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Invasive Procedure Team Contributes to Procedural Mastery in a Combined Residency

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opportunity and risk: accelerated change is an occasion to reimagine how we teach. It also strains the limits of our traditional didactic structures and challenges medical educators and institutions alike to keep pace. This rapidly expanding space between new opportunities and the pace at which current educators and institutions are able to implement them is what we call the “education gap.”

Educational Objectives: For medical education to remain engaging and relevant we must address this gap. To do this requires expanding our conception of what is an educational tool, and integrating new structures within our institutions that provide ongoing access to this 21st century zeitgeist. Our objective was to develop a educational tool (the design challenge) to integrate new technology, engage residents and faculty, promote collaborative projects and mentorship, and provide an formal system for the residency program to keep pace with new tools and educational opportunities.

Curricular Design: Here we present our experience with the implementation of a Design Challenge model.

Participants were introduced to concepts for effective learning, asked to identify barriers to their learning, and then challenged to overcome them during the 8 hour design challenge. Participants were introduced to collaborative social media platforms as well as novel tools that could be harnessed for education and then divided into small groups. At the end of the day, each group’s work was uploaded to our social platform and presented.

Impact/Effectiveness: Feedback from the day suggested that this was a powerful tool for medical education: it empowered participants to actively engage in their own learning, revealed an untapped reserve of potential talent among our residents to be educators, and laid the groundwork for iterative student and resident-driven change within our program. Since the design challenge multiple resident driven and student research projects and content development have been initiated. Several conference and education days have highlighted work that was created as a direct result of our design challenge. This appears to have had a significant impact on our program’s educational direction.

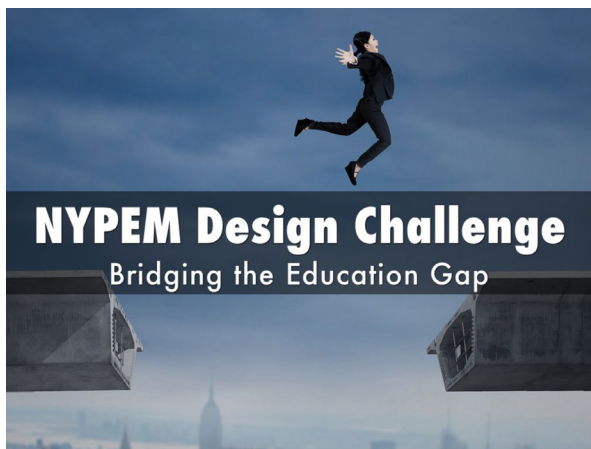


Figure 1.

38 Interactive Video-assisted Procedural Curriculum for Uncommon Emergency Medicine Procedures

Gorbatkin C, Bothwell J, Walsh R/Madigan Army Medical Center, Tacoma, WA

Background: Procedural competence is required in the management of uncommon conditions in the emergency department, and mastery of these skills is essential in the practice of Emergency Medicine.

Educational Objectives: We developed a weekly interactive and video-based curriculum to hone uncommonly utilized procedural skills for our program of 36 emergency medicine residents. Objectives includes procedural competence for essential emergency medicine procedures, as well as competence in interactive medical education for resident instructors.

Curricular Design: First, we performed a needs assessment by polling our faculty physicians as well as emergency medicine residents to determine which uncommon procedures required additional training in our program. Examples of procedures included pediatric jet ventilation, perimortem cesarean delivery, transvenous pacing, advanced airway techniques, regional nerve blocks, fracture reductions, and penile injection and aspiration for priapism. After the needs assessment, we searched for the highest yield instructional videos of each procedure. We developed a 52 week procedural curriculum. Second-year residents with attending physician mentors were assigned as lead instructors for each weekly 30 minute procedural morning report. Lead instructors guide the learners through the selected video. Selected videos include those from academic faculty around the country, Youtube.com, NEJM, or other online resources. Each resident learner then performs the procedure on mannequins or tissue models.

Impact/Effectiveness: The procedural morning report curriculum has enabled our program to further hone more than 50 uncommon procedural skills that are essential to the practice of emergency medicine. This enables residents and rotating learners to gain hands-on competence in these essential procedures. The 52-week curriculum receives excellent reviews from learners, and we utilize surveys to continuously review and improve the procedural curriculum.

