

Do You **Hear**  
What I  
**Hear?**



SEPTEMBER 9, 2014 • TALKS ON TUESDAYS WEBINAR

 Partnership for People  
with Disabilities  
*Linking people. Changing lives.*

 Integrated  
Training  
collaborative

 **VCU**  
VIRGINIA COMMONWEALTH UNIVERSITY

**AUDIO DETAILS:**  
**1-866-842-5779**  
**Enter Code: 463-661-9330**

## DO YOU HEAR WHAT I HEAR?

- Interview format
- Panel Members:
  - Ruth Frierson, Manager, Virginia EHDl
  - Christine Eubanks, Audiologist, VCU-HS
  - Irene Schmalz, Director, Guide By Your Side
  - Terri Strange-Boston, Technical Assistance Consultant, Part C Office

## PLAN FOR TODAY: ANSWER YOUR QUESTIONS ABOUT HEARING

- ✓ Why is hearing important to infants and toddlers? How are we doing in Virginia?
- ✓ Hearing 101
- ✓ How can we support families?
- ✓ What about children with hearing and vision loss?
- ✓ How can we improve in the future?

## LEARNING OBJECTIVES

1. Understand the importance of **early detection** of hearing loss.
2. Become familiar with your role in early hearing detection and intervention.
3. Learn about **resources** to support infants and toddlers with hearing loss and their families.





## Why Screen for Hearing Loss?

- Most common birth defect
- 1/300 babies born with HL
- 50% without any risk factors
- 95% born to hearing parents
- Improved/cheaper screening
- Improved diagnostic evaluations and interventions



AAP Policy Statement 1999; JCIH Position Statement 2000;  
Morton and Nance, NEJM, 2006



## Early Hearing Detection and Intervention Program



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## 1-3-6 Methodology

If a baby fails the hearing screening—  
immediately schedule a hearing  
evaluation with an audiologist for a  
diagnosis before

**6** months of  
age

All babies should have a hearing  
screening test before leaving the  
hospital, but no later than

**1** month of  
age

If a baby is diagnosed with a hearing  
loss, begin early intervention services  
before

**3** months of  
age

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In which of the following cases would an infant/child **with hearing loss** qualify for early intervention services? Check all that apply.

- ☐ *Severe to Profound in both ears*
- ☐ *Mild to Moderate in both ears*
- ☐ *Severe to Profound in one ear*
- ☐ *Mild to Moderate in one ear*
- ☐ *Never*
- ☐ *Variable*
- ☐ *Hearing loss and a developmental delay*
- ☐ *Diagnosis of hearing loss*

**“Loss and Found” Video -  
GREAT RESOURCE TO LEARN MORE  
ABOUT THE IMPORTANCE OF EARLY  
HEARING DETECTION AND  
INTERVENTION:**

[http://www.youtube.com/watch?  
v=3DgY3QdKk2s&authuser=0](http://www.youtube.com/watch?v=3DgY3QdKk2s&authuser=0)

# VA EHDI Accomplishments and Challenges



How can  
you help?

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Hearing screening/diagnosis is  
senseless without intervention!!



Amplification, education  
and guidance!

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**PLAN FOR TODAY:**  
**ANSWER YOUR QUESTIONS ABOUT HEARING**

✓Hearing 101




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Incidence of Deafness in Newborns





Congenital Hearing Loss	1:300
Congenital Hypothyroidism	1:3000
Sickle Cell Disease	1:4000
PKU	1:26,000

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## Benefits of Diagnosing Infants

- Impact on child/family
- Future in future





- **Age of HL identification** has a bigger impact on language and educational achievement than degree of hearing loss, or even presence of other disabilities



Yoshinaga-Itano, Pediatrics 1998

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## EDUCATIONAL ACHIEVEMENT

- With EI before 6 m/o, even profoundly deaf children can reach reading/spoken language ability on par with peers BEFORE kindergarten.

(Yoshinaga-Itano, 1999)

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# How do you screen a baby's hearing? What happens after the screening?



