

Lesson plan for the patient who has a new cochlear implant.

The voice designation of “M/F” stands for “Male or Female” and means that the patient should train with the generic voice type that is the same sex as his or her FCP unless otherwise stated.

Note: Before beginning training, the patient’s FCP should record all of the training stimuli. Recording can be accomplished in a single recording session (which takes a little under 2 hours) or over the course of 3 recording sessions. If the FCP hasn’t recorded all of the stimuli, the missing words, phrases, or sentences will be replaced by generic recordings stored in the cLEAR™ software.

| Week | Games | Voices | Comments/Notes |
|------|---|----------------------------|----------------|
| 1 | * ShakespEARE * EARonaut, adjust noise to quiet | FCP FCP | |
| 2 | * ShakespEARE * TreasEAR Island | FCP FCP | |
| 3 | * EARonaut, adjust noise to quiet * MountainEAR | FCP FCP | |
| 4 | * MountainEAR * FarmEAR in the Dell | FCP FCP | |
| 5 | * FarmEAR in the Dell * TreasEAR Island | FCP FCP | |
| 6 | * pEARl Crunch, adjust noise to quiet * ShakespEARE | FCP M/F | |
| 7 | * EARonaut, in quiet * pEARl Crunch, adjust noise to quiet | M/F M/F | |
| 8 | * MountainEAR * FarmEAR in the Dell | M/F M/F | |
| 9 | * TreasEAR Island * ShakespEARE | M/F FCP and M/F | |
| 10 | * EARonaut, adjust noise to quiet * MountainEAR | FCP and M/F FCP and M/F | |
| 11 | * FarmEAR in the Dell * TreasEAR Island | FCP and M/F FCP and M/F | |
| 12 | * pEARl Crunch, adjust noise to quiet * Patient’s choice | FCP and M/F FCP and M/F | |

| | | |
|---------------|--|---|
| | <p>Play TreasEAR Island at least 10 minutes twice this week with your FCP's voice.</p> | <p>"You'll hear some noise in the background at first, which will make listening very difficult. However, very quickly, as you play the game, the noise will get softer until you are able to play with a relatively high level of accuracy."</p> <p>"One purpose of Treasure EARland is to increase your confidence in your ability to recognize words. Research has shown that when you doubt your ability to hear words correctly, you actually don't hear them as well as when you have high confidence in your ability. The mind becomes distracted by the doubt."</p> |
| Week 3 | <p>Play EARonaut at least 10 minutes twice this week with your FCP's voice in quiet.</p> | <p>"Remembering words is very important when you are listening to everyday conversations. When you hear a word, try to visualize which planet hides the corresponding picture."</p> <p>This game is designed to develop your auditory memory, which is your brain's ability to hang on to a word long enough for you to process its meaning. When you listen to conversations, your brain has to store the meaning of each word your cochlear implant delivers long enough to relate that word to the other words that occur in any given sentence.</p> |

| | | |
|---------------|--|---|
| | <p>Play MountainEAR about 10 minutes twice this week with your FCP's voice.</p> | <p>"If the noise seems to be getting louder, that means that you are actually getting better at listening in noise because the better you do, the more noise is introduced into the training task. The game is programmed to have more noise after you make consecutive correct answers and less noise after you make consecutive incorrect answers."</p> <p>"Playing MountainEAR may help you to recognize words more quickly, which is important when you are listening to connected speech. The typical talker of English speaks between 110 and 150 words per minute. This means that you must have good 'auditory processing speed' to understand speech, which is the brain's ability to quickly process the meaning of words."</p> |
| Week 4 | <p>Play MountainEAR at least 10 minutes twice this week with your FCP's voice.</p> | <p>"Sometimes you might be confused and not be able to decide which picture matches the word that you just heard. This is okay. This game will require that you make quick decisions about what you heard and sometimes this is hard to do."</p> <p>"Many people with hearing loss feel that they only can understand what their FCP says if the FCP speaks very slowly. Training with MountainEAR will exercise your ability to understand your FCP when the FCP speaks with a normal speaking rate."</p> |

