

Cochlear Implants: The Complex Debate

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Cochlear Implants: The Complex Debate

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Summary

In this lesson, students examine issues surrounding the use of cochlear implants as an intervention for infant hearing loss. They will represent the perspective of advocates, parents, audiologists, and physicians in a group discussion about a parent's choice to have his or her child receive a cochlear implant. A cochlear implant is a surgically placed electronic device designed to stimulate hearing in children and adults who have severe to profound hearing loss and can derive little or no benefit from hearing aids. Through research and discussion, students will explore the social, medical, and psychological impacts of infant hearing loss and cochlear implant use.

Note: Because of the prevalence of hearing loss, it is possible that a student who is hard of hearing or deaf might be a class member. Also, students might have family members or relatives with hearing loss. The teacher should speak to students who are hard of hearing or deaf individually before the start of this lesson plan. This lesson plan can be modified to be sensitive to student needs. Because this lesson plan is on a topic that can be very personal, sensitivity to students should be an important consideration.

Learning Outcomes

- Students will be able to empathize with hard-of-hearing individuals through experiencing hearing loss in a heavily social situation.
- Students will be able to understand the social, medical, and psychological impacts of early hearing loss and of choosing to use or not use a cochlear implant.
- Students will be able to relate the attitudes and knowledge of diverse individuals involved in debates over cochlear implants.

Materials

1. Earplugs for each student
2. "Sound and Fury" video
3. Spectrum cards to post around class
4. One computer per group of three students
5. Computer with PowerPoint
6. Television/VCR
7. LCD projector

Total Duration

1 hour, 55 minutes

Procedures

Teacher Preparation

Create and post 5 spectrum cards (signs that say strongly agree, agree, neutral, disagree, and strongly disagree) throughout the room in visible locations. Also, print one copy of the “Research Focus Questions” (found in Step 4) per student, and print one copy of the “Hard of Hearing Experience Discussion Questions” used to prompt students (found in the Introduction). Open the PowerPoint presentation on the computer, warm up the LCD projector, and prepare the overhead screen for later use. Prepare the clip from the movie “Sound and Fury” (used in Step 2) and set up the television and VCR. Record the “essential question” in Step 3 clearly on the whiteboard.

Step 1: Introduction

Duration: 15 minutes

During the last 10 minutes of the class period before the start of this lesson plan, assign students to wear earplugs during lunch and make observations about their experiences. At the beginning of the class period corresponding to this lesson, students will share their experiences in groups of three. The groups will prepare a summary of their experiences to share with the class using the “Hard of Hearing Experience Discussion Questions.” This class discussion will serve as an informal pre-assessment of student understanding about the social and psychological impacts of being an individual who is deaf or hard of hearing in a predominantly hearing society.

Supplemental Documents

Title: Hard of Hearing Experience Discussion Questions

File Name: Hard of Hearing Experience Discussion Questions.doc

Description: This Word document contains questions to lead a brief class discussion on the students’ experience wearing earplugs to simulate hearing loss. Questions focus on the social ramifications of hearing loss and encourage students to empathize with people who are deaf or hard of hearing.

Step 2

Duration: 20 minutes

Students will use their experience with simulated hearing loss to relate to new information about the debate surrounding cochlear implants. Use the “Infant Hearing Loss” PowerPoint presentation (see Supplemental Documents below) to inform students about birth defects affecting the cochlea and about cochlear implants. The PowerPoint presentation covers risk factors and consequences associated with birth defects affecting the cochlea, and the debate about social, medical, and psychological ramifications of using a cochlear implant. Ask students to take notes on the presentation. Next, show students a clip from the video “Sound and Fury,” which presents a real family’s struggle with the decision to obtain cochlear implants for their child, Heather, who has a hearing loss. Specifically, the teacher should show the portion of the film in which Heather’s parents argue with her grandmother about cochlear implants at a family barbecue. This clip is entitled “The Argument” and can be seen online at the “Sound and Fury – About the Film – Video Clips” website listed below.

