Innovations in Clinical Education: I

Clinical Skills Verification: Program, Preceptor, or Professional Responsibility?

Martha R. Mundy, Au.D.
University of North Carolina at Chapel Hill
Overview: Skills Verification

- Why, Where, When & How at UNC
- Changes & Obstacles?
- Survey
- Other Professions & Skills Verification
Assessing Student Competence Via Clinical Comprehensive Exam

The University of North Carolina at Chapel Hill

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American Academy of Audiology
Minneapolis, MN
April 2006
Lake Woebegone Retirement Clinic

- Where all the elderly are alert
- All hearing is symmetrical
- All losses are sensory with good to excellent word recognition
- And all the Audiologists are above average
Dante’s Compensation Clinic

- Most cases referred from attorneys at Dewey, Cheatham and Howe *
- Significant conductive overlay is the rule rather than the exception
- TDH phones are used exclusively
- The temperature is always above average

* courtesy of Car Talk on NPR
Where and When are Skills Verified?

• Master’s Degree
  » Program
    • Labs? Courses?
    • Preceptor Feedback
  » During Practicum
    • 3-4 semesters
  » CFY – after the degree granted

• AuD
  » Program
    • Labs? Courses?
    • Preceptor Feedback
  » During Clerkships – varies by program
    • 3rd Yr & beyond (5 sems)
    • 2nd Yr & beyond (8 sems)
    • 1st Yr & beyond (11 sems)
  » During the 4th Year
  » Clinical Comps - maybe
Preceptor Clinical Evaluation (PCE)

• Clinical Teaching
  » Patient Variables
    • Simple to Complex
    • Easy to Challenging
  » Student Variables
    • Year in the program
    • Style
  » Site Variables
    • Number of cases
    • Time
  » Preceptor Variables
    • Expectations

• Skills Verification
  » Real Patients
  » Preceptor Rescue
  » Grading
Constructing CCE

• Formats should be familiar
  » Tools used formatively – also summatively
• Stations requiring model scheduled back to back
  » EM → RECD
• Similar time – 45 minutes/station, 5 in between
• Allow one day between cohorts & NEVER on a Monday
• Honor Code
• Library of Cases
  » Paper Stations (Analysis)
  » Observed (Demonstration)
  » Doing (Unobserved-Solo)
CCE : Logistical Considerations

1. Number of students
2. Physical space available
3. Number of faculty available
4. Number of faculty to generate/evaluate cases/content
5. Scheduling – during semesters? During “off” time?
6. Grading
   a. Tied to clinic credit hours
   b. Specified in handbook re expected performance, but no grade
Clinical Comprehensive Exam (CCE)

1. Uniform case variables
2. Simulated or virtual patients
3. Uniform grading criteria
4. Group performance informs academic curriculum
Clinical Competency Exams (CCE) at UNC

• CCE began in May 2004
  » Administered three times
    • Immediately following spring semester Year 1, 2 and 3
    • One full day per cohort
    • Set number of “stations” for Year 1
    • Set number of “stations” Yrs 2 & 3 plus any re-takes

• Principles behind scheduling
  » CCE “station” should not immediately follow its relevant course
    • CCE designed to tap “essential” ongoing K & S
Types of Skills Verification Stations

- Demonstration
- *Standardized* Patient – Faculty Simulated Patient
- Virtual Assessment
- Hands-On (not observed)
- Analysis of clinical data
RECD Station: Demonstration
RECD Station: Interpretive

RECD COMPS Interpretation of Data:

A. These RECDs were obtained with the following subject. The RECDs for this ear were repeated with no significant change and foam plug fully expanded (all repeat # values within 2 dB). Explain the most likely reason for negative RECD values at 250 Hz.

