

Semiannual Meeting of the  
**DERMATOLOGY TEACHERS EXCHANGE GROUP**  
 4:30 pm – 6:30 pm Friday September 27, 2013  
 2<sup>nd</sup> Floor Great Lakes Ballroom, Westin Hotel, Chicago IL

*Acceptance of oral presentations was contingent on having corresponding posters (3'8" vertical/3'9" horizontal) on display in the Great Lakes Foyer (map enclosed) by 4:15 pm before the meeting and through Sunday morning. Place posters on corresponding boards based on abstract # below to identify poster board. Speakers (except Invited Abstract) are subject to a strict limit of 5 min for presentations inclusive of technical delay, so it is wise to upload talks prior to the start of the Meeting. Many thanks.*

4:30	Welcome and opening remarks	Cruz (UT Southwestern)
4:32	<b>1</b> A unique interview requirement	Leong, Pugliese, Torres (Loma Linda, CA)
4:37	EXCHANGE	
4:40	<b>2</b> Spaced repetition: An under-utilized tool in medical education	Kaffenberger, Kirby (Penn State, PA)
4:45	<b>3</b> FAST: Encouraging and capturing 1-minute feedback	Baird, Burton, Kirby (Penn State, PA)
4:50	<b>4</b> Active review by learners and feedback for teachers: A quick high-yield tool	Kirby (Penn State, PA)
4:55	<b>5</b> Effects of formal instruction on individualized learning plan quality	Mattox, Ambrecht, Burkemper (St Louis Univ, MO)
5:00	EXCHANGE	
5:05	<b>6</b> Survey on the format of Dermatology Grand Rounds	Callaghan, DeWitt, Norton (Children's National Med Ctr, Georgetown/Medstar Washington Hosp Ctr, DC)
5:10	<b>7</b> Dermatology fine arts Grand Rounds at the Phillips Collection	McKinley Grant, Polan, Craig (Georgetown/Medstar Washington Hosp Ctr, DC)
5:15	<b>8</b> 5-year assessment of the impact of visual training in medical school	Kalus, Moats (Univ Washington, WA)

5:20	<b>9</b>	Dermatology flipped, blended and shaken: A comparison of the effect of an active learning modality on student learning, satisfaction, and teaching	Aughenbaugh, Hinman, Hendricks (Univ Wisconsin, WI)
5:25		EXCHANGE	
5:30		INVITED ABSTRACT: You too can teach Dermatoethics	Bercovitch (Brown Univ, RI)
5:40		EXCHANGE	
5:45	<b>10</b>	Graduate medical education and the electronic medical record: Enhancing medical education in the electronic age	Atwater, Benjamin, Lee, Rosdahl, Turner, Wiener, Buckley, Grichnik (Duke Univ, NC)
5:50	<b>11</b>	A workflow for managing refill requests: Impact upon the balance of service to education for dermatology residents	Cotes, Sarradet, DeLong (Emory Univ, GA)
5:55	<b>12</b>	Needle stick injury: Response assessment and education	Blumenthal, Moran, Kliethermes, Aggarwal, Winterfield, Tung (Loyola Univ, IL)
6:00	<b>13</b>	Dermatology surgical safety checklist: An objective resident performance tool	Diamond, El Tal, Mehregan, Dupuy (Wayne State Univ, MI)
6:05		EXCHANGE	
6:10	<b>14</b>	A new learning module for skin biopsy	Jovanovski, Lloyd, Nedorost (Case Western Reserve Univ, OH)
6:15	<b>15</b>	The cadaveric skin biopsy project (CSBP): Description and student evaluation of an innovative approach to dermatology instruction in the pre-clerkship medical school curriculum	Baker, McCollum, Bradley, Russell (Univ Virginia, VA)
6:20	<b>16</b>	Procedural and surgical skills workshop	Jalalat, Martin, Wagner (Univ Texas Med Branch, TX)
6:25		EXCHANGE	
6:30		Adjourn	

## Poster 1

Title: A Unique Interview Requirement

Authors: Tracy Leong, MD, Silvina Pugliese, MD, Abel Torres, MD, JD

Affiliations: Loma Linda University Department of Dermatology, Loma Linda, California

With only one interview day to choose a residency class, dermatology programs must find innovative ways to get to know their applicants. This is particularly important for small programs whose success is dependent on resident strength and cohesiveness.