| | | |
|---------------|--|---|
| | <p>Play FarmEAR in the Dell at least 10 minutes twice this week with your FCP's voice.</p> | <p>"You may find that some of the pictures are a little ambiguous and that it takes some thought to match the word that you hear with the pictures that you see. This ambiguity is intentional. Research has shown that when listening tasks which force the brain to focus on meaning and it requires the brain to think of different possibilities, learning occurs more quickly."</p> <p>"You may not realize this, but when you engage in everyday conversations, you tend to hear approximately 800 words over and over again, words like <i>boy</i>, <i>girl</i>, <i>table</i>, and <i>chair</i>. Many of the cLEAR games, including FarmEAR in the Dell, train your brain to recognize these commonplace words, as presented by your cochlear implant.</p> |
| Week 5 | <p>Play FarmEAR in the Dell at least 10 minutes twice this week with your FCP's voice.</p> | <p>"Try to ignore the noise and pay attention to which picture matches the word you've just heard. This activity will develop 'auditory attention', which is the brain's ability to focus on one auditory stimulus and ignore other auditory stimuli that are irrelevant and distracting."</p> <p>"By playing FarmEAR in the Dell, you are learning to recognize common words that occur frequently in everyday conversations with your FCP. Over time, this kind of training will make listening easier for you."</p> |

| | | |
|---------------|---|---|
| | <p>Play Treasure EARland at least 10 minutes twice this week with your FCP's voice.</p> | <p>"Listening in noise is often very challenging when wearing a cochlear implant. If the noise seems to be getting louder, that means that you are actually getting better at listening in noise because the better you do, the more noise is introduced into the training task. The game is programmed to have more noise after you make consecutive correct answers and less noise after you make consecutive incorrect answers."</p> <p>"Learning to discriminate and recognize words in the presence of background noise will increase your confidence to engage in social situations, such as eating out at restaurants. Treasure EARland exercises your word discrimination abilities and your ability to hear your FCP in noisy settings."</p> |
| Week 6 | <p>Play pEARl Crunch at least 10 minutes twice this week with your FCP's voice in quiet.</p> <p>Play ShakespEARE at least 10 minutes twice this week with a talker type that is the</p> | <p>"Even though you may be hearing better with your cochlear implant than you have heard in a very long time, you may not realize that you may not be attending to important word endings. When listening becomes difficult, the brain tends to pay less attention to word endings. Training with pEARl Crunch will exercise your auditory attention and lead you to pay more attention to word endings."</p> <p>"Play this game with the generic voice option that matches the sex of your FCP the</p> |

| | | |
|---------------|--|--|
| | <p>same sex as your FCP and then a talker type that is the opposite sex of your FCP.</p> | <p>first day that you play. On the second day of the week that you play, try playing with the generic voice option that matches the opposite sex of your FCP. Do you find male or female voices easier to recognize, or, are they about the same?"</p> |
| Week 7 | <p>Play EARonaut at least 10 minutes twice this week with a talker type that is the same sex as your FCP and then a talker type that is the opposite sex of your FCP.</p> <p>Play pEARl Crunch at least 10 minutes twice this week with the talker type that is the same sex as your FCP with the noise adjusted to quiet.</p> | <p>"Play this game with the generic voice option that matches the sex of your FCP the first time you play and then play it with the generic voice option that matches the opposite sex of your FCP, all on the same day. Alternate back and forth between talker types. Do you perform better with one type of voice than the other? Do you find one type of voice "easier" to hear? If so, you are probably using less mental effort to remember the words because that particular voice type is easier to hear."</p> <p>"pEARl Crunch forces you to pay attention to those endings of words that add subtle meaning, such as the plural "s" in the word <i>boys</i> or the negative "n't" in the word <i>can't</i>. These endings are often hard to hear and easy to ignore."</p> <p>"During every day listening, we tend to listen for the 'meat' of the word and not subtle nuances. For instance, we often do not distinguish between the words <i>smile</i> and <i>smiles</i>. This game forces you to pay attention to word endings. Think about it: There's a big difference between, "I <i>can</i> pick you up from the airport" and "I <i>can't</i> pick you up from the airport."</p> |

