

A Competency Model for Humanistic & Communication Education of Pre-Clinical Osteopathic Medical Students Utilizing Standardized Patients and Technology

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VIRGINIA • CAROLINAS • AUBURN

Objectives

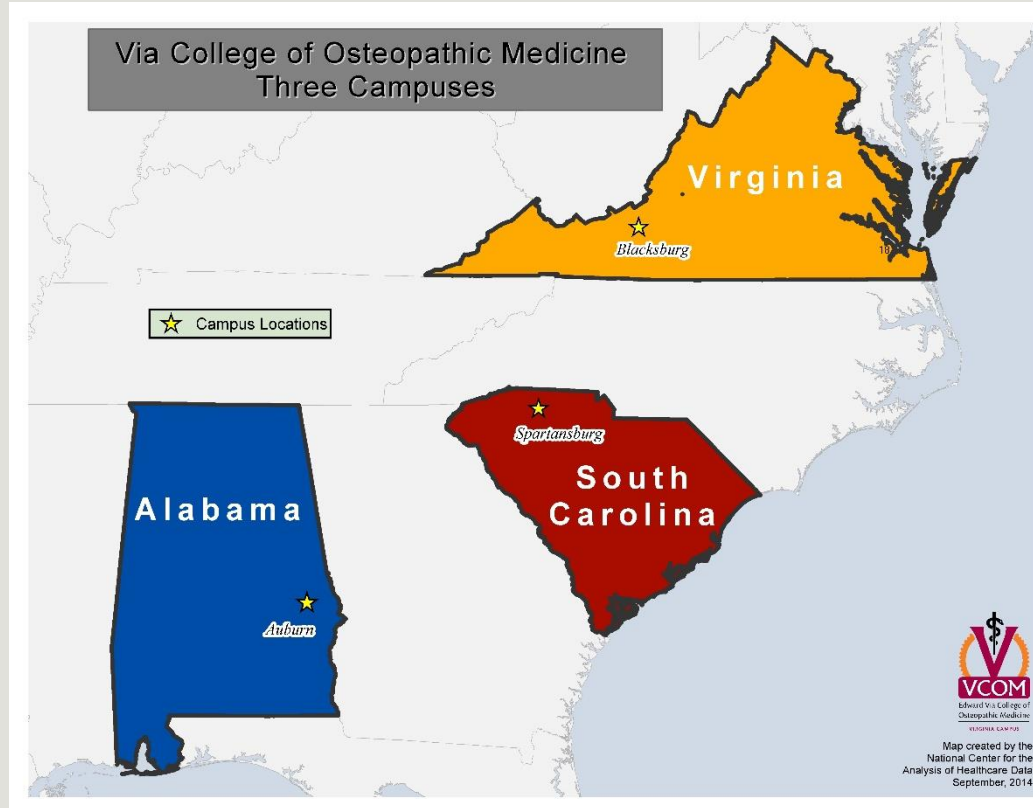
Participant will understand the advantages of the multi-campus centralized simulation server system

Participant will understand the capabilities of a centralized simulation server system in support of academic partners (medical colleges, hospitals, emergency medical services training centers, nursing schools)

Participant will understand VCOM's Humanistic Educational Model

Participant will understand Evaluation and Monitoring of Student Performance of the Humanism Categories Utilizing an Interactive Learning Management System

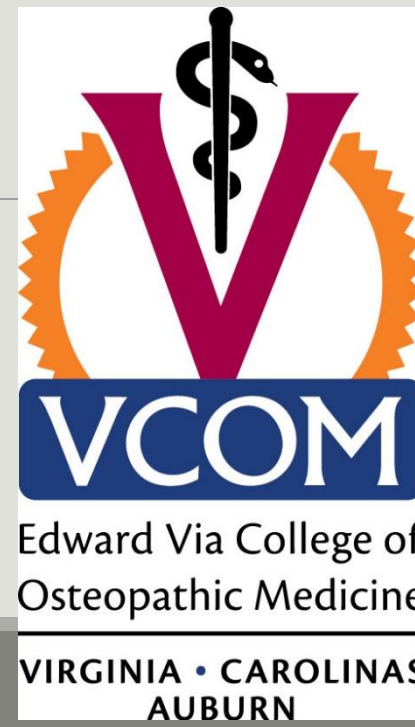
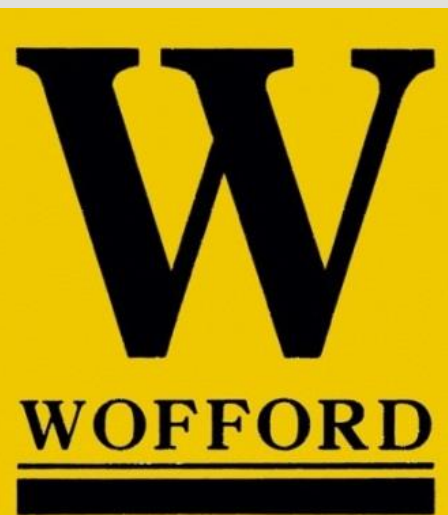
Participant will understand VCOM's Communication Educational Model (Medical Presentations) Utilizing a centralized simulation server and an interactive learning management system



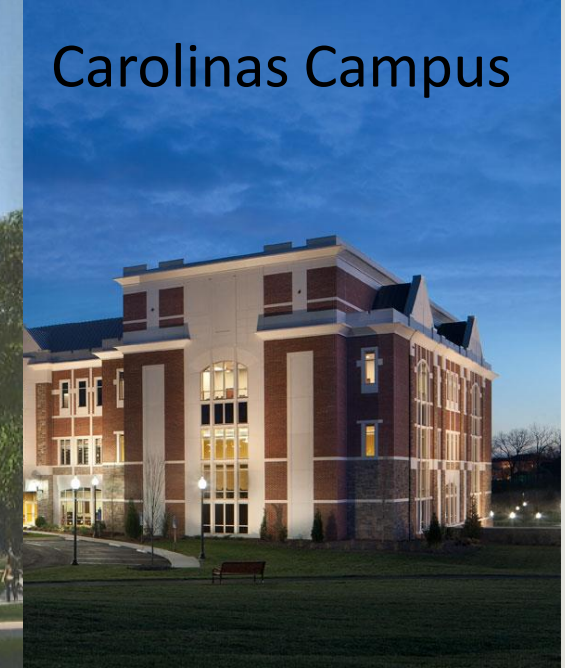
Edward Via College of Osteopathic Medicine Simulation Centers and Academic Partners

Public/Private Affiliations

1100 Pre-Clinical OMS I & II

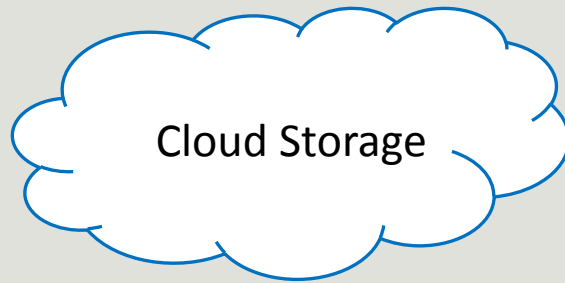


VCOM Simulation Centers 2014

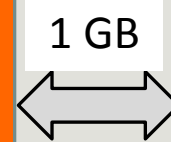
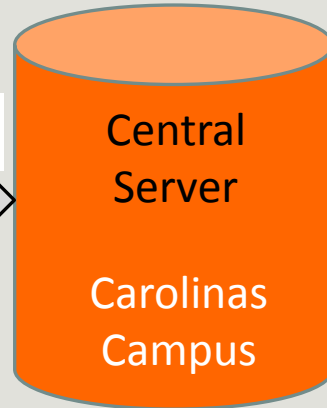
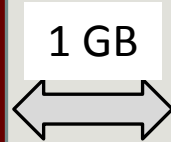