SUBJECT A
# RECD Skill Set = Competency

## RECD Rubric:

<table>
<thead>
<tr>
<th>Student performs this skill or evaluates data appropriately</th>
<th>Pass</th>
<th>Fail</th>
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</thead>
<tbody>
<tr>
<td><strong>Prepares equipment</strong></td>
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<tr>
<td>1. Calibrates 2cc coupler and RE Module</td>
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<tr>
<td>• Recognizes if calibration run contaminated w/ artifact (poor placement or noise)</td>
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<td>2. Enters subject information</td>
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<tr>
<td>• Age, transducer used in obtaining thresholds, fitting rationale (DSL, etc.)</td>
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<tr>
<td>• Most recent thresholds if planning on moving to verification of HA following RECD</td>
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<tr>
<td>3. Measures probe tube depth against &quot;norms&quot; for age OR uses earmold if available – placing guide ring at appropriate location on probe tube</td>
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<tr>
<td>4. Demonstrates familiarity with equipment and able to move smoothly between calibration and Speechmap</td>
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<tr>
<td><strong>Explains procedure to patient</strong></td>
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<tr>
<td>1. Procedure 2. Purpose 3. Patient to sit as still and quiet as possible</td>
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<tr>
<td><strong>Conducts Otoscopic Inspection</strong></td>
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<tr>
<td><strong>Measures coupler response</strong></td>
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<tr>
<td>Places RECD transducer in coupler and measures response</td>
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<tr>
<td><strong>Places probe tube</strong></td>
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<tr>
<td>1. Hangs REM on patient’s ear with reference microphone facing outward</td>
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<tr>
<td>2. Secures placement of REM with clip to opposite side</td>
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<td>3. Places probe, anchoring by running under blue cable, taping to cheek, or other method to assure probe remains stationary</td>
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<tr>
<td><strong>Measures real ear response</strong></td>
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<tr>
<td>1. If obtaining RECD with foam, attaches RECD transducer to foam, squeezes foam down and places foam tip at approximate same depth as that used in obtaining thresholds (if known) taking care not to move the probe deeper and waiting for foam to full expand.</td>
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<tr>
<td>2. If obtaining RECD with earmold, attaches RECD transducer to EM and places in ear, taking care not to move probe deeper.</td>
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<tr>
<td>3. Measures RE occluded response w/ RECD transducer</td>
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<tr>
<td><strong>Interprets RECD traces (troubleshooting)</strong></td>
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<tr>
<td>1. Recognizes that RE response are generally greater than coupler response for all frequencies</td>
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<tr>
<td>• Exceptions (large canals; ears with PE tubes negative values low freqs; EMs with venting)</td>
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<tr>
<td>• Recognizes that negative responses across all frequencies suggests blocked or plugged probe and adjusts procedures accordingly.</td>
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<tr>
<td>Prints values from table and saves in patient chart</td>
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</tbody>
</table>
Standardized Patient: Real Time Dx

- Faculty Simulated Patient
- Student provided with intake data
  » Example: Ms. Smith reports hearing loss in her right ear following a fire cracker going off near her ear at a company picnic.
- Student is given data, or performs observed assessments
  » Student “I’m going to perform otoscopy” and is then given a card stating the results
  » Student “I’m going to perform pure-tone testing” then:
- Student operates audiometer, Faculty responds (or not)
Acceptable: Dx

- Obtains sufficient AC & BC to classify HL
  » Not all half octaves present
- Recognizes test artifact and adjusts/re-tests
- Obtains SRT & most MLV presentations balanced
- Obtains WRS
  » May not be at actual PB Max, but w/in appropriate range for degree loss

Un-Acceptable: Dx

- Accepts and records thresholds needing masking to NTE
- Fails to recognize when SRT not in agreement w/ pure tones
- Recorded WRS compromised
  - Fails to mask in NTE
    » PL for WR too low – “poor”% could be related to low SL

Incorrect Audio – Compromised Recommendations
## Threshold Determination Skill Set

