If you are viewing this course as a recorded course after the live webinar, you can use the scroll bar at the bottom of the player window to pause and navigate the course.

This handout is for reference only. It may not include content identical to the powerpoint. Any links included in the handout are current at the time of the live webinar, but are subject to change and may not be current at a later date.

# Audiology Student Supervision & Precepting

Virginia Ramachandran, Au.D., Ph.D.
Henry Ford Hospital
Wayne State University
Detroit, Michigan

## Disclosures

- Member, Board of Directors, Accreditation Commission for Audiology Education
- Senior Staff Audiologist, & Audiology Research Coordinator, Henry Ford Hospital
- Audiology Clinical Education Coordinator, Wayne State University
- Associate Consulting Editor, Plural Publishing, Inc.

## Disclaimers

- There is an underdeveloped evidence-base for clinical education
- There is no one right way to do clinical education

## The Evolution of Clinical Education

| Then | Now |
| --- | --- |
| Degree was non-descriptive (M.A., M.S., etc.) | Degree designates audiology (Au.D.) |
| Clinical education was incomplete upon Graduation; needed clinical fellowship | Clinical education completed during university program |
| Certification<br>Only credential to indicate completion of clinical training | Licensure<br>Certification not needed for entry-level practice |

## Stakeholders in the Process

- Students
- Patients
- Third-party payers
- University faculty
- Clinical educators

## Students

- Adult learners
  - Life experience
  - Need to be actively involved in structuring their learning
  - Demand relevancy
- Personal situations
- Generational differences

## Patients

- Students provide credibility to you as a clinician
- Typically enjoy being a participant in the education of the student
- The introduction is important
- Patients who have special needs that the student is not prepared for require your expertise

## Third-party Payers

- Understand rules and regulations about student participation in patient care

## University Faculty

- Accreditation is a major concern
- Academic faculty
  - Research
  - Didactic teaching
  - University service
  - Often lack clinical experience
- Clinical faculty
  - Concrete methods & concepts
  - University clinic exists for student teaching
  - Manage larger numbers of students
  - Responsible for clinical education outcomes but often don't have internal resources to provide the instruction

## Clinical Educators

- Who are we?
- What do we do?

## Qualifications of Clinical Educators

- Credentials
  - Licensure
  - Certification
  - Specialty Certification
- Licensure Laws
- University Program Policies

## Framework for Clinical Education

- Outcomes
- Assessment
- Methods

## The Process

- Define the Outcome
- Plan the Assessment
- Plan the Method
- Implement the Method
- Do the Assessment
- Provide Feedback
- Review/Refine Outcomes

## Outcomes for Clinical Education

- Produce competent students who are capable of independent clinical practice
- Important questions:
  - What do they know now?
  - What do they still need to know and be able to do?

## Defining Outcomes

- Novice Learners
  - Don't know what they need to know
  - Don't know how to find the information that they need
- Expert Learners
  - Know what they need to know
  - May require support to access necessary resources

## Degrees of Competence

- Miller's Pyramid
  - Knows How
  - Shows How
  - Does

## Assessment

- Measuring Outcomes
- How do you know what they know or can do?
- Types of Assessment
  - Formative
    - Evaluation of skills & knowledge for diagnosis
  - Summative
    - Evaluation of skills and knowledge for measurement

## Formative Assessment

- Assessments that teach
- Design assessments based on what is important to be learned
- Design teaching opportunities to help students be successful on the assessment
- "Teaching to the test" is only bad if the test is dumb

## Darwin & Student Behavior

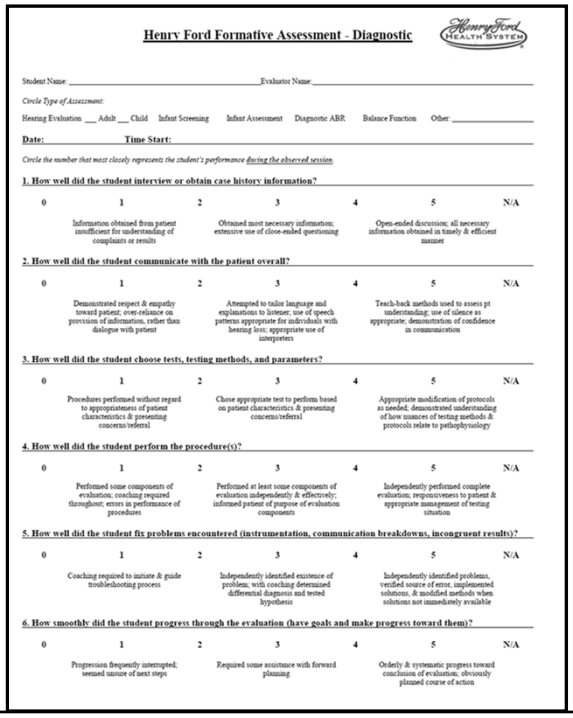
- Student behavior is adaptive
  - We have taught students to behave the way that they do
- Students are hyper-focused on outcomes
  - What do they get credit for?
  - They need to get credit for the things that we consider most important for them to know