## SCREENING PROCEDURE



## Newborn Hearing Screening

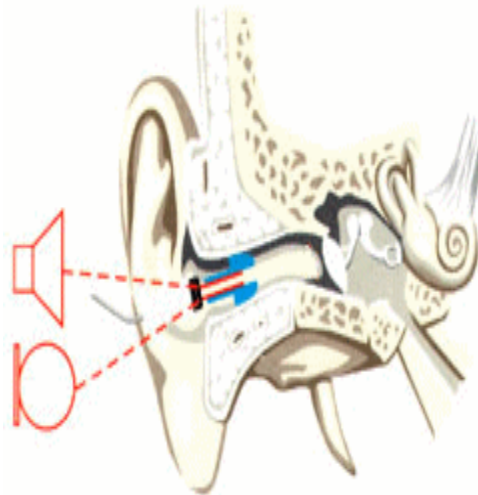
- Otoacoustic Emissions (OAE)
  - test of inner ear function
- Auditory Brainstem Response (ABR)
  - Tests auditory pathway



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## OAE: Cochlear Function Test

- A soft click is presented and a small microphone measures the echo (emission) that is returned from the baby's inner ear



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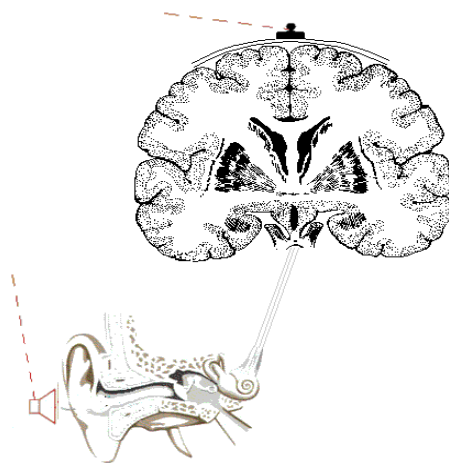
## OAE: Cochlear Function Test

- Measures the function of outer hair cells in the cochlea
- **Not a hearing test**



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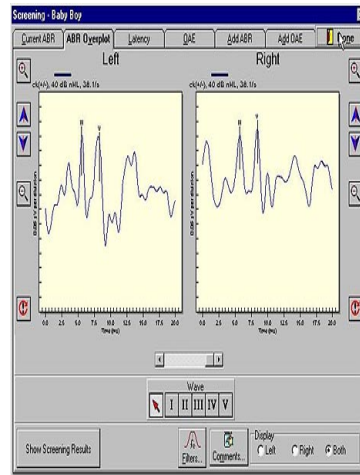
## Auditory Brainstem Response (ABR)



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With Automated ABR (AABR) screening, if the response matches the pattern, the infant passes. If not, a referral is made.

Really only practical with newborns - they sleep!



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Delays in follow up result in need for more in-depth testing!



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**All babies** that do not pass a newborn screening need further testing ASAP to determine if results are due to permanent (cochlear or nerve) loss.

## What YOU Can Say to Parents When Follow-Up Is Needed

- Reassure the family that further diagnostic testing will clarify the hearing status
- Stress that it is important that the diagnostic testing is completed by 3 months of age.



## DIAGNOSTIC AUDIOLOGY



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- Audiologic testing procedures necessary to determine:

- ✓ Type
- ✓ Degree
- ✓ Configuration of hearing loss



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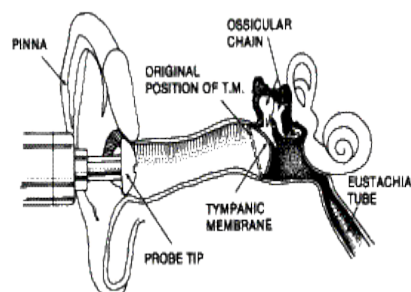
## “Behavioral” Audiology vs. “Objective” tests

- “Behavioral tests” require the child to do something in response to the sound
- “Objective tests” do not require a response from the child.

## TYMPANOMETRY

Measures movement of the eardrum as air pressure is changed in the ear canal.