<table>
<thead>
<tr>
<th>Obtains Pure-Tone and Speech Threshold Measurements (either may be obtained 1st)</th>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Records all thresholds using appropriate symbols</td>
<td></td>
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<tr>
<td><strong>PURE-TONES</strong></td>
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<tr>
<td>1. Demonstrates appropriate instructions to subject</td>
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<tr>
<td>2. Demonstrates appropriate selection and placement of transducer (BC 1st and/or inserts deeply placed if probability of ABG AU; inserts for Industrials)</td>
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<tr>
<td>3. Begins in the reported “better ear”</td>
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<tr>
<td>4. Demonstrates appropriate pure-tone psychophysical procedures (familiarization, ascending responses, 2 out of no more than 4) and adjusts stimuli if excess FPs</td>
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<tr>
<td>5. Demonstrates appropriate sequence (1, 2, 3, 4, 6, 8, re-testing 1 with first set of thresholds, .5, .25) of frequencies – ASHA or other site specific sequence</td>
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<tr>
<td><strong>MASKING</strong></td>
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<tr>
<td>1. When testing the second ear by AC or when testing BC after AC, recognizes when masking to the NTE is needed (recognizes a shadow response; uses “best BC” or probable BC in determining need for masking). Generally recognizes and masks each frequency as needed before moving to the next frequency.</td>
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<tr>
<td>• Uses conservative IA value of 40 dB to determine need for masking when using TDH</td>
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<tr>
<td>• Uses IA value of 75 dB/1000 Hz and below and 50 dB/1500 Hz and above for <strong>deeply placed insets</strong></td>
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<tr>
<td>• Uses IA value of 0 dB for BC; “need to mask” when BCTE better than ACTE by &gt;10</td>
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<tr>
<td>• Recognizes individual IA (0 dB RE; 70 dB LE = probable individual IA of 70) and uses that in overmasking/safe masking calculations</td>
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<tr>
<td>• Accepts a “plateau” of no less than 15 dB.</td>
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<tr>
<td>• Use of other procedures (FIT) to aid in the determination of insufficiently masked thresholds</td>
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<tr>
<td><strong>SPEECH</strong></td>
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<tr>
<td>1. Familiarizes – if using MLV, demonstrates ability to deliver spondee ± 1dB VU meter</td>
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<tr>
<td>2. Uses an acceptable number of spondees</td>
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<tr>
<td>3. Demonstrates appropriate technique for clinical site (ASHA; Downs &amp; Minard; VA protocol)</td>
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<tr>
<td>4. Recognizes when speech threshold does not agree with pure-tone thresholds</td>
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</tbody>
</table>
# EAA & Troubleshooting: Hands-On Not Observed

## EAA Test Strips & Troubleshooting Hearing Aids

### Clinical Comps Grading

<table>
<thead>
<tr>
<th>EAA: #1 (left—500 Hz high distortion) Try Dry-N-Store, check battery, filters, etc)</th>
<th>Pass</th>
<th>Pass w/ Comment</th>
<th>Fail</th>
<th>Cannot check compression when HA is in test mode.</th>
</tr>
</thead>
<tbody>
<tr>
<td>EAA: #2 (EIN high; STS is good; wrong battery size for the battery drain test so run again w/ battery pill but drain looks good just battery life is down; Ask pt how it sounds)</td>
<td>Pass</td>
<td>Pass w/ Comment</td>
<td>Fail</td>
<td>High battery drain, however, test was run with wrong battery pill. Replace and try again.</td>
</tr>
<tr>
<td>EAA: #3 (high distortion—low battery or need to send in for repair)</td>
<td>Pass</td>
<td>Pass w/ Comment</td>
<td>Fail</td>
<td>Try these things in advance to reduce distortion: Battery Filters Dry aid. If problem persists after adjustment through program changes when the EIN test mode for the HA is set to ANSI specifications and therefore you cannot adjust the programming and try again. You would need to run the test again to determine if the high EIN is due to environmental noise or HA noise. If EIN continues to be high, you should listen and send in if audible.</td>
</tr>
<tr>
<td>HA #1 (Phonak Savia Art—split tubing: retube)</td>
<td>Pass</td>
<td>Pass w/ Comment</td>
<td>Fail</td>
<td>Clogged sound bore</td>
</tr>
<tr>
<td>HA #2 (Widex Inteo—tubing plugged)</td>
<td>Pass</td>
<td>Pass w/ Comment</td>
<td>Fail</td>
<td></td>
</tr>
<tr>
<td>HA #3 (Oticon BTE—dead battery)</td>
<td>Pass</td>
<td>Pass w/ Comment</td>
<td>Fail</td>
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<tr>
<td>HA #4 (ITC—HA weak...no amplification most likely or receiver)</td>
<td>Pass</td>
<td>Pass w/ Comment</td>
<td>Fail</td>
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</tbody>
</table>

**Student:** 1st Year Au.D Student  Date: 5/19/2009  **EAA & Troubleshooting FINAL GRADE:** Fail

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**Must Demonstrate Fundamental Knowledge of Procedure**
# HA Troubleshooting & Programming: Hands-On, Not Observed