- 2nd floor - Knollwood Building 11,000 square feet
- 10 Multipurpose Rooms – OMM, Standardized Patient (SP),
- 4 High-Fidelity Simulation Rooms with Direct View
- High Technology Adult, Maternal, Newborn & infant Simulators
- Analog cameras/audio with digital archiving to in house Server with WEB casting*
- Lecture Room/Debrief Room
- Cadaver-Based Procedural Skills - Anatomy Lab

- 3rd Floor Main Campus Building , 20,000 Sq. Ft. “ **THE BUILDING**”
- 11 Multipurpose Rooms SGR & SP Rooms
- 4 High Fidelity Simulation Rooms with Direct View & **Public view**
- Reception Area
- High Technology Adult, Maternal & Infant Simulators
- **Networked/Switchable, In House Server, IP Cameras,** AV switching, Digital Archiving & Streaming, Webcasting *
- 3 seminar rooms
- Cadaver-Based Procedural Skills - Anatomy Lab



Academic Partners



Eliminates Siloes

- Manages Student Evaluation Data
- Manages Curricular Content
- Archives Video (Digital)
- Robust Statistical Package

Director of Standardized Patient
 Director of Manikin-Based
 Director of Procedural Skills
 Director of Cadaver-Based
 Chair of OMM
 Chair of Anatomy

Central Server System for 3 Campuses
 Simulation/Course Curriculum Content Building and Sharing
 Administration and Monitor Direct Remote Viewing of Events
 Reduction in Workload
 Significant Reduction in Hardware Required
 Allows for Anatomy and OMM to Centralize Files
 3 Campus Educational Research with Centralized Data Center
Facilitates and Functionalizes Curriculum to Academic Partners



NBOME Competency Domains

1. Osteopathic Philosophy/Osteopathic Manipulative Medicine
2. Osteopathic Patient Care
3. Application of Knowledge for Osteopathic Medical Practice
4. Practice-Based Learning & Improvement in Osteopathic Medicine
5. **Interpersonal & Communication Skills in the Practice of Osteopathic Medicine**
6. Professionalism in the Practice of Osteopathic Medicine
7. Systems-Based Practice in Osteopathic Medicine

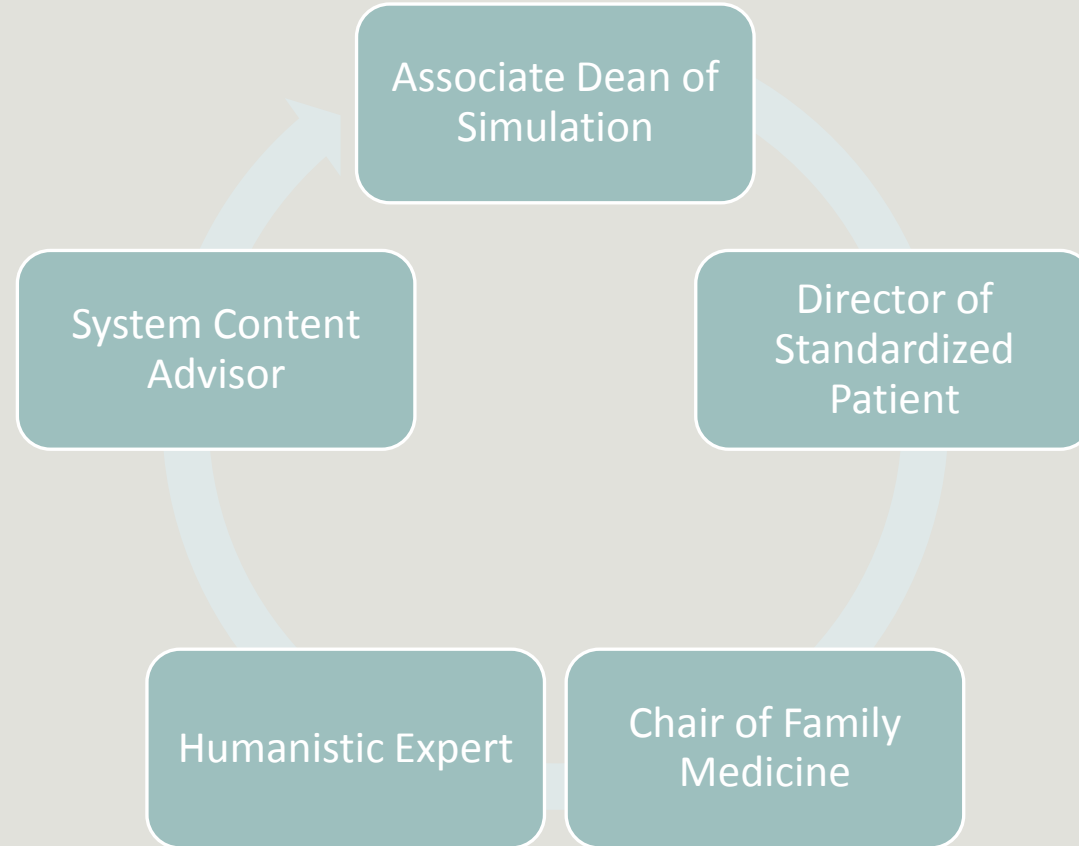
National Board of Osteopathic Medical Examiners (NBOME)



- The NBOME COMLEX-USA examination series provides the **pathway to licensure** for osteopathic physicians in the United States, and is a **graduation requirement** for earning a DO degree from colleges of osteopathic medicine.
- COMLEX Level 1
- COMLEX Level 2-CE (Cognitive Exam)
- **COMLEX Level 2-PE Standardized patients-OMM, Medical Knowledge & Humanism**
- COMLEX Level 3

www.nbome.org

Continuous Curriculum Improvement and Standardized Patient Build



Pre-Clinical OMS I & II Cases

Block Capstone Evaluation

- Block 1 – Communication and Ethics
- Block 2 – Musculoskeletal
- Block 3 – Neurology
- Block 4 – Cardio-Pulmonary
- Block 5 – Gastrointestinal
- Block 6 – Renal GU
- Block 7 – Summative Review
- Block 8 – Presentation(Communication Medical Terminology)

Increased Emotional Concepts introduced through the blocks

- Anger
- Confusion
- Denial
- Ethical Complexities
- Irritability
- Refusal

VCOM Standardized Patient Program

SP Exam Flow:

- 14 minute encounter recorded with patient
- 9 minute typed SOAP note

SP Case Types:

- Acute
- Chronic
- Health Promotion and Disease Prevention
- Osteopathic Manipulative Medicine

Grading

Biomedical/Biomechanical Domain:

- Osteopathic Principles and/or Osteopathic Manipulative Treatment
- History-taking and Physical Examination Skills
- Integrated Differential Diagnosis and Clinical Problem-Solving
- Documentation and Synthesis of Clinical Findings (SOAP Note Format)

Humanistic Domain:

- **Physician-Patient Communication, Interpersonal Skills, and Professionalism**

Student Medical Learning Objectives

VCOM Course: Osteopathic Manipulative Medicine/Principles of Primary Care



Medical Categories:

1. History
2. Physical
3. Assessment
4. Plan

VCOM Carolinas & Virginia
Course 7260 OMM/PPC
Course Directors: Brian Dickens, D.O. & Dr. Matt Cannon, D.O.
Instructors: C. Kay Lucas, R.N., M.Ed., Ed.S. & Jennifer Januchowski, R.N.
Academic Year 2014

Student Performance Goals and Objectives
Standardized Patient Testing Encounter
Block 4 Cardiopulmonary

General Performance Goals

The student will:

Take care of a patient who is complaining of *chest pain* or *shortness of breath* by performing a thorough interview and a complete cardiac and respiratory assessment.

Construct an accurate, organized SOAP note *synthesizing* subjective and objective findings to assist with *identifying* differentials and *developing* a plan relating to the patient's unique problems.