A recent review showed that most variables communicated via the ERAS application, including USMLE scores, letters of recommendations, honor society memberships, and research experience cannot accurately predict performance in residency.<sup>1</sup> They point to the research of Brothers and Wetherholt<sup>2</sup>, who showed that non-cognitive traits revealed during an interview may be more predictive of core competency ratings during residency than the more objective factors mentioned above.

For the past 7 years, Loma Linda University has required interviewees to create a 5-minute PowerPoint presentation about themselves that is presented on interview day. This provides applicants with an uninterrupted opportunity to introduce themselves to the program. No restrictions are given regarding the content or format, but applicants are encouraged to avoid repeating information from their ERAS application.

To assess applicant attitudes towards the presentation, interviewees from the 2011 and 2012 match cycles were emailed an anonymous on-line survey following Match Day soliciting their feedback.

Overall, the PowerPoint presentation was viewed favorably. Most applicants felt the presentation provided them with the chance to adequately present themselves to the interviewing committee and did not feel that preparation of the presentation was too time consuming or added unnecessary stress to their interview.

Although we currently only have two years of data, preliminary findings indicate that this interview component is a valuable and unique addition to the interview day that assists in the assessment of non-cognitive strengths that may contribute to residency success, such as public speaking and social skills.

## REFERENCES:

1. Harfmann KL, Zirwas MJ. Can performance in medical school predict performance in residency? A compilation and review of correlative studies. *J Am Acad Dermatol.* 2011 Nov;65(5):1010-1022.
2. Brothers TE, Wetherholt S. Importance of the faculty interview during the resident application process. *J Surg Educ* 2007;64:378-85.

## Poster 2

Title: Spaced Repetition: An under-utilized tool in medical education

Authors: Jessica Kaffenberger, M.D. and Joslyn Kirby, M.D.

Affiliations: Penn State College of Medicine

Background: There is a substantial quantity of literature published in the field of psychology regarding the effectiveness of spaced repetition, a learning technique which incorporates increasingly longer spaces or gaps between subsequent reviews of previously learned material<sup>1</sup>. Despite its popularity in the psychology literature for nearly 50 years, this powerful technique has only recently been used for medical education<sup>2,3</sup>.

Objective: To incorporate this valuable technique into our dermatology residency to improve learning and retention.

Methods: We utilized an online flashcard program which is specifically designed to promote spaced repetition. The program has a built-in algorithm for increasing the amount of time between reviews that is based on each individual's self-reported mastery of the information. Starting in May 2013, sets of 10-15 flashcards per week were sent to the residents for self-study and review. An anonymous survey was sent to the residents asking for feedback regarding the program.

Results: Qualitative data show that 100% of residents have found this tool to be an effective addition to our education curriculum and over half of the residents now make their own self-study sets in addition to the weekly reviews. Resident cite "improved long-term memory" as one of the greatest strengths of the program.

Summary: In conclusion, spaced repetition with online flashcards is an efficient and under-utilized tool that has the potential to significantly impact residents' knowledge retention.

1. Cepeda, Nicholas J, Edward Vul, Doug Rohrer, John T Wixted, and Harold Pashler. "Spacing Effects in Learning: a Temporal Ridgeline of Optimal Retention." *Psychological Science* 19, no. 11 (November 2008): 1095–1102.
2. Gyorki, David E, Tim Shaw, James Nicholson, Caroline Baker, Meron Pitcher, Anita Skandarajah, Eva Segelov, and G Bruce Mann. "Improving the Impact of Didactic Resident Training with Online Spaced Education." *ANZ Journal of Surgery* (April 26, 2013).
3. Kerfoot, B Price, William C DeWolf, Barbara A Masser, Paul A Church, and Daniel D Federman. "Spaced Education Improves the Retention of Clinical Knowledge by Medical Students: a Randomised Controlled Trial." *Medical Education* 41, no. 1 (January 2007): 23–31.