It is important for students to understand that even though cochlear implants and American Sign Language (ASL) are the focus for this exercise, these two interventions are not the only available options of communication for children who are deaf or hard of hearing. A very brief explanation of this point is encouraged. For more information, please see the Centers for Disease Control and Prevention’s Early Hearing Detection and Intervention Program’s website listed below.

Web Resources:

Title: Sound and Fury Video Information

URL: www.pbs.org/wnet/soundandfury/film/dates.html

Description: The video “Sound and Fury” is available at this PBS website at an educators’ discount, if you need to obtain it. “Sound and Fury” was a 2001 Academy Award Nominee for Best Documentary.

Title: Sound and Fury – About the Film – Video Clips

URL: www.pbs.org/wnet/soundandfury/film/video.html

Description: Clips from “Sound and Fury” can be viewed at this link. This PBS website also contains links to a transcript of each clip. The clip for this step of the lesson plan is entitled “The Argument.”

Title: Centers for Disease Control and Prevention’s Early Hearing Detection and Intervention Program: Early Intervention: Communication and Language for Families of Deaf and Hard-of-Hearing Infants

URL: www.cdc.gov/ncbddd/ehdi/documents/Communication_Brochure.pdf

Description: This document provides information for parents and families about hearing loss and communication/language options.

Supplemental Documents:

Title: Infant Hearing Loss

File Name: Cochlear Implants.ppt

Description: This PowerPoint presentation will inform students about the prevalence and causes of, and treatments and interventions for, infant hearing loss. Also, students will learn about social, medical, and psychological perspectives involved in the debate over the use of cochlear implants. Students will use this information to make an informed decision about personal use of cochlear implants in the initial spectrum activity.

Step 3**Duration: 10 minutes**

Next, students will discuss their initial opinions on the cochlear implant debate. Present students with the essential question: “If you were born with a hearing loss, would you agree with this statement?: I want to have a cochlear implant.” Now that students have been given background information about the benefits of and controversy about cochlear implants, instruct them to stand by the spectrum card that best describes their opinion (cards reading “strongly agree,” “agree,” “neutral,” “disagree,” and “strongly disagree” should have been placed around the room during lesson preparation). At each decision station, have students discuss their rationale for three minutes. Each group will then summarize their rationale for the rest of the class. If you are concerned about students being forced to share their opinions with the class, you may ask students to write a short paragraph explaining their stance on cochlear implant use. You can then select and read these paragraphs aloud while keeping student identity anonymous.

Step 4**Duration: 30 minutes**

Now that students have considered their preliminary views about the debate over cochlear implants, they will research the attitudes of individuals who are involved in making these decisions. Divide students into groups of three. Assign each group one of

the following roles: 1) informed advocate for manual languages (i.e., ASL) in the Deaf community, 2) informed advocate for cochlear implant use, 3) a teen with a cochlear implant, 4) an adult who is deaf and does not have a cochlear implant, and 5) an audiologist. Depending on class size, roles may be assigned to more than one group. Have each group research potential attitudes and rationales for and against implant use pertaining to their character. Instruct students to conduct their research by using the websites listed below. Pass out the “Research Focus Questions” to guide students in their research and to prepare for the ensuing discussion about the use of cochlear implants. Note that opinions of individuals on the websites are their own and are unique to their experiences. These opinions may or may not be based on recent scientific findings. In addition, the opinions of one deaf advocate or one advocate of cochlear implants may differ from opinions of other deaf advocates or advocates of cochlear implants.

Web Resources:

Title: Cochlear Implants: The Debate

URL: www.pbs.org/wnet/soundandfury/cochlear/debate.html

Description: This website features two experts on hearing loss, Donna Sorokin of the Alexander Graham Bell Association and Nancy Bloch of the National Association for the Deaf, as they debate the pros and cons of using cochlear implants in children. Sorokin and Bloch discuss social, psychological, and developmental ramifications of cochlear implant use for students to reference during the class discussion.

Title: Cochlear Implants

URL: www.asha.org/public/hearing/treatment/cochlear_implant.htm

Description: This website provides information for students assigned to study audiologists’ perspectives on cochlear implant use.

