2.55	2.38

Table 2. Closure length ratios for wounds closed at different orientations relative to relaxed skin tension lines.

Orientation Relative to Relaxed Skin Tension Lines	Closure Length to Mean Wound Diameter Ratio
0'	2.47
45'	2.69
90'	2.57

143

TITLE: Novel Use of MOC-31 Antibody to Distinguish Basal Cell Carcinoma Cells from Normal Epidermal and Hair Follicle Cells and Its Possible Applications in Mohs Surgery

AUTHORS: *Liliana J. Saap, MD*[1], *Catherine M. Breen, MD, MPH*[1], *Todd J. Vinovrski, MD*[1], *Alex T. Iwamoto*[1], *Vincent Falanga, MD*[1 2], *Satori Iwamoto, MD, PhD*[1]

INSTITUTIONS: 1. Dermatology and Cutaneous Surgery, Roger Williams Medical Center affiliated with Boston University, Providence, RI, United States 2. Dermatology and Biochemistry, Boston University School of Medicine, Boston, MA, United States

PURPOSE: To describe the characteristics of a novel monoclonal mouse anti-human Epithelial Related Antigen (ERA) antibody, also known as MOC-31 and its utility in differentiating basal cell carcinoma cells from normal epidermal and hair follicle cells, as well as possible applications in Mohs surgery.

DESIGN: MOC-31, also known as Epithelial Related Antigen, is a monoclonal mouse anti-human antibody that targets the epithelial cell adhesion molecule (Ep-CAM, TACSTD1) expressed in epithelial cells (Pai RK and West RB, 2009). During the past twenty years, it has been found to be useful in distinguishing between reactive mesothelial cells and metastatic adenocarcinoma. In addition, studies have shown it to have excellent specificity in distinguishing invasive ductal and lobular carcinomas of the breast from mesothelial cells (Pai RK and West RB 2009) as well as differentiating metastatic carcinoma from hepatocellular carcinoma (Saleh et al. 2009). In our institution, MOC-31 is used frequently as part of a panel to determine the possible origin of poorly differentiated carcinomas. While evaluating some of these poorly differentiated carcinomas, it became apparent that MOC-31 has excellent staining qualities for basal cell carcinomas whether they are infiltrative, nodular or superficial. Even more interesting, MOC-31 is quite specific for basal cell carcinoma cells while not staining normal epidermal cells or hair follicle cells, as can be the case with the different epithelial keratins such as CKAE1 and CKAE3. MOC-31 specifically highlights the tumor, creating an obvious map of the tumor.

Because of these qualities, we wanted to test MOC-31 and see if these characteristics were consistent. We first collected all skin pathology specimens stained with MOC-31 in the past three years, analyzed them and graded the intensity of MOC-31 staining (grade 0 = no staining, grade 1 = mild staining, grade 2 = moderate staining, and grade 3 = strong staining). We then selected fifteen specimens of infiltrative basal cell carcinoma and had them stained with MOC-31 and analyzed the results. Because MOC-31 also stains eccrine ducts we also stained three microcystic adnexal carcinomas to see if MOC-31 could be useful during Mohs

surgery for evaluating margins when treating microcystic adnexal carcinomas.

SUMMARY: Out of the fifteen specimens of infiltrative basal cell carcinoma that we tested, all fifteen (100%) stained with MOC-31. Out of the three microcystic adnexal carcinomas, 2 of the tumors showed no staining with MOC-31 (grade 0), and one tumor showed very mild focal staining with MOC-31(grade 1). Interestingly, the only trichoepithelioma stained with MOC-31 also showed no staining (grade 0), a characteristic that may be useful when trying to differentiate between a trichoepithelioma and a basal cell carcinoma.

Upon reviewing all cases stained with MOC-31 in the past 3 years at our institution, we were able to find the following: 4/4 basal cell carcinomas (100%), 7/15 squamous cell carcinomas (47 %), and 1/2 Merkel cell carcinomas (50%) stained with MOC-31. One sebaceous carcinoma and one porocarcinoma stained focally (grade 1) with MOC-31. One eccrine carcinoma (0%), one trichoepithelioma (0%) and one malignant melanoma (0%) did not stain with MOC-31.

CONCLUSION: MOC-31 is a useful immunohistochemical marker for highlighting basal cell carcinomas and differentiating them from normal adjacent epidermal and follicular cells. This could be a useful characteristic during Mohs surgery when differentiating normal hair follicles, follicular proliferations, or isolated atypical cells from residual basal cell carcinoma. In addition, we were able to show that although MOC-31 stains normal eccrine ducts, it is not useful in highlighting microcystic adnexal carcinomas.

