



Cyber-teaching, Cyber-learning, and now Cyber-evaluation!

How to Evaluate Clinical Competence using Distance Technology

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Presenters



Margaret Graham



Rita Kaspar



Carol Nikolai



Alice Teall

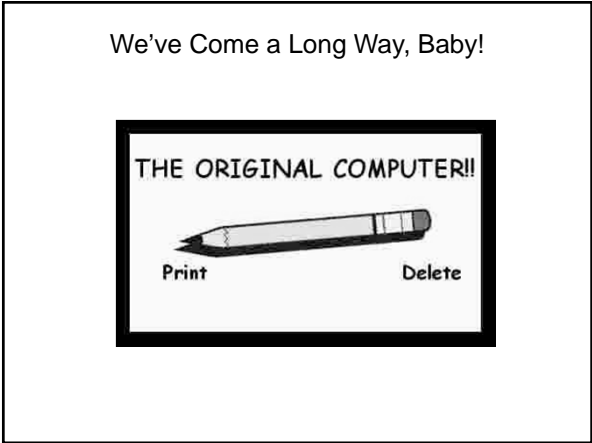


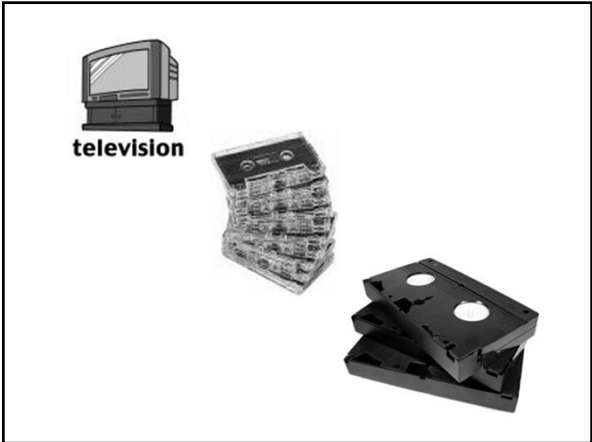
Joni Tornwall

OSU Online NP Programs

- Received HRSA Funding to start online program
- Core courses were offered asynchronously
- Began offering assessment and pharmacology synchronously
- Developed clinical courses synchronously

OVERVIEW
Methods to Evaluate Clinical Competence from a Distance



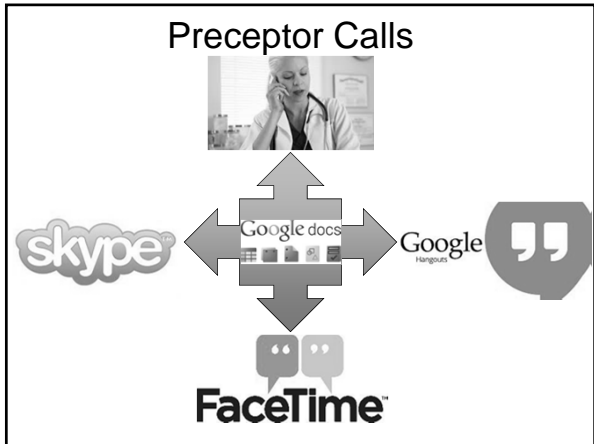




Evaluation Strategies

- Non-exam evaluation methods
 - Preceptor calls, blogs
- Exam evaluation methods
 - On-call phone triage exam
 - 2-step objective exam with remote online proctoring & conference call line
 - OSCEs across the curriculum
 - 2-step OSCE utilizing surveys and conference calling
 - Comprehensive final exam, individual only

NON-EXAM EVALUATION METHODS



Blogging

The screenshot shows the 'ONLINE FNP STUDENT BLOG' for OSU. The page title is 'Spring Blog 1 Chronic Disease & Families'. The main content area includes a section for 'Chronic Disease & Families' with a sub-section for 'Spring Blog 1 Chronic Disease & Families'. Below this, there is a list of blog categories: HOME, SPRING BLOG 1, CHRONIC DISEASE & FAMILIES, SPRING BLOG 2, ELEVATOR SPEECH, SPRING BLOG 3 WISH, LIST FOR PRACTICE, SPRING BLOG 4, REFLECTION ON AGING, SPRING BLOG 5, EVIDENCE-BASED PRACTICE, SPRING BLOG 7, and PERSONAL CLINICAL. At the bottom, there are three seasonal focus areas: SUMMER: use of social media in health care, AUTUMN: wellness and health coaching, and SPRING: chronic illness and primary care practice.