- Eardrum mobility
- Ear canal volume
- Middle ear pressure



## Behavioral tests are the only true tests of *hearing*

(Hicks, Tharpe & Ashmead, 2000 )



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## Behavioral Observation Audiometry (BOA)

- Age newborn through 4 months
- Elicit reflexes (startle, eyeblink, eye widening)
- “Rule out” significant impairments



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## Visual Reinforcement Audiometry

- Ages 5 to 24 months
- Head-turn responses
- Animated toys to reinforce responses
- Train at high levels, then reduce levels to determine threshold
- Stay with task longer



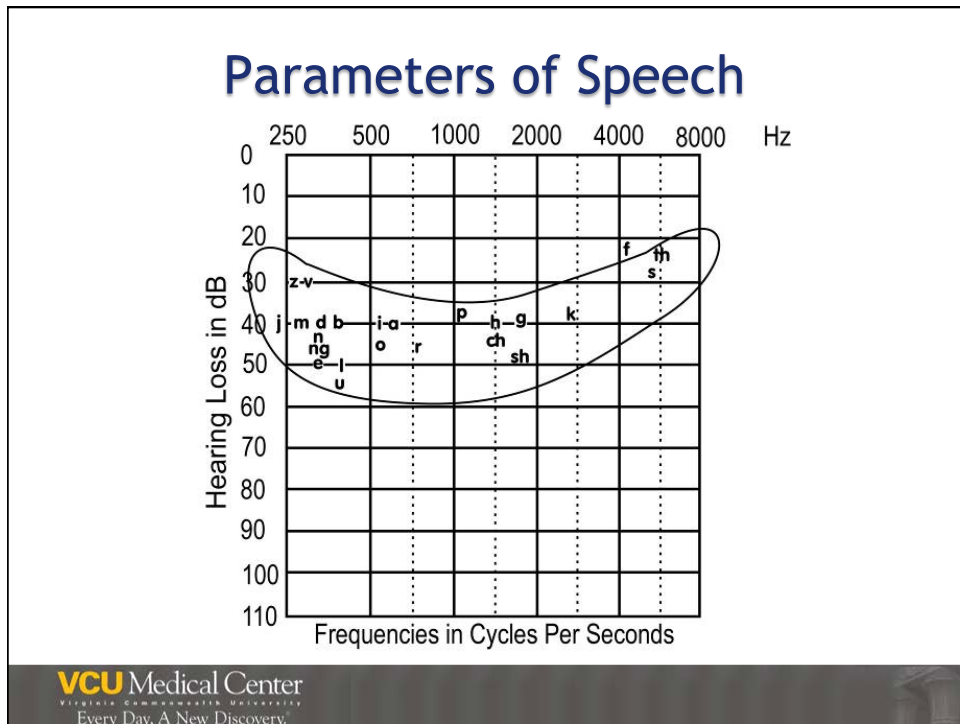
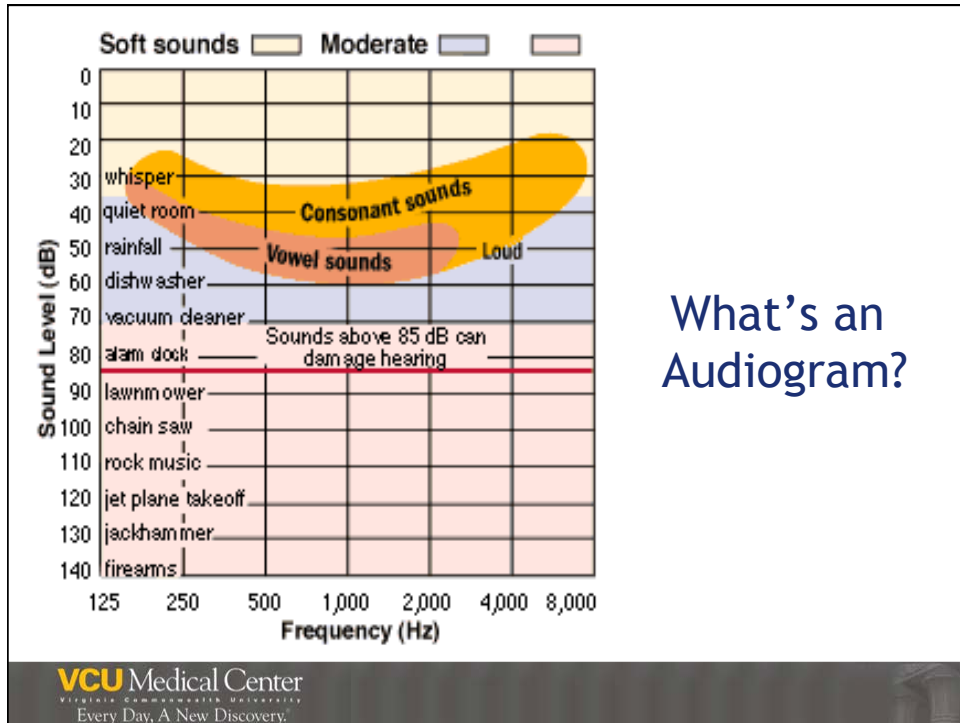
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## Play Audiometry