144

TITLE: Acceleration of Mouse and Human Wound Healing Using Systemic GCSF: A Novel Approach to Healing of Wounds and Potential Application to Mohs Surgery

AUTHORS: ***Liliana J. Saap, MD***[1], *Xiaofeng Lin, MD, PhD*[1], *Scott Hammerman, MD*[1], *Kendra Kobrin, BA*[1], *Polly Carson, CWS*[1], *Tatyana Yufit, MD*[1], *Vincent Falanga, MD*[1,2], *Satori Iwamoto, MD, PhD*[1]

INSTITUTIONS: 1. Dermatology and Cutaneous Surgery, Roger Williams Medical Center affiliated with Boston University, Providence, RI, United States 2. Dermatology and Biochemistry, Boston University School of Medicine, Boston, MA, United States

PURPOSE: Stem cells can accelerate wound healing with reduced scarring, but their use in human diseases is still in the investigational stages. We have previously reported a method whereby mesenchymal stem cells were aspirated from the bone marrow, amplified in vitro, and then placed back on human wounds, including Mohs surgery wounds as an accelerant to wound healing. In this study, we sought to develop a method of stem cell therapy that circumvents the need for bone marrow aspiration and in vitro amplification. Granulocyte colony stimulating factor (GCSF) is used in hematology to mobilize stem cells out of the bone marrow to be collected for stem cell transplantation in the treatment of lymphomas and leukemias. In a similar approach, we used GCSF to mobilize stem cells out of the bone marrow; however, rather than collect the stem cells, we allowed the cells to circulate and to home directly to a cutaneous wound via the bloodstream. We studied the effect of systemic GCSF in improving the healing of experimental wounds in mice and also, preliminarily, of a chronic wound in a human subject. Our objective was to begin to optimize conditions for stem cell therapy using GCSF.

DESIGN: We measured how well GCSF mobilized the stem cells out of the bone marrow and into the peripheral circulation by measuring stem cell concentrations in two ways: We used colony forming assays that selected for stem cells and we performed flow-cytometry using the stem cell antibodies Sca-1 and c-Kit. For our experimental mouse wounds, we created full thickness skin wounds on the tail. We measured wound healing in 3 ways at different time points: clinical appearance of the wound, proportion of wound epithelialization, and collagen content in polyvinyl alcohol sponges. We monitored stem cell homing from the bone marrow to the wound site using live imaging of chimeric mice to follow green fluorescent protein labeled bone marrow cells as the fluorescent signal moved to the wound. In addition, we treated one human subject with a chronic wound (refractory to standard treatments) using systemic GCSF.

SUMMARY: In the experimental mice, peripheral blood stem cells rose between three and five days after GCSF treatment. GCSF also resulted in cleaner, less crusted wound beds in wild type mouse wounds. GCSF treated mice exhibited a small increase in connective tissue formation, suggesting improved granulation. Live imaging showed a gradually increasing accumulation of bone marrow-derived cells in the tail wound for at least eight days after wounding. The wound of the human subject treated with GCSF showed an increase in granulation tissue followed by nearly a 50% decrease in the ulcer area.

CONCLUSION: We conclude that stem cell therapy using GCSF shows promise in stimulating wound healing. Furthermore, this approach circumvents the need for bone marrow aspiration and in vitro amplification of the cells.

In this presentation, we will introduce the principles of stem cell therapy, present our results above, and then discuss potential uses of this approach for treating chronic wounds or acute wounds of Mohs surgery.

Funded by National Institute of Health (NIH) sponsored Center of Biomedical Research Excellence (COBRE) grant P20RR018757.

EXHIBITOR FLOOR PLAN

Exhibit Hall hours:

Thursday, April 28	5:00 – 7:00 pm
Friday, April 29	12:00 – 6:00 pm
Saturday, April 30	8:00 am – 2:00 pm

Exhibit Hall located in the Palace Ballroom

ASMH Tabletop Exhibits

Michelson Diagnostics, Ltd.	EltaMD Skincare	MTI	RGP, Inc.	MedNet Technologies	Avantik Biogroup
Derm MD	Triangle Biomedical Sciences, Inc.	Travel Tech Mohs Services, Inc.	Aurora Diagnostics - ConsultDx	Custom Healthcare Systems, Inc.	Mohs Technical Consulting
Global Pathology Laboratory Services	Lippincott Williams & Wilkins	Midmark Corporation	NexTech	Medelita Scrubs & Lab Coats	Horizon MedCorp
Mohs Histology Consulting Services	Celerus Diagnostics	Ethicon, Inc.	Society of Dermatology Physician Assistants	Leica Micro-systems	Advanced Bio-Technologies, Inc.
Tiemann Surgical		Expeditor Systems, Inc.	Genentech	Microsugery Instruments, Inc.	DUSA Parmaceuticals
		Elsevier (Saunders/ Mosby)	Designs for Vision, Inc.	Viscot Medical, LLC	SurgiTel/ General Scientific Corp