### **Poster 3**

Title: FAST: Encouraging and capturing 1-minute feedback

Authors: David Baird, MD, Kaleen Burton, BS, Joslyn Kirby MD

Affiliations: Department of Dermatology, Penn State Milton S. Hershey Medical Center, Hershey, Pennsylvania

Introduction: Feedback is a crucial part of adult learning theory. In graduate medical education, formal feedback is often infrequent and separate in time from events in clinic. We designed a quick, informative assessment to provide frequent, immediate feedback on resident performance in patient encounters.

Methods: The FAST evaluation was designed to minimize impact on clinic flow while maximizing frequent, immediate feedback. Open ended categories include history, physical examination, assessment and plan, interpersonal skills and professionalism. Target behaviors include hand hygiene, introductions, limiting jargon, and patient education. The FAST was piloted during a three-month period at the beginning of dermatology resident clinics. The evaluations were analyzed for written feedback themes and demographics. A post-pilot survey was completed by all participants.

Results: 68 evaluations were completed. All 9 residents were evaluated and 90% (9/10) attendings participated. Key feedback themes included expounding the history, active listening, completeness of exam, shared decision making, expanding the differential diagnosis, patient education, and interpersonal communication skills. All 9 residents and 94% (8/9) of participating attendings reported that the FAST evaluation was a useful tool. Although 33% (3/9) of attendings felt they rarely gave useful feedback, all residents reported frequently receiving useful feedback. Participant reported strengths of the FAST included immediate feedback and observation of “non-testable” behaviors. Weakness included time demands and Hawthorne effect. 83% (15/18) of participants would like the FAST to be a permanent part of residency education.

Conclusion: Frequent, applicable, and immediate feedback is a crucial part of learning. The FAST evaluation facilitates frequent evaluation and feedback of clinical encounters. It can be used during the first patient encounter of a resident clinic, with minimal disruption to clinic flow.

#### Poster 4

Title: Active Review by Learners and Feedback for Teachers: A quick, high-yield tool

Authors: Joslyn Kirby, M.D.

Affiliations: Penn State Milton S. Hershey Medical Center, Hershey, P.A.

Introduction: The Critical Incident Questionnaire (CIQ) is a quick method to obtain feedback about the teaching session from students (Brookfield, 2006). Students' perceptions are an important component of the learning space in the Humanistic theory of learning (Rogers, 1994). This tool encourages permanent learning through review and re-organization of the material during completion of the form (Bandura, 2001).

Objective(s): To introduce the CIQ and give examples of its use.

Method: The CIQ was given to residents and senior medical students following educational sessions by one academic dermatologist for a period of one year. The CIQ was modified slightly for use during single sessions. It inquired about moments in class that were most or least engaging, most helpful, and surprising.

Results: The CIQ was administered after 15 didactic sessions with completed anonymously by 3 to 11 learners (mean = 7) per session. It was completed anonymously in less than 2 minutes. Completion of the items encourages the students to review the material from the session. This is supported by the comments: "Comparison of salicylic and BPO – I didn't realize the lesser concentrations were effective," and "there are many details that overlap from previous sessions."

The questions also encourage students to share comments that can be helpful to the teacher when selecting teaching techniques. For example: "Drawing the BMZ, both individually and in groups" and "cases were really helpful and cemented discussion".

All completed CIQs were reviewed and the themes for each question were generated (JSK). Examples of themes include 'Interaction with the Material', 'Use of Resources', and 'Teaching Techniques' [*will be presented in entirety if selected*].

Summary: The CIQ is a quick method to (1) receive feedback from learners to inform and improve teaching methods for the benefit of the teacher and learner and to (2) encourage learners to actively review material from the learning session.

## **Poster 5**

Title: Effects of Formal Instruction on Individualized Learning Plan Quality

Authors: Adam R. Mattox, DO; Eric S. Armbrrecht PhD, Nicole M. Burkemper, MD

Affiliations: Department of Dermatology, Saint Louis University School of Medicine, Saint Louis, MO

**Background:** The American Academy of Pediatrics has identified lifelong learning as an essential component of professionalism. Pediatric training programs are required to use Individualized Learning Plans (ILP) to document resident self-directed learning. An ILP is a learning contract customized by the learner that guides the learner through learning objectives, strategies for achieving, and evidence to demonstrate achievement.