Case Objectives and Clinical Competencies

1. Gathering and Documentation of Current and Historical Data

The student will:

1.1 Obtain and document a chief complaint and history of present illness.

1.2 Obtain and document a complete past medical, surgical, hospitalization, and family history.

1.3 Obtain and document a social history to include diet, exercise, illicit drug use, tobacco product use, alcohol use, caffeine use, occupational and sexual history.

1.4 Conduct and document a complete review of prescribed and OTC medication/s used to *include dosage and frequency in addition to any known allergies and the type of reaction if applicable.*

1.5 Conduct and document a *review of systems* to include General, Cardiac, Respiratory and MSK to assist in determining etiologies relating to the chief complaint of "chest pain and or shortness of breath."

2. Performance and Documentation of the Physical Examination

The student will:

2.1 Discuss and document vital signs and include a general statement describing the patient's appearance and or demeanor.

2.2 Perform and document findings of a cardiac and respiratory physical exam (bare skin) to include the following:

(a) inspection of the chest A/P b/l noting rib motion (excursion);

(b) auscultation of the aortic, pulmonic, tricuspid, and mitral listening posts including Erb's point;

(c) auscultation of lung sounds b/l to include the following:

Student Humanistic Learning Objectives

Humanistic Categories:

- Opening Encounter
- Interviewing and Collecting Information
- Personal Manners/Clinical Courtesy
- Rapport
- Information Delivery and Counseling
- Closure



4-A Patient Checklist

Standardized Patient - 2017 - 4 - A Chest Pain
(Blank Checklist)

Choose ONE of the three choices that most accurately describes the student doctor's performance during the encounter.

CATEGORY 1: OPENING ENCOUNTER

1. Category 1: Opening Encounter

Introduction

- Introduced self stating name and title; Sanitized hands prior to touching the patient
- Introduction was missing critical element(s) (as listed above)
- No introduction; DID NOT sanitize hands prior to touching the patient

2. Category 1: Opening Encounter

Confirmation

- Confirmed patient's name AND inquired about patient's name preference
- Confirmation was missing critical element(s) (as listed above)
- DID NOT confirm patient's name; DID NOT confirm patient's name preference

CATEGORY 2: INTERVIEWING AND COLLECTING INFORMATION

3. Category 2: Interviewing and Collecting Information

Logical Order of Questioning

- Questions followed a logical order
- Questions were somewhat disorganized
- Disorganized flow of questions

4. Category 2: Interviewing and Collecting Information

Use of Open-Ended Questions

- Used open-ended questions at the beginning of major topics; Followed up with specific/direct questions
- Failed to use open-ended questions rather employed specific/direct questions to gather information
- Used many leading and/or closed-ended questions; Frequently lumped questions (multiple questions asked as one)

5. Category 2: Interviewing and Collecting Information

Clarity of Questions & Language (English)

- Questions were stated clearly; No medical jargon or jargon was explained; Language met patient's level of education; Good command of spoken English
- Some questions were stated unclearly; Some medical jargon was used without explanation; English proficiency was limited
- Many questions were unclear; Frequent use of jargon without explanation; Poor command of spoken English

6. Category 2: Interviewing and Collecting Information

Pace of Interview

- Took history without rushing; Allowed patient to tell his/her story (did not interrupt patient)
- Somewhat rushed; Sometimes interrupted patient; Allowed some awkward silences to break the flow of the interview
- Rushed; Frequently interrupted patient; Many awkward silences interrupted the flow of interview

7. Category 2: Interviewing and Collecting Information

Listening Skills

- Did not repeat questions already answered UNLESS clarification was necessary
- Occasionally repeated questions already answered without purpose of clarification
- Frequently repeated questions already answered; Failed to remember information already provided

CATEGORY 3: PERSONAL MANNERS/CLINICAL COURTESY

8. Category 3: Personal Manners/Clinical Courtesy

Permission to Touch

- Asked permission to begin physical exam; Consistently indicated what he/she was doing next; No medical jargon or jargon was explained
- Asked permission to begin physical exam but did not consistently indicate what he/she was doing next; Some medical jargon was used without explanation
- DID NOT ask permission to begin physical exam; DID NOT indicate what he/she was doing next; Frequent use of medical jargon without explanation

9. Category 3: Personal Manners/Clinical Courtesy

Assisting Patient and Sensitivity to Discomfort

- Was sensitive to patient's pain/discomfort; Offered assistance with sitting and standing; Utilized gentle touch
- Was somewhat sensitive to patient's pain/discomfort; Sometimes offered assistance with sitting & standing; Sometimes used gentle touch
- Was insensitive to patient's physical pain/discomfort; DID NOT offer assistance with sitting & standing; DID NOT use gentle touch

Humanistic Categories with Elements

6 Categories with 25 elements

Category 1: Opening Encounter

Introduction

Confirmation of patient's name and name preference

Category 2: Interviewing and Collecting Information

Logical order of questioning

Appropriate use of open-ended questions

Clarity of questions and language

Pace of interview

Listening skills

Category 3: Personal Manners and Clinical Courtesy

Permission to touch

Assisting patient and sensitivity to discomfort

Exposing patient respectfully

Personal space

Appropriate attire and hygiene

Category 4: Rapport

Eye contact

Attentiveness

Professional demeanor

Confidence

Addressing patient's concerns

Nonjudgmental

Praising patient

Category 5: Information Delivery and Counseling

Clarity of information

Pace and tact

Discussion of patient's support system

Treatment plan and patient's agreement

Category 6: Closure

Follow-up

Questions

Standardized Patient Training



Trained by:
Director of Standardized Patient
Chair of Family Medicine
Ph.D. Humanistic Expert

- 3 Provoking statements
- 30 medical education points
- Demographics
- Dress
- Emotional State

Script Practice
Mock SP
Monitoring day of exam



Confidential
Block 4 Class of 2017
Case A Chest Pain
Standardized Patient Training Sheet
Test Date: June 24th 10:30 – 5:00 and June 25th, 2014 10:30 – 5:00
Arrive at the Simulation and Technology Center 30 minutes prior to the test time.

To ensure that the students receive the same scenario, please do not deviate from this script. These are 1st year medical students. They will receive 20 minutes in the room during the encounter.

Setting - 4:00 PM Primary Care Office

Name and Age - Mr. or Mrs. King - 65 years of age

Chief Complaint – “My chest really hurt today.”

When did you have the pain? – It was about two hours ago.

What were you doing when the pain started? I was going up the stairs.

Would you point to the location of where you had the pain? Right here! (*hold clenched fist to the middle of the chest*)

How long did the pain last? It lasted about an hour.

Can you describe this pain? It was like a squeezing sensation with a lot of pressure.

If you had to rate the pain on a scale of 1-10 (10 the worse)? 7/10 at the time but now is a 0

Did the pain radiate? Yes, to my left jaw and neck area and down my left arm.

Was there anything that brought this on? No not to my knowledge. I don't know maybe walking up the stairs...I get a little “winded.”

Have you had anything like this before? No

Did anything make the pain better? Resting

Did anything make the pain worse? – No

Do you have any other medical problems? I have high blood pressure and high cholesterol levels.

How long have you had high blood pressure? 10 years

How long have you had high cholesterol levels? 10 years

Reviewed By: C. Kay Lucas
Dr. B. Dickens
Updated 06/10/14 BD and CKL

Monitor Checklist

1. Did the Standardized Patient give the correct chief complaint without volunteering any additional information?
2. Did the Standardized Patient give historical data based on the script?
3. Did the Standardized Patient give the provoking statements based on the script?
4. Did the Standardized Patient portray the physical findings based on the script?
5. Did the Standardized Patient portray the findings of special testing based on the script?
6. Did the Standardized Patient answer the student doctor's questions in a timely manner without additional comments?

