A Play Yard of Dermatology Tips

2017 AOCD Spring Current Concepts in Dermatology Meeting
March 29 – April 1, 2017
Atlanta, Georgia

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Southeastern Skin Cancer & Dermatology
Madison, Alabama
Disclosures

- No financial conflicts
- Published WAR Score that is to be discussed
- Credit is given when able to those I've learned from (when slides obtained, it is selective and out of context from original author lecture)
- Relative rookie, not a certified medial or business expert by any means – this works for me
- Currently looking to hire a physician
Objectives

1. Discuss an accumulated collection of business and customer service tips

2. Discuss an accumulated collection of medical and surgical dermatology tips

3. Review and discuss the WAR (Webb and Rivera) Score
Business and Customer Service
Have a Mission Statement
- What guides you?

Always treat others as you would have them treat you. The mission of Southeastern Skin Cancer & Dermatology will constantly be guided by these words. Our practice is created for and focused on those with skin concerns at any age, with specific expertise for individuals with cancers of the skin. For our family of patients, we continually strive to provide optimal care and establish relationships that will surpass those expected from the typical medical provider. Your care will always be offered in a current yet established, detailed, efficient and respectful manner, always including the human touch. In addition, tremendous importance is placed on integrity and rapport with other healthcare providers, medical business associates and the community which we service. Regardless of the condition, venue or nature of interaction, our efforts are not complete until you are completely satisfied.
Ask your staff: What makes us special or different?  
- Do you know?  Do they know?

Being willing to go the extra mile no matter what the case may be. Even though we are so far booked out we offer to have patients call us in the mornings and we take the time out to look for cancellations for them. I always try my very best to look at our patients like this could be my family member on the phone. No matter if they are upset with me on the phone or not. I treat them with respect and try to help any way possible. I believe that taking an extra second makes the biggest difference. Also, we work as team in our office. All of us working together as a team makes a difference for our patients. When they walk into our office they see nothing but smiling faces and that makes them want to smile back. This is what makes us different from other offices :)  

-Christina
Patient satisfaction

“Research indicates that better patient care experiences are associated with higher levels of adherence to recommended prevention and treatment processes, [and] better clinical outcomes....” and higher patient QoL

Price, RA et al. Medical Care Research and Review 71:522-554, 2014

Office Tips – Patient Satisfaction
Credit: Charles N. Ellis, MD
Patient Perspective of Quality

• Timeliness
• Attitudes of all staff
• Information & explanations
• Body language, physical touch
• Sights, sounds, smells
• Sociability, supplies, smooth operations

– evidence shows that all these factors affect patient's experience of care.

Office Tips – Hiring
Credit: Charles N. Ellis, MD

Staff critical to success

• HIRE THE RIGHT PEOPLE!!
  – Can’t emphasize this point enough

• Interview process includes our philosophy and Gold Service Card

• Never, EVER “SETTLE” when hiring
  – Better an open spot than wrong person

• You can teach skills; you can’t teach attitude, compassion, smiling
Office Tips – Customer Service
Presentation by local Chick-fil-A owner
Welcoming from the Start

- Open Counter
  - elevated to protect privacy (info out of sight)

- No windows or barrier

- Always acknowledge
  - as entering OR
  - as approach counter
Office “Feel” and Function

- Open spaces, not claustrophobic
  - Does create “wasted space” per some
    - Depends on local market and willingness
  - Not “wasted” if makes for better day and life

- Consistent, duplicated rooms
  - Exam table
  - Cabinets
  - Supplies

- Consider flow from patient perspective
  - door to door
Patient Interaction

- Personal greeting
  - avoid “JONES!”

- Engage the patient

- Do you or the patient want to be here?

- Care about plan and pt understanding
  - one size doesn't fit all
Positive Attitude

- Recommend find lecture by Disney executives
  - “always in character when on stage”
  - leave problems at door

- Chick-fil-A
  - “my pleasure”

- Regularly motivate and appreciate
  - “thank you” and mean it
  - group outings
  - benefits
Words Matter to Patients

- “Thank you” for....
  - seeing us, trusting us, your time, your effort

- “I'm sorry” that....
  - you're not better, it was difficult, this isn't as expected

- “We”
  - pts don't want to disappoint you, create team effort

- “I don't know”, “I'm not sure”

- “Lobby”
  - people WAIT in a waiting room
Our Requirements

- Efficient
  - “achieving maximum productivity with minimum wasted effort or expense”
  - “working in a well-organized and competent way”
  - “preventing the wasteful use of a particular resource”

- Consistent
  - “acting or done in the same way over time, especially so as to be fair or accurate”
  - “unchanging in nature, standard, or effect over time”

- Timely
  - avoid overbooking (two day prior reminder)
  - be honest with yourself
Get Reviews

- People will talk
  - be proactive (negative more motivated than positive)

- Choose positive/favorable patients

- Overwhelm the unrepresentative minority

- The reality is already here
  - casually online and government requirements
This is you! Just ask people to let others know!

Dr. Albert E. Rivera, DO

Southeastern Skin Cancer & Dermatology

5 star x1
1 star x1

Southeastern Skin Cancer & Dermatology

Address: 8331 Madison Blvd #300, Madison, AL 35758
Phone: (256) 705-3000

Grade Details
Availability: A
Bedside Manner: A
Communication: A
Office Environment: A
Staff Friendliness: A
Billing And Administration: A
Effectiveness Of Treatment: A
Price: B
Quality: A
Responsiveness: A
Punctuality: A
Professionalism: A
Office Tips – Patient Satisfaction

Mentioned by Dr. Ellis that we already do also:

- Say “thank you” to staff
  - And patients for using meds, teamwork, choosing you, etc
- No clock in reception area
- You are always “on stage” (Disney)
- Sit down (7 minute increased estimate by pt)
- Don't interrupt
  - Exam while pt talking
How we do it: Passing MIPS

- Pathology
  - we call if abnormal, portal for normal

- Online registration (mostly required)
  - create login
  - have patient test it or enter info
Effectively Disclosing Skin Biopsy Results

Sophia Akhiyat, BS¹; Misty G. Eleryan, MD²; Serena Durrani, BA³; et al

Author Affiliations


- Patients now accepting of portal results
- especially normal
- Many like personal for abnormal results
Flap vs Primary Closure

- Primary Closure

- Primary Closure is defined as closure of all tissue levels during the original surgery, regardless of the presence of wires, wicks, drains, or other devices or objects extruding through the incision. This category includes surgeries where the skin is closed by some means, including incisions that are described as being “loosely closed” at the skin level. Thus, if any portion of the incision is closed at the skin level, by any manner, a designation of primary closure should be assigned to the surgery. (CDC)
Primary Closure
Flap vs Primary Closure

- Adjacent Tissue Transfer (Flap)
  - Skin taken from an adjacent area and moved to fill the surgical defect. A flap is transferred with an intact blood supply and remains connected to its origin. (NZDerm)
  - At least three sides must be removed from original blood supply (maybe argue two sides plus a tip if rotation)
    * BR supplemental definition
Flaps (adjacent tissue transfer)
Flap vs Primary Closure

- Primary closures are NOT to be billed as flaps
- Regardless of undermining area, layers, depth, tension, special sutures, etc
- Pulling straight or curved edges together is a primary closure only
- Fraudulent or ignorant billing puts you at risk
- Don't do it
CPT 99024

- Postoperative follow-up visit, normally included in the surgical package, to indicate that an evaluation and management service was performed during a postoperative period for a reason(s) related to the original procedure.