When writing learning objectives, successful learners set objectives using *I-SMART* criteria (*Important, Specific, Measurable, Accountable, Realistic, Linked to a Timeline*). Our goal was to determine if training about writing learning objectives is associated with better ILPs, as measured by I-SMART criteria.

**Methods:** Dermatology residents received a lesson on I-SMART criteria, using definitions and examples. Following the lesson, residents wrote ILPs for the 2013 academic year. ILPs were compared to those written 2011-12 without formal training. Each learning objective was graded using a rubric to quantify the quality of each I-SMART criterion.

**Results:** Goal writing improves significantly with training. When all six I-SMART criteria are included, sum scores improved 25% ( $p= 0.003$ ). Of the six criteria, *Specific, Measurable, Accountable* and *Time-Bound* all showed statistically significant improvement. *Important* and *Realistic* criteria scored very high initially, thus statistically significant improvement did not occur nor was it likely.

**Conclusions:** High scores without statistical improvement in *Important* and *Realistic* criteria suggest training efforts should not be focused there. The remaining criteria have the most opportunity for improvement and were responsive to training.

## **Poster 6**

Title: Survey on the Format of Dermatology Grand Rounds

Authors: Daniel J. Callaghan, BA<sup>2</sup>, Christine A. DeWitt, MD<sup>2</sup>, Scott A. Norton, MD<sup>1</sup>

Affiliations: <sup>2</sup>Georgetown University and Washington Hospital Center, Washington, DC  
<sup>1</sup>Children's National Medical Center, Washington, DC,

Background: Dermatology Grand Rounds remains a crucial aspect of residency training. As opposed to the transition to a lecture-based conference witnessed in other medical disciplines, many dermatology residency programs continue to incorporate live patient viewing into their Grand Rounds, a tradition popularized by William Osler. From variables such as what one is allowed to ask patients to who is relied upon to present the differential diagnosis, patient-focused Grand Rounds is an activity with countless possible variation. Conversely, some dermatology residency programs have either placed a greater emphasis on the use of didactic lectures, or simply eliminated live patient viewing altogether.

Objective: With the importance of Grand Rounds in medical education, our goal was to ascertain the different ways in which dermatology residency programs conduct Grand Rounds, with the hope of determining how to maximize the learning experience.

Methods: A survey was distributed via the APD listserv to all the dermatology residency programs in the United States.

Results: The large majority of responding programs continue to incorporate a component of live patient viewing into Grand Rounds on a regular basis, with many programs doing so at every Grand Rounds. Compared to programs with intermittent use of live patients, those programs that have live patient viewing at every Grand Rounds were more likely to strongly agree that Grand Rounds is effective in improving patient care, effective as a teaching tool and essential for clinical education. Grand Rounds also provides a direct benefit to patients, with most patients being presented due to an unknown or uncertain diagnosis or in order to request treatment alternatives. A significant number of these patients have their clinical management adjusted after being presented and discussed.

## Poster 7

Title: Dermatology Fine Arts Grand Rounds at the Phillips Collection: Medical Education Tool to Improve Visual Diagnostic Skills

Authors: Lynn McKinley Grant, MD, Annette Polan and Lauren Craig, MD

Affiliations: Georgetown/Medstar Washington Hospital Center Department of Dermatology, Washington, DC

Intro: The Georgetown/ Medstar WHC Department of Dermatology held a Fine Arts Grand Rounds at the Phillips Collection in DC. Annette Polan, artist, Professor Emeritus, Corcoran College of Art and principle, Capital Artports and Dr. Lynn McKinley-Grant, Associate Professor of Medicine, Georgetown/ WHC Department of Dermatology, co-hosted the event, focusing on encouraging dermatology attendings, residents, and medical students to analyze pre-selected portraits.

Purpose: This exercise aimed to enhance critical thinking, creative problem solving and visual literacy in medical professionals through interaction with the world of art.

Methods: Participants were divided into 5 groups, each of which was assigned a painting. Groups observed their painting for 20 minutes and answered a series of questions. After the allotted time, each group verbally presented their painting. An evaluation was filled out immediately after the event and then 1 year later.