4-A Monitor Checklist

Standardized Patient - 2017 - 4 - A Chest Pain
(Blank Checklist)

This form is designed to assess the Standardized Patient's performance during an encounter in order to improve techniques in training and content transition during the encounter.

Complete the form by responding to each question and clicking on the circle. There must be a response for each question.

1. Type your name in the text box below and include that you are a Monitor.

Type the Standardized Patient's Name in the text box below.

2. Did the Standardized Patient give the correct chief complaint without volunteering any additional information?

- Agree
 Somewhat Agree
 Somewhat Disagree
 Disagree

3. Did the Standardized Patient give historical data based on the script?

- Agree
 Somewhat Agree
 Somewhat Disagree
 Disagree

4. Did the Standardized Patient give the provoking statements based on the script?

- Agree
 Somewhat Agree
 Somewhat Disagree
 Disagree

5. Did the Standardized Patient portray the physical findings based on the script?

- Agree
 Somewhat Agree
 Somewhat Disagree
 Disagree

6. Did the Standardized Patient portray the findings of special testing based on the script?

- Agree
 Somewhat Agree
 Somewhat Disagree
 Disagree

7. Did the Standardized Patient answer the student doctor's questions in a timely manner without additional comments?

- Agree
 Somewhat Agree
 Somewhat Disagree
 Disagree

Standardized Patient Inter-Rater Variability

- Inter-Rater Variability (Z-Scores)
- $Z = \text{Raw Score} - \text{Mean} / \text{SD}$
 - Green greater than 1.1
 - Red less than -1.1
- Ph.D. Human performance expert monitors SP grade sets

Standardized Patient Consistency — Standardized Patient - 2017

(1 case, 94 student records)

4 - A Chest Pain Cardiopulmonary Standard Scores (Z-Scores)

Evaluator / Skill Area	Communication	Humanistic	Information Delivery and Counseling	Interviewing & Collecting Information	Personal Manners	Rapport	Overall	Mean
Evaluator_1125	0.0	0.8	0.1	-1.5	1.7	-0.8	-0.4	90.7%
Evaluator_1128	2.1	0.9	1.8	1.0	-0.1	1.2	2.0	96.5%
Evaluator_2010	-0.1	-1.1	-1.4	1.0	0.8	-1.2	-0.8	89.8%
Evaluator_2016	-1.9	-1.8	-0.3	-0.3	1.0	1.2	-0.4	90.8%
Evaluator_2381	-0.2	-0.9	0.4	1.0	-1.2	-0.3	0.1	92%
Evaluator_2397	0.1	1.2	0.3	0.3	-1.2	0.8	0.6	93.1%
Evaluator_639	-0.2	0.7	-1.5	-1.5	-1.0	-1.5	-1.6	87.8%
Case Mean	87%	84%	88.6%	95%	94%	91.7%	-	91.7%
Case StDev	6.3%	10.6%	4.8%	3%	0.9%	3.7%	-	2.4%


Grading Scale (1.5 SD Adjusted 70 Scale)

- Grading Scale may be applied to Composite or by the 6 Categories
- 1.5 Standard Deviation = Results in lower 7% of class
- Assumption: Capturing 7% of the class will capture the most likely 5% of those that will have difficulty on NBOME COMPLEX PE
- Adjusted 70: if the 1.5 Standard Deviation hits above 70%, then only those below 70% are subject to remediation
- Scoring System:
 - 0 – 69 “Poor”
 - 70 – 84 “Needs Improvement”
 - 85 – 100 “Proficient”

Rankings by Project — Standardized Patient - 2017

(1 case, 94 student records)

Total Score	
Count	94
Mean	91.7%
StDev	6.7%

 Below 81.6%, 1.5 standard deviations below the mean.

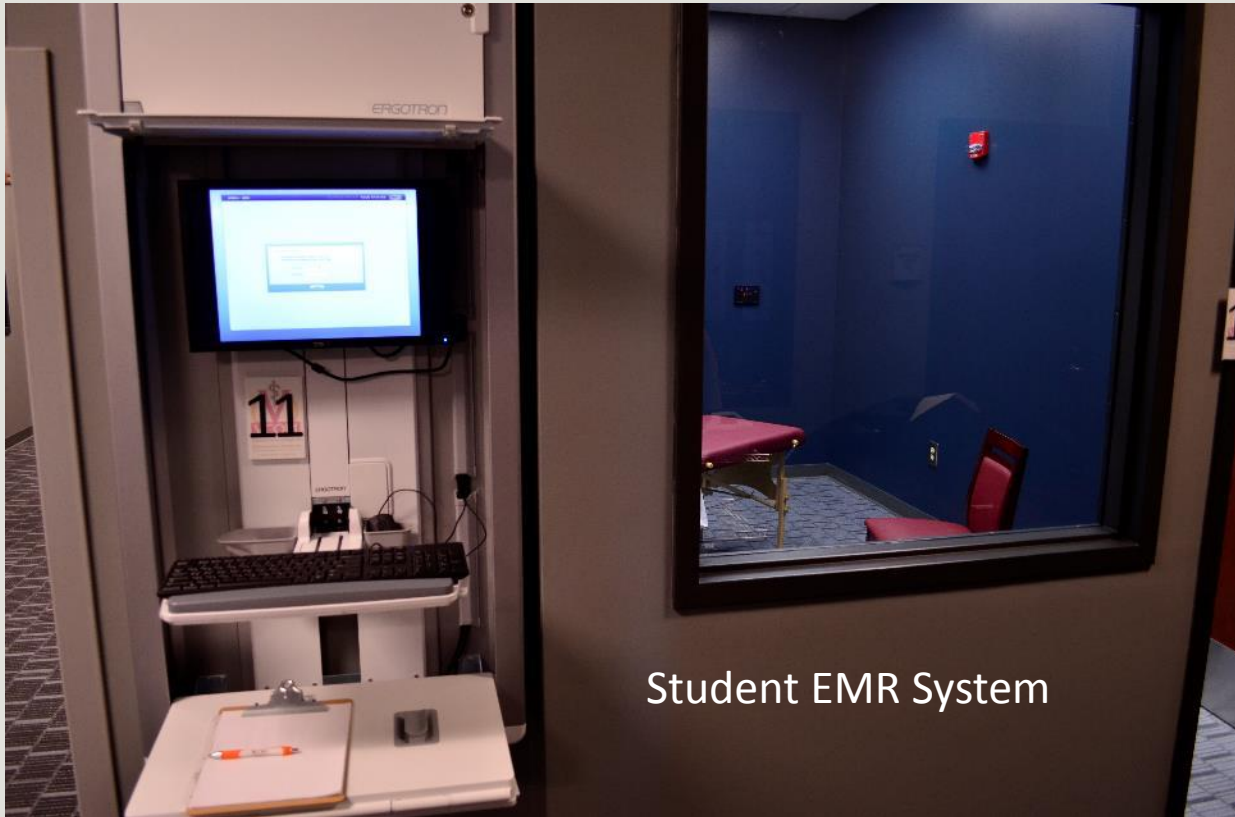
58.	Student_2193	91.1%
71.	Student_2017	89.3%
71.	Student_2133	89.3%
71.	Student_2149	89.3%
71.	Student_2153	89.3%
75.	Student_2048	87.5%
75.	Student_2061	87.5%
75.	Student_2115	87.5%
75.	Student_2126	87.5%
75.	Student_2130	87.5%
80.	Student_2065	85.7%
80.	Student_2073	85.7%
80.	Student_2095	85.7%
80.	Student_2103	85.7%
80.	Student_2110	85.7%
85.	Student_2139	83.9%
86.	Student_2150	82.1%
87.	Student_2052	80.4%
87.	Student_2158	80.4%
87.	Student_2172	80.4%
90.	Student_2092	78.6%
91.	Student_2077	76.8%
92.	Student_2026	69.6%