- Applies to surgeries with 90 and 10 day global periods.

- Indicates that a required postoperative visit has been provided.

- Zero dollar amount associated with 99024. Payment has already been received through the single global surgical payment.

Credit: URMC Compliance Office
CPT 99024

- Affects everyone, benefits or hurts all

- You MUST include this on follow-up or suture removal

- Government & Insurers can track

- Decreased reimbursement if not utilized
Billing denials

- Challenge or resubmit if know you are correct
  - Document accurately

- More effort on purpose
  - Payers want to recoup $

- My rookie experience
  - Accepting every denial very costly
Patient Compliance
Compliance

- We all want the best for the patient

- Correct diagnosis and treatment

- Patient must follow instructions
Monitoring Compliance Electronically
Credit: Steven Feldman, MD, PhD
Pearl #3
Patients lie
Credit: Steven Feldman, MD, PhD
Pearl #8: Some teens don’t listen to mom
Credit: Steven Feldman, MD, PhD

Mean Weekly Adherence to Once Daily Topical Adapalene 0.1% Gel

Percent Weekly Adherence

Weeks from Baseline

- Control
- Frequent Visits
- Electronic Reminders
- Parental Reminders
Compartments

How the Brightest, Best Trained, and Most Caring People can Make Judgments That are Completely & Utterly Wrong

STEVEN R. FELDMAN, MD, PHD
Tanning beds don’t clear psoriasis

Credit: Steven Feldman, MD, PhD

If you put 10 psoriasis patients in your light box

Office UVB 80% effective

You see 8 clear

If you see 10 patients with psoriasis who tried a tanning bed for their psoriasis

Tanning Bed 80% effective

You see 0 clear
Color Perception
Credit: Steven Feldman, MD, PhD
Context and Perception
Credit: Steven Feldman, MD, PhD

Compartments Affect Context, and Context Affects Perception

Referring Physicians
- Don't know what they are doing? Selection bias?

The “Other” Dermatologist
- Always botching things? What about the good results?
Compliance

- Know your patient (the “whole patient”)
  - requires adequate interaction
- Be aware of biases
  - know your compartment
- Team with patient
  - common goal
- Verify patient understanding
  - we say and do “our part” daily
Severe Dermatoheliosis, Field Cancerization and Skin Cancers
Severe Dermatoheliolisis or Field Cancerization or both?

Dermatoheliosis - “Photoaging”; “characteristic changes to skin induced by chronic ultraviolet exposure”
  - typically refers to visible

Field Cancerization - “biological process in which large areas of cells at a tissue surface or within an organ are affected by a carcinogenic alteration(s)”
  - typically refers to microscopic
“Field cancerization” in oral stratified squamous epithelium. Clinical implications of multicentric origin

Danely P. Slaughter M.D., Harry W. Southwick M.D., Walter Smejkal M.D.

First published: September 1953

DOI: 10.1002/1097-0142(195309)6:5<963::AID-CNCR2820060515>3.0.CO;2- Q

Molecular Biology and Genetics

p53 Mutations in Nonmelanoma Skin Cancer of the Head and Neck: Molecular Evidence for Field Cancerization

Sagarika Kanjilal, Sara S. Strom, Gary L. Clayman, Randal S. Weber, Adel K. El-Naggar, Vivek Kapur, Kathleen K. Cummings, Leigh Anne Hill, Margaret R. Spitz, Margaret L. Kripke, and Honnavara N. Ananthaswamy

Published 15 August 1995
Management of field change in actinic keratosis

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†Department of Dermatology, CHU Nice, France
‡Dermatological Sciences, Institute of Cellular Medicine, School of Clinical and Laboratory Sciences, Newcastle University, Newcastle upon Tyne, U.K.

Treatment of field cancerization with presence of multiple clinically visible AK

The presence of field cancerization indicates a high risk population with subclinical invisible disease, multiple primary tumours, local recurrences and premalignant change, which requires repeated treatments and causes significant morbidity. Currently site specific treatment with regular follow-up and screening for further tumours is the standard management.

However, 25% of tumour resection margins of histologically proven AK show genetic alterations, which may be responsible for local recurrences.1 The field change may be as large as 7 cm around tumours, resulting in secondary tumours which are genetically similar. This is in contrast to a second primary tumour, which has an unrelated genetic pattern, is more than 2 cm from the first tumour and arises at least 3 years after the first tumour.1 Treatment should therefore target an area of field change which may reduce the risk of development of further AK, second tumours and local recurrence.

Field Cancerization

PDT incubation time

A Trial of Short Incubation, Broad-Area Photodynamic Therapy for Facial Actinic Keratoses and Diffuse Photodamage

Dany Touma, MD; Mina Yaar, MD; Sara Whitehead, MD; Nellie Konnikov, MD; Barbara A. Gilchrest, MD

Background: There is no completely satisfactory treatment for multiple actinic keratoses (AKs).

Objective: To evaluate the efficacy of short incubation, broad-area application of δ-aminolevulinic acid followed by exposure to activating light-photodynamic therapy (δ-ALA/PDT) for treatment of AKs and background photodamage. The benefit of pretreatment with 40% urea cream to enhance penetration and the use of topical 3% lidocaine hydrochloride to decrease discomfort were also evaluated.

Methods: Eighteen patients with at least 4 nonhypertrrophic facial AKs and mild to moderate diffuse facial photodamage were enrolled in the study. For 7 days, 40% urea cream or vehicle was applied to half of the treatment area, and then δ-ALA was applied to the entire area for 1, 2, or 3 hours. Lidocaine hydrochloride (3%) or vehicle cream was also applied to the entire area 45 minutes before exposure to 10 J/cm² of blue light. Pain, phototoxic reactions, AK counts, and photodamage improvement were evaluated 1 day, 1 week, and 1 month after treatment in all patients and after 5 months in 10 patients.

Results: All patients experienced mild to moderate discomfort during treatment and moderate phototoxic effects for 1 week. At 1 and 5 months there was significant reduction in AKs in all groups and significant improvement of several photodamage parameters. Different δ-ALA application times and pretreatment with urea cream or lidocaine had no significant effect on the results.