Title: Effects of Hearing Loss on Development

URL: www.asha.org/public/hearing/disorders/effects.htm

Description: This website provides information for students assigned to study an audiologist’s perspective on cochlear implant use.

Title: Voices of Deafness: Jon, 10, Student

URL: www.pbs.org/wnet/soundandfury/culture/voices-jon.html

Description: This PBS website provides the perspective of a pre-teen named Jon who has congenital hearing loss and received cochlear implants long after birth.

Title: Voices of Deafness: Sandee, Jon’s Mother

URL: www.pbs.org/wnet/soundandfury/culture/voices-sandee.html

Description: This PBS website provides the perspective of the parent of a pre-teen who has congenital hearing loss. It is to be used as a supplement to the “hard-of-hearing pre-teen role,” as the parent speaks about her son’s experience.

Title: Voices of Deafness: Alison, 13, Student

URL: www.pbs.org/wnet/soundandfury/culture/voices-alison.html

Description: This PBS website provides another perspective from a pre-teen named Alison who has congenital hearing loss and received cochlear implants long after birth.

Title: Voices of Deafness: Bobby Jo Duffy, 31, Teacher's Aide

URL: www.pbs.org/wnet/soundandfury/culture/voices-duffy.html

Description: This PBS website provides the perspective of a woman born with hearing loss who strongly identifies with the use of ASL (the manual language used by the Deaf community).

Supplemental Documents:

Title: Research Focus Questions

File Name: Research Focus Questions.doc

Description: This Word document contains a worksheet that students will complete using the web resources listed above, based on the role assigned to them by the teacher. The worksheet is designed to assess student understanding of information researched using web resources.

Step 5

Duration: 30 minutes

After students have completed their research, divide them into three groups, with each group containing at least one student representing each role. Lead the groups through the discussion using the "Research Focus Questions" completed by students in Step 4. Students do not have to come to a consensus about the use of cochlear implants, but each student should participate from the perspective of their assigned role. To assess student performance during the discussion, use the "Discussion Checklist." Before beginning the discussion, remind students about ground rules for productive and safe discussions. These ground rules may vary from class to class but should include attentive listening, no interrupting, no personal attacks, and no single person dominating the discussion.

Supplemental Documents:

Title: Discussion Checklist

File Name: Discussion Checklist.doc

Description: This Word document will be used by the teacher as a checklist to assess student participation in the cochlear implant discussion.

Title: Research Focus Questions

File Name: Research Focus Questions.doc

Description: This Word document will have been completed by students using the web resources listed in Step 4, based on the role assigned to them.

Title: Research Focus Questions Answer Key

File Name: Answer Key Focus Questions.doc

Description: This Word document contains the answer key for the "Research Focus Questions" worksheet. Although students will not be graded on the worksheet itself, the teacher can use this answer key to determine the accuracy of the information used by students in the discussion.

Conclusion

Duration: 10 minutes

Now that students have gained knowledge and perspective about the issues surrounding cochlear implants, have them express their opinions on the "Essential Question" by standing by the spectrum card that most closely matches their opinion. For three minutes, students will discuss the rationale for their choice in groups of three. Then, ask two or three students who changed their position or are still staunch advocates for their

previous position to explain their thinking to the class. If you are concerned about students being forced to share their opinions with the class, this activity may be used as an alternative: Students can write a short paragraph explaining their stance on cochlear implant use. You can then select and read these paragraphs aloud while keeping the writer anonymous.

A note to teachers: It is important for students to recognize that although this lesson focuses on the choice of cochlear implants vs. the choice of some people to remain in the Deaf community, the choices are not mutually exclusive. Some people in the Deaf community have cochlear implants. This is emphasized in the student research and discussion sections. However, please emphasize this point to students, ensuring that they understand the choices available by the end of the lesson.

Assessment

Students' understanding of the experience of being hard of hearing is informally assessed through the introductory discussion. Students' initial opinions about the issues relating to cochlear implants are assessed in Step 3 using the spectrum card activity. Formal assessment occurs in Step 5 using the "Research Focus Questions" and accompanying answer key. Students will only be graded formally on their performance in the discussion, but you can use the "Research Focus Question Answer Key" to determine the accuracy of students' arguments. Students' opinions about cochlear implants are assessed again in the conclusion using spectrum cards.