- Age 25 months +
- Child is taught a play response to the sound
- Obtain thresholds with pure tone or speech - sound becomes part of the game

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## Degrees (levels) of Hearing Loss

Mild	20-40 dB
Moderate	40-60 dB
Severe	60-90 dB
Profound	90+ dB

## Types of Hearing Loss

- Conductive Loss
- Cochlear Loss
- Mixed Loss



## Management Plan

- Amplification provision
- Parent education
- Audiological monitoring
- Development of auditory skills
- Communication development
- Monitoring middle ear status



## The Prospects for Intervention

- ➔ Early Amplification
- ➔ Educational and Communication Options
- ➔ Medical Issues

**“Unlike most typically-hearing parents of typically-hearing children, parents of children with hearing loss must make important decisions about how they...and the rest of world...will communicate with their child....”**

(Bobsin, 2005)

- Parents needed **time to process**
- Too little information creates **apathy**
- Too much information creates **panic**
- **The balance:** Amount of information increases through transitions (screen, re-screen, diagnostics, early intervention)

DesGeorges, et al., 2007



## How to discuss hearing loss with parents: What *they* say they need

- Professionals must “be prepared to deal with the **emotional** ramifications” of the situation.
- Frequent follow-up is essential!
- Meet other parents
- **Unbiased** information

Luterman, 1999



Regardless of the communication path chosen, the ultimate goal for the child with a hearing loss needs to be the same...

***Communication!***

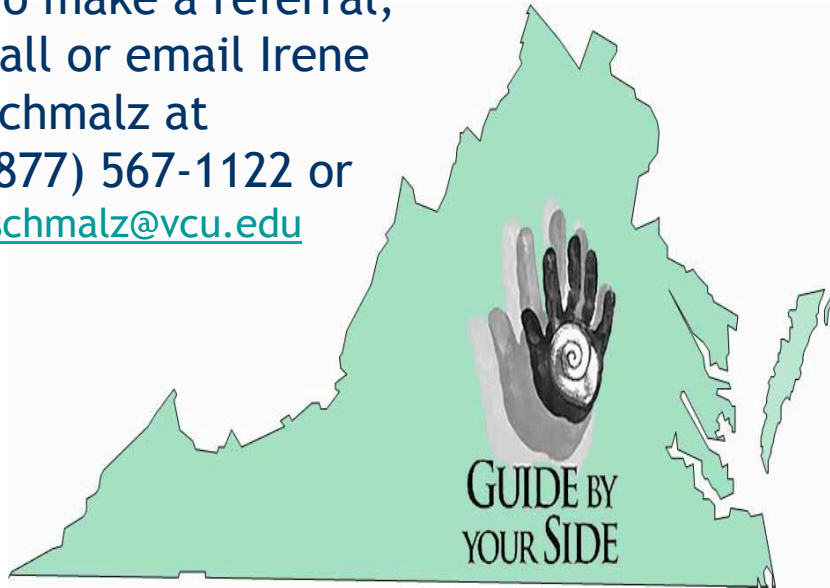
How can we  
support  
families?



“Out of necessity, these  
sometimes extremely difficult  
decisions must be made very  
early in their child’s life and  
are often made during times of  
uncertainty and sadness....”