## HA Troubleshooting and Programming

<table>
<thead>
<tr>
<th>Student performs this skill or makes these decisions independently:</th>
<th>Always</th>
<th>Sometimes</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entered Pt data in NOAH:</td>
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<tr>
<td>1. Personal data</td>
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<tr>
<td>2. Audiometric data (A/C, B/C, UCL)</td>
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<tr>
<td>Pre-Program HA for pt:</td>
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<tr>
<td>1. Appropriate adaptation/experience level</td>
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<tr>
<td>2. Vent size</td>
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<tr>
<td>3. Feature Activation</td>
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<td></td>
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<tr>
<td>EAA</td>
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<tr>
<td>Perform EAA:</td>
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<tr>
<td>1. Calibration</td>
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<tr>
<td>2. Program HA to FOG for OSPL90 curves</td>
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<tr>
<td>3. Change HA to RTS for frequency response, EIN, HD</td>
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<tr>
<td>4. Program HA to user settings/max compressions for attack and release</td>
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<tr>
<td>Analyze EAA</td>
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<tr>
<td>1. Does HA meet ANSI Specs</td>
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<td>2. If outside ANSI tolerances:</td>
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<tr>
<td>2.1 Identifies in-house solutions</td>
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<tr>
<td>2.2 Make appropriate rec to send in for repair</td>
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<tr>
<td>Verify HA Fitting using S-REM/REM</td>
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<tr>
<td>Enter S-REM/REM data using appropriate targets:</td>
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<tr>
<td>1. NAL-NL1/ Adult, DSL/Peds,</td>
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<tr>
<td>2. BTE/ITE etc,</td>
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<tr>
<td>3. Pt UCLs or RECDs</td>
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<tr>
<td>Complete Speech mapping:</td>
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<tr>
<td>1. Soft speech (55) to meet appropriate targets</td>
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<tr>
<td>2. Target speech (65) to meet appropriate targets</td>
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<tr>
<td>3. Maximize output without exceeding pt specific UCLs</td>
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<tr>
<td>Addresses Pt complaints</td>
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<tr>
<td>Asks appropriate questions to ID specific complaint</td>
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<tr>
<td>1. Addresses pt complaint efficiently and in the min of steps without causing additional complaints</td>
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<tr>
<td>1.1 Ex. Pt hears conversations at other tables better than the conversations at her own table</td>
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<tr>
<td>1.2 Student must determine whether this is a directional microphone problem or a compression issue</td>
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<tr>
<td>1.3 Run directional test on HA...interpret results</td>
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<tr>
<td>1.4 Make needed programming changes if DM are functioning</td>
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<tr>
<td>Chart Note</td>
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<tr>
<td>Includes:</td>
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<tr>
<td>1. Pt complaint</td>
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<td>2. Changes made</td>
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<tr>
<td>3. Pt response to changes</td>
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<tr>
<td>4. Recommendations</td>
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</tbody>
</table>
Analysis of Clinical Data: Interpretive

• Hearing Disorders / Interpreting Audiograms
  » All years
• Pediatric Assessment
  » 2nd year
• ABR *
  » 2nd year
• Balance Assessment
  » 3rd year
Stations by Type of Clinical Activity

- Assessment
- Electrophysiologic
- Hearing Aid Related
Stations by Type of Clinical Activity

• Assessment

• Electrophysiologic

• Hearing Aid Related

1. Case Hx & Audio Explanation
2. Real Time Diagnostic
3. Pediatric Assessment
4. Virtual Assessment (2)
5. Disorders/Agrams (3)
Stations by Type of Clinical Activity

- Assessment
  1. ABR
  2. Vestibular Assessment
- Electrophysiologic
- Hearing Aid Related
Stations by Type of Clinical Activity

• Assessment
  1. Earmold (3)
  2. Lifestyle Assessment & HA Counseling
  3. EAA & HA Troubleshooting
  4. Q&A & 1st Fitting
  5. HA Programming & Pt Complaint
  6. FM Verification
  7. RECD

• Electrophysiologic

• Hearing Aid Related
Clinical Hours Years 1 to 3: Average 1140
How About Performance?
Clinical Comprehensive Exam: Year 1

Case Hx & Audio
EM
QA 1st HA
Disorders
Peds
HA Trbleshooting
RT Dx
AudClin
Clinical Comprehensive Exam: Year 2

- AER
- Earmold
- RECD
- Lifestyles
- Disorders
- HA Prog/Pt Comp
- AudClin

Graph shows the distribution of various topics with AER having the highest score.
Clinical Comprehensive Exam: Year 3
What We Have Learned

• Adjunct instructors grade generously
• RT Dx consistently challenging
• Student reliance on preceptor “scaffolding”
  » HA Programming and Pt Complaint Station
• Ongoing questions/concerns
  » Bias in “named” stations e.g. Pediatrics Ø masking
  » Student test anxiety
  » Skills on CCE assure skills in the clinic?
  » CCE performance
    • At expectation, Below expectation, Failing?
Clinical Competency Exam Schedule

