

## **UC Irvine**

### **Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health**

#### **Title**

Visual Diagnosis: Harnessing Social Media for the Purpose of Medical Education

#### **Permalink**

<https://escholarship.org/uc/item/2p43387c>

#### **Journal**

Western Journal of Emergency Medicine: Integrating Emergency Care with Population Health, 16(4.1)

#### **ISSN**

1936-900X

#### **Authors**

Amin, D.  
Jhun, P.  
Bright, A.  
[et al.](#)

#### **Publication Date**

2015

#### **License**

[CC BY 4.0](#)

a checklist score ascertained for resident performance of this skill will highly correlate with a validated global rating scale (GRS) for procedural performance.

**Methods:** An Institutional Review Board approved, randomized, prospective study was completed involving procedural skill evaluation and feedback on resident performance of US IJ CVC in a simulated environment, including 15 postgraduate year-1 (PGY-1) emergency medicine residents at an academic medical center in July-August 2014. During the study, each resident performed US IJ CVC placement twice, with two faculty instructors evaluating procedural skill and providing feedback. Each faculty team completed a summated performance checklist and each faculty member completed a GRS for each procedure performed. These measurements were compared to one another.

**Results:** Each resident performed 2 US IJ CVC placements, for 30 total procedures. The correlation between the GRS scores and the checklist scores was excellent, with a correlation coefficient (Pearson's *r*) of 0.90 ( $p < 0.0001$ ) for the first placement, and 0.89 ( $p < 0.0001$ ) for the second placement. Further, the inter-rater reliability for the GRS was also excellent, with kappa of 0.79 (95% CI:[0.75-0.84]). A previous study using this instrument showed a kappa of 0.77, suggesting consistent inter-rater reliability.

**Conclusions:** The checklist scores for resident performance were highly correlated with a validated global rating scale, which itself demonstrated excellent inter-rater reliability. This checklist represents a useful tool for measuring procedural competency.

## 80 Videotape Augmented Feedback for Procedural Performance

Wittler M, Askew K, Hartman N, Manthey D / Wake Forest Baptist Medical Center, Winston-Salem, NC

**Background:** Resident programs must teach and assess residents' achievement of core competencies for practice-based improvement as well as procedural skills. Physicians' ability to recognize their own strengths and limitations are limited. Videotape augmented feedback may facilitate procedural skill acquisition and promote more accurate resident self-assessment.

**Objectives:** Primary aim: investigate whether videotape-augmented verbal feedback leads to increased procedural skill compared to verbal only feedback. Secondary aim: determine if videotape-augmented verbal feedback improves the accuracy of self-assessment compared to verbal only feedback.

**Design:** Institutional review board approved single center, prospective, randomized, controlled study of an educational feedback method. Setting: Procedural training on ultrasound guided internal jugular central venous catheter (US IJ CVC) placement using task trainer.

**Participants:** Fifteen emergency medicine interns.

**Interventions:** Participants were randomized to videotape-augmented or verbal only feedback. All participants received feedback based on a validated 30 point checklist for US IJ CVC placement. A validated 6 point procedural global rating scale documented overall perception of resident's procedural competency.

**Results:** Both groups improved by a mean increase of 9.6 points (95% CI:[7.8-11.4]) on a 30 point scale. There was no difference in mean score improvement based on addition of video in either the procedural checklist or the global rating scale. The self-assessment of the participants deviated from faculty scoring, increasingly so after receiving feedback. Residents rated highly by faculty underestimated their skill, while those rated more poorly demonstrated increasing overestimation. Accuracy of self-assessment was not improved by addition of video.

**Conclusions:** Feedback advanced the skill of the resident, but video did not add to verbal feedback alone. Feedback does not improve the inaccuracy of resident self-assessment.

## 81 Visual Diagnosis: Harnessing Social Media for the Purpose of Medical Education

Amin D, Jhun P, Bright A, Herbert M / University of Southern California, Los Angeles, CA

**Introduction/Background:** Images have been a cornerstone of medical education, to substitute and supplement variable clinical experience. Certification examinations across medical specialties, including emergency medicine (EM), utilize visual stimuli for testing purposes. Historically, most medical images have been located in written publications that are often outdated or inaccessible, with a relatively limited number of images. The rise of social media and creation of photo-sharing applications for medical professionals have allowed for instant, global, and low-cost access to a wealth of images.

**Educational Objective:** We sought to increase EM resident and faculty exposure to and awareness of clinically relevant and important images, by using images from the "Figure 1" medical image database (figure1.com) to lead case-based discussions.

**Curricular Design:** Using a modified Delphi technique with two EM faculty, 10 EM-relevant medical images were selected from the Figure 1 image database each month. During weekly educational conferences, images were introduced, via clinical vignette, to EM residents and faculty. Residents discussed the diagnosis and treatment of each presented case, which was followed by prepared faculty comments.

**Impact/Effectiveness:** Ongoing evaluations by residents and faculty of this visual diagnosis case series are overwhelmingly positive, identifying it to be innovative and interesting. Many specifically commented on their intent to begin using this application to contribute to the global image database and continue their discussion online.