Results: 50% of responders sited gaining perspective from others as the most valuable skill obtained from the course. 29% cited improved observation via increased observation time. After 1 year, 85.7% of responders cited improvement in personal observation skills and 71% cited improved articulation of visual observations after attending the course.

Conclusions: The activity most successfully improved communication and idea sharing within teams and increased observation time/observational skills. In addition, the event served as a stress-reduction technique for house-staff. At 1-year follow up, participants still found the session benefited these areas, especially improvement in observation skills.

## **Poster 8**

Title: 5-year assessment of the impact of visual training in medical school

Authors: Andrea Kalus<sup>1</sup>, MD and Tamara Moats<sup>2</sup>, MA

Affiliations: University of Washington <sup>1</sup>Division of Dermatology and Department of Medicine, <sup>2</sup>Art History

Use of art observation has been shown to improve the number of clinically relevant observations by medical students. We developed and offer a 10-week elective at our institution for pre-clinical medical students based on the method of Visual Thinking Strategies. This is a cognitive strategy designed to teach students how to look carefully and at length at a work of art, verbalize their observations, and actively build on the observations of others. This is then connected to the process of medical observation. Our course includes detailed observations of original art objects, projected images of clinical material and independent exercises. We surveyed all our students from the last five years about the impact of this course on their development in multiple areas relevant to medicine. We had a 60% response rate and 29% of our respondents were in residency training at the time of the survey. The participants reported a positive impact of the course on their development in multiple areas and this seems to last well beyond the immediate course even into residency training. Incorporating humanities into medical education can be effective and is well received by students.

## **Poster 9**

Title: Dermatology Flipped, Blended, and Shaken: A Comparison of the effects of an active learning modality on student learning, satisfaction, and teaching

Authors: William Aughenbaugh, MD, Georgia Hinman, PhD, Kathy Hendricks

Affiliations: University of Wisconsin School of Medicine and Public Health  
Midwest

A Dermatology course compared the effects of a blended learning design with a traditional Dermatology course taught the previous year at the same institution. Technology was used to move lectures outside the classroom and add small group learning activities designed to reinforce difficult course concepts.

In the three-week course, ten podcasts replaced the lecture format. Students were instructed to preview the materials prior to attending each of the large group sessions. The class of 180 students formed small work groups designed to foster co-constructions of knowledge, learning through clinical problem solving and application of knowledge. All groups simultaneously shared their answers via colored cards. Upon reviewing the group responses, faculty challenged groups to defend their answers against the other options.

Initial verbal responses from students during the course varied from the overwhelmingly positive to the vigorously negative. Students appreciated real world application and found significant value in the integration of basic science with clinical medicine. The perceived lack of content being covered caused concern for some students; others felt ill-prepared for the sessions when podcasts were not pre-watched.

Data gathered included exam and quiz scores, student evaluations, attendance, and number of previewed podcasts prior to sessions. Initial analysis of exams scores revealed a significant difference in scores for students in the flipped classroom compared to the traditional lecture the previous year. Evaluation data indicate increased student satisfaction and learning.

In a flipped classroom intended learning outcomes are realized when inquiry and unanticipated questions are met with in-depth discussion. Moving away from the comfort zone of formal lecture allows the instructors to reveal themselves as learners.

## **Poster 10**

**Title:** Graduate Medical Education and the Electronic Medical Record: Enhancing Medical Education in the Electronic Age

**Authors:** Amber R. Atwater MD, Robert Benjamin MD, W. Robert Lee MD MEd MS, Jullia Rosdahl MD PhD, David Turner MD, John Wiener MD, Edward Buckley MD, Katherine Grichnik MD

**Affiliations:** Duke University Medical Center, Durham, NC

**Background:** The use of electronic medical records (EMR) has increased dramatically in the last decade. Medical learners are increasingly required to use an EMR for patient [d1]care, and although use of the EMR has been shown to have clinical benefits, comparatively little is known about its effect on graduate medical education.

**Purpose:** To measure faculty and trainee (residents and fellows) perceptions of the effects of EMR on graduate medical education (GME) in the outpatient setting.