<table>
<thead>
<tr>
<th>COMPS 1&lt;sup&gt;1&lt;/sup&gt;</th>
<th>COMPS 2&lt;sup&gt;1&lt;/sup&gt;</th>
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</thead>
<tbody>
<tr>
<td><strong>Hearing Disorders</strong>: Interpretation of Audiometric findings in conjunction with patient history</td>
<td><strong>Hearing Disorders</strong>: Interpretation of Audiometric and Evoked Potential findings in conjunction with patient history and reporting of results</td>
</tr>
<tr>
<td><strong>Earmold&lt;sup&gt;2&lt;/sup&gt;</strong>: Earmold impression taking technique</td>
<td><strong>Earmold&lt;sup&gt;2&lt;/sup&gt;</strong>: Earmold impression taking technique</td>
</tr>
<tr>
<td><strong>Real Time Diagnostic&lt;sup&gt;3&lt;/sup&gt;</strong>: Demonstration of diagnostic procedures and interpretation of data</td>
<td><strong>FM Verification and Selection</strong>: Hands on EA verification of FM. Interpretation of other provided FM verification data. Recommendation of FM based upon faux patient data</td>
</tr>
<tr>
<td><strong>RECD&lt;sup&gt;3&lt;/sup&gt;</strong>: Demonstration of appropriate technique and interpretation of other RECD data</td>
<td><strong>Vestibular Disorders</strong>: Interpretation of test findings in conjunction with patient history and reporting of results</td>
</tr>
<tr>
<td><strong>Case Hx and Audiogram Explanation</strong>: Real time interview with faux patient. After obtaining history (no form provided), Audiogram is provided and student explains loss, impact and recs</td>
<td><strong>Lifestyle Assessment and Hearing Aid Selection</strong>: Real time interview with faux patient to help determine appropriate amplification with specific recommendations</td>
</tr>
<tr>
<td><strong>Hearing Aid Troubleshooting</strong>: Hands on recognition of problems, interpretation of EAA test strips and determining appropriate course of action.</td>
<td><strong>Hearing Aid Programming, Patient Complaint and Reporting</strong>: Hands on hearing aid programming, software adjustments to address patient complaints and chart note</td>
</tr>
<tr>
<td><strong>QA and Initial Hearing Aid Fitting</strong>: Input Audiometric data to NOAH and initial programming, technical run and initial S-REM</td>
<td><strong>Pediatric</strong>: Selection of appropriate testing procedures based upon faux patient. Evaluation of pediatric data from other assessments</td>
</tr>
<tr>
<td><strong>Auditory Evoked Response&lt;sup&gt;2&lt;/sup&gt;</strong>: Set up and perform a threshold ABR. Interpretation and discussion of provided clinical data</td>
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</tbody>
</table>
Then & Now

• Preceptors
  » Different expectations of students
  » Different styles of interacting with students
    • Amount of scaffolding (support / crutch)
    • Amount of welcome

• Clinics
  » Different populations

• Students
  » Different abilities immediately following coursework, projects or lab exercises
  » Different residual abilities one year following classes (core clinical)
Survey of Programs

- What are other programs using between program entry and graduation to teach and verify the presence of clinical skills?
Re: skills verification, our program uses:

1. Preceptor evaluations to establish skill acquisition
   a) Yes, exclusively  
   b) Yes, in some areas 
   b) No, not in Year ____ (1, 2, 3, 4)
2. Lab experiences tied to classes to establish skill acquisition
   a) Yes   
   b) Not in Year _____ (1, 2, 3, 4)
3. Lab exams to verify skills acquisition
4. Virtual assessment tools
5. Standardized patients
6. Comprehensive examination
7. What is the most challenging aspect of skills verification for your program?
8. How satisfied are you with the current model?
   a) Not   
   b) Somewhat   
   c) Satisfied   
   d) Extremely
Survey Responses

• Emailed to 72 programs
  » Follow up email 10 days after initial email
• 33 responses
• Trends
  » Gradually increasing reliance on preceptor evaluations from Yrs 1 through 4
  » Comp exams Yrs 1 & 2 – 55%
  » Comp exams peaking in Yr 3 – 72%
  » Gradually decreasing reliance on class related labs, lab exams, virtual assessments and standardized patients
Survey Responses (46%): Tools for Skills Verification All Years

The bar chart shows the percentage of survey responses for various tools used for skills verification across different years of study. The tools include:

- Classes Labs
- Lab Exams
- Preceptor Evals
- Comprehensive Exams
- Virtual Assessments
- Standardized Patients

The chart is color-coded to represent different years:
- Blue for 1st Year
- Red for 2nd Year
- Green for 3rd Year
- Purple for 4th Year
Survey Comments

• What is the most challenging aspect of skills verification for your program?
Preceptor Variability

- **Continuity** in skills verification across supervisors (internal and external) despite support and training.