Control Room



- Operated by Healthcare Simulation Operations Specialist (HSOS)
- Monitors all rooms audio/video
- Time management and Exam Flows
- Two way intercom between all rooms
- Overhead announcements

Exam Room Setup



Student EMR System



SP EMR System
Multipurpose Room
2 pan/tilt cameras

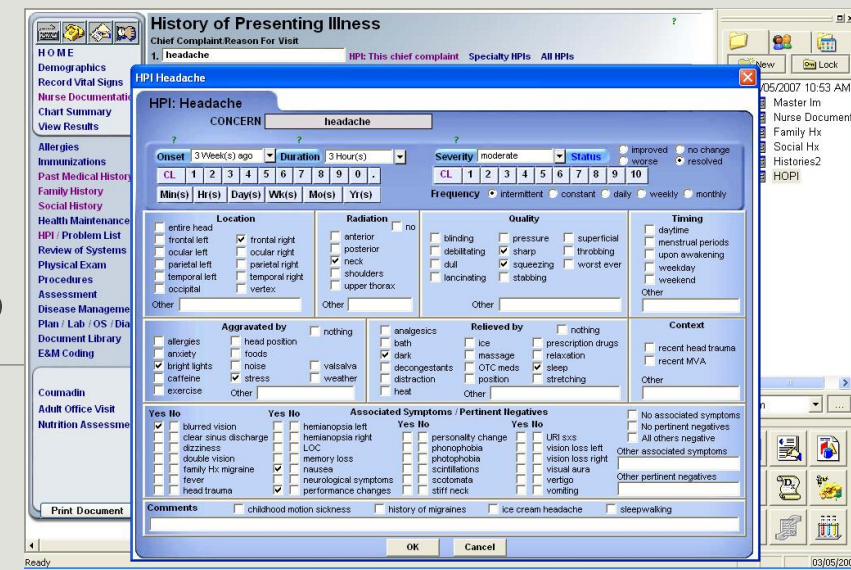
SP Encounter



Student Terminals and EMR's

Pre-Clinical OMS's Standardized Patient Open Architecture

Post-Graduate (residents) Practicing Physicians Advanced Template of EMR



4-A SOAP Note
Standardized Patient - 2017 - 4 - A Chest Pain
(Blank Checklist)

SOAP NOTE - Please write your note below. You may use the COMLEX PE approved abbreviations list. (Posted on Wall Beside Computer Station)

1. Subjective Findings
2. Objective Findings
3. Assessment/Differentials
4. Plan

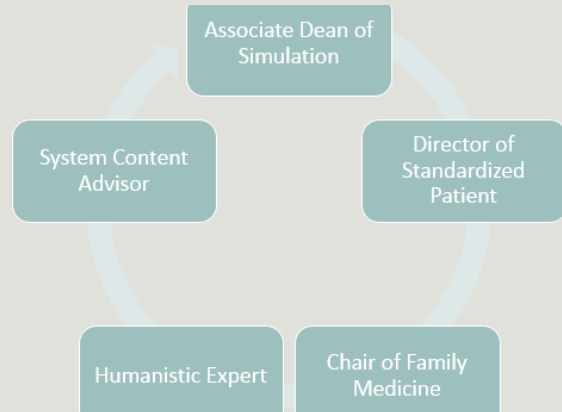


Category and Element Analysis (P-Value & Pt. Biserial)

Humanistic Curriculum Improvement

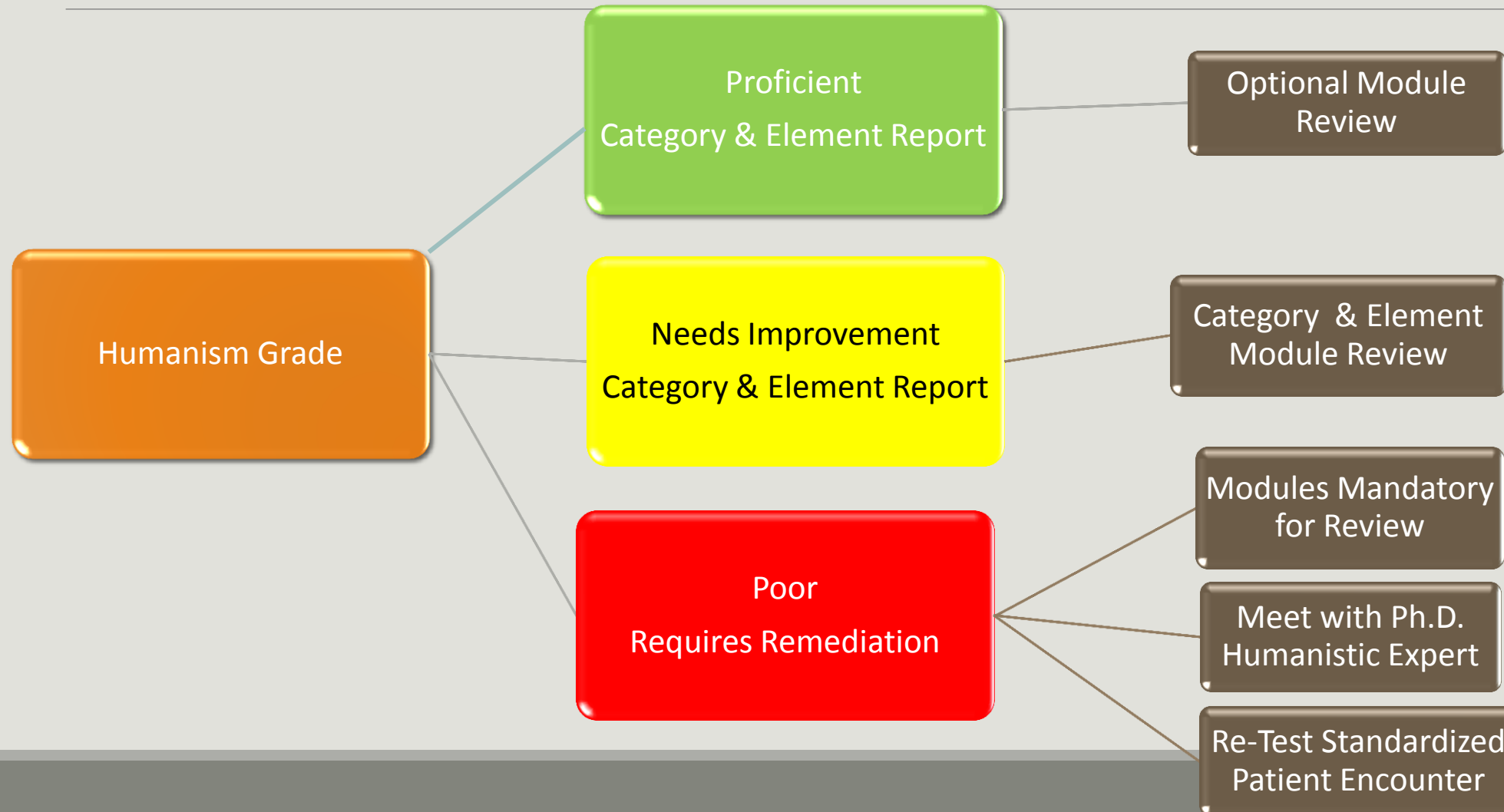
Element 9: Student doctor made appropriate eye contact most of the time, writing interfered with patient relationship, patient felt comfortable with the student doctor most of the time

Element 12: Student doctor inconsistently recognized the patient concerns, inconsistently used reassuring words, inconsistently legitimized patient concerns