Modifications

Extension

For an extension on the topic of infant hearing loss, interested students can research infant screening programs offered in their state. Specifically, students will research their state's current relationship with CDC and the educational materials and services offered. Then, students could contact their local newborn screening program to obtain the most current information about newborn screening. This example extension shows activities in Washington state. Students will complete the "Washington Infant Screening" worksheet, which will be graded with the "Washington Infant Screening Answer Key." You may modify this activity for use in your own state, or may use Washington as an example. Additionally, CDC's Early Hearing Detection and Intervention (EHDI) program has a state profile website that provides information on various EHDI state programs across the United States.

Web Resources:

Title: CDC Cooperative Agreement Awardees (for EHDI)

URL: www.cdc.gov/ncbddd/ehdi/newstates.htm

Description: This CDC website shows the relationship between CDC's infant hearing screening program and each state.

Title: EHDI Educational Materials by State

URL: www.cdc.gov/ncbddd/ehdi/statesclearinghouse/default.htm

Description: This website links to each state's newborn hearing screening program website and displays materials they use. Teachers and students may learn about their state's program by using the links on this site.

Title: Washington Infant Screening Program

URL: <http://www.doh.wa.gov/ehsphi/phl/newborn/default.htm>

Description: This website informs students about infant screening programs available and not available in Washington and allows them to contact the Department of Health for more information. Students will visit this website to complete the extension activity.

Title: Washington Infant Screening Program

URL: www2a.cdc.gov/ncbddd/EHDI/sp/

Description: This website provides state profiles on EHDl programs across the United States.

Supplemental Documents:

Title: Washington Infant Screening Worksheet

File Name: Washington Infant Screening.doc

Description: This Word document will be completed by students as an extension of their learning about infant hearing loss.

Title: Washington Infant Screening Answer Key

File Name: Washington Answer Key.doc

Description: This Word document will be used to grade students' performance on the extension activity.

Other Modifications

To aid in note-taking for students who struggle with reading and writing, provide skeleton notes of the presentation for the students to complete.

Supplemental Document:

Title: Infant Hearing Skeleton Notes

File Name: Skeleton Notes.doc

Description: This Word document can be provided for students who struggle with note-taking and attentiveness during presentations. The skeleton notes are simply an incomplete version of the PowerPoint presentation for students to complete.

Education Standards

National Science Education Standards

SCIENCE AND TECHNOLOGY, CONTENT STANDARD E:

As a result of activities in grades 9–12, all students should develop

- **Abilities of technological design**
- **Understandings about science and technology**

SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES, CONTENT STANDARD F:

As a result of activities in grades 9–12, all students should develop understanding of

- **Personal and community health**
- Population growth
- Natural resources
- Environmental quality
- Natural and human-induced hazards
- **Science and technology in local, national, and global challenges**

State Standards

EALR 3.1.1: Analyze local, regional, national, or global problems or challenges in which scientific design can be or has been used to design a solution.

EALR 3.1.3: Evaluate consequences, constraints, and applications of solutions to a problem or challenge.

Hard of Hearing Experience Discussion Questions

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- 1. What did you find most difficult when you experienced hearing loss?**
- 2. How did your friends and other hearing students treat you in the lunchroom? Was this different than usual?**
- 3. How did you feel during and after lunch?**
- 4. Do you feel differently about people who have hearing loss now than you did before this experience? Why or why not?**

Research Focus Questions

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Name: _____

Assigned Role: _____

Directions: Playing the role that you have been assigned, answer the following questions. The information that you need may be found on the websites listed below. Please note that since each role has different amounts of information, some answers may not be available for your role. Just be as thorough as possible!

Advocate for manual communication:

www.pbs.org/wnet/soundandfury/cochlear/debate.html

Advocate for cochlear implants:

www.pbs.org/wnet/soundandfury/cochlear/debate.html

Teen with cochlear implant:

www.pbs.org/wnet/soundandfury/culture/voices-jon.html

www.pbs.org/wnet/soundandfury/culture/voices-alison.html

www.pbs.org/wnet/soundandfury/culture/voices-sandee.html

Special note: Please read Sandee's story about her son, Jon. You will visit Jon's site too, but Sandee gives more information about him.