ON-CALL EXAMS

On-Call Exam Competencies

- Knowledge of content
- Critical thinking
- Communication skills
- Ability to do health coaching
- Time management



On-Call Exam



On-Call Exam Specifics

- Schedule set up
- Hire mock patients
- Develop clinical scenarios
- Two calls in two hours
- Call is recorded for grading



Scheduling Patients

Schedule for Patients				
	On Call July 28		On Call July 29	
9-10am	Discuss case at 9am 9:15 9:45	Discuss case at 9am 9:15 9:45	Discuss case at 9am 9:15 9:30 9:45	Discuss case at 9am 9:15 9:45 10
10-11 noon	10:15 10:30	10:45 11	10:15 10:30 10:45	10:15 10:45 11
11-12pm	11:15 11:30 11:45	11:15 11:45 12	Discuss changes in case 11:15 11:30 11:45	Discuss changes in case 11:15 11:45 12
12-1pm	Discuss changes in case 12:15 12:30 12:45	Discuss changes in case 12:15 12:45 1:00	12:15 12:30 12:45	12:15 12:45 1
1-2pm	1:15 1:45	1:15 1:45	2:30 1:45	1:15 2
2-3pm	2:15 2:30	2 2:45	2	2:30
3-3:30pm	3:30	3:00		

Monday patients are done at 2:30pm
Tuesday patients are done at 2:30pm

Scheduling Students

Schedule for Nikolai				
	On Call July 28		On Call July 29	
9-11am	Teach KNEE PAIN #1 case 9am Smith 9:15 9:45 555-555-1234		Review KNEE PAIN #3 case at 9am Pierce 9:15 9:45 555-555-4567	
10-12 noon			Marks 10:15 10:45 555-555-5678	
11-1pm	Jones 11:15 11:45 555-555-2345		King 11:15 (TEACH VARIATION #4) 11:45 555-555-6789	
12-2pm	Anderson 12:15 (TEACH VARIATION #2) 12:45 555-555-3456		Hoffman 12:15 12:45 555-555-7890	
1-3pm			Bates 1:15 1:45 555-555-8901	
2-4pm			Brown 2:30 2 555-555-9012	

On-Call Grading

STUDENT NAME:

- ___10 **Availability**
Student either answers call or calls patient back within 3 minutes
- ___10 **Communication**
Student asks open-ended questions and is professional
- ___10 **Assessment**
Student asks pertinent history questions related to the problem
- ___10 **Management**
Student management plan is reasonable, patient-centered
- ___10 **Health coaching**
Student provides follow up suggestions, clarifies questions, concerns
- ___10 **Documentation**
Student provides accurate charting note
- ___10 **Reflection**
Student is able to correctly note areas of learning needs, strengths

Faculty Comments:

TEAM-BASED LEARNING
Two-Step Exams

Two-Step Exams

- Team-based learning
- Also known as:
 - Two-part testing, blended exam, cooperative exam
- One exam is given with two attempts
 - Individual exam (weighed 50% to 90%)
 - Group exam (weighed 50% down to 10%)



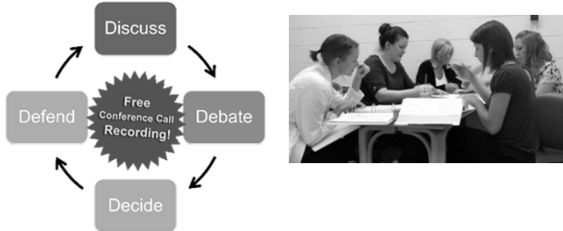
Two-Step Exam: Part I

- Individual exam is proctored
 - Using proctoring centers and sending exams was not practical solution
 - Trial of using online proctoring company did not meet our students' needs