Entrance

Posters

Thank you to our Gold Support Sponsor:

ETHICON, INC.
a Johnson & Johnson company

Thank you to our Bronze Support Sponsor:

Scope Publishing

Advanced Bio-Technologies, Inc.
1100 Satellite Blvd NW
Suwanee, GA, 30024
Phone: (678) 684-1426
Fax: (678) 684-1422
Email: info@advancedbiotech.com
Website: www.advancedbiotech.com

Advanced Bio-Technologies, Inc. is a world leader in the global scar treatment market. ABT's innovative products include Kelo-cote® Advanced Formula Scar Gel, a proprietary silicone technology used to treat and prevent abnormal scarring such as keloid, burn and hypertrophic scars, and bioCorneum®+, the only 100% silicone scar product with an SPF providing UVA/UVB protection.

Aurora Diagnostics – ConsultDx
11025 RCA Center Drive, Suite 300
Palm Beach Gardens, FL, 33410
Phone: (866) 420-5512
Fax: (561) 904-7820
Website: www.auroradx.com

Aurora Diagnostics – ConsultDx program provides pathology consultation services for creating innovative and profitable pathology revenue solutions for physician practices. Programs are customized to meet practice needs, are easy to implement, provide a high level of patient care, are low-risk, have minimal costs, and offer a dedicated support team.

Avantik Biogroup
32 Commerce Street
Springfield, NJ 07081
Phone: (973) 912-8900
Fax: (973) 232-0077
Email: sales@avantik-us.com
Website: www.avantik-us.com

Avantik Biogroup, dedicated to delivering exceptional service and quality products to the Mohs surgery laboratory. Your single source for instrumentation, consumables, and support.

Celerus Diagnostics
1005 Mark Avenue
Carpinteria, CA 93013
Phone: (805) 684-2009
Fax: (805) 684-2088
Email:
janet.eaton@celerusdiagnostics.com
Website: www.celerusdiagnostics.com

The Celerus Wave® RPD System provides a rapid and reliable means to aid in the assessment of surgical margins in Mohs micrographic surgery. By delivering high-quality immunohistochemistry (IHC) results in just 15 minutes, critical decisions can be made with speed and confidence. Turn to Rapid IHC® for rapid answers. www.celerusdiagnostics.com

Custom Healthcare Systems, Inc.
4205 Eubank Road
Richmond, VA 23231
Phone: (804) 421-5959
Fax: (804) 421-5961
Email: ibqb1@verizon.net
Website:
www.customhealthcaresystems.com

Custom Healthcare Systems is entering its 26th year manufacturing custom medical procedural devices. With a wealth of experience in the medical industry, we have expanded our expertise into Mohs procedures providing components explicit to each surgeon's request. Quotes and samples are available upon request. Please visit our website at: www.customhealthcaresystems.com.

Derm MD
540 Frontage Road, Suite 2110
Northfield, IL 60093
Phone: (847) 999-5110
Email: contact@mohssoftware.com
Website: www.mohssoftware.com

M.A.R.S is an affordable software solution that helps Dermatologists document patient encounters. You can free up your staff's valuable time by using M.A.R.S in your practice today. M.A.R.S software allows you to easily generate in-depth notes & letters and also integrates seamlessly with your current EMR or PM software. Visit our Booth #20 and take advantage of our special meeting offer. M.A.R.S is simple, easy and you can begin using it today.

Designs For Vision, Inc.
760 Koehler Avenue
Ronkonkoma, NY 11779
Phone: (800) 345-4009
Fax: (631) 737-1842
Email: info@dvimail.com
Website: www.designsforvision.com

Just See It™ with Designs for Vision's light weight 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
25 Upton Drive
Wilmington, MA 01887
Phone: (978) 657-7500
Fax: (978) 657-9193
Email: csdept@dusapharma.com
Website: www.dusapharma.com

DUSA Pharmaceuticals is an integrated, dermatology pharmaceutical company focused primarily on the development and marketing of its Levulan® Photodynamic Therapy (PDT) technology platform. Levulan Kerastick® plus blue light illumination using the BLU-U® blue light photodynamic therapy illuminator is currently approved for the treatment of Grade I or II AKs of the face or scalp.