(Bobsin, 2005)

To make a referral,  
call or email Irene  
Schmalz at  
(877) 567-1122 or  
[ischmalz@vcu.edu](mailto:ischmalz@vcu.edu)



## Phone Call or Email



## How To Support Families?

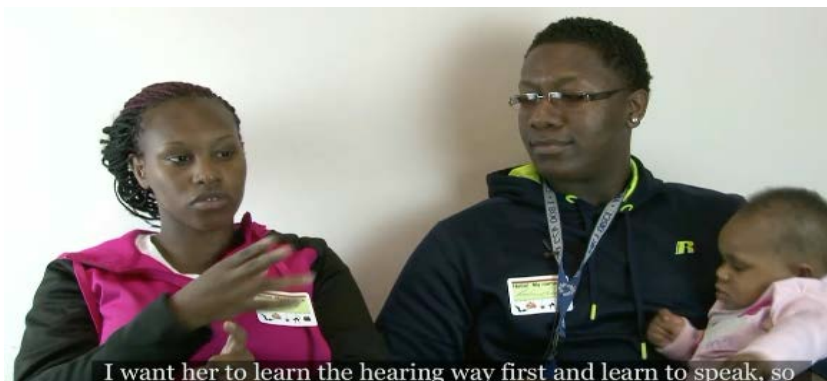
**HOPE**  
**RESPECT**  
**SUPPORT**

H  
O  
P  
E



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RESPECT



I want her to learn the hearing way first and learn to speak, so

Communication modalities and  
device choices

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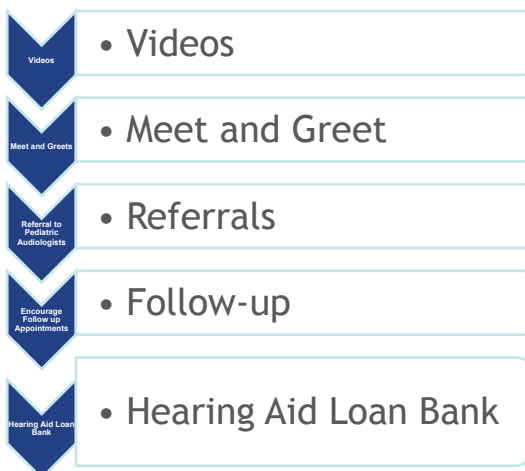
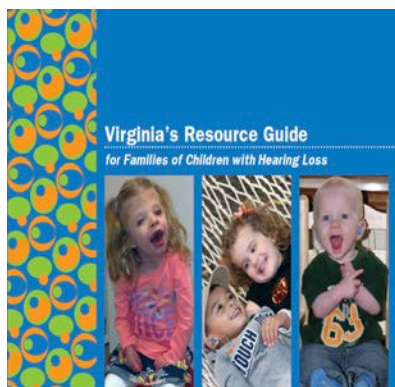
## RESPECT CULTURE



## SUPPORT - EMOTIONAL



## SUPPORT - MATERIALS



Facebook Page: GBYS

[www.facebook.com/va.guide.by.your.side](http://www.facebook.com/va.guide.by.your.side)

Meet and Greet –October 18, 2014 in Chester, VA:

<https://www.surveymonkey.com/s/MeetandGreetChester>

Virginia's Resource Guide for Families of Children with Hearing Loss:

[http://centerforfamilyinvolvement.vcu.edu/files/2013/03/  
Res\\_Guide\\_FINAL\\_electronic.pdf](http://centerforfamilyinvolvement.vcu.edu/files/2013/03/Res_Guide_FINAL_electronic.pdf)

Virginia Hearing Aid Loan Bank: Lisa Powley; (866) 596-9367

[LKP2V@hscmail.mcc.virginia.edu](mailto:LKP2V@hscmail.mcc.virginia.edu)

Virginia EHDI:

<http://www.vdh.virginia.gov/ofhs/childandfamily/childhealth/hearing/>

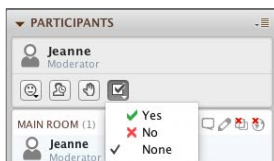


What about children with  
hearing *and* vision loss?



*YES or NO:*

“Deaf-Blind”  
always implies  
total absence of  
hearing and vision.