Element	Answer	Points	Percent
8. Element 8: Sufficient Information	<input type="radio"/> Sufficient information was gathered by the student doctor in regard to the case	2	68.8%
	<input type="radio"/> Student doctor gathered most information but failed to elicit some relevant information in regard to the case	1	31.2%
	<input type="radio"/> Student doctor did not gather relevant information in regard to the case	-	0%
	Total		
9. Element 9: Eye Contact and Comfort Level	<input type="radio"/> Made appropriate eye contact; Writing notes did not interfere with relationship; Patient felt comfortable with student doctor	2	82.8%
	<input type="radio"/> Made appropriate eye contact most of the time; writing interfered with relationship at times; patient felt comfortable with the student doctor most of the time	1	17.2%
	<input type="radio"/> Rarely made appropriate eye contact; excessive writing interfered with relationship; patient did not feel comfortable with student doctor	-	0%
	Total		
10. Element 10: Attentiveness	<input type="radio"/> Posture and facial expressions indicated attentiveness (i.e., sitting up straight, facing patient, nodding occasionally)	2	95.7%
	<input type="radio"/> Posture OR facial expressions demonstrated student doctor's attentiveness most of the time	1	4.3%
	<input type="radio"/> Posture and Facial expressions DID NOT indicate attentiveness (i.e., Slouching, not facing patient, flat affect)	-	0%
	Total		
11. Element 11: Personal Space	<input type="radio"/> Maintained appropriate personal space (i.e., not too close, not too far)	2	100%
	<input type="radio"/> Personal space was inconsistently maintained (i.e., too close/far at times or not too close/far at times)	1	0%
	<input type="radio"/> DID NOT maintain appropriate personal space (i.e., too close or too far)	-	0%
	Total		
12. Element 12: Addressing the Patient's Concerns	<input type="radio"/> Recognized patient concerns by responding to them; Used reassuring words (i.e., "I hear what you are saying. I can see that you are concerned. We are going to help you.") Legitimized patient concerns	2	87.1%
	<input type="radio"/> Student doctor inconsistently recognized the patient concerns; inconsistently used reassuring words; inconsistently legitimized patient concerns	1	10.8%
	<input type="radio"/> DID NOT recognize or respond to patient concerns; DID NOT use reassuring words (i.e., to many umm, umm, or ok, ok terms); DID NOT legitimize patient concerns	-	2.2%
	Total		

Individual Student Improvement



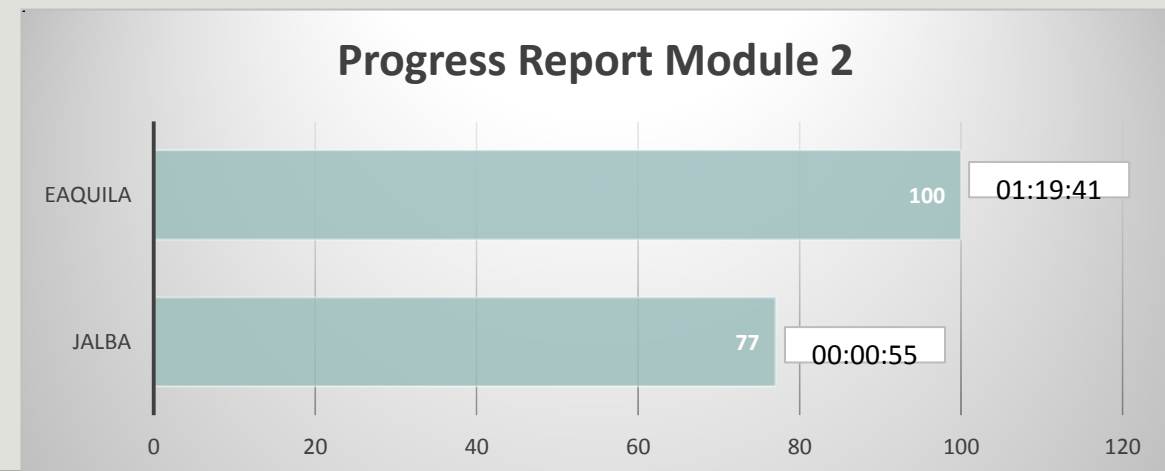
Humanistic Category Report and Module Tracking

How do you manage a student's category and element deficiencies even though they may have had a passing composite humanistic score?

Performance Report	
Humanistic Category	Student's Rating
1. Opening Encounter	Proficient
2. Interviewing and Collecting Information	Needs Improvement
3. Personal Manners and Clinical Courtesy	Proficient
4. Rapport	Proficient
5. Information Delivery and Counseling	Needs Improvement
6. Closure	Proficient

Individualized Student Performance Report from Centralized Simulation Server

Follow Student Performance in Interactive Learning Management System

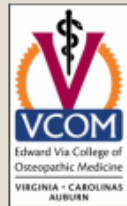


Interactive LMS Humanism Modules

Simulation & Educational Technology Center Humanism in Medicine Training



MODULE 2: INTERVIEWING & COLLECTING INFORMATION



Dr. Natalie Fadel & Dr. Ed Magalhaes

Humanism Modules:

1. Opening Encounter
2. Interviewing and Collecting Information
3. Personal Manners/Clinical Courtesy
4. Rapport
5. Information Delivery and Counseling
6. Closure

Medical Presentation Communication Model

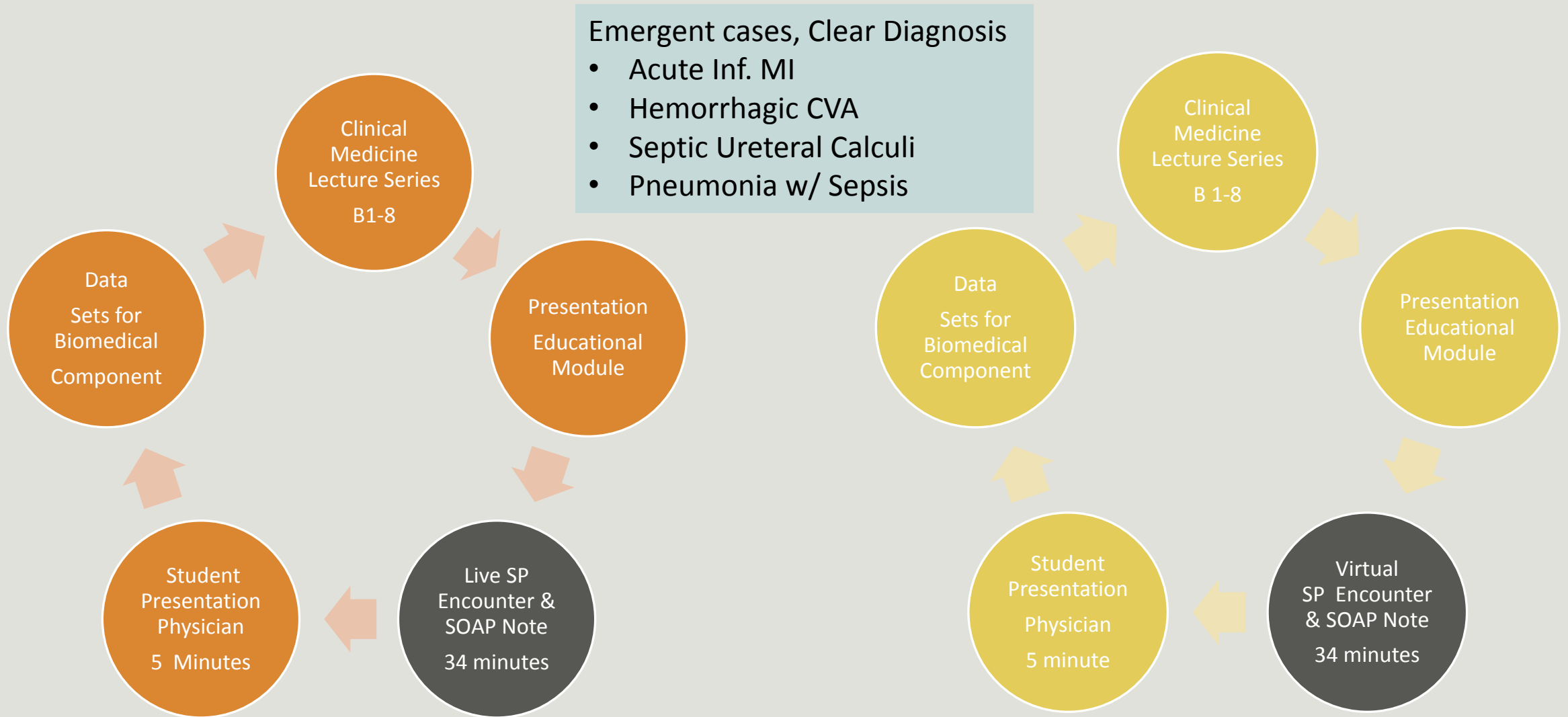
The Virtual Standardized Patient: an Effective Modality for Educating Preclinical Medical Student Presentation Skills. A Comparative Item Analysis of Live Standardized Patients versus Virtual Patients