## Feedback & grading

- Need opportunities for feedback not associated with a grade
  - Feedback associated with a grade provides a disincentive for students to accept and incorporate your feedback.
  - Their adaptive behavior will be to try to convince you that you are wrong about your assessment of their behavior

## Methods of Assessment

- Informal
  - "I'm going to give you feedback now"
- Formal
  - Evaluations
  - Questionnaires



**Henry Ford Formative Assessment - Diagnostic**

Student Name: _____ Evaluator Name: _____

*Circle Type of Assessment:*

Hearing Evaluation ___ Adult ___ Child  Infant Screening  Infant Assessment  Diagnostic ABR  Balance Function  Other: _____

**Date:** _____ **Time Start:** _____

*Circle the number that most closely represents the student's performance during the observed session*

**1. How well did the student interview or obtain case history information?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Information obtained from patient insufficient for understanding of complaints or results | | Obtained most necessary information; extensive use of close-ended questioning | | Open-ended discussion; all necessary information obtained in timely & efficient manner | |

**2. How well did the student communicate with the patient overall?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Demonstrated respect & empathy toward patient; over-reliance on provision of information, rather than dialogue with patient | | Attempted to tailor language and explanations to listener; use of speech patterns appropriate for individuals with hearing loss; appropriate use of interpreters | | Teach-back methods used to assess pt understanding; use of silence as appropriate; demonstration of confidence in communication | |

**3. How well did the student choose tests, testing methods, and parameters?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Procedures performed without regard to appropriateness of patient characteristics & presenting concerns/referral | | Chose appropriate test to perform based on patient characteristics & presenting concerns/referral | | Appropriate modification of protocols as needed; demonstrated understanding of how nuances of testing methods & protocols relate to pathophysiology | |

**4. How well did the student perform the procedure(s)?**

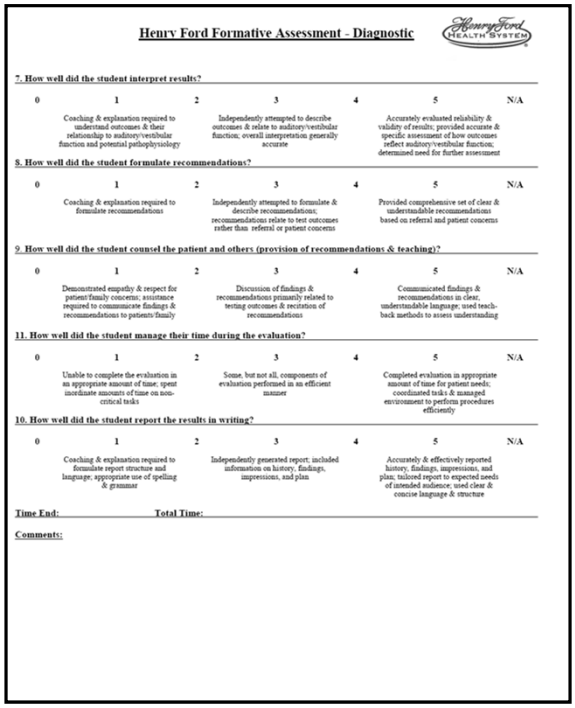
| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Performed some components of evaluation; coaching required throughout; errors in performance of procedures | | Performed at least some components of evaluation independently & effectively; informed patient of purpose of evaluation components | | Independently performed complete evaluation; responsiveness to patient & appropriate management of testing situation | |

**5. How well did the student fix problems encountered (instrumentation, communication breakdowns, incongruent results)?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Coaching required to initiate & guide troubleshooting process | | Independently identified existence of problem; with coaching determined differential diagnosis and tested hypothesis | | Independently identified problems, verified source of error, implemented solutions, & modified methods when solutions not immediately available | |