Look for the checkbox beneath  
your name to answer.

## Virginia Project for Children and Young Adults with Deaf-Blindness

Supports **families, teachers, and service providers** in their efforts to improve outcomes for children and youth who experience both vision and hearing loss.



Virginia Project for Children and Young Adults with Deaf-Blindness  
Partnership for People with Disabilities/ Virginia Commonwealth University  
P.O. Box 843020, Richmond, VA 23284  
Phone: (804)828-8252 or (877) 295-7799 Fax: (804)828-0042

### Deaf-Blind Census Form 2014

**STOP! Complete this form ONLY for individuals who have BOTH a visual AND auditory impairment.**

#### Student Information:

Name, First: \_\_\_\_\_ Last: \_\_\_\_\_

Date of Birth: \_\_\_\_/\_\_\_\_/\_\_\_\_ Gender: ☐ Male ☐ Female

Ethnicity: ☐ American Indian or Alaskan Native ☐ Asian or Pacific Islander  
(Choose ONE) ☐ Black (not Hispanic) ☐ Hispanic ☐ White (not Hispanic)

Home School Division: \_\_\_\_\_

Division Providing Services: \_\_\_\_\_

Name of School: \_\_\_\_\_

#### Parent/Guardian Information:

Name(s): \_\_\_\_\_

Relationship: \_\_\_\_\_ Primary Language: \_\_\_\_\_

## Remember:

- ➔ IF A CHILD HAS A CONFIRMED HEARING LOSS -- THINK ABOUT VISION LOSS
- ➔ IF A CHILD HAS A CONFIRMED VISION LOSS -- THINK ABOUT HEARING LOSS

## How can we improve in the future?



# SOLUTIONS

Building  
Bridges  
with  
Partners

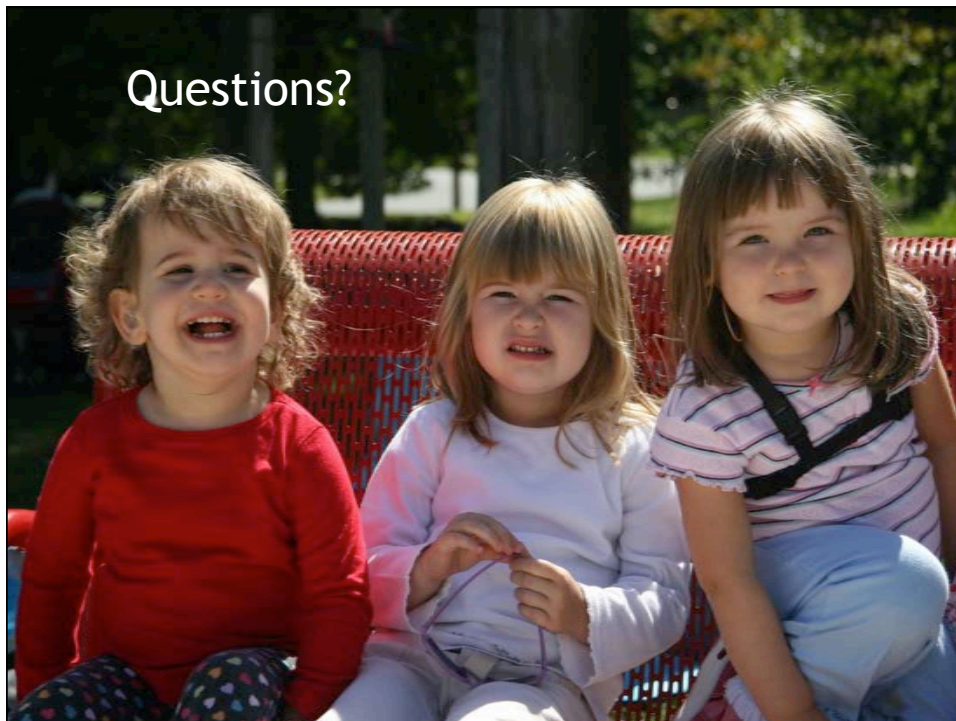


Provider Training:

<http://www.vaehdi.vcu.edu/index.html>

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Questions?



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