**Methods:** In May 2013 a survey was emailed to Duke [d2]faculty, fellows and residents. Perceptions regarding the effects of EMR on outpatient GME were assessed.

**Results:** 396 surveys were completed. The overall impression of the EMR was positive (53% faculty, 74% trainees). Respondents reported that the EMR has a positive or no effect on patient safety (91% trainees). There was a negative perception of the ability to develop effective interactions with patients (58% faculty, 60% trainees) and a negative perception regarding face to face learning time with faculty (63% faculty, 44% trainees). Neither group reported an effect on ability to learn, ability to take a history and conduct a physical examination, or formulate a differential diagnosis and plan independently.

**Conclusions:** The majority of faculty and trainees have a positive impression of EMR. There is a perception that patient safety is improved with EMR, but that faculty-trainee and physician-patient interactions may be impaired by use of the EMR in the outpatient setting.

## **Poster 11**

Title: A workflow for managing refill requests: Impact upon the balance of service to education for Dermatology residents

Authors: Maren E. S. Cotes MD, Michael D. Sarradet MD, Laura K. DeLong MD

Affiliation: Emory Department of Dermatology, Atlanta, GA

### Abstract:

Prior to the 2012-2013 academic year, all incoming patient and pharmacy phone calls to the Emory Dermatology Clinic have been triaged and managed by resident physicians, resulting in an increased, minimally-educational service burden for post-graduate trainees.

We developed and implemented a departmental policy for phone call triage and refill of topical and low-risk oral medications by the medical support personnel. We asked residents completing phone calls and refills to tally these over a one-week period for 3 months prior to and following implementation of this policy. We compared numbers of calls using the paired students t-test.

Our intervention has resulted in statistically significant decreases in the average number of weekly refill requests handled by Dermatology house staff (46 vs. 11,  $p=0.049$ ). There was also a trend towards decreased overall number of weekly phone calls triaged and made by residents (99 vs. 79, NS).

This intervention, which allows the clinical support staff to manage low-risk prescription refill requests, demonstrates how small changes in clinic workflow policy can result in substantial, favorable shifts in the balance of service to education for post-graduate trainees.

## **Poster 12**

**Title:** Needle Stick Injury: Response Assessment and Education

**Authors:** Laura Blumenthal MS2, Marsha Moran RN, Stephanie Kliethermes PhD, Smita Aggarwal MD, Laura Winterfield MD MPH, Rebecca Tung MD

**Affiliations:** Department of Dermatology, Loyola University Medical Center, Maywood, Illinois

*Introduction:* Exposure to blood and body fluids is a significant hazard in the medical setting. Pathogens in blood and contaminated body fluids can infect the healthcare provider through percutaneous injury, mucous membrane contact, or non-intact skin exposure. Major pathogens include human immunodeficiency virus and the hepatitis B and C viruses. Immediate response to occupational exposure may mitigate the risk of infection, and should be based on a set of pre-defined steps. While the protocol is available on our intranet, it may not be reviewed by employees until necessity arises. We hypothesized that most employees, regardless of position, were unsure of the steps to take after an injury, and were not aware of important details associated with exposure (e.g. risk of transmission of HIV and knowledge of potentially infectious body fluids).

*Methods:* All employees at our satellite facility were given a 5 question test about needle stick injury and exposure. At 1 week, they were given a short lecture on the correct protocol. Immediately after and 1 week post-lecture, the same test was issued. Improvement was assessed via Wilcoxon Signed Rank test and frequency tables.

*Results:* Preliminary results show a statistically significant improvement in scores from pre to post lecture ( $S=203$ ,  $p<0.0001$ ). All participants improved by at least 1 point on the post-test and 40% improved by 3 points.

*Conclusion:* Needle stick injury is a reality in healthcare and correct response to an exposure is critical for the wellbeing of the employee. Knowledge of exposure risks and the post-exposure protocol was not well demonstrated prior to our lecture, emphasizing the need for effective teaching regarding response and prevention.

### **Poster 13**

Title: Dermatology Surgical Safety Checklist: An Objective Resident Performance Tool

Authors: Diamond, Stephanie; El Tal, Abdul; Mehregan, Darius; Kara Dupuy

Affiliations: Wayne State University, Dermatology, Detroit, Michigan

#### **Abstract**

**Objective:** To investigate the impact of implementation of a surgical safety checklist during dermatologic outpatient surgical procedures performed during residency.