- The most challenging is the preceptor interpretation of whether or not a skill has been met. Some preceptors expect certain criteria, and others something completely different. I guess in simpler terms, the **lack of standardized criteria** for meeting specific skills.

- **Communication** with off site preceptors

- **Consistency** among preceptors in ratings students.

- **Consistency** in clinical instructor expectations and evaluations

- Preceptors and students need to regularly discuss clinical skills, set goals and evaluate progress. Students need **regular feedback** from preceptors, and this does not always happen. Students should not be surprised by course or clinic grades at the end of the semester.
Reliance on preceptor evaluations

![Bar chart showing the reliance on preceptor evaluations across different years. The chart compares the percentage of preceptor evaluations exclusively and some evaluations.](chart_image)

- **1st Year**: 22% exclusively, 49% some evaluations
- **2nd Year**: 24% exclusively, 68% some evaluations
- **3rd Year**: 39% exclusively, 58% some evaluations
- **4th Year**: 75% exclusively, 16% some evaluations

Legend:
- Blue: Preceptor Evaluations Exclusively
- Red: Prcptr Evals Some
Concerns about the 4th Year

• We must rely solely on the student ratings by the preceptor and are not afforded an opportunity to evaluate the student again following the third year. Again, while we trust, respect, and very much appreciate any preceptor's willingness to accept a student, we're forced to rely solely on the judgment of a single individual. In our program student skills evaluations are never rated by just one supervisor.
Student Variability

- Students develop at **varying paces** and stress levels are high during examination periods. Students receive ongoing feedback from both on and off site preceptors. For those who are skilled at self-evaluation and implementing changes, ongoing feedback is very effective. Those who not so skilled at self-evaluation and implementing change, eventually learn to do so with modified instruction and redirection.

- **Varying levels** of the students
Absence of a “Standard”

- Not a **standardized procedure** for conducting this.
- Despite using a variety of techniques to assess, it can still be difficult to "objectively/quantitatively" determine a student's skills.
- Finding the appropriate **metric** to evaluate the skills. It's not a one size fits all type of process.
Finding Time

• Finding both student and faculty time to do all that we would like to do.

• **Scheduling** the time necessary for the extra evaluations is always a challenge as well as training adjunct preceptors.

• Finding **time to schedule** all students for clinical evaluations with standardized patients is always challenging. We use 2 faculty to rate each student and coordinating schedules is challenging. Also, finding standardized patients for all of those clinical evaluations can be difficult as we don't like to "repeat" patients within a four year rotation (in order to reduce the possibility of students "sharing" information about patients with one another).

• **Time**
Our favorite response:

• What is the most challenging aspect of skills verification for your program?

• All of it
How satisfied are you with the current model?

- Satisfied: 79%
- Somewhat Satisfied: 6%
- Not Satisfied: 12%
- Extremely Satisfied: 3%
So – What’s the Problem?

- Uncertainty - which piece or pieces are essential for *competence*
- Accreditation components
  - Student exit surveys
  - Student 1 year post graduation survey
  - Employer surveys
What is “good enough”

• If instructors teach and evaluate everything possible, will learners be competent for practice? Is competence determined by the volume of what is taught and evaluated?

  1. What are the essential competencies and outcomes for contemporary practice?
  2. What are the indicators that define those competencies?
  3. What are the most effective ways to learn those competencies?
  4. What are the most effective ways to document that learners and/or practitioners have achieved the required competencies?
Audiology “Competency” Statements

• ASHA CFY – Clinical Skills Inventory (21)
  » Evaluation (8), Treatment (5), Management (3), Interaction (5)
• ASHA KASA – Foundation (21); Competencies (43)
  » Prevention (6), Evaluation (18), Treatment (19)
• ACAE – Foundation (10); Competencies (23)
  » Diagnosis & Management (11); Communication (4); Professional Responsibilities & Values (8)
Clinical Fellowship Skills Inventory

5  In complex and challenging cases, the fellow independently and accurately ... 

3  In most cases, ... 

1  The fellow does not ... 

Knowledge & Skills Acquisition 2007

- The applicant must be competent in the evaluation of individuals ... .