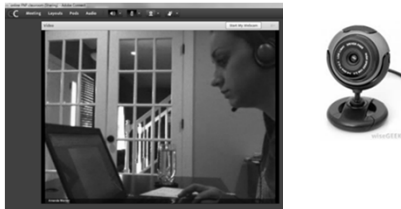
Two-Step Exam: Part II

- Part II of the exam is the Group exam
 - On campus for large or small classes



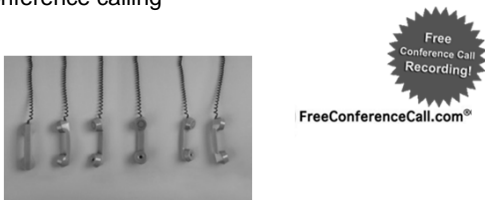
Online Faculty Proctoring

- Individual exam is now proctored by faculty
 - Students log in to their web conferencing software



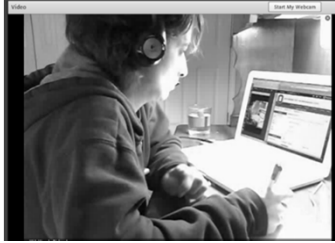
Two-Step Exam: Part II

- Part II for distance students can be given using conference calling



Instructional Technology

- Tips about using Adobe Connect for proctoring



Instructional Technology

- Alternatives to Adobe Connect

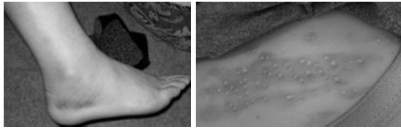


Objective Structured Clinical Exams Implementing OSCEs across the curriculum

Standardized Patient Clinical Exams or Objective Structured Clinical Exams (OSCEs)



- Students came to campus
 - Twice a term
 - Used hired patients
 - Used moulage for “abnormals”



OSCEs Using Digital Recording on Campus and in the Community

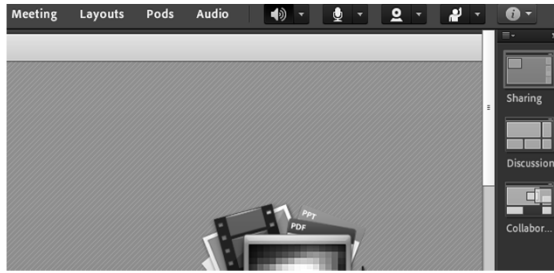


First Attempts at Online OSCEs

- Achievements
 - Students could use webcams
 - Faculty could implement from a distance and could give immediate feedback
- Difficulties
 - Teaching each patient the case
 - Faculty in front of the computer for extended periods of time
 - Recording the web-conference (Skype)



Online OSCE using Adobe Connect



OSCE Preparation uses Course Management System



OSCE Preparation uses Course Management System

- Post OSCE checklist for the semester
- Provide details regarding volunteer needed
- Post schedule, instructions for the students
- Require students to practice
- Require students and volunteer patients to sign release forms
- Prepare faculty resources, hidden posts
 - Results of lab or imaging tests
 - Pictures or files for abnormal results

OSCE Preparation: Faculty Schedule

	Teall	Student	Exam room
Case 1	4:30	Student's Name	1
EAR PAIN	4:45	Student's Name	2
	5:00	Student's Name	3
	5:15	Student's Name	4
	5:30	Student's Name	5
Case 2	5:45	Student's Name	6
SORE THROAT	6:00	Student's Name	7
	6:15	Student's Name	8
	6:30	Student's Name	9
	6:45	Student's Name	10
	7:00	Student's Name	11