Conclusions: This δ-ALA/PDT protocol is safe and effective for AK treatment as well as for improving photodamage. Further studies with a larger cohort, longer follow-up, and histologic confirmation of the clinical data would be of value.

Arch Dermatol. 2004;140:33-40
Potentiation of Photodynamic Therapy by Heat: Effect of Sequence and Time Interval Between Treatments In Vivo

Stephen M. Waldow, PhD, Barbara W. Henderson, PhD, and Thomas J. Dougherty, PhD

Division of Radiation Biology, Department of Radiation Medicine, Roswell Park Memorial Institute, Buffalo, New York


Field Cancerization
Credit: Anokhi Jambusaria MD, MSCE

Our Protocol

Treatment of Field Cancerization on the Head & Neck
1. Day 0: Curettage of any hyperkeratotic actinic keratoses
2. Day 1-5: Topical 5 Fluorouracil 0.5% twice daily
3. Day 6: Photodynamic therapy with 1 hour incubation

Albert E. Rivera, DO – Southeastern Skin Cancer & Dermatology
**Field Cancerization**

Credit: Anokhi Jambusaria MD, MSCE

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**ORIGINAL ARTICLE**

**Sequential Curettage, 5-Fluorouracil, and Photodynamic Therapy for Field Cancerization of the Scalp and Face in Solid Organ Transplant Recipients**

Anokhi Jambusaria-Pahlajani, MD, MSCE, Stephanie Ortman, MD,*, Chrysalyne D. Schmults, MD, MSCE,† and Christine Liang, MD†

**BACKGROUND** Field cancerization with actinic keratoses and squamous cell carcinoma in situ (AK/SCCIS) represents a common therapeutic challenge in solid organ transplant recipients (SOTRs). These patients often show inadequate responses to methods traditionally used as monotherapy (e.g., topical chemotherapy).

**OBJECTIVE** To describe the clinical outcomes and feasibility of a sequential approach to treatment of field cancerization in SOTRs.

**METHODS** Four SOTRs with field cancerization of the scalp and/or face were treated using a sequential approach. Light curettage of hypertrophic lesions was followed by application of 5-fluorouracil 5% cream twice daily for 5 days and photodynamic therapy (PDT) with 1-hour incubation on day 6. Pain level during and after PDT was recorded. Photographs were obtained immediately before and after treatment and at follow-up appointments.

**RESULTS** All 4 patients tolerated this approach well and demonstrated excellent responses to treatment with complete or near-complete clinical resolution of AK/SCCIS lesions. Patients remained free of AK/SCCIS based on clinical examination 1 to 6 months after treatment.

**CONCLUSION** For SOTRs with field cancerization, sequential therapy represents a viable therapeutic regimen with good tolerability and durable clinical response. This approach warrants further investigation to determine which therapeutic combinations have optimal tolerability and efficacy.
Field Cancerization
Off-label Topical Management

Credit: Stuart Brown, MD (1930-2015)

- 2 or 3 days on, rest remainder of week (5FU)
- week out of each month (imiquimod)
- patient cycled
  • Use as long as tolerated
  • Rest until feel OK to restart
- multiple variations of “continual stimulation”
FIELD CANCERIZATION
 Oral Nicotinamide

ORIGINAL ARTICLE

A Phase 3 Randomized Trial of Nicotinamide for Skin-Cancer Chemoprevention


METHODS

In this phase 3, double-blind, randomized, controlled trial, we randomly assigned, in a 1:1 ratio, 386 participants who had had at least two nonmelanoma skin cancers in the previous 5 years to receive 500 mg of nicotinamide twice daily or placebo for 12 months. Participants were evaluated by dermatologists at 3-month intervals for 18 months. The primary end point was the number of new...
RESULTS

At 12 months, the rate of new nonmelanoma skin cancers was lower by 23% (95% confidence interval [CI], 4 to 38) in the nicotinamide group than in the placebo group (P=0.02). Similar differences were found between the nicotinamide group and the placebo group with respect to new basal-cell carcinomas (20% [95% CI, −6 to 39] lower rate with nicotinamide, P=0.12) and new squamous-cell carcinomas (30% [95% CI, 0 to 51] lower rate, P=0.05). The number of actinic keratoses was 11% lower in the nicotinamide group than in the placebo group at 3 months (P=0.01), 14% lower at 6 months (P<0.001), 20% lower at 9 months (P<0.001), and 13% lower at 12 months (P=0.001). No noteworthy between-group differences were found with respect to the number or types of adverse events during the 12-month intervention period, and there was no evidence of benefit after nicotinamide was discontinued.
# Non-Melanoma Skin Cancer

Credit: Anokhi Jambusaria MD, MSCE

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## Intralional chemotherapy for nonmelanoma skin cancer: A practical review

Joslyn S. Kirby, MD, and Christopher J. Miller, MD

_Hershey and Philadelphia, Pennsylvania_

## Table II. Intralional fluorouracil

<table>
<thead>
<tr>
<th>References</th>
<th>Tumor type</th>
<th>Type of study</th>
<th>No. of tumors/patients</th>
<th>Tumor diameter/mean, cm</th>
<th>Drug concentration, mg/mL</th>
<th>Dose/mean, mg</th>
<th>No. of treatments/mean</th>
<th>Treatment frequency/mean, d</th>
<th>Total tumor dose/mean, mg</th>
<th>Cure rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kurtis and Rosen, 1980</td>
<td>KA</td>
<td>Case series</td>
<td>3/3</td>
<td>0.8-1.3/1.0</td>
<td>50</td>
<td>NR</td>
<td>6-12/8.3</td>
<td>3</td>
<td>177.5-585/354</td>
<td>3/3 (100%)</td>
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<tr>
<td>Goette and Odom, 1980</td>
<td>KA</td>
<td>Case series</td>
<td>41/30</td>
<td>NR</td>
<td>50</td>
<td>NR (range, 40-75)</td>
<td>NR/3</td>
<td>7</td>
<td>NR</td>
<td>40/41 (97.5%)</td>
</tr>
<tr>
<td>Klein et al., 1962</td>
<td>KA</td>
<td>Case series</td>
<td>2/2</td>
<td>0.1-2</td>
<td>50</td>
<td>NR</td>
<td>7-34/20</td>
<td>3</td>
<td>3.5-170/86.75</td>
<td>NR</td>
</tr>
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<td>Singal et al., 1997</td>
<td>KA</td>
<td>Case report</td>
<td>Numerous/1</td>
<td>0.1-2</td>
<td>50</td>
<td>NR</td>
<td>10-15</td>
<td>3</td>
<td>10-20/3</td>
<td>NR</td>
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<tr>
<td>Leonard and Hanke, 2006</td>
<td>KA</td>
<td>Case report</td>
<td>1/1</td>
<td>0.4-1.1</td>
<td>50</td>
<td>NR</td>
<td>7-14/3</td>
<td>7</td>
<td>30-45/NR</td>
<td>NR</td>
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<td>Eubanks et al., 1982</td>
<td>KA</td>
<td>Case report</td>
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<td>NR</td>
<td>7-14/3</td>
<td>7</td>
<td>30-45/NR</td>
<td>NR</td>
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<td>Parker and Hanke, 1986</td>
<td>KA</td>
<td>Case report</td>
<td>1/1</td>
<td>0.4-1.1</td>
<td>50</td>
<td>NR</td>
<td>7-14/3</td>
<td>7</td>
<td>30-45/NR</td>
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<td>Morse et al., 2003</td>
<td>KA</td>
<td>Case report</td>
<td>1/1</td>
<td>0.4-1.1</td>
<td>50</td>
<td>NR</td>
<td>7-14/3</td>
<td>7</td>
<td>30-45/NR</td>
<td>NR</td>
</tr>
</tbody>
</table>