Adult without cochlear implant:

www.pbs.org/wnet/soundandfury/culture/voices-duffy.html

Audiologist:

www.asha.org/public/hearing/disorders/effects.htm

www.asha.org/public/hearing/treatment/cochlear_implant.htm

1. What are the social, developmental, and psychological benefits of children having cochlear implants?

2. What are the social, developmental, and psychological costs of children having cochlear implants?

3. Who should receive a cochlear implant? Why?

4. Are cochlear implant recipients still part of the Deaf community? Why/Why not?

5. **In your opinion, what is the best solution for children born with congenital hearing loss? Why?**

Answer Key Research Focus Questions

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Note: Opinions of individuals interviewed on the websites and in the video are their own and are unique to their experiences. These opinions may or may not be based on recent scientific findings. In addition, the opinions of one deaf advocate or one advocate of cochlear implants may differ from those of other deaf advocates or advocates of cochlear implants.

These opinions do not necessarily represent the views of the Centers for Disease Control and Prevention.

1. What are the social, developmental, and psychological benefits of children having cochlear implants?

Advocate for cochlear implants:

- Majority of children with implants gain significant understanding of speech without reading lips, and gain significant ability to speak
- Greater overall connection to hearing world

Advocate for manual communication:

- Implants should be used along with ASL to realize the full social, developmental, and psychological benefits

Audiologist:

- No answer given

Hard-of-hearing pre-teens:

- Alison: Can communicate better with peers; no longer needs an aide to sign for her to communicate.
- Sandee (Jon's mom): Jon was able to go to mainstream school because of his implant, so he is more a part of the community of children with hearing as compared with children who were hard of hearing in earlier generations. Jon is part of the hearing community now, and doesn't feel that he needs to be a part of the Deaf community.
- Jon: No answer given.

Hard-of-hearing adult:

- No benefits of cochlear implants are given, only drawbacks.

2. What are the social, developmental, and psychological costs of children having cochlear implants?

Advocate for cochlear implants:

- None. (Advocate claims that loss of connection to deaf culture is because of the culture, not because of cochlear implants.)

Advocate for manual language (i.e., ASL):

- They are seen as a cure-all, perpetuating devaluative stereotypes of the Deaf community.
- Kids with implants who learn ASL do better on reading and math tests later on in schooling than kids who have implants but do not use ASL.
- The ability to hear sound does not guarantee acquisition of language.
- Without ASL, deaf children do not have an identity within their own culture and miss out on peers and adult role models because of cochlear implant use.

Audiologist:

- No answer given.

Hard-of-hearing pre-teens:

- Alison: Some friends who are hard of hearing now shun her.
- Jon: Despite implant, cannot hear as well as peers and needs extra attention from coach, for example, to understand instruction. The implant creates distracting background noise, and sometimes he just prefers silence.
- Sandee: Some members of deaf culture do not approve of the surgery.

Hard-of-hearing adult:

- It is difficult to truly understand and communicate with someone who has a cochlear implant when you do not.
- People who grow up in the Deaf community and then get implants did not understand the community in the first place. The community has a strong culture, and implant users are missing out on that culture.

3. Who should receive a cochlear implant? Why?

Advocate for cochlear implants:

- Cochlear implant use is a highly individual decision.
- No specific answer, except that the earlier the implantation, the better the results.

Advocate for manual communication:

- Cochlear implant use is a highly individual decision.
- No long-term studies prove that implants are effective for anyone.
- Anyone who receives an implant should also learn ASL simultaneously for maximum language acquisition.

Audiologist:

- Children as young as 14 months can receive implants.
- Children who receive cochlear implants and their families should exhibit the following characteristics:
 - Have profound hearing loss in both ears
 - Understand their role in using the implant successfully
 - Have realistic expectations for what the implant can do

- Be willing to undergo extensive rehabilitation
- Have support from educational programs

Hard-of-hearing pre-teens:

- Alison: No answer given.
- Sandee: The new generation of children who are hard of hearing need the opportunity to join the hearing community by receiving implants.
- Jon: No answer given.