**Background:** Many specialties have successfully incorporated specialty-specific checklists but dermatology has yet to adopt a formalized surgical checklist for outpatient procedures. It is particularly important to train residents to adopt a thorough and systematic approach to patient safety during dermatology procedures as residency training establishes habits that will be permanently incorporated into a physician's day-to-day practice.

**Methods:** Twelve dermatology residents in three different levels of residency were asked to perform a simulated punch biopsy while being recorded on a handheld device. The residents were asked to perform the procedure just as they normally would in a real patient setting. Following the biopsy, the residents were given a surgical safety checklist and asked to evaluate their performance based on the checklist. The same procedure was repeated two weeks later, again utilizing the checklist. A patient safety lecture was given in the interval between the two procedures.

**Results:** Data was collected and compared amongst the current 12 trainees. Longer follow up data was also collected by comparing this session to a session conducted 2 years prior. This data was collected and averaged amongst the classes and also overall. All residents reported improvement overall.

**Conclusion:** Although the complication rate in dermatologic procedures is low, potential for error still exists. Implementing a surgical safety checklist in residency training can help eliminate the potential source of error that can threaten patient safety.

## **Poster 14**

**Title:** A new learning module for skin biopsy  
**Authors:** Ashley Jovanovski, Jenifer Lloyd DO, Susan Nedorost MD  
**Affiliation:** Case Western Reserve University School of Medicine in Cleveland, OH

**Background:** Skin biopsy training for dermatology and primary care residents and physicians is rarely addressed in the literature<sup>1,2,3</sup>. Procedural dermatologists now teach complex procedures, but rarely perform or teach skin biopsy. Medical dermatologists perform most biopsies at academic medical centers, but may lack interest in teaching the procedure. Given the frequency of skin biopsies<sup>4,5</sup>, training that addresses the choice of biopsy in the episode of care could add value. Simulation-based training and an emphasis on the cognitive aspects of performing a procedure enhance understanding<sup>6</sup> and will help learners choose and perform an appropriate skin biopsy. Due to time constraints in the workday, the flipped classroom design can maximize didactic learning without disrupting existing schedules<sup>7</sup>.

**Objective:** We sought to determine if an online module and a subsequent skills workshop improved residents' ability to choose an appropriate skin biopsy for a simulated clinical scenario and their confidence in their answer. We tried to emphasize points of critical decision making that influence cost of care.

**Methods:** We created an online learning module composed of informative text, procedural videos, a pretest, and a posttest. Two open-ended questions were graded based upon a rubric and pretest scores compared to posttest scores. We chose an open-ended format because we hoped it would give us more insight into the learners' understanding about some of the non-technical aspects such as value-added care. Afterwards a technical skills workshop offers the opportunity to practice the biopsies on an orange or pig's foot.

**Results:** In a pilot session, learner feedback was positive and in their posttest activity, showed they grasped the important concepts of choosing a biopsy, explaining their reasoning, and coming up with a plan for follow up.

**Conclusion:** The online module served to improve residents' ability to choose an appropriate skin biopsy for a given lesion and their confidence in their decision.

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<sup>1</sup> Ackerman, A. B. "Dermatologic Surgery. Better Training of Residents Is Needed." *American Journal of Dermatopathology* 6.3 (1984): 211-12. Web.

<sup>2</sup> AlGhamdi, K. M. "Current Status of Dermatology Residency Training in Saudi Arabia: Trainees' Perspectives." *East Mediterranean Health Journal* 14.5 (2008): 1185-191. Web.

<sup>3</sup> Hansra N.K., et al. "Medical school dermatology curriculum: are we adequately preparing primary care physicians?" *Journal of the American Academy of Dermatology* 61 (2009) 23-29

<sup>4</sup> Stern, Robert S. "Dermatologists and Office-based Care of Dermatologic Disease in the 21st Century." *National Center for Biotechnology Information*. U.S. National Library of Medicine, n.d. Web. 06 Aug. 2013.