Total: 93/57

**Total: 87/68 (98.5%)**

_BCC: Basal cell carcinoma; KA, keratoacanthoma; NR, not reported._
Non-Melanoma Skin Cancer

Credit: Anokhi Jambusaria MD, MSCE

How I do it

- Divide tumor into quadrants
- Inject 0.1 ml 5 fluorouracil into each quadrant
- Max dose per session: 2 cc
- Repeat in 4-6 weeks as needed

- Note: Can shave to debulk (may decrease number of treatments)
Non-Melanoma Skin Cancer
Credit: Anthony Rossi, MD

SCC-KA – How I do it

- Intrallesional MTX injections (range 1 to 3 injections) separated by two weeks apart in an effort to reduce tumor burden, morbidity, and surgical defect
- Methotrexate - 12.5mg/ml or 25mg/ml - 1ml in total injected
- 4 injection points – quadrants at the base of the lesion
- Can shave the lesion flat – send for pathology
## Treatment Comparison

<table>
<thead>
<tr>
<th>Treatment</th>
<th>5-Year Cure Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mohs Micrographic Surgery</td>
<td>97.98%</td>
</tr>
<tr>
<td>Standard Excision</td>
<td>89.9-95.9%</td>
</tr>
<tr>
<td>Radiotherapy</td>
<td>83.95%</td>
</tr>
<tr>
<td>ED&amp;C</td>
<td>81.92.3%</td>
</tr>
<tr>
<td>PDT</td>
<td>86%</td>
</tr>
<tr>
<td>Topical 5% Imiquimod</td>
<td>69%</td>
</tr>
<tr>
<td>Cyrosurgery</td>
<td>61% (2 year cure rate)</td>
</tr>
</tbody>
</table>
Skin Cancer Management Options
Credit: Anthony Rossi, MD

Imiquimod

- British Association of Dermatologists recommendations
  - topical imiquimod appears effective in primary small superficial BCC
  - topical imiquimod may possibly have role in treatment of primary nodular BCC

- **Imiquimod associated with histological clearance**
  - 27 randomized trials evaluating treatments for primary BCC

- **76%-88% success rate of histological clearance** for initial treatment of superficial BCC in 9 randomized trials
  - imiquimod once daily for 6 weeks had 87-88% success rate for superficial BCC
  - imiquimod once daily for 12 weeks had 76% success rate for nodular BCC

- Lower risk of early treatment failure (inability to reach histological clearance) in analysis of 5 trials with 1,145 patients with
  - high dose imiquimod compared to low dose imiquimod (RR 0.51, 95% CI 0.35-0.75)

- **no significant difference in treatment failure for superficial or nodular BCC**

Skin Cancer Management Options
Credit: Anthony Rossi, MD

Reduction in the Incidence of SCC in Solid Organ Transplant Recipients Treated with Cyclic Photodynamic Therapy

- 12 SOTRs with a history of multiple annual SCCs were entered into the study after SCC removal

- **Patients were treated with broad-area ALA application for 1 hour under occlusion followed by BLU-U light up to 9 times per year (every 4 to 8 weeks).**

- The development of new SCCs 12 and 24 months after the start of cyclic PDT were compared with the number of SCCs developed during the year before initiation of cyclic PDT.

- Side effects of ALA PDT treatment included erythema, edema, crusting, and peeling

Skin Cancer Management Options

Oral Retinoids

Low-Dose Retinoids in the Prevention of Cutaneous Squamous Cell Carcinomas in Organ Transplant Recipients
A 16-Year Retrospective Study

Catherine A. Harwood, MA, PhD, MRCP; Mary Leedham-Green, MA; Irene M. Leigh, FRCP, DSc; et al

Interventions
Continuous systemic retinoids at dosages of 0.2 to 0.4 mg/kg per day for a minimum of 12 months.

Conclusions
Low-dose systemic retinoids significantly reduce SCC development in OTRs for the first 3 years of treatment, and this effect may be sustained for at least 8 years, with a generally well-tolerated side-effect profile. Studies are now
Acne Medications
Antibiotics and OCPs

Oral contraceptive efficacy and antibiotic interaction: a myth debunked.

Archer JS¹, Archer DF.

Abstract
The purpose of this study was to review the pharmacokinetic and clinical literature regarding the efficacy of oral contraceptives when used concomitantly with antibiotic therapy. Relevant literature was identified by searching MEDLINE and EMBASE. Other sources were located by consulting the bibliographies of the material collected from MEDLINE and EMBASE. Pharmacokinetic evidence demonstrates that plasma levels of oral contraceptive steroids are unchanged with the concomitant administration of antibiotics, including ampicillin, ciprofloxacin, clarithromycin, doxycycline, metronidazole, ofloxacin, roxithromycin, temafloxacin, and tetracycline. However, reduced steroid levels have been reported in women taking rifampin with oral contraceptives. Clinical reports of contraceptive failure with antibiotic use are retrospective, have multiple potential biases, and are not supported by pharmacokinetic data. Available scientific and pharmacokinetic data do not support the hypothesis that antibiotics (with the exception of rifampin) lower the contraceptive efficacy of oral contraceptives.
Antibiotics and OCPs

FROM THE ACADEMY

Guidelines of care for the management of acne vulgaris

Work Group: Andrea L. Zaenglein, MD (Co-Chair), Arun L. Pathy, MD (Co-Chair), Bethanee J. Schlosser, MD, PhD, Ali Alikhan, MD, Hilary E. Baldwin, MD, Diane S. Berson, MD, Whitney P. Bowe, MD, Emmy M. Graber, MD, Julie C. Harper, MD, Sewon Kang, MD, Jonette E. Keri, MD, PhD, James J. Leyden, MD, Rachel V. Reynolds, MD, Nanette B. Silverberg, MD, Linda E. Stein Gold, MD, Megha M. Tollefson, MD, Jonathan S. Weiss, MD, Nancy C. Dolan, MD, Andrew A. Sagan, MD, Mackenzie Stern, Kevin M. Boyer, MPH, and Reva Bhushan, MA, PhD