ACALE Competency

- D1. Develop the skills required for the diagnosis, triage, treatment and management
Competence

• **ability**: the ability to do something well, measured against a standard, especially ability acquired through experience or training

• What are the specific skills
What is Audiology’s Entry-Level Skill Set?

• Students should demonstrate knowledge . . . .
• Students should demonstrate skills in . . . .

• EVERYTHING

• There seems to be a reluctance to name less than EVERYTHING; does that mean as a profession we strive for the least?

• Do we define the end point as the entire scope of practice because defining Entry Level may elude “consensus”
Other Doctoring Professions

As a young “doctoring profession” what can we learn from others that have a longer history than Audiology?
Optometry

- The mission, goals, objectives must emphasize to a professional optometric degree program whose graduates possess the attributes, knowledge, skills, and ethical values required for entry level practice of optometry as defined by the program.

  » Pre-admissions assessment (Optometry Admissions Test)
  » 4 year program at accredited school of optometry

  - In 2009, 19 colleges of optometry in the US (Bureau of Labor Statistics)
• AAMC
  » 131 US med schools
  » 17 Canadian schools
  » Teaching hospitals and affiliated centers
  » Medical students
  » Residents
  » Faculty
  » Non-profit – over 450 employees in Washington D.C.

  LCME is the accrediting body for medical schools
  » Fees for initial accreditation only
  » Supported by AAMC and Council on Medical Education of the AMA
Reliability Assessment Formats

- MD student performance during 4 hour testing blocks
- Multiple Choice highly reliable/repeatable
- Least “reliable” oral examination (case based description 1/1 with faculty)

Med Student KASA

General Principles
The student will demonstrate knowledge in the area of:

G1. Biochemistry and molecular biology
G2. Biology of cells
G3. Human development and genetics
G4. Biology of tissue response to disease
G5. Gender, ethnic, and behavioral considerations affecting disease treatment and prevention
G6. Multisystem processes
G7. Pharmacodynamic and pharmacokinetic processes
G8. Microbial biology and infection
G9. Immune responses
G10. Quantitative methods
In August 2004, 28 member consultants convened in Alexandria, VA for a consensus conference on “Clinical Education in a Doctoring Profession.” One of the specific purposes of this conference was to achieve consensus on **minimum skills** for every graduate from a physical therapist professional program that include, but are not limited to, the skill set required by the physical therapist licensure examination.
MINIMUM REQUIRED SKILLS OF PHYSICAL THERAPIST GRADUATES
AT ENTRY-LEVEL BOD P11-05-20-49

Background

In August 2004, 28 member consultants convened in Alexandria, VA for a consensus conference on “Clinical Education in a Doctoring Profession.” One of the specific purposes of this conference was to achieve consensus on minimum skills for every graduate from a physical therapist professional program that include, but are not limited to, the skill set required by the physical therapist licensure examination.

Assumptions that framed the boundaries for the discussion during this conference included:

1. A minimum set of required skills will be identified that every graduate from a professional physical therapist program can competently perform in clinical practice.

2. Physical therapist programs can prepare graduates to be competent in the performance of skills that exceed the minimum skills based on institutional and program prerogatives.

3. Development of the minimum required skills will include, but not be limited to, the content blueprint for the physical therapist licensure examination; put differently, no skills on the physical therapist licensure blueprint will be excluded from the minimum skill set.

4. To achieve consensus on minimum skills, 90% or more of the member consultants must be in agreement.
<table>
<thead>
<tr>
<th>Skill Category</th>
<th>Description of Minimum Skills</th>
</tr>
</thead>
</table>
| Examination/Reexamination      | 1. Review pertinent medical records and conduct an interview which collects the following data:   
A. Past and current patient/client history   
B. Demographics   
C. General health status   
D. Chief complaint   
E. Medications   
F. Medical/surgical history   
G. Social history   
H. Present and premorbid functional status/activity   
I. Social/health habits   
J. Living environment   
K. Employment   
L. Growth and development   
M. Lab values   
N. Imaging   
O. Consultations    

2. Based on best available evidence select examination tests and measures that are appropriate for the patient/client.        

3. Perform posture tests and measures of postural alignment and positioning.*  

4. Perform gait, locomotion and balance tests including quantitative and qualitative measures such as*:  
   A. Balance during functional activities with or without the use of assistive, adaptive, orthotic, protective, supportive, or prosthetic devices or equipment  
   B. Balance (dynamic and static) with or without the use of assistive, adaptive, orthotic, protective, supportive, or prosthetic devices or equipment  
   C. Gait and locomotion during functional activities with or without the use of assistive, adaptive, orthotic, protective, supportive, or prosthetic devices or equipment to include:  
      (1) Bed mobility
A Uniform Clinical Evaluation Tool?