39 Invasive Procedure Team Contributes to Procedural Mastery in a Combined Residency

Ramnarine M, Gong J, Gupta S, Marcus D, Mukherji P/ North Shore LIJ Medical Center, East Meadow, NY

Background: Combined Emergency/Internal/Critical Care Medicine (EM/IM/CC) residents occupy a unique niche

in hospitals. These residents translate their broad EM/CC skill-set to the IM setting, where they have filled the void left by the elimination of procedural competence requirements for certain bedside procedures in categorical IM training. These changes have led to a drop in the number of procedures performed by internists. Our EM/IM program has organized an Invasive Procedure Team (IPT) to perform bedside procedures in a safe, prompt and cost-effective manner.

Educational Objectives: To enhance resident knowledge and skills required in the performance of procedures with standardized didactic sessions, and to ensure patient safety and procedural competence.

Curricular Design: All participating residents undergo standardized didactic sessions for each of the procedures (central/midline catheter insertion, paracentesis, arthrocentesis, and lumbar puncture). Residents learn: indications, contraindications, overview of equipment tray, technique, and potential complications. Each procedural session uses: video instruction, hands-on simulator based instruction, ultrasound guidance, and a written post-test. Bedside procedures are supervised by an attending and competence is determined by direct observation after five successful attempts for each procedure. Findings and recommendations are communicated with the primary team and follow up is performed to assess for complications.

Impact/Effectiveness: IPT has standardized the training of residents to ensure patient safety and procedural competence. IPT performs ~400 procedures within the hospital every year, decreasing the utilization of costly specialty services. It has maintained an excellent safety record, with only 3 adverse events in 5 years (spontaneous hemoperitoneum after paracentesis). Residents and faculty are responsible for ongoing quality assurance and performance improvement.

40 Is Virtual Grand Rounds a Good Option for Resident Conferences?

Grall K, Koonce A, Barrett L, Hegarty C/Regions Hospital / Health Partners Institute for Medical Education, St. Paul, MN

Background: Inviting speakers to resident didactic conferences can be expensive and time consuming for both the program and speaker. Using remote meeting technology allows a speaker to share their desktop while seeing and speaking to a remote audience. We trialed one application in our residency program to bring in more nationally recognized speakers as experts on CORE curriculum topics.

Educational Objectives: Provide our residency program with more Nationally Recognized speakers on Core Curriculum topics while saving on cost and travel time for our speakers.

Curricular Design: We trialed inviting speakers to give

instruction to our residents via remote meeting technology for a 3 month period. Speakers were selected for their expertise on a topic and invited to speak on a resident didactic conference date. A test run of the application was performed prior to their scheduled talk. Following the three month trial, a survey was distributed to our speakers soliciting feedback on the use of the technology. We also reviewed lecture evaluations from our residents, and informal comments from our residency administration.

Impact/Effectiveness: We found that the use of remote meeting technology enabled us to bring in more nationally known speakers without the speaker cost or schedule disruption due to travel. Speakers were able to use the technology with very little training or prep time.

Post-lecture evaluations revealed our residents appreciated the opportunity to have more nationally recognized guest speakers. Comments were generally positive, yet raised a few issues with the technology. (See Table 1)

Informal feedback from residency administration showed the need for practice runs, which allowed opportunity to connect with speakers prior to their scheduled talk. It was also noted that technology use with remote conferencing is easier with experience.

In conclusion, by using remote meeting technology, we found we were able to provide our residency program with more nationally recognized speakers while saving on cost and travel time for our speakers.

Table 1. Resident Comments.

Pro	Con
"Great talks-would like more of these virtual speakers."	"Difficult format for being able to ask questions - is there a way to facilitate that?"
"VSEE is AWESOME."	"You presented great information but I had a hard time staying with you. That could definitely be a product of the video format."
"Do more of this."	"Dr. X was great and she did a nice ultrasound overview. However I feel that VSee is not the greatest technology out there (it's very glitchy) and took a bit away from the presentation overall."
"Totally awesome - more please!"	"Would have better in person."
"Fabulous! Do this again please!"	
"VSee worked well for this!"	