Hershey and Philadelphia, Pennsylvania; Centennial, Colorado; Chicago and Schaumburg, Illinois; Cincinnati, Ohio; New York, New York; Boston, Massachusetts; Birmingham, Alabama; Baltimore, Maryland; Miami, Florida; Detroit, Michigan; Rochester, Minnesota; and Atlanta, Georgia

There is much misunderstanding regarding the concomitant use of oral antibiotics and COCs and putative contraceptive failure. Rifampin and griseofulvin are the only antiinfectives that interact with COCs, lessening their effectiveness. The tetracycline class of antibiotics has not been shown to reduce the effectiveness of COCs when taken concomitantly.
Spironolactone Lab Value Monitoring

September 2015

Low Usefulness of Potassium Monitoring Among Healthy Young Women Taking Spironolactone for Acne

Molly Plovanich, MD; Qing Yu Weng, BS; Arash Mostaghimi, MD, MPA

RESULTS: There were 13 abnormal serum potassium measurements in 1802 measurements obtained among young women receiving spironolactone therapy, yielding a hyperkalemia rate of 0.72%, equivalent to the 0.76% baseline rate of hyperkalemia in this population. Repeat testing in 6 of 13 patients demonstrated normal values, suggesting that these measurements may have been erroneous. In the remaining 7 patients, no action was taken.

CONCLUSIONS AND RELEVANCE: The rate of hyperkalemia in healthy young women taking spironolactone for acne is equivalent to the baseline rate of hyperkalemia in this population. **Routine potassium monitoring is unnecessary for healthy women taking spironolactone for acne.**
Spironolactone and Cancers

Spironolactone and risk of incident breast cancer in women older than 55 years: retrospective, matched cohort study

Isla S Mackenzie, clinical senior lecturer in clinical pharmacology, Thomas M MacDonald, professor of clinical pharmacology and pharmacoepidemiology, Alastair Thompson, professor of surgical oncology, Steve Morant, honorary research fellow, Li Wei, lecturer in medical statistics

Correspondence to: I S Mackenzie i.s.mackenzie@dundee.ac.uk

In addition, a recent large retrospective matched cohort study of 1.29 million women >55 years of age found no association between spironolactone use and breast cancer with 8.4 million patient-years of use, further disproving any causal relationship. These findings were
Spironolactone and Cancers

Cancer Epidemiology
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5708||
Spironolactone use and the risk of breast and gynecologic cancers
Robert J. Biggar\textsuperscript{a, b}, Elisabeth W. Andersen\textsuperscript{a}, Jan Wohlfahrt\textsuperscript{a}, Mads Melbye\textsuperscript{a}

any causal relationship.\textsuperscript{261} These findings were supported by another large retrospective cohort study of 2.3 million women representing 28.8 million person-years that showed no association between spironolactone use and the development of breast, uterine, cervical, or ovarian cancers.\textsuperscript{262}
Position Statement
On Isotretinoin
(Approved by the Board of Directors December 9, 2000;
Amended by the Board of Directors March 25, 2003, March 11, 2004 and November 13, 2010)

6. A correlation between isotretinoin use and depression/anxiety symptoms has been suggested but an evidence-based causal relationship has not been established. Other studies give evidence that treatment of acne with isotretinoin was accompanied by improvement of both depressive and anxiety symptoms, as well as improved quality of life of patients with acne. 1 5 6

7. Current evidence is insufficient to prove either an association or a causal relationship between isotretinoin use and inflammatory bowel disease (IBD) in the general population. 7, 8 While some recent studies have suggested such a relationship 9,10, further studies are required to conclusively determine if the association or causal relationship exists and/or whether IBD risk may be linked to the presence of severe acne itself.
Isotretinoin Lab Value Monitoring

- Baseline
- Within first 8 weeks
- As needed based on patient and results

References:


Laboratory Monitoring During Isotretinoin Therapy for Acne: A Systematic Review and Meta-analysis.

Lee YH1, Scharnitz TP2, Muscat J3, Chen A3, Gupta-Elera G2, Kirby JS4.
Miscellaneous Therapeutics
N-Acetylcysteine for Neurotic Excoriations

N-Acetylcysteine in the Treatment of Excoriation Disorder
A Randomized Clinical Trial

Jon E. Grant, JD, MD, MPH\textsuperscript{1}; Samuel R. Chamberlain, MD, PhD\textsuperscript{2,3}; Sarah A. Redden, BA\textsuperscript{1}; et al

\textit{Author Affiliations}


**Interventions**  
*N*-acetylcysteine (dosing range, 1200-3000 mg/d) or placebo was administered for 12 weeks.

interactions and post hoc tests at 1 or more individual time points. At the study's end point, of the 53 participants who completed the study, 15 of the 32 participants (47\%) receiving *N*-acetylcysteine were much or very much improved compared with 4 of the 21 participants (19\%) receiving placebo ($P = .03$). There were no significant differences between the active and placebo arms in terms of psychosocial functioning.
N-Acetylcysteine for Trichotillomania

N-Acetylcysteine, a Glutamate Modulator, in the Treatment of Trichotillomania
A Double-blind, Placebo-Controlled Study

Jon E. Grant, JD, MD, MPH; Brian L. Odlaug, BA; Suck Won Kim, MD

Interventions  N-acetylcysteine (dosing range, 1200-2400 mg/d) or placebo was administered for 12 weeks.

Results  Patients assigned to receive N-acetylcysteine had significantly greater reductions in hair-pulling symptoms as measured using the Massachusetts General Hospital Hair Pulling Scale (P < .001) and the Psychiatric Institute Trichotillomania Scale (P = .001). Fifty-six percent of patients "much or very much improved" with N-acetylcysteine use compared with 16% taking placebo (P = .003). Significant improvement was initially noted after 9 weeks of treatment.
Zinc for Aphthous Ulcers

Zinc sulfate supplementation for treatment of recurring oral ulcers.

Merchant HW, Gangarosa LP, Glassman AB, Sobel RE.

Abstract

Use of zinc sulfate in promotion of wound healing and in maintenance of epithelial integrity suggested its possible use in the treatment or prevention of recurrent oral ulcers. In a series of 32 patients with recurrent aphthous ulcers (RAU), serum zinc levels were observed. Seventeen patients, eight with initial serum zinc levels above 110 microng/dl and nine with serum zinc levels below 110 microng/dl, were provided zinc sulfate supplementation up to a total of 660 mg/day. All patients with initial serum zinc levels less than or equal to 110 microng/dl showed improvement; three of the eight patients with initial serum zinc levels above 110 microng/dl improved, five did not. Improvement consisted of 50% to 100% reduction in frequency of episodes. This suggests a combination of causes of RAU, one of which may be a local or general deficiency of zinc or a defect in metabolism, perhaps at the cellular level, related to zinc.
Zinc for Aphthous Ulcers

Zinc Citrate – 34% elemental
Zinc Sulfate – 22% elemental
Zinc Gluconate – 13% elemental
Zinc Monomethionine – 21% elemental

80-120 mg elemental zinc x 1-4 months
- prolonged can decrease calcium, magnesium, zinc
Zinc for Viral Warts

Oral zinc sulfate treatment for viral warts: an open-label study.