Hard-of-hearing adult:

- No answer given.

4. Are cochlear implant recipients still part of the Deaf community? Why/Why Not?

Advocate for cochlear implants:

- Connection to deaf culture is very individual, whether someone receives an implant or not.

Advocate for manual language (i.e., ASL):

- Deaf culture is open to all individuals with hearing loss, whether they use ASL or not.

Audiologist:

- No answer given.

Hard-of-hearing pre-teens:

- Alison: yes, because she uses ASL.
- Sandee: No, Jon is not part of the "deaf world"; he is a member of the hearing community.
- Jon: Yes, because he still can't hear like everyone else.

Hard-of-hearing adult:

- No, cochlear implant users are not part of, nor do they understand, the Deaf community. They need to get a life and will be sorry for their decision.

5. In your opinion, what is the best solution for children born with congenital hearing loss? Why?

Advocate for cochlear implants:

- Early implantation of cochlear implants, paired with support from family, friends, and the educational system. Also, daily exposure to language is important. All of these measures will help children who having congenital hearing loss to maximize language development.

Advocate for manual communication:

- ASL is vital to rehabilitation and support of children and families because it maximizes language development and improves scores on reading and

math tests. Also, ASL gives children who are hard of hearing the opportunity to interact with peers and role models and to form an identity within the deaf culture.

Audiologist:

- Beginning services early is key. These services should include family-centered intervention to promote language and cognitive development.

Hard-of-hearing pre-teens:

- Alison: No answer given.
- Sandee: The current generation of children who are hard of hearing should be given the opportunity to try cochlear implants.
- Jon: No answer given.

Hard-of-hearing adult:

- Children who are hard of hearing should learn ASL and be exposed to the benefits of the strong Deaf community.

References:

1. www.pbs.org/wnet/soundandfury/cochlear/debate.html
2. www.asha.org/public/hearing/treatment/cochlear_implant.htm
3. www.asha.org/public/hearing/disorders/effects.htm
4. www.pbs.org/wnet/soundandfury/culture/voices-jon.html
5. www.pbs.org/wnet/soundandfury/culture/voices-alison.html
6. www.pbs.org/wnet/soundandfury/culture/voices-sandee.html
7. www.pbs.org/wnet/soundandfury/culture/voices-duffy.html

Discussion Checklist

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During the Discussion:

(___/5) Student responds to at least two of five questions posed by moderator.

(___/5) Student uses accurate information from web research in discussion.

(___/5) Student does not assert personal opinion into discussion.

(___/5) Student follows discussion ground rules introduced before discussion.

Total: (___/20pts.)

Extension: Washington State Infant Screening

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Directions: Use the provided websites to answer the questions below as thoroughly as possible.

Websites: www.cdc.gov/ncbddd/ehdi/newstates.htm
www.cdc.gov/ncbddd/ehdi/stateclearinghouse/washington.htm
www.doh.wa.gov/ehsphi/phl/newborn/default.htm

- 1. What level of funding does Washington have from CDC for EHDI programs? What does that level mean?**
- 2. What is the goal of statewide CDC funding for EHDI programs?**
- 3. What types of educational materials does Washington provide for parents and health care providers? What topics are covered in these materials?**
- 4. What services does the Washington State Office of Newborn Screening provide?**
- 5. List three disorders that infants are screened for in Washington.**
- 6. On the Washington State Department of Health website, congenital hearing loss is not mentioned as a screened-for disorder. How might you contact their office to get current information about infant hearing screening? What information would you ask for?**

7. **Now that you know how to contact them and what to ask for, go for it! Let me know what you find out!**

Extension: Washington Infant Screening Answer Key

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- 1. What level of funding does Washington State have from the CDC for EHDI programs? What does that level mean? (____/2 pts.)**

Washington is a Level One state, meaning that at the application of the EHDI program, they were in the process of or did not currently have a newborn hearing screening program.