Elsevier (Saunders/Mosby)
900 Twinspur Court
Henderson, NV 89002
Phone: (702) 205-8740
Email: m.fee@elsevier.com
Website: www.us.elsevierhealth.com

The world's leading medical publisher.

EltaMD Skincare
2055 Luna Road, #126
Carrollton, TX 75006
Phone: (800) 633-8872
Fax: (972) 385-7930
Email: info@eltamd.com
Website: www.eltamd.com

EltaMD develops and provides innovative sun care, skin care and post-procedure products that help develop, protect, and maintain healthy skin. Available through dispensing physicians, EltaMD products are formulated for all skin types and lifestyles.

Ethicon, Inc.
Gold Support Sponsor
Route 22 West
Somerville, NJ 08876
Phone: (877) 384-4266
Website: www.ethicon360.com

Ethicon, Inc. has been a leader in surgical sutures for more than 100 years. With innovative technologies such as DERMABOND® Topical Skin Adhesive, Plus Antibacterial Sutures and FlexHD® Acellular Hydrated Dermis, ETHICON is focused on the specific needs of the surgeon, nurse, patient and hospital. Our mission: Restoration of body, and of life.

Expeditor Systems, Inc.
4090 Nine McFarland Drive
Alpharetta, GA 30004
Phone: (800) 843-9651
Fax: (770) 664-5214
Email: jsmith@expeditor.com
Website: www.expeditor.com

Helping professionals streamline patient flow, increase productivity and enhance efficiency since 1982. Every Expeditor System is a custom designed light signaling solution built to surpass the individual needs of your practice. Let us show you why more than 7,000 physicians currently rely on Expeditor.

Genentech
1 DNA Way
South San Francisco, CA 94080
Phone: (650) 225-1000
Website: www.gene.com

Founded more than 30 years ago, Genentech is a leading biotechnology company that discovers, develops, manufactures and commercializes medicines to treat patients with serious or life-threatening medical conditions. The company, a member of the Roche Group, has headquarters in South San Francisco, California.

Global Pathology Laboratory Services
16250 N.W. 59th Ave., Suite 201
Miami Lakes, FL 33014
Phone: (305) 825-4422
Fax: (305) 779-5387
Email: pattya@globalpathlab.com
Website: www.globalpathlab.com

Providing personal, precise, Dermatopathology services by professionals focused on patient care. Diagnosis rendered only by Board Certified Dermatopathologists. Rapid turn around time to all physicians throughout the United States. Toll free: (866) 825-4422.

Horizon MedCorp
301 N. Main Street, Suite 2308
Winston Salem, NC 27101
Phone: (800) 865-6424
Fax: (800) 279-3025
Email:
chris.walker@horizonmedcorp.com
Website: www.horizonmedcorp.com

A wound dressing that facilitates a reduction in blood loss by improving rates of clot formation. Clot integrity is maintained subsequent to removal resulting in a stabilized wound area. It is constructed of a proprietary weave of specialty fibers that contain no chemicals, biologicals, or active hemostatic agents.

Leica Microsystems
2345 Waukegan Road
Bannockburn, IL 10956
Phone: (800) 526-0355
Fax: (847) 405-2075
Email:
daria.cardinali@leica-microsystems.com
Website: www.leica-microsystems.com

Visit the Leica Microsystems booth to see the latest technology in cryosectioning for Mohs surgery. Cryostats by Leica Microsystems feature exemplary safety standards, and they are capable of fulfilling the needs of even the busiest dermatologic practice. For a limited time, Leica Microsystems is offering a special start-up package that includes the Leica CM1510 S Cryostat, Leica ST4020 Mini-Automatic Stainer, and a Leica DM1000 Microscope for $19,995.

Lippincott Williams & Wilkins
2652 Hourglass Drive
Henderson, NV 89052
Phone: (702) 293-5728
Fax: (702) 293-5728
Email: sgervase@lww.com
Website: www.lww.com

Medical.

Medelita Scrubs & Lab Coats
1046 Calle Recodo, Suite D
San Clemente, CA 92673
Phone: (877) 987-7979
Fax: (949) 542-4101
Email: contact.us@medelita.com
Website: www.medelita.com

Experience sophistication, functionality and quality at the Medelita boutique-booth 43. Try on one of our many styles of professionally tailored, 100% cotton lab coats or a pair of the most flattering and comfortable scrubs available. Receive complimentary shipping and custom embroidery on 2 or more items.

MedNet Technologies
1975 Linden Boulevard, Suite 407
Elmont, NY 11003
Phone: (516) 285-2200
Fax: (516) 285-1685
Email: info@mednet-tech.com
Website: www.mednet-tech.com

MedNet Technologies designs, hosts and manages websites for medical practices, hospitals and healthcare organizations. Developing and optimizing your web presence on the Internet is our goal.