Fred A. Rawlins II, DO, Christopher Martin MHS, Carolyn Lucas RN, MEd, EdS, Jennifer Januchowski RN, Janella Looney BA, Dalia E. Meisha, DDS, MPH, DScD; *Edward Via College of Osteopathic Medicine*

- 340 Students 160 Carolinas, 180 Virginia Campus
- 2 Arms – Typical Live SP Model(VA) & Virtual SP (CC)
- 4 Cases – Acute inferior wall MI , Pyelonephritis with Ureteral Calculi, Pneumonia with Sepsis & Hemorrhagic CVA
- 5 Minute Presentation to Physician
- Graded On History , Physical , Assessment and Plan

Virginia Campus Presentation Model

Carolina Campus Presentation Model



180 Students

160 Students

Interactive Learning Management – Virtual Patient

Virtual Standardized Patient- Case B 24:40

Door Note

Setting: ER
Time: 4:00 pm
Patient Name: Mr. Williams
Age: 63
Chief Complaint: Back pain

Vital Signs:
BP- 100/60
P- 120
RR- 18
Temp- 102.5°

Virtual Standardized Patient- Case B
[Click here to add a description](#)

Views: 1 | 10 slides | Created: July 1, 2014

[LAUNCH CONTENT](#)

ONCE YOU STOP YOUR ENCOUNTER YOU MAY NOT GO BACK TO THE MODULE!

Patient History



Current Illness:

A 63-year-old man, Mr. Williams, was brought into the ER complaining of back pain that seems to be getting worse. Three hours ago, the pain woke him up from a nap on the couch and has been constant since then. The pain is located on his mid-back area on the left side and radiates to his left lower abdomen and left groin. He describes that “sometimes the pain is sharp, and sometimes there is a dull ache in my left lower abdomen” and explains that he has never felt anything like this before. He hasn’t noted any worsening of the pain. He took Tylenol a couple of hours ago, but hasn’t seen any improvement. On a scale of 1 to 10, he says that the pain started out as a 6, but currently rates his pain a 7.

Click for
patient image

Patient
History

Social/Medical
History

Physical
Exam

Diagnostics

Patient History

Current Illness

A 63-year-old male patient who reports that he has been experiencing a sharp pain on the lower back area on the left side. He describes the pain as a 6, 10 on the pain scale. He has been unable to sleep on his left side for the past 2 weeks. He has also noticed some numbness in his left leg. He has not had any recent falls or injuries. He has a history of hypertension and is currently on medication. He has no known allergies. He has been a smoker for 20 years but quit 10 years ago. He has a family history of heart disease and diabetes. He has been working as a construction worker for 30 years. He has been experiencing the pain since he started working on a new project 2 weeks ago.

I feel terrible. Can I have something for this pain?



sharp pain
nap
ack
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efore.
go,
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Patient History

Social/Medical History

Physical Exam

Diagnostics



Physical Exam



HEAD: Palpate Examine Eyes, Ears, Nose or Mouth Neurological

NECK: Inspect Auscultate Palpate Evaluate ROM

TORSO: Inspect Auscultate Percuss Palpate

ABDOMEN: Inspect Auscultate Percuss Palpate

ARMS: Palpate ROM Inspect Pulse/Sensation Reflexes

LEGS: Palpate ROM/Gait Inspect Pulse/Sensation Reflexes

OMM: TART Segmental Changes Chapman's Points Special Tests

Patient History

Social/Medical History

Physical Exam

Diagnostics

Interactive LMS Report – Physical options selected by the Class & Student

Diagnostics



X-Ray: KUB

12-Lead EKG

**Lab: Chemistry
Panel**

X-Ray: Chest

Lab: CBC

Lab: UA

Patient
History

Social/Medical
History

Physical
Exam

Diagnostics

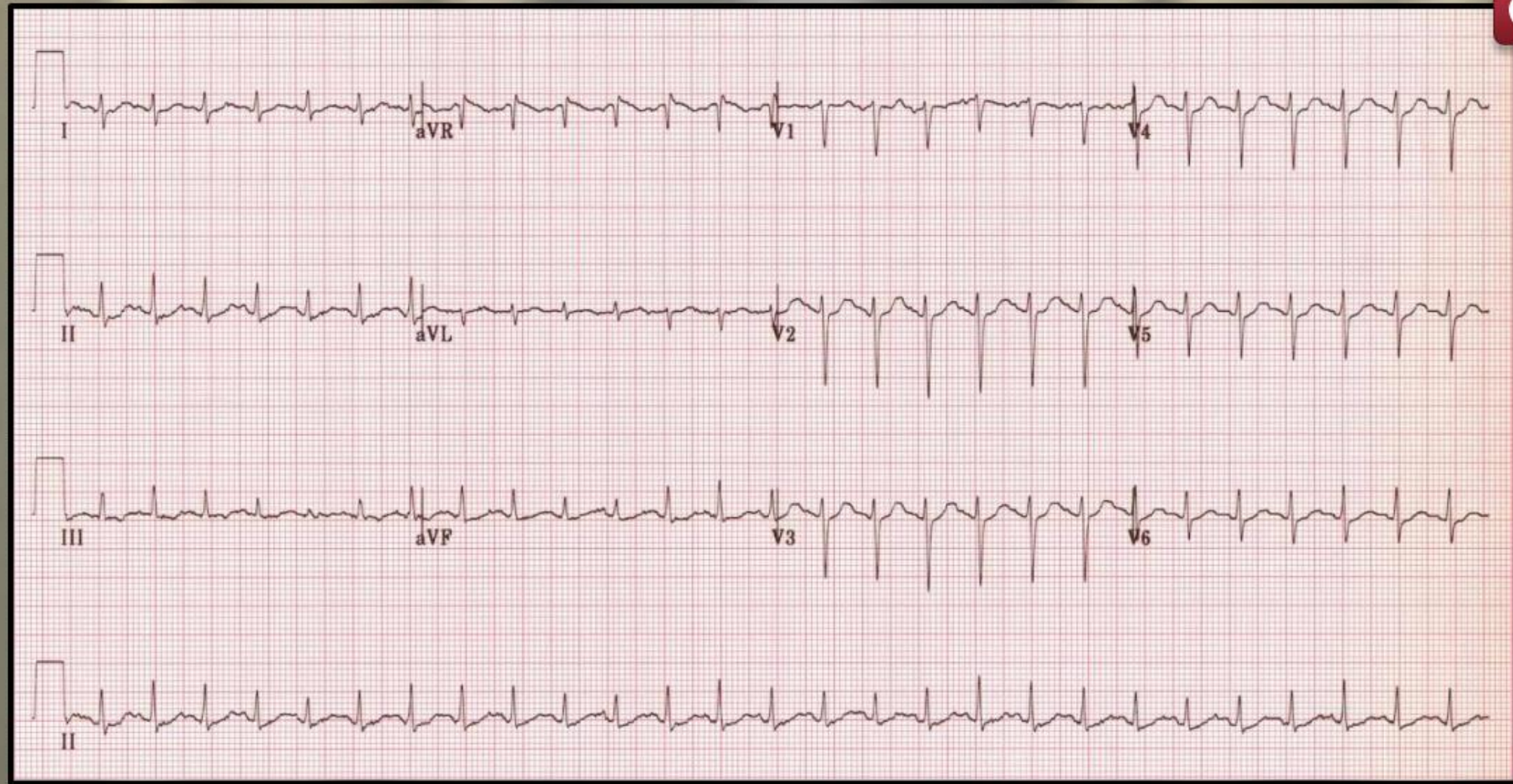




Urinalysis



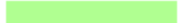
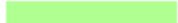
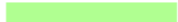
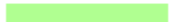