PHYSICAL THERAPIST

CLINICAL PERFORMANCE INSTRUMENT

FOR STUDENTS

June 2006

American Physical Therapy Association
Department of Physical Therapy Education
1111 North Fairfax Street
Alexandria, Virginia 22314
PT Performance Dimensions

- Supervision / Guidance
  - Amount of supervision required
- Quality of the skill demonstrated
- Complexity of the case
- Consistency
- Efficiency
Supervision Variable

- Beginning performance: 100% supervision required
- Advanced beginner: >75% supervision simple cases; 100% on complex
- Intermediate: 50% simple; 75% complex
- Advanced intermediate: 25% simple & complex; manages 75% of a full time case load
- Entry-Level: no supervision required – capable 100% of full time case load
- Beyond Entry-Level: able to assist others; manages complex case load
PROFESSIONAL PRACTICE

SAFETY

1. Practices in a safe manner that minimizes the risk to patient, self, and others.

SAMPLE BEHAVIORS

a. Establishes and maintains safe working environment.
b. Recognizes physiological and psychological changes in patients* and adjusts patient interventions* accordingly.
c. Demonstrates awareness of contraindications and precautions of patient intervention.
d. Ensures the safety of self, patient, and others throughout the clinical interaction (e.g., universal precautions, responding and reporting emergency situations, etc).
e. Requests assistance when necessary.
f. Uses acceptable techniques for safe handling of patients (e.g., body mechanics, guarding, level of assistance, etc.).
g. Demonstrates knowledge of facility safety policies and procedures.
2. Demonstrates professional behavior in all situations.

**SAMPLE BEHAVIORS**

a. Demonstrates initiative (e.g., arrives well prepared, offers assistance, seeks learning opportunities).
b. Is punctual and dependable.
c. Wears attire consistent with expectations of the practice setting.
d. Demonstrates integrity in all interactions.
e. Exhibits caring, compassion, and empathy in providing services to patients.
f. Maintains productive working relationships with patients, families, CI, and others.
g. Demonstrates behaviors that contribute to a positive work environment.
h. Accepts feedback without defensiveness.
i. Manages conflict in constructive ways.
j. Maintains patient privacy and modesty.
k. Values the dignity of patients as individuals.
l. Seeks feedback from clinical instructor related to clinical performance.
m. Provides effective feedback to CI related to clinical/teaching mentoring.

**MIDTERM COMMENTS:** (Provide comments based on the performance dimensions including supervision/guidance, quality, complexity, consistency, and efficiency.)

**FINAL COMMENTS:** (Provide comments based on the performance dimensions including supervision/guidance, quality, complexity, consistency, and efficiency.)

Rate this student’s clinical performance based on the sample behaviors and comments above:

- Significant Concerns: If performance on this criterion is unacceptable, check the box and call the ACCE/DCE.
Future Directions

• **Agreement / Concensus Entry Level Skills**
  » Programs, Clinical Sites, Preceptors, Practitioners
  » Uniform (Better) Clinical Preceptor Tool
  » Specific descriptions about expected skills of beginner student clinician
  » Specific checklists for preceptor evaluations
TheraSim’s products assist clinicians in the acquisition and processing of medical knowledge and reduce the variation in clinical care delivery and drug development

TheraSim CPM – Clinical Performance Management Platform includes the following applications

- **TheraSim CS – Clinical Simulator**
  Fully interactive patient case simulation tool

- **TheraSim HMD – Health Metrics Dashboard**
  Clinical performance measurement and analysis

- **TheraSim LMS - Learning Management System**
  Learning and skills management

- **TheraSim CR – Clinical Rules**
  Online authoring tool for guidelines, protocols and P4P performance measures, adding clinical decision support to your simulations to improve
Special thanks and recognition to my colleagues, Debra Weisleder, AuD and Barbara Warren, AuD and other UNC audiology faculty who have teamed with me to create and deliver COMPS 27 times to ten cohorts.

Thank You

Questions?