| | | |
|----------------------|---|--|
| <p>Week 8</p> | <p>Play MountainEAR at least 10 minutes twice this week with a talker type that is the same sex as your FCP and then a talker type that is the opposite sex of your FCP.</p> <p>Play FarmEAR in the Dell at least 10 minutes twice this week with a talker type that is the same sex as your FCP the first day of the week that you play and then a talker type that is the opposite sex of your FCP on the second day of the week that you play.</p> | <p>“Play this game with the generic voice option that matches the sex of your FCP the first time you play and then play it with the generic voice option that matches the opposite sex of your FCP, all on the same day. Alternate back and forth between talker types. Do you perform faster with one type of voice than the other? Do you find one type of voice “easier” to hear? If so, you are probably using less mental effort to recognize the words quickly because that particular voice type is easier to hear.”</p> <p>“Research has shown that by training with “multiple talkers”, or voices of different people speaking the same words, you will learn to recognize the words better in everyday conversations. Playing FarmEAR in the Dell with both male and female generic voices will help you to recognize commonplace words better in everyday conversations.”</p> |
| <p>Week 9</p> | <p>Play Treasure EARland at least 10 minutes twice this week with a talker type that is the same sex as your FCP the first day of the week that you play and then a talker type that is the opposite sex of your FCP on the second day of the week that you play.</p> <p>.</p> | <p>“Even though this game is designed to develop your phoneme discrimination, which is your ability to decide whether two sounds are the same or different, it is also developing your ability to focus on the meaning of words and developing your sense of self-confidence in your listening abilities.”</p> |

| | | |
|----------------|--|--|
| | <p>Play ShakespEARE at least 10 minutes twice this week, alternating between your FCP's voice and the voices of the generic talkers of the same sex as your FCP.</p> | <p>"Sometimes, people with a cochlear implant will have a difficult time distinguishing people's voices, especially if two talkers are of the same sex. By paying attention to the rhythm and cadence of a talker's speech, you will begin to notice subtle differences in speaking style. Try to pay attention to how the speech of your FCP differs from that of another talker of the same sex."</p> <p>"The reason you are switching between playing with your FCP's voice and the speech of the generic talker is that by doing so, you can directly compare the differences. These "back to back" comparisons will allow you to distinguish when your FCP is talking and when someone else of the same sex is talking, even if you are not looking at the talker."</p> |
| Week 10 | <p>Play EARonaut at least 10 minutes twice this week. Play several rounds with the generic voice type that is the same sex as your FCP and then play several rounds with your FCP's voice.</p> | <p>"Do you find that you remember words more easily when you are playing with the voice of your FCP? This is known as the "familiarity effect", meaning that we tend to require less mental effort to remember words when they are spoken by someone who is familiar than when they are spoken by someone who is unfamiliar."</p> |

| | | |
|----------------|--|---|
| | <p>Play MountainEAR at least 10 minutes twice this week. Play several rounds with the generic voice type that is the same sex as your FCP and then play several rounds with your FCP's voice.</p> | <p>"Try playing MountainEAR with your FCP's voice. After several trials, then play MountainEAR with the voice of talkers of the same sex as your FCP. Do you find that you recognize words faster with your FCP's voice? Does it seem easier to recognize the words when they are spoken by your FCP? Familiarity of the talker has a very positive effect upon your ability to quickly recognize speech."</p> |
| Week 11 | <p>Play FarmEAR in the Dell at least 10 minutes twice this week. Play several rounds with the generic voice type that is the same sex as your FCP and then play several rounds with your FCP's voice.</p> <p>Play Treasure EARland at least 10 minutes twice this week. Play several rounds with the generic voice type that is the same sex as your FCP and then play several rounds with your FCP's voice.</p> | <p>"This game exercises your ability to recognize fine distinctions between rhyming words. With this kind of practice, you will begin to distinguish between such words as <i>ring</i> and <i>sing</i> and between <i>pen</i> and <i>men</i>."</p> <p>"Do you notice a difference in your confidence level when you are listening to the speech of your FCP versus the speech of generic talkers of the same sex?"</p> <p>"Even though this game is designed to develop your phoneme discrimination, which is your ability to decide whether two sounds are the same or different, it is also developing your ability to focus on the meaning of words and developing your sense of self-confidence in your listening abilities."</p> |
| Week 12 | <p>Play pEARl Crunch at least 10 minutes twice this week. Play several rounds with the generic voice type that is the same sex as your FCP and then play several rounds with your FCP's voice.</p> | <p>"You may not notice a difference in how well you play when you are playing with your FCP's voice versus the voice of generic talkers. This is because word endings are so brief that they lack "personality". This is</p> |

| | | |
|--|--|---|
| | <p>You choose a game, but play with the voice of your FCP.</p> | <p>a good exercise because you are learning to focus your attention selectively.”</p> |
|--|--|---|