OSCE Checklist Across Curriculum

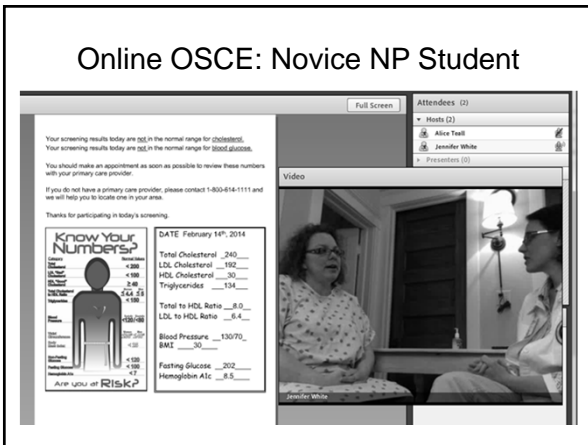
See pdf OSCE Checklists Across Curriculum

- Introduction
- HPI
- ROS
- Health History
- Family, Social, Cultural Assessment
- Physical Exam
- Diagnosis
- Management Plan
- Patient / Family Education
- Therapeutic Communication

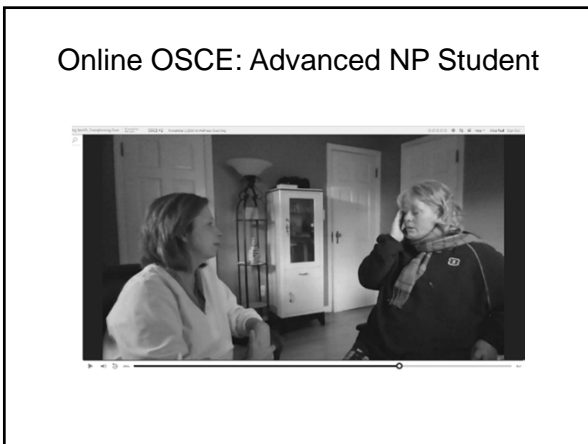
Advanced Assessment Student



Online OSCE: Novice NP Student

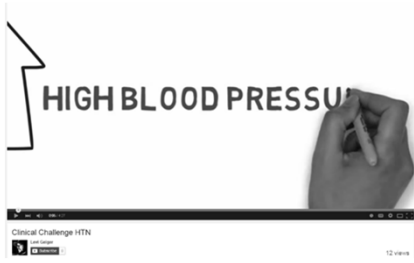


Online OSCE: Advanced NP Student

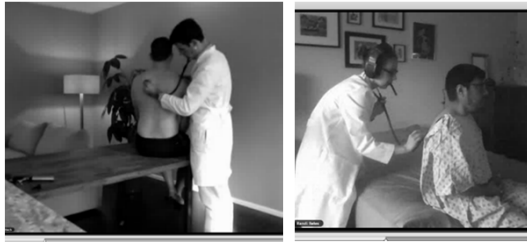


Online OSCE: Patient-Focused Education

<https://youtu.be/5ZNkkMhf9LA>



PRACTICE Using Checklist



OSCE

Using the survey tool to evaluate student performance

Self Reflection



To know thyself
is the
beginning of
wisdom.
Socrates

In a typical self critique

- "I thought that I did well".
- "I thought that my verbal and nonverbal techniques were therapeutic".
- "I felt like I was able to establish rapport".
- "I performed all necessary physical exams".
- "I should have been more thorough on medication teaching".



The Joni Tornwall Enlightenment



Just
happened to
fly by!
Uh...You are
doing WHAT?

AU14 NURSING 7268.02 - FNP Clin Pract 2 (10098)

Content / **Activities** / People / Grades / Library / Edit Course / Help

New Survey

Properties | Restrictions | Assessment | Objectives | Reg

Discussions
Dropbox
Quizzes
Surveys

General

Name

Category
no category (add category)

Feedback
 give instant feedback

Anonymous
 make results anonymous

Survey Questions

Done immediately following completion of Part 1 OSCE!

Individual Response: PE

Question 1

What parts of physical exam did you complete today? Choose what you did.