- 2. What are the goals of statewide CDC funding for EHDI programs? (____/2)**

- Promote development of surveillance systems
- Help EHDI ensure that infants are screened for hearing loss, referred to specialists, receive hearing evaluations, and are enrolled in early intervention programs (if screening results are abnormal.)

- 3. What types of educational materials does Washington provide for parents and healthcare providers? What topics are covered in these materials? (____2)**

Materials: brochures, written guide, CD-Rom, poster

Topics: How infant screening works, what to do if infant has abnormal results, why infant screening is important, developmental milestones, where to get pediatric audiology services, degrees of hearing loss

- 4. What services does the Washington State Office of Newborn Screening provide? (____/4)**

- Monitoring birth records for completeness of screening
- Lab testing of newborn blood samples
- Advice to health care providers about treatment
- Communication and education about newborn screening program

- 5. List three disorders that infants are screened for in Washington. (____/3)**

Possible answers:

- Phenylketonuria (PKU)
- Congenital Hypothyroidism (CH)
- Congenital Adrenal Hyperplasia (CAH)
- Hemoglobinopathies (HB)
- Biotinidase Deficiency
- Galactosemia
- Homocystinuria

- Maple Syrup Urine Disease (MSUD)
- Medium Chain co-A Dehydrogenase Deficiency (MCAD)

6. On the Washington State Department of Health Web site, congenital hearing loss is not mentioned as a screened-for disorder. How might you contact their office to get current information about infant hearing screening? What information would you ask for? (____/2)

Contact Information: Washington State Newborn Screening
1610 NE 150th St.
Shoreline, WA 98155
(206) 418-5410
Email: NBS.Prog@doh.wa.gov

Information to request: Description of hearing screening services available
Current statistics of number of infants screened, results

7. Now that you know how to contact them and what to ask for, go for it! Let me know what you find out! (____/5)

Students should receive full credit for calling, emailing, or writing to the newborn screening department, regardless of response.

Total Points: ____/20

References

1. www.cdc.gov/ncbddd/ehdi/newstates.htm
2. www.cdc.gov/ncbddd/ehdi/statesclearinghouse/washington.htm
3. www.doh.wa.gov/ehsphi/phl/newborn/default.htm

Skeleton Notes for Infant Hearing Loss PowerPoint

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Slide 0: Title Slide

Slide 1: In today's presentation, we will learn facts and treatments or interventions of _____, as well as the issues related to _____.

Slide 2: Each year, _____ babies are born with _____. _____ percent of babies with congenital hearing loss are born to parents with _____ hearing! One third of hearing disorders are _____, one third are _____, and one third are _____.

Slide 3: What does it mean when a disorder is genetic? Answer: _____

There are _____ types of genetic infant hearing disorders. Infant hearing loss can be _____ or _____.

Syndromic means: _____

Non-syndromic means: _____

Slide 4: One third of the causes of infant hearing loss are _____.

Give three different non-genetic causes:

1. _____
2. _____
3. _____

The last one third of causes of hearing loss are _____.

Slide 5: Two pieces of technology that assist people who are hard of hearing are _____ and _____. How do hearing aids work?

Answer: _____

Surgery and _____ can be used as well. With all treatments and interventions, support from _____ is necessary to make treatments and interventions as effective as possible.

Slide 6: A cochlear implant provides _____ to the _____.

The auditory nerve senses _____ in your brain. Can people with cochlear implants hear like people with normal hearing? _____. What do people with cochlear implants hear and feel? Answer: _____

Slide 7: People with cochlear implants are often excluded from the _____ because _____. Another piece of the debate is that cochlear implants do not lead to _____, even in the best cases. Another debate between _____ and _____ is

about the cognitive development associated with _____. Both sides say that children will learn language better using their approach for communication (_____ or_____.)

Slide 8: The Deaf community is _____, _____, and not focused on _____. The Deaf community embraces _____ as its natural means of communication. Technological advances like the _____ cause tension about the _____ of the Deaf community.

Slide 9: Now consider this: If you were hard of hearing, would you want a cochlear implant? Why/Why not?