Mun JH¹, Kim SH, Jung DS, Ko HC, Kim BS, Kwon KS, Kim MB.

Abstract

Viral warts, which are caused by the human papilloma virus, are a common problem in dermatology. Various modalities have been used to treat warts, but none are uniformly effective or directly antiviral. Recent studies show that oral zinc sulfate could be effective in the treatment of viral warts. Thirty-one patients with multiple, non-genital viral warts were recruited in this open-label clinical study. The patients were treated with oral zinc sulfate (10 mg/kg to a maximum dose of 600 mg/day) for 2 months and followed up with assessments for the resolution of their warts and for any evidence of recurrence after treatment. Among the 31 patients, 18 patients showed low serum zinc levels (58%). Of 26 patients who completed the study (84%), 13 (50%) showed complete resolution of their warts after 2 months of treatment. Complete responders remained free of lesions at 6-month follow-up. No serious side-effects were reported apart from nausea (16%), mild gastric pain (3%) and itching sensation (3%). Oral zinc sulfate was found to be a good option in the treatment of viral warts, as it was safe and effective without important side-effects.
Zinc for Molluscum

Efficacy comparison between cimetidine and zinc sulphate in the treatment of multiple and recalcitrant warts

Mariane StefaniI; Giuliana BottinoII; Elisa FontenelleIII; David Rubem AzulayIV

METHODS: A random double-blind prospective study. Eighteen patients with multiple warts were divided into two groups: one took 35mg/Kg/day of cimetidine (maximum 1200 mg/day) and the other 10 mg/Kg/day of zinc sulphate (maximum 600 mg/day) for three months.

Results: Among the 18 patients who participated in the study, nine took cimetidine and nine zinc sulphate. Just one patient in the zinc sulphate group did not complete treatment due to nausea and vomiting. Five patients who were treated with zinc sulphate were cured and only one did not show modifications in lesions. Among the group who was treated with cimetidine, five did not show modifications in lesions and four showed decrease from baseline below 30%.

CONCLUSIONS: 10 mg/Kg/day zinc sulphate dose seems to be more effective than cimetidine for the treatment of children and adults with multiple and difficult-to-handle warts. However, the small number of patients did not enable any definitive conclusion.
Anthralin for Alopecia Areata

Treatment of Alopecia Areata by Anthralin-Induced Dermatitis

Christian Schmoeckel, MD; Irving Weissmann, MD; Gerd Plewig, MD; et al

Author Affiliations


Alopecia areata: a new treatment plan

Adel Alsantali

Acceptable hair regrowth.11 Anthralin needs to be applied in a high enough concentration (0.5%–1%) and sufficiently frequently (daily) to produce a mild irritant reaction in order to be effective. Severe irritation and staining of skin and clothes are some of the possible adverse events with anthralin.

Tolerated by pediatric patients as well
Fexofenadine for Alopecia Areata

Both Dr. Bhatia and Dr. Rosen are optimistic about fexofenadine, an antihistamine primarily used for treating allergies. In another presentation at MauiDerm, Dr. Rosen noted that fexofenadine has been widely used in Japan as both an adjunctive treatment and primary monotherapy for alopecia areata.

Supplement 180 mg daily
Simvastatin/Ezetimibe for Alopecia Areata

**Case reports: alopecia universalis: hair growth following initiation of simvastatin and ezetimibe therapy.**

Robins DN.

**Abstract**

Alopecia areata is an organ specific autoimmune disease in which hair is lost in various patterns. Its most extreme form, alopecia universalis, is the total loss of all scalp and body hair. This form of the condition is very resistant to treatment and spontaneous remission is quite rare. The following is a case of a 54-year-old male with longstanding alopecia universalis who began to grow dense hair on his scalp as well as patchy hair growth on his face, pubic and axillary areas one month after starting a course of simvastatin 40 mg and ezetimibe 10 mg daily prescribed for his hyperlipidemia. For 2 years prior to starting the combination drug, he had taken simvastatin 40 mg alone without evidence of any hair growth. The combination of simvastatin and ezetimibe has previously demonstrated synergistic immunomodulatory effects, which most likely accounts for the clinical response in this case.

**Hair growth in patients alopecia areata totalis after treatment with simvastatin and ezetimibe.**


**Abstract**

Alopecia areata is an autoimmune disorder characterized by the sudden development of a circumscribed patch of non-scarring hair loss on the scalp or any hair-bearing surface. The presentation of this disorder can be hair loss in a single circumscribed patch, complete loss of hair on the scalp (alopecia totalis) or complete loss of hair on the entire body (alopecia universalis). The following cases involve two patients with treatment-refractory alopecias that benefited significantly after treatment with a combination of ezetimibe and simvastatin, in addition to the continuation of intra-lesional corticosteroid injections. In this report, the known immunomodulatory effects of statins in combination with ezetimibe are discussed along with the known histopathologic findings of autoimmune alopecia. Major histocompatibility complex class II (MHC-II) and intracellular adhesion molecule-1 (ICAM-1) appear to be involved in both the immunomodulatory effects of statins and the pathophysiology of autoimmune alopecia.
Simvastatin for Alopecia Areata
How we do it

- baseline lipids

- simvastatin 20mg daily only
  - opposes study just cited
  - coverage issues
  - personal N = 4, all with success (none universalis)
Surgical Tips
Pregnancy and Surgery

Credit: Keith Harrigill, MD, MBA, MPH/TM, FAAD

- American College of Obstetricians and Gynecologist’s (ACOG) Committee on Obstetric Practice

- ACOG is referring to major surgeries such as laparoscopies, laparotomies, appendectomies, cardiac catheterizations, etc. What we do (excisions and Mohs) is considered “minor surgery” by ACOG.
Pregnancy and Surgery
Credit: Keith Harrigill, MD, MBA, MPH/TM, FAAD

- Consensus Recommendations
  - A pregnant woman should never be denied indicated surgery, regardless of trimester (MM, PG, aggressive CA)
  - Elective surgery should be postponed until after delivery
  - Non-urgent surgery should be performed in the second trimester when possible

- Additional Recommendation
  - When possible, involve the patient’s obstetrician before a significant surgery. They may offer specific advice for that patient and that situation (fetal monitoring, for example).
Pregnancy and Surgery
Credit: Keith Harrigill, MD, MBA, MPH/TM, FAAD