**6. How smoothly did the student progress through the evaluation (have goals and make progress toward them)?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Progression frequently interrupted; seemed unsure of next steps | | Required some assistance with forward planning | | Orderly & systematic progress toward conclusion of evaluation; obviously planned course of action | |



**Henry Ford Formative Assessment - Diagnostic**

**7. How well did the student interpret results?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Coaching & explanation required to understand outcomes & their relationship to auditory/vestibular function and potential pathophysiology | | Independently attempted to describe outcomes & relate to auditory/vestibular function; overall interpretation generally accurate | | Accurately evaluated reliability & validity of results; provided accurate & specific assessment of how outcomes reflect auditory/vestibular function; determined need for further assessment | |

**8. How well did the student formulate recommendations?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Coaching & explanation required to formulate recommendations | | Independently attempted to formulate & describe recommendations; recommendations relate to test outcomes rather than referral or patient concerns | | Provided comprehensive set of clear & understandable recommendations based on referral and patient concerns | |

**9. How well did the student counsel the patient and others (provision of recommendations & teaching)?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Demonstrated empathy & respect for patient/family concerns; assistance required to communicate findings & recommendations to patients/family | | Discussion of findings & recommendations primarily related to testing outcomes & recitation of recommendations | | Communicated findings & recommendations in clear, understandable language; used teach-back methods to assess understanding | |

**11. How well did the student manage their time during the evaluation?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Unable to complete the evaluation in an appropriate amount of time; spent inordinate amounts of time on non-critical tasks | | Some, but not all, components of evaluation performed in an efficient manner | | Completed evaluation in appropriate amount of time for patient needs; coordinated tasks & managed environment to perform procedures efficiently | |

**10. How well did the student report the results in writing?**

| 0 | 1 | 2 | 3 | 4 | 5 | N/A |
|---|---|---|---|---|---|---|
| | Coaching & explanation required to formulate report structure and language; appropriate use of spelling & grammar | | Independently generated report; included information on history, findings, impressions, and plan | | Accurately & effectively reported history, findings, impressions, and plan; tailored report to expected needs of intended audience; used clear & concise language & structure | |

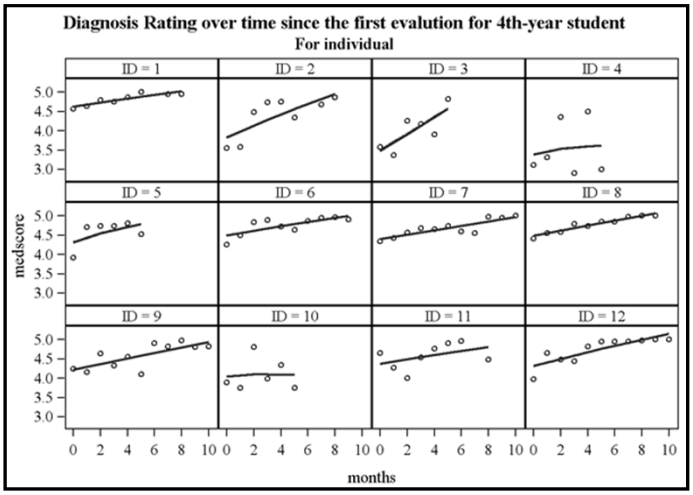
**Time End:** **Total Time:**

**Comments:**

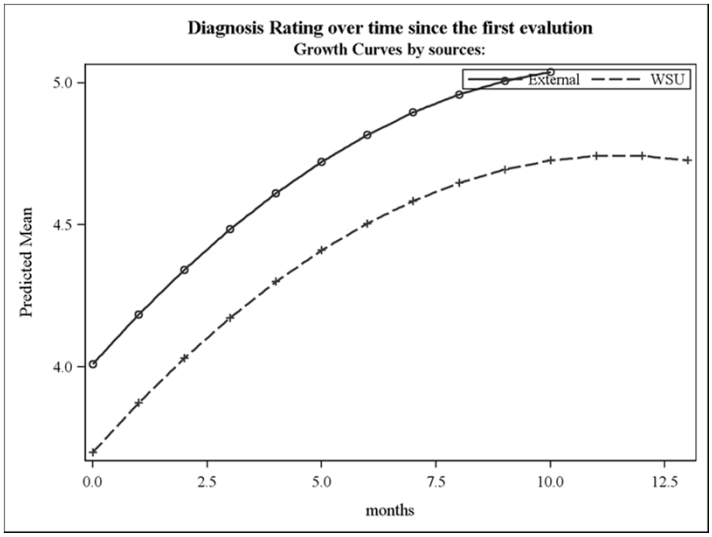
Training & “Calibration”

http://idainstitute.com/tool_room/video_library/#/tool_room/video_library/clinical_videos/?type=1337

