

Lesson plan for the patient with a new hearing aid

Week	Games	Voices	Comments/Notes
1	* pEARl Crunch, in quiet * EARonaut, in quiet	Male Male	
2	* ShakespEARe * pEARl Crunch, in light noise	Male Female	
3	* EARonaut, in light noise * MountainEAR	Female Male	
4	* MountainEAR * FarmEAR in the Dell	Female Male	
5	* FarmEAR in the Dell * Treasure EARland	Female Male	
6	* Treasure EARland * pEARl Crunch, in moderate noise	Female All types	
7	* EARonaut, in moderate noise * ShakespEARe	All types All types	
8	* MountainEAR * FarmEAR in the Dell	Child Child