- I washed my hands
- Skin inspection
- Nail inspection
- Any assessment related to the headache
- Speculum exam of ears
- Speculum inspection of both nares
- Percussion or palpation of sinuses
- Inspection of oral mucosa
- Inspection of posterior pharynx
- Palpation of lymph nodes: cervical
- Palpation of lymph nodes: submandibular
- Palpation of lymph nodes: submental
- Inspection of bare chest, anterior
- Inspection of bare chest, posterior
- Inspection of bare chest, compared AP vs Lateral
- Auscultation of heart at all 5 spots

Individual Response: Dx tests

Question 6

What diagnostic tests did you order?

- Accucheck
- Blood gas
- CBC
- Chemistry
- Chest CT
- CXR
- D-dimer
- Hemoglobin A1C
- Peak flow
- Pulmonary function test
- Pulse oximetry
- Urine pregnancy test
- Urine toxicology screen
- VQ scan

Individual Response: Follow-up

Question 9

How did you address follow up plan?

- Return in 48 to 72 hours
- Return in one week
- Return in two weeks
- Return in one month
- Return after more than one month
- Return as needed
- Advised about symptom resolution (what to expect)
- Advised about symptom exacerbation (treatment failure)
- Advised when to go to ER
- Did not address follow up plan

Individual Response: Free Text

Question 11

List 3 omissions/errors from your OSCE today and how you would correct them.

- "I forgot to ask for pulse ox. I guess I considered it. In the future I will be more proactive."
- "I also forgot to percuss the lungs. I even told myself to do it and still forgot."
- "I failed to fully explain all the treatment, but that's because I decided to send him to the ED."

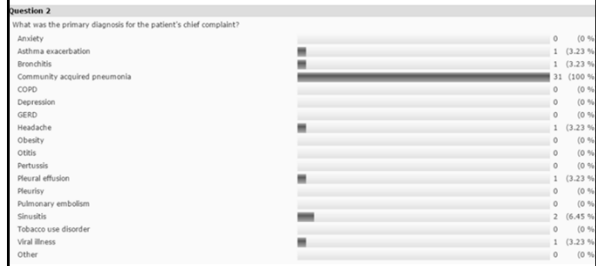
Class Stats: PE

Question 1

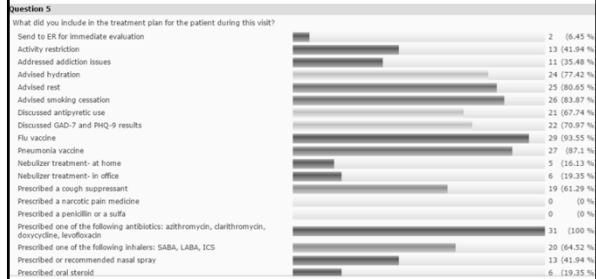
What parts of physical exam did you complete today? Choose what you did.

I washed my hands	29 (63.33%)
Skin inspection	30 (66.67%)
Nail inspection	14 (45.16%)
Any assessment related to the headache	18 (58.06%)
Speculum exam of ears	31 (100%)
Speculum inspection of both nares	28 (90.32%)
Percussion or palpation of sinuses	24 (74.4%)
Inspection of oral mucosa	31 (100%)
Inspection of posterior pharynx	31 (100%)
Palpation of lymph nodes: cervical	30 (96.77%)
Palpation of lymph nodes: submandibular	29 (93.55%)
Palpation of lymph nodes: submental	28 (90.32%)
Inspection of bare chest, anterior	31 (100%)
Inspection of bare chest, posterior	31 (100%)
Inspection of bare chest, compared AP vs Lateral	23 (74.19%)
Auscultation of heart at all 5 spots	30 (96.77%)
Auscultation of heart in less than the 5 correct spots	5 (15.63%)
Assessed for symmetric expansion	25 (80.65%)
Measured diaphragmatic excursion	19 (61.29%)
Assessed for chest tenderness with palpation at the site of pain	15 (48.39%)

Class Stats: Diagnosis



Class Stats: Treatment Plan



OSCE

Two Step OSCEs – using a team approach

Part II of the OSCE

- 20% of total OSCE grade
- Talk on conference line, work on Google doc
- Focus on diagnosis and management
- Complete within a pre-set timeframe