Michelson Diagnostics Ltd.
11A Grays Farm Production Village
Orpington
Kent
BR5 3BD
United Kingdom
Phone: +44 (0)208 308 1695
Fax: +44 (0)121 275 6237
Email: enquiries@md-ltd.co.uk
Website:
www.michelsondiagnostics.com

Michelson Diagnostics' Multi-Beam Optical Coherence Tomography technology provides real time images of up to 2mm into tissue with a resolution of better than 10 microns. It's VivoSight OCT scanner has 510(k) clearance for use to aid dermatological clinical judgments, including non-melanoma skin cancer assessment and guiding skin cancer surgery.

Microsurgery Instruments, Inc.
P.O. Box 1378
Bellaire, TX 77402-1378
Phone: (713) 664-4707
Fax: (713) 664-8873
Email: microusa@microsurgeryusa.com
Website: www.microsurgeryusa.com

Microsurgery Instruments is one of the leading suppliers of surgical instruments and loupes. Our new instruments include: titanium scissors, needle holders, and debakey forceps. Our Super-Cut scissors are the sharpest in the market, and our newly designed surgical loupes offer up to 130mm field of view, and up to 11x magnification.

Midmark Corporation
60 Vista Drive
Versailles, OH 45380
Phone: (800) 643-6275
Fax: (800) 365-8631
Email: info@midmark.com
Website: www.midmark.com

Midmark Corporation is a leading manufacturer of the most user-and patient-friendly examination and procedure equipment available. Headquartered in Versailles, Midmark provides a full line of power and manual examination tables, sterilizers, casework, seating, lighting, ECG's and accessories for use in healthcare systems and facilities worldwide.

Mohs Histology Consulting Services
2507 S. Manito Boulevard
Spokane, WA 99203
Phone: (509) 954-7134
Fax: (509) 624-3926
Email: mickie25@netzero.net
Website:
www.mohshistologyconsulting.com

Our 10 year dedication to providing Mohs laboratory set-up including CLIA manuals and proven N.S.H. Accredited Technician Training is well known. Our value added service has helped our many clients make their laboratories CLIA and OSHA compliant and simplify their inspection process with the most up to date information and expertise available. Visit www.mohshistologyconsulting.com for more information.

Mohs Technical Consulting
894 Buck Falls Road
Highlands, NC 28741
Phone: (828) 369-2315
Fax: (800) 282-3066
Email: histobarb@msn.com
Website:
www.mohstechnicalconsulting.com

- *Training done in your office for your staff to be proficient in cutting Mohs and Histopath sections. Full accredited programs.*
- *Consulting services available from lab layout, to full training of new techs.*
- *Includes manuals for laboratory regulations for CLIA/OSHA.*
- *We have a zero deficiency rating with CLIA.*
- *Advanced workshops available every 4 months.*

MTI Medical Technology Industries
3655 W. Ninigret Drive
Salt Lake City, UT 84093
US & Canada Sales Phone:
(800) 924-4655
Int'l Customer Service Phone:
(801) 875-4998
Fax: (801) 952-0548
Email: matthew.baker@mti.net
Website: www.mti.net

MTI will exhibit samples of our line of low voltage powered surgery tables. Also on display will be examples of our large selection of power and manual exam and treatment chairs, plus an impressive display of surgical and exam lighting.

NexTech
5550 W. Executive Drive, Suite 350
Tampa, FL 33609
Phone: (813) 425-9200
Fax: (813) 425-9292
Email: websales@nextech.com
Website: www.nextech.com

NexTech Practice 2011 is fully integrated Practice Management, Marketing, and EMR/EHR software designed specifically for Dermatologists and Dermatologic Surgeons, Cosmetic Medical Practices, and Medical Spas. With a client base of over 3,000 physician clients and 20,000 in staff worldwide, Practice 2011 is comprehensive, completely modular, and CCHIT 2011 certified.

RGP, Inc.
1 Shannon Court
Suite 103
Bristol, RI 02809
Phone: (401) 254-9695
Fax: (401) 254-0157
Email: dj@rgpergo.com
Website: www.rgpergo.com

The Swedish Seating System is an ergonomically designed operatory stool. Our 400-D (bold, underlined, italics) combines unparalleled support with an elegant design and the hydraulic mechanism allows the stool's back and seat to 'float', following ones' movement.

Society of Dermatology Physician Assistants
P.O. Box 701461
San Antonio, TX 78270
Phone: (800) 380-3992
Fax: (830) 438-5425
Email: sdpa@dermpa.org
Website: www.dermpa.org

The SDPA is a non-profit professional organization composed of members who provide dermatologic care or have an interest in dermatology. Fellow members provide medical services under the supervision of a Board-Certified Dermatologist.

SurgiTel/General Scientific Corp
77 Enterprise Drive
Ann Arbor, MI 48103
Phone: (734) 996-9200/
(800) 959-0153
Fax: (734) 662-0520
Email: info@surgitel.com
Website: www.surgitel.com

SurgiTel®/GSC will present their award-winning ultra lightweight surgical loupes, lightweight fiber optic lights, portable LED lights, clip-on image enhancement filters, and clip-on laser filters. The use of SurgiTel® loupes and illumination systems will not only improve your vision but also reduce your neck and back pain. Also, patented image enhancement filters can significantly enhance anatomical features such as veins, nerves, arteries, etc. These filters can be used with or without surgical loupes.

Tiemann Surgical
25 Plant Avenue
Hauppauge, NY 11788
Phone: (800) 843-6266
Fax: (800) 577-6050
Email: sales@georgetiemann.com
Website: www.georgetiemann.com

Manufacturers of quality surgical instruments since 1826. Specializing in instruments and accessories for Dermatology, Mohs, Liposuction, Dermabrasion and Hair Transplant Surgery.

Travel Tech Mohs Services, Inc.
1300 E. 223rd Street, #411
Carson, CA 90745
Phone: (310) 328-7846
Fax: (310) 328-0690
Email: alex@gotmohs.com
Website: www.gotmohs.com

Travel Tech Mohs Services, Inc. is an on-site Mohs technician service providing the highest quality Mohs frozen sectioning. Our mission is to maximize client's quality of care in Mohs surgery using our knowledge, skill, and efficiency. Reliable and consistent accuracy is proof of our personal dedication to every client's needs.

Triangle Biomedical Sciences, Inc.
3014 Croasdaile Drive
Durham, NC 27705
Phone: (919) 384-9393
Fax: (919) 384-9595
Email:
acampbell@trianglebiomedical.com
Website: www.trianglebiomedical.com

Triangle Biomedical Sciences specializes in working with private physician offices in the development & implementation of their own In-House Physician Office Labs. Visit the TBS booth to learn how TBS can assist you with generating a new source of revenue for your practice in as little as 2-3 months!

Viscot Medical, LLC
32 West Street
East Hanover, NY 07936
Phone: (973) 887-9273
Fax: (973) 887-3961
Email: romola@viscot.com
Website: www.viscot.co

Introducing the Blephmarker™ Surgical Marker with Twin Ultrafine Tips is ideal for precise facial marking or other fine lines. Viscot has offered the broadest line of Surgical Skin Markers for over 35 years. Our markers are high quality and very economical.

THURSDAY, APRIL 28

6:30 am – 5:00 pm	Meeting Registration/Information	Office 5 Registration Desk; *Emperors Level* (outside of Palace Ballroom)
7:00 am – 9:00 pm	Visit Mohs Slide Library	Tarranto; *Emperors Level*
2:00 pm – 5:00 pm	Exhibit Set-up	Palace 2; *Emperors Level*
5:00 pm – 7:00 pm	ACMS Exhibit Hall Open	Palace 3; *Emperors Level*

FRIDAY, APRIL 29

6:30 am – 5:30 pm	Meeting Registration/Information	Office 5 Registration Desk; *Emperors Level* (outside of Palace Ballroom)
7:00 am – 9:00 pm	Visit Mohs Slide Library	Tarranto; *Emperors Level*
7:30 am – 8:30 am	Continental Breakfast	Palace Ballroom 2; *Emperors Level*
7:30 am – 6:00 pm	ASMH Exhibit Hall Open	Palace Ballroom 2; *Emperors Level*
12:00 pm – 6:00 pm	ACMS Exhibit Hall Open	Palace Ballroom 3; *Emperors Level*
8:30 am – 10:00 am	General Session 1	Emperors Ballroom 1-2; *Emperors Level*
8:30 am	Opening Remarks and Welcome *Barbara Beck, HT (ASCP), ASMH President*	
8:45 am	Value of Good Communication Between Surgeon and Staff *Ray Peterson, MD*	
9:15 am	Electronic Mohs Mapping *Joseph McGowan, MD*	
9:45 am	2011 Abstract Award Winner *Speaker to be Announced*	
10:00 am	Break	
10:15 am – 11:30 am	General Session 2	Emperors Ballroom 1-2: *Emperors Level*
10:15 am	CLIA Talk *Debra Sydnor*	
10:45 am	CLIA Question & Answer	
11:30 am – 1:00 pm	Lunch on Your Own	
1:00 pm – 2:30 pm	General Session 3	Emperors Ballroom 1-2: *Emperors Level*
1:00 pm	ASMH Membership Meeting	
1:30 pm	A Typical Day in the Lab *Kimberly R. Brock, HT (ASCP); Stephanie D. Crawford; Timothy Martin, HT (ASCP)*	
2:30 pm – 4:30 pm	Workshops Cryostat Workshop Mart-1 Workshop	 Sicily; *Emperors Level* Venice; *Emperors Level*
4:30 pm – 6:00 pm	Networking Reception	Palace Ballroom 2; *Emperors Level*

SATURDAY, APRIL 30

6:30 am – 4:30 pm	Meeting Registration/Information	Office 5 Registration Desk; *Emperors Level* (outside of Palace Ballroom)
7:00 am – 9:00 pm	Visit Mohs Slide Library	Tarranto; *Emperors Level*
7:30 am – 8:30 am	Continental Breakfast	Palace Ballroom 2; *Emperors Level*
7:30 am – 4:00 pm	ASMH Exhibit Hall Open	Palace Ballroom 2; *Emperors Level*
8:00 am – 2:00 pm	ACMS Exhibit Hall Open	Palace Ballroom 3; *Emperors Level*
8:30 am – 10:15 am	General Session 4	Emperors Ballroom 1-2: *Emperors Level*
8:30 am	Opening Remarks and Welcome *Barbara Beck, HT (ASCP), ASMH President*	
8:45 am	Postoperative Complications *Joel Reeves*	
9:15 am	Processing a Wedge Specimen *Robert Tagliaferro, HT*	
9:45 am	Differences Between Basal Cells *Suneel Chilukuri, MD*	
10:15 am	Break	
10:30 am – 11:30 am	General Session 5	Emperors Ballroom 1-2: *Emperors Level*
10:30 am	Troubleshooting Open Forum	
11:30 am – 1:00 pm	Lunch on Your Own	
1:00 pm – 2:00 pm	General Session 6	Emperors Ballroom 1-2: *Emperors Level*
1:00 pm	Frozen vs. Permanent Sections for Melanoma in situ *Sherrif Ibrahim, MD, PhD*	
1:30 pm	Processing Infected Tissue and Safety Issues *Guy Orchard, PhD, CSci, MSc, FIBMS*	
2:00 pm – 4:00 pm	Workshops Cryostat Workshop Mart-1 Workshop	 Sicily;*Emperors Level* Venice; *Emperors Level*
4:00 pm	Meeting adjourned	

SPEAKER INDEX

Aasi, Sumaira Z. 34
Alam, Murad 24,31
Albertini, John G. 28,32
Allen, Shawn 28
Anderson-Dockter, Heidi 30,49
Becker, David S. 25
Benedetto, Paul X. 24,35
Bichakjian, Christopher K. 23
Billingsley, Elizabeth M. 29,30
Bordeaux, Jeremy S. . . 29,30,32,49
Bowman, Paul H. 32
Brodland, David G. 29
Brown, Clarence W., Jr. 23,33
Brown, Marc D. 26,30
Carruth, Marc R. 33
Cartee, Todd V. 27,45
Carucci, John A. 26
Christensen, Sean R. 31,50
Christenson, Leslie J. 23
Cockerell, Clay J. 29
Coldiron, Brett M. 33
Collins, Siobhan C. 23
Cook, Joel 28,34
Cook, Jonathan L. 33,34
Donaldson, Matthew 27,44
Dzubow, Leonard M. . . 24,29,32,33
Eiden, Peggy 33
Eisen, Daniel B. 34
Endrizzi, Bart T. 26
Fazio, Michael J. 33
Fincher, Edgar F. 28
Fisher, Galen H. 24
Garcia-Zuazaga, Jorge A. 32
Gillard, Montgomery O. 34
Gladstone, Hayes B. 23
Gloster, Hugh M., Jr. 29
Goldberg, Leonard H. 25,28
Goldman, Glenn D. 31,34
Goldstein, Glenn D. 33
Harmon, Christopher B. 25,31
Hassanein, Ashraf M. 34
Heard, Jeanne K. 34
Hendi, Ali 23
Holmes, Todd E. 28
Hruza, George J. 25
Humphreys, Tatyana R. 24,25,32,36
Ibrahimi, Omar A. 25,39
Ingraffea, Adam 30,48
Jellinek, Nathaniel J. 23,29
Joseph, Aaron K. 23,33
Kaufman, Andrew J. 33
Kelley, Larisa C. 32
Kimyai-Asadi, Arash 23
Kovach, Bradley 28
Krishnan, Ravi S. 24,35
Lawrence, Naomi 29
Leach, Brian C. 24
Lee, Ken K. 24
Lee, Peter K. 23
Lexa, Frank J. 25
Lund, Jared J. 25,41
Macapinlac, Homer A. 29,30
MacFarlane, Deborah F. 23,25
Maloney, Mary E. 29
Mann, Margaret 28
Marmur, Ellen S. 31
McCoppin, Holly H. 26,43
McGowan, Joseph W., IV . . . 25,38
Mellette, J. Ramsey, Jr. 32
Menick, Frederick J. 32,33
Miller, Stanley J. 29
Mohs, Frederic E., Jr. 33
Monheit, Gary D. 25,28
Morganroth, Greg S. 31,33
Moy, Ronald L. 24
Neff, Ann G. 24,29
Neuburg, Marcy 28,30
Neuhaus, Isaac M. 23
Olbricht, Suzanne M. 25,33
Omlin, Kenny J. 25,37
Otley, Clark C. 26,29
Parker, Timothy L. 24,35
Petersen, Jeffrey E. 23
Ratner, Désirée 30
Raza, Saadia T. 28
Reed, Kurtis B. 30,47
Rohrer, Thomas E. 24,33
Rossy, Kathleen M. 26,42
Samie, Faramarz 30
Sengelmann, Roberta D. 26,32
Stasko, Thomas 26
Stebbins, William G. 28,31,51
Strasswimmer, John M. 29
Taub, Amy 31
Taylor, R. Stan, III 25,29
Thomas, Valencia D. 23
Tierney, Emily P. 31
Torres, Abel 28
Tournas, Joshua A. 27,46
Vergilis-Kalner, Irene J. 25,37
Vidimos, Allison T. 30,32
Viola, Kate V. 30,47
Wentzell, J. Michael 25,40
Willey, Andrea 32
Wisco, Oliver J. 26,42
Xu, Yaohui G. 27,43
Zalla, Mark J. 33
Zeitouni, Nathalie C. 30
Zilinsky, Isaac 28
Zitelli, John A. 32
Zwald, Fiona O'Reilly 26,29

NOTES

NOTES

NOTES

Save the Date

44th Mohs College Annual Meeting

Thursday, May 3 – Sunday, May 6, 2012

Fairmont Millennium Park • Chicago, IL

44TH Mohs College Annual Meeting

MAY 3-6, 2012 — CHICAGO, IL

FAIRMONT MILLENNIUM PARK

ACMS

American College of Mohs Surgery
555 East Wells Street, Suite 1100
Milwaukee, WI 53202
Phone: 414-347-1103 • 1-800-500-7224
Fax: 414-276-2146
Email: info@mohscollege.org

Solutions not just products

Come to the "Product/Service Discussion Lunch - Suture Selection for Optimal Results"

When: Saturday, April 30th from 12-1:30
Where: Augustus 5 & 6

Program Description:
This program is designed to further your knowledge and practical understanding of the latest in suture technology and wound closure techniques, within MOHS surgical procedures. This session will include a panel discussion of key opinion leaders around optimizing wound closure results. The curriculum will also incorporate experiences utilizing skin closure techniques and the latest in wound closure technologies that can benefit both the patient and surgeon.

Speakers & Panelists:
Dr. Roger Ceilley
Dr. Jonathan Cook
Dr. Carl Schanbacher

The AdvaMed Code of Ethics limits attendance at corporate sponsored events to healthcare professionals with a bona fide professional interest in the program(s). Because ETHICON is committed to following this code, spouses or significant others who are not healthcare professionals should not attend this event. Thank you for your understanding. Health Care Professionals from Massachusetts and Vermont: New laws (Massachusetts S.B. 2863 and VT S48) became effective July 1, 2009. These laws prohibit companies from providing food in the context of product promotion to health care professionals who are licensed in the states of Massachusetts or Vermont. Ethicon, Inc. respects individual state laws and complies with these laws. We are sorry for any inconvenience. For more information, please visit the AdvaMed website at www.advamed.org

ETHICON Inc.
a Johnson & Johnson company

EP-140-11-3/13

Save the Date

45th Mohs College ANNUAL MEETING

Thursday, May 2—Sunday, May 5, 2013
WASHINGTON, D.C. · OMNI SHOREHAM

Thursday, May 2 ~
Sunday, May 5, 2013

•

Omni Shoreham
Washington, D.C.