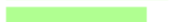
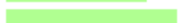
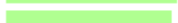
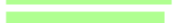


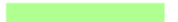


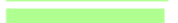
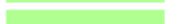
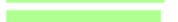

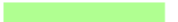
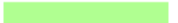
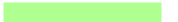
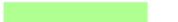
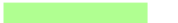
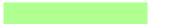








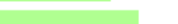
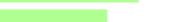

	Bilirubin	Blood	Ketone	Leukocytes	Nitrite
Result	Neg	Pos	Neg	3+	Pos
Normal Value	Neg	Neg	Neg	Neg	Neg
	Protein	Spec. Gravity	pH	Bacteria	
Result	Neg	1.02	6.0	Pos	
Normal Value	Neg-Trace	1.002-1.030	5.0-7.0	Neg	



Answer Analysis — Standardized Patient - 2016

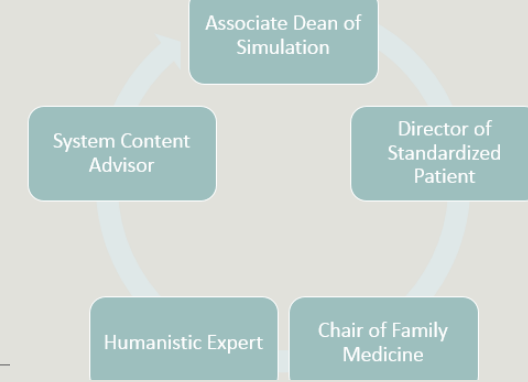
(1 case, 49 student records)

Case	8 - B Flank Pain Presentation Case
Checklist	Faculty

1. Presentation History	Points	Percent	
The student doctor presented:			
Answer			
<input type="checkbox"/> Age	1		100%
<input type="checkbox"/> Pain - Sharp 6-7/10	1		100%
<input type="checkbox"/> L mid - back area on the left side	1		100%
<input type="checkbox"/> Radiating to left lower abdomen and groin (dull ache)	1		93.9%
<input type="checkbox"/> Sudden onset 3 hour duration	1		93.9%
<input type="checkbox"/> Fever and chills	1		81.6%
<input type="checkbox"/> PMHx - hypertension , gout, diabetes Type II	1		100%
<input type="checkbox"/> Meds - lisinopril , metformin and allopurinol	1		95.9%
<input type="checkbox"/> FHx - Mother HX of kidney stones , Father HX abdominal aneurysm died as a result	1		91.8%
<input type="checkbox"/> Tylenol - No Help	1		93.9%
<input type="checkbox"/> ROS: Dysuria, frequency, hematuria, nausea	1		89.8%
Total			
2. Presentation Physical Exam			
Answer			
<input type="checkbox"/> Vitals Temp 102.5, HR-120, RR-18, BP 100/60	1		91.8%
<input type="checkbox"/> General Statement - Distressed, in pain or similar	1		46.9%
<input type="checkbox"/> Heart - Tachycardia without murmur	1		93.9%
<input type="checkbox"/> Lungs - Clear to auscultation	1		91.8%
<input type="checkbox"/> Abdomen - no abdominal mass/bruit, mild LLQ pain on palpation	1		91.8%
<input type="checkbox"/> Left CVA pain with percussion	1		89.8%
<input type="checkbox"/> <u>Peripheral pulses palpable</u>	-		16.3%
Total			
3. Presentation - Diagnostics- As interpreted by student			
Answer			
<input type="checkbox"/> KUB Large left ureteral stone	1		95.9%
<input type="checkbox"/> Urinalysis +blood , + leukocytes , + nitrite ,+. micro >100 WBCs .	1		98%
<input type="checkbox"/> CBC - WBC 21K with Left shift, 15% Bands	1		93.9%
<input type="checkbox"/> Chem Panel - within Normal limits	1		85.7%
<input type="checkbox"/> EKG Sinus Tachycardia	1		85.7%
<input type="checkbox"/> CXR - AP Chest Narrow mediastinum, no infiltrates	1		85.7%
Total			
4. Presentation - Assessment			
Answer			
<input type="checkbox"/> Pyelonephritis with Left Ureteral Calculi (Infected Stone)	1		85.1%
<input type="checkbox"/> Gout (Secondary)	1		66%
<input type="checkbox"/> Diabetes Type II (Secondary)	1		72.3%
<input type="checkbox"/> Hypertension (Secondary)	1		70.2%
5. Presentation Plan			
Answer			
<input type="checkbox"/> Admit	1		95.8%
<input type="checkbox"/> IV	1		83.3%
<input type="checkbox"/> <u>Urine culture</u>	-		18.8%
<input type="checkbox"/> Antibiotics	1		70.8%
<input type="checkbox"/> Pain medication	1		87.5%
<input type="checkbox"/> Consult Urology	1		68.8%
<input type="checkbox"/> <u>CT of abdomen & Pelvis (Non-Contrast)</u>	-		22.9%
Total			

Report generated – Clinical Medicine Curriculum & Individual Student Answer Analysis Report

Communication Curriculum and Individual Student Improvement



- Curriculum Improvement
- Simulation Server System reports P-Values and Pt. Biserial for all presentation for the 4 categories and 31 elements
- Please Note Low P-Values in the Septic Ureteral Calculi case:
 - 16% - Peripheral Pulses
 - 19% - Urine Culture
 - 23% - Non-con CT ABD/Pelvis
- Provides platform for Medical Presentation
- Interactive SP LMS - individual reports
- Experience multiple systems that allows for a focused history, physical, and assessment with individualized student feedback
- For example: Significance of Peripheral Pulses, Urine Culture, and Non-con CT in older patient (new onset)
- Reflective self-assessment through digital archive video review

The Virtual Standardized Patient: an Effective Modality for Educating Preclinical Medical Student Presentation Skills. A Comparative Item Analysis of Live Standardized Patients versus Virtual Patients

Fred A. Rawlins II, DO, Christopher Martin MHS, Carolyn Lucas RN, MEd, EdS, Jennifer Januchowski RN, Janella Looney BA, Dalia E. Meisha, DDS, MPH, DScD; *Edward Via College of Osteopathic Medicine*

Results and Discussion

In this study Performance on the virtual case presentations and live patients were found to be comparable (percentage of correct answers was 77.3% and 76.8% respectively, $p = 0.9$). Item analysis on students' scores in the 4 areas of the case presentation showed no statistically significant difference in students' performance between virtual and live patients (see Table 1). Further analysis for each of the 4 cases still showed no statistically significant difference on students' performance between virtual and standardized patients.

Table 1. Comparison between virtual and standardized patients in the students' performance in case presentation

	Virtual Patient	Standardized Patient	P-value
History	94.4% \pm 6.9	89.7 \pm 14.6	0.06
Physical Assessment	78.0 \pm 17.4	78.3 \pm 20.7	0.6
Differential	69.8 \pm 19.8	64.8 \pm 19.4	0.5
Plan	58.7 \pm 28.1	62.2 \pm 30.1	0.6

Closure

Effective model for managing 1100 pre-clinical medical students that provides the basis for continuous curriculum improvement and individual learner education.

Thanks for Listening!

Questions

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