- My Derm Surgery Approach
  - Biopsy anything that is clinically suspicious for malignancy, at any gestational age.
  - I use lidocaine 1% with epinephrine
  - For anything other than biopsies, shave removals, or simple excisions, collaborate with the OB of record
  - Extensive cases at advanced gestational ages may require intraoperative monitoring. The OB will coordinate this.
  - Up to 20 weeks, position without regard to the pregnancy. After 20 weeks, place in the lateral decubitus position (IVC).
Bent Needles

- Ergonomic positioning of wrist
- Prevents reuse of contaminated needle
- Care with handling as usual
Mohs marking

- Before sample is numbed or removed
- In addition to skin nicks
- 100% prevents mistaken orientation
RESULTS: The sharpest blade is the double-edged razor blade (0.395 N) followed by the dermablade (0.46 N), plastic handled #15 (0.541 N), #15c (0.575 N), #10 (0.647 N), and the #15 blade (0.664 N).
Hyfrecators and Pacemakers

**Abstract**

**BACKGROUND:** Guidelines exist for minimizing potential electromagnetic interference (EMI) with electrosurgical equipment in patients with cardiac rhythm management (CRM) devices. These guidelines encompass all electrosurgical devices but are not specific for hyfrecators.

**OBJECTIVE:** To investigate the potential interference of CRM devices by hyfrecators.

**MATERIALS AND METHODS:** Using a collagen-based saline gel, three implantable pulse generators (pacemakers) and three implantable cardioverter defibrillators were tested to measure the EMI from two commonly used hyfrecators. The six devices were tested using the hyfrecator under normal use settings and on maximum power.

**RESULTS:** Hyfrecators did not interfere with defibrillators and affected pacemakers only when used in close proximity to the device. For the pacemakers, atrial inhibition was observed at a distance of 3 cm on maximum hyfrecator settings and 1 cm at normal use settings. Ventricular inhibition occurred in very close proximity to the device (<1 cm) or in direct contact.

**CONCLUSION:** Hyfrecators are safe to use in patients with defibrillators and can be used in pacemaker patients within 2 inches of the device perimeter.
Thank You!

Questions?

Rivera@SoutheasternSkin.com
Mohs Surgery: What am I getting myself into?
Mohs Surgery

- Surgical excision of cutaneous malignancies
- 100% margin control
- Uncertainty of defect
- Creativity of repair
- “Gut feeling” of case even at biopsy
Mohs Surgery

- NO system to quantify cases when written
  - Predictors of advanced reconstruction\(^1\)
  - Correlation of treatment delay to defect size\(^2\)
  - Predictors of extensive subclinical spread\(^3\)


WAR Score Goals

- Uncomplicated
- Dependable
- Reproducible
- Quantitative
- Preoperative assessment
- Predict
  - Complexity
  - Associated time
The Webb and Rivera (WAR) score: a preoperative Mohs surgery assessment tool.

Rivera AE, Webb JM, Cleaver LJ.

Abstract

OBJECTIVE: To make available a simple, quantitative formula for preoperative assessment of both the complexity and the associated time required to complete Mohs surgical cases. It will improve office efficiency, technical performance, and resource management.

DESIGN: Surveys were sent to 94 Mohs surgeons requesting information on 10 consecutive cases, including tumor size, recurrence, location, aggressiveness, stages required, and case duration. The data were then aggregated, scored, and statistically evaluated.

SETTING: Private practice dermatology offices performing Mohs surgery were included.

PARTICIPANTS: Sequential randomized selection of Mohs College and Mohs Society fellows was used for inclusion. Sequential selection of patients for data acquisition was performed by the surgeons.

MAIN OUTCOME MEASURE: The statistical significance of a proposed preoperative assessment tool was to be determined.

RESULTS: The score p values were 0.34 and 0.41 for the time and number of stages, respectively. In addition, the Mohs score obtained a statistically significant P value of <.001 for both the time and number of stages required.

CONCLUSIONS: The Webb and Rivera (WAR) score is a low-effort, efficient, reproducible tool to be used in preoperative Mohs surgery planning and office efficiency improvement. The components of the score include maximum tumor dimension, recurrence, location, and aggressiveness. Each is assigned a numerical value that is totaled, resulting in a final quantitative score.
# Mohs Surgery WAR (Webb and Rivera) Score

<table>
<thead>
<tr>
<th>Greatest Dimension Size:</th>
<th>0 – 0.9 cm</th>
<th>0 points</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.0 – 1.9 cm</td>
<td>1 point</td>
</tr>
<tr>
<td></td>
<td>2.0 – 2.9 cm</td>
<td>2 points</td>
</tr>
<tr>
<td></td>
<td>&gt; 3.0 cm</td>
<td>3 points</td>
</tr>
</tbody>
</table>

| Recurrent tumor: | 1 point |
| Primary tumor: | 0 points |

| Nose, Eyelid, Ear or Lip: | 1 point |
| Other anatomic locations: | 0 points |

| Aggressive tumor type/subtype: | 1 point |
| Nonaggressive tumor type/subtype: | 0 point |

Total WAR Score: __ points
WAR Score Study Design

- Sept 2009 – June 2010
- Random selection
- Self reported questionnaire
- 21 physicians (22% response)
  - Name, location, years in practice
- Mohs College and Mohs Society
- 10 consecutive cases (211 total)
WAR Score Study Design

Score Inclusion Considerations

- Age
- Mental/physical condition
- Comorbidities
- Race
- Medications/Allergies
- Immunosuppression
- Patient experiences
- Greatest dimension/Area
- Duration of tumor presence
- Previous treatment(s)
- Anatomic location
- Histology/Aggressiveness
- Drug, alcohol or tobacco use
- Patient expectations
- Family history
- Surgeon experience
- Repair choice
- Additional cases being performed
- Other

Chose: greatest dimension, area, location, aggressiveness, recurrence, others
<table>
<thead>
<tr>
<th>Patient #</th>
<th>Original lesion size biopsied (h x w)</th>
<th>Recurrent Y / N</th>
<th>Nose, Eyelid, Ear or Lip Y / N</th>
<th>Tumor Type (subtype if aggressive)</th>
<th># Stages</th>
<th>Time - initial cut to final suture (or second intent decision)</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8 x 6 mm</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>3</td>
<td>2.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>48 mm sq</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>9 x 6 mm</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>1</td>
<td>1.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>54 mm sq</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9 x 8 mm</td>
<td>N</td>
<td>N</td>
<td>N</td>
<td>1</td>
<td>1.5</td>
<td>0</td>
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<tr>
<td></td>
<td>72 mm sq</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4</td>
<td>20 x 9 mm</td>
<td>+2</td>
<td>Y</td>
<td>+1</td>
<td>2</td>
<td>5.25</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>180 mm sq</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>8 x 4 mm</td>
<td>N</td>
<td>Y (nose)</td>
<td>+1</td>
<td>2</td>
<td>3.66</td>
<td>1</td>
</tr>
</tbody>
</table>
### WAR Score General Statistics