<sup>5</sup> Fleischer, A. B., Jr, et al.. "Procedures for Skin Diseases Performed by Physicians in 1993 and 1994: Analysis of Data from the National Ambulatory Medical Care Survey." *Journal of the American Academy of Dermatology* 37.5 Part 1 (1997): 719-24. Web.

<sup>6</sup> Zevin, Boris, et al. "A Consensus-Based Framework for Design, Validation, and Implementation of Simulation-Based Training Curricula in Surgery." *Journal of the American College of Surgeons* 215.4 (2012): 580-86. <https://www.clinicalkey.com>. Elsevier, Inc. Web. 7 Aug. 2013.

<sup>7</sup> Prober CG, Heath C. "Lecture halls without lectures—a proposal for medical education." *New England Journal of Medicine*. 366 (2012):1657–1659

## **Poster 15**

**Title:** The Cadaveric Skin Biopsy Project (CSBP): Description and Student Evaluation of an Innovative Approach to Dermatology Instruction in the Pre-Clerkship Medical School Curriculum

**Authors:** Mary Grace Baker, BA; Melanie A McCollum, PhD; Elizabeth J Bradley, PhD; Mark A. Russell, MD Dr. Mark Russell, MD

**Affiliation:** University of Virginia Department of Dermatology

**Abstract:** Background: Dermatology can develop creative ways of participating in the pre-clerkship medical school curriculum.

**Objective:** To describe and report student survey results of a novel collaborative learning activity for medical students directed by dermatology, histology, and gross anatomy faculty that simulates the process of skin lesion biopsy collection and provides a realistic setting in which to learn normal and abnormal skin histology.

**Methods:** First-year medical students were surveyed regarding the impact of this active-learning module on their understanding of normal and abnormal skin histology and their appreciation of dermatology and dermatological procedures.

**Results:** Overall, students were appreciative of the opportunity to perform biopsies and to see the link between the clinical presentation of a lesion and its underlying histopathology. Students were somewhat less impressed with the ability of the activity to improve their understanding of the characteristics of benign versus malignant skin lesions.

**Limitations:** This is an early feasibility trial at one institution.

**Conclusions:** This project represents a unique approach to introducing students to dermatology and dermatologic procedures and achieves institutional, LCME, and AAMC goals for dermatology education. Overall, students highly valued the opportunities to practice basic clinical procedures and found it aided their understanding and appreciation of skin histology.

## **Poster 16**

Title: Procedural and Surgical Skills Workshop

Authors: Sheila Z. Jalalat, BS, Julie Martin, MD, and Richard F. Wagner, Jr., MD

Affiliation: The Department of Dermatology, The University of Texas Medical Branch, Galveston, TX

### **Background:**

Evidence indicating the limited amount of hands-on experience in the current era of medical training has raised concern regarding students' development and resulting deficiencies in the performance of basic procedural skills. Studies have demonstrated the value of surgical workshops for medical students, however evaluation of improved student performance during future clerkships or residencies has yet to be assessed.

### **Objective:**

It has been shown that medical students ascribe one-third of their clinical education to the teaching of interns and residents. We, therefore, initiated and evaluated a formal resident-led surgical skills workshop for students through the UTMB Department of Dermatology.

### **Methods:**

Participants received instructions on surgical tools/techniques followed by hands-on practice. Surveys administered to 24 medical (MS) and physician assistant (PA) students assessed their skill level, confidence level, and likelihood of using surgical skills in future practice pre and post workshop using a 1-5 Likert scale. Overall experience was also assessed. Non-parametric bivariate tests were used for analysis to account for non-normal distribution of the data.

### **Results:**

There was a statistically significant change in skill ( $p < .0001$ ) and confidence level ( $p = 0.0001$ ) post workshop. There was no significant difference in utility. There were also no statistically significant differences based on the year of training, MS vs. PA student responses, or number of procedures performed prior to the workshop. Estimated cost per participant was \$19.79.

### **Conclusions:**

Research supports our finding that workshop learning experiences increase students' ability to perform common clinical skills, their confidence, and desire to practice such skills. Further studies are necessary to determine the influence of these skills workshops on long-term clinical performance in future clerkships and residencies. We anticipate continuing this workshop for students in the future.