## Example: HF Diagnostic Evaluation




## Example: HF Diagnostic Evaluation



## Assessment Perspectives

- Explaining your role as the “coach” or “trainer” - repeatedly
- Remove “should” from your vocabulary; live in the here and now
- You cannot do enough to set expectations
- Don’t assume that saying something once means that it was effectively *comprehended*, *synthesized,* and *remembered*, for *application* in a variety of novel future situations
- Students do not always recall why they are doing things a certain way, even if they were taught why

## Providing Feedback: Challenges

- Discomfort with “negative” comments
- “Subjective” nature of assessment
- Feedback related to personal or professional issues

## Providing Feedback: Solutions

- Use structured tools & do it regularly
  - Takes the pressure off
- Self-reflection
  - "How do you think that went?"
- Perception is everything
  - "This is how you are being perceived"
- Scripts
  - "We are going to talk about…"
  - "I don't expect that we will need to discuss this again"
  - "We will re-visit this again in two weeks to look at your progress"
  - "I can see that you feel … about this"

## Pedagogy: Teaching to the Test

- Design the instruction strategy to match the outcomes & associated assessment

## Clinical Education Techniques

- Labs
- Simulations
- Observation
- Patient Care
  - Component
  - Decision-making
- Case Review

## Levels of Knowledge

- Pre-reflective
  - Knowledge comes from authority
  - Absolute answer exists
- Quasi-reflective
  - Ill-structured problems exist
  - Not sure how to deal with ambiguity
- Reflective
  - Knowledge is constructed and can change
  - Use criteria to determine the best evidence

## Clinical Realities

- There is more than one way to do things
- There is often no one right way
- There is room for multiple understandings
- The answer is often “it depends”

## Teaching How to Think

- Metacognition
  - Thinking about thinking
  - Thought processes of the clinical instructor need to become transparent to the student
- Diagnostic & Treatment Planning Process
- Case Studies/Review

# Diagnostic & Treatment Planning Process

**Diagnostic Process for Audiologic Evaluation**

**What is the problem?**

**Data (subjective)**
*Guaranteed data set is based on problem & patient characteristics*

Symptoms
1. Hearing
2. Communication difficulty
3. Tinnitus
4. Pain/pressure/fullness
5. Dizziness/balance

History
6. Noise exposure
7. Illness/disease/medications
8. Family history
9. Otologic
10. Pediatric
    a. Birth/pregnancy
    b. Screening
    c. Family concerns

**Hypotheses (rule out)**

1. Ear canal occlusion
2. Middle ear dysfunction
3. Hearing sensitivity loss (& cochlear function)
4. Retrocochlear dysfunction
5. Communicative dysfunction
6. Vestibular dysfunction

**Data (objective) (results)**
*What & How?*

1. Otoscopy
2. Tympanometry
3. Acoustic reflex thresholds
4. Tone decay
5. Tuning fork tests
6. Air-conduction thresholds
7. Bone-conduction thresholds
8. Stenger
9. Speech thresholds
10. Speech recognition
11. Otoacoustic emissions

**Conclusions**

1. Middle ear function
2. Hearing sensitivity (& cochlear function)
3. Retrocochlear function
4. Communicative function
5. Vestibular function

**Recommendations**
*What & Why?*

1. Additional data
    a. Electrophysiology
    b. Vestibular function
    c. Auditory processing
    d. Monitoring
2. Referral
    a. Medical/otolaryngologic referral
    b. Other
3. Treatment
    a. Audiologic hearing treatment
4. Prevention
    a. Hearing protection

# Diagnostic & Treatment Planning Process

**Diagnostic Process for Audiologic Evaluation**

**What is the problem?**

**Data (objective) (results)**

**Data (subjective)**

**Conclusions**

**Hypotheses (rule out)**

**Recommendations**

## Teaching How to Learn

- Modeling
  - "That's a good question…."
  - "…Where can we find the answer to that?"
  - "…What does the literature say?"
  - "…Can we use or collect data to answer that?"

vramach1@hfhs.org