The Evaluation



Diagnosis & Management Table
Group members: Student 1, Student 2, Student 3, Student 4

Primary Diagnosis and ICD-10 code(5 pts)
Physical exam finding, signs, symptoms that supported the primary diagnosis (5 pts)
Pharmacological treatments (Rx and/or OTC) (5 pts)
List Additional diagnoses and their ICD-10 codes (8 points)
List Health Promotion Disease Prevention needs (7 point)
Education (4 components, 20 points)
1. Explanation of findings and primary diagnosis
2. Treatment plan and patient education
3. Education on wellness needs
4. Follow up plan

Completed Part II of the OSCE

Primary Diagnosis and ICD-10 code(5 pts)
Community Acquired Pneumonia J18.9
Physical exam finding, signs, symptoms that supported the primary diagnosis (5 pts)
exp wheeze in the bilateral bases, Left lobe with rales/crackles, dullness to percussion, increased tactile fremitus, increased egophony and bronchophony, chest wall tenderness, dyspnea, fever, fatigue
Pharmacological treatments (Rx and/or OTC) (5 pts)
Levaquin 750mg PO Daily for 5 days Albuterol 90 mcg 2 puffs q4h PRN coughing/wheezing Fluticasone 50 mcg 2 sprays in each nostril daily Ibuprofen 800mg tabs- take 1 tablet by mouth every 8hrs PRN Pain/Fever- take with food. Acetaminophen 500 mg tabs- take 2 tabs by mouth every 6hrs PRN pain/fever
List Additional diagnoses and their ICD-10 codes (8 points)
Headache R51 Acute sinusitis 461.9 Tobacco abuse z72.0 Fatigue R53.8 Obesity 280.00

Completed Part II of the OSCE

List Health Promotion Disease Prevention needs (7 point)

Smoking Cessation
Vaccination needs (Tdap, Influenza, Pneumococcal)
Healthy diet
Pap Test
Mammogram
Continue outpatient addiction support meetings

Education (4 components, 20 points)

1. Explanation of findings and primary diagnosis.

The cough, wheezing in your lungs, fever, and dullness of certain areas of your lungs in addition to the findings on your chest xray , and the findings on your chest x-ray are signs of pneumonia, an infection. This is usually caused by bacteria but can be caused by a virus.

2. Treatment plan and patient education.

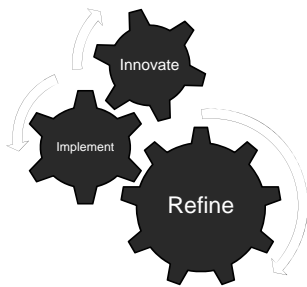
Start antibiotic treatment after leaving the office- may cause diarrhea/GI upset or headache. Also, risk of tendon rupture, if sudden onset of joint pain (especially Achilles Tendon or shoulder), stop this medication and call the office.
Take ibuprofen with food

Benefits of Team-Based OSCEs

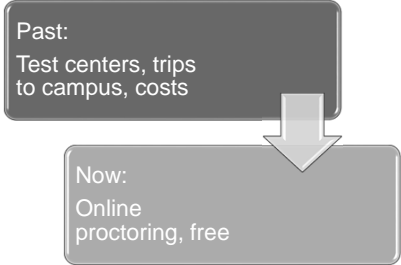
- Clarification of difficult case
- Reduced post-exam questions to faculty
- Exams become a learning tool through group process



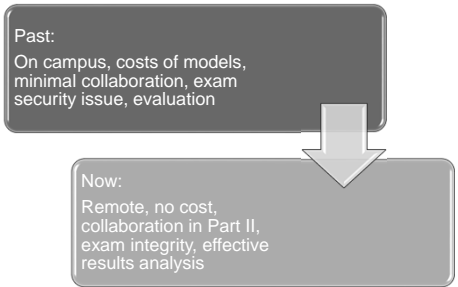
Lessons Learned



Concluding Thoughts: Two-Step Exams



Concluding Thoughts: On-Call & OSCEs





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Rita Kaspar





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