<table>
<thead>
<tr>
<th></th>
<th>Mohs College</th>
<th>Mohs Society</th>
<th>All</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondents</td>
<td>12/21</td>
<td>9/21</td>
<td>21/21</td>
</tr>
<tr>
<td>Stages</td>
<td>1.7 ± 0.8</td>
<td>1.5 ± 0.8</td>
<td>1.6 ± 0.8</td>
</tr>
<tr>
<td>Time (h)</td>
<td>2.45 ± 1.37</td>
<td>2.20 ± 1.17</td>
<td>2.35 ± 1.29</td>
</tr>
<tr>
<td>WAR Score</td>
<td>1.2 ± 1.0</td>
<td>1.2 ± 0.9</td>
<td>1.2 ± 1.0</td>
</tr>
</tbody>
</table>
WAR Score Results Summary

- **Recurrence**
  - Predicts stages
  - Predicts time

- **Location**
  - Predicts stages
  - Does NOT predict time
  - Choice of repair

- **Aggressiveness**
  - Predicts stages
  - Predicts time

- **Greatest Dimension**
  - Does NOT predict stages

  - Variable subclinical spread

  - Predicts time

- **Area**
  - DOESN’T predict stages

  - Variable subclinical spread

  - Predicts time

- **Experience**
  - Does NOT predict stages or time
# Summary of Variables Analyzed

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>p-value* (stages)</th>
<th>p-value* (time)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max.</td>
<td>1.19 ± 0.89</td>
<td>0.10</td>
<td>0.0002</td>
</tr>
<tr>
<td>Dimension (cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Area (cm²)</td>
<td>1.73 ± 4.06</td>
<td>0.10</td>
<td>0.0005</td>
</tr>
</tbody>
</table>

* Mann-Whitney Test

# Spearman Correlation Coefficient

<table>
<thead>
<tr>
<th></th>
<th>Recurrent Tumors</th>
<th>Primary Tumors</th>
<th>Ear, Nose, Eyelid, Lip</th>
<th>Other Anatomic Locations</th>
<th>Aggressive Tumors</th>
<th>Nonaggressive Tumors</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stages</td>
<td>2.3 ± 1.2</td>
<td>1.5 ± 0.7</td>
<td>1.8 ± 0.9</td>
<td>1.4 ± 0.7</td>
<td>2.3 ± 0.6</td>
<td>1.5 ± 0.8</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Time (h)</td>
<td>3.03 ± 1.21</td>
<td>2.25 ± 1.28</td>
<td>2.50 ± 1.40</td>
<td>2.22 ± 1.18</td>
<td>3.33 ± 1.65</td>
<td>2.29 ± 1.25</td>
<td>0.0002</td>
</tr>
</tbody>
</table>

Albert E. Rivera, DO – Southeastern Skin Cancer & Dermatology
WAR Score Results Summary

- The WAR Score is significantly correlated with both:
  - The number of stages required for tumor clearance
  - The time required from initial incision to final suture or decision to employ secondary intention healing (total case time)
<table>
<thead>
<tr>
<th>WAR Score</th>
<th>Mean Time (hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.90 ± 0.91</td>
</tr>
<tr>
<td>1</td>
<td>2.09 ± 0.98</td>
</tr>
<tr>
<td>2</td>
<td>2.71 ± 1.31</td>
</tr>
<tr>
<td>3</td>
<td>3.26 ± 1.47</td>
</tr>
<tr>
<td>4</td>
<td>5.25 ± 2.86</td>
</tr>
</tbody>
</table>

**WAR Score Statistical Significance**

<table>
<thead>
<tr>
<th>Stages</th>
<th>Rho value#</th>
<th>p-value#</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stages</td>
<td>0.41</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Time</td>
<td>0.34</td>
<td>&lt;0.0001</td>
</tr>
</tbody>
</table>

# Spearman Correlation Coefficient
# Mohs Surgery WAR (Webb and Rivera) Score

<table>
<thead>
<tr>
<th>Greatest Dimension Size:</th>
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<tr>
<td></td>
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<td>2 points</td>
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<tr>
<td></td>
<td>&gt; 3.0 cm</td>
<td>3 points</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recurrent tumor:</th>
<th>1 point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary tumor:</td>
<td>0 points</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nose, Eyelid, Ear or Lip:</th>
<th>1 point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other anatomic locations:</td>
<td>0 points</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aggressive tumor type/subtype:</th>
<th>1 point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonaggressive tumor type/subtype:</td>
<td>0 point</td>
</tr>
</tbody>
</table>

---

**Total WAR Score:**  ___ points
59yo, BCC (1 point)

1 Stage, Primary Closure
28yo, BCC (2 points)
1 Stage, Bilobed Flap
52 yo

Infiltrative BCC (4 points)
2 Stages

Wedge Primary Repair
74yo Nodular BCC
Recurrent (3 points)
2 Stages

Nasolabial Interpolation Flap
Central Flap Necrosis

Good Final Result
WAR Score Practice Relevance

- Time management
- Operative day planning
- Anticipation (avoid “surprises”)
- Average daily workload

**Example:**
- 6 cases – one or less 3+ point
  - two or less 2 point
  - three or more 0-1 point
WAR Score Training Relevance

- Resident training
  - Increase case complexity with experience
  - Standardize Mohs experience within/between programs
In Conclusion.....

- The WAR (Webb and Rivera) score is a minimal effort, efficient, reproducible tool to be used in preoperative Mohs surgery planning.
  - Improves: office efficiency, predictability, case load, resource allotment, and organization

- The components of the score include maximum tumor dimension, recurrence, location and aggressiveness with each being assigned a numerical value that is totaled, resulting in a final quantitative score.
## Mohs Surgery WAR (Webb and Rivera) Score

<table>
<thead>
<tr>
<th>Greatest Dimension Size</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – 0.9 cm</td>
<td>0 points</td>
</tr>
<tr>
<td>1.0 – 1.9 cm</td>
<td>1 point</td>
</tr>
<tr>
<td>2.0 – 2.9 cm</td>
<td>2 points</td>
</tr>
<tr>
<td>&gt; 3.0 cm</td>
<td>3 points</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recurrent tumor</th>
<th>1 point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary tumor</td>
<td>0 points</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nose, Eyelid, Ear or Lip</th>
<th>1 point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other anatomic locations</td>
<td>0 points</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Aggressive tumor type/subtype</th>
<th>1 point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonaggressive tumor type/subtype</td>
<td>0 point</td>
</tr>
</tbody>
</table>

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**Total WAR Score:** ___ points
Summary

1. Shared an accumulated collection of business and customer service tips

2. Shared an accumulated collection of medical and surgical dermatology tips

3. Reviewed and discussed the WAR (Webb and Rivera) Score: a preoperative Mohs surgery assessment tool
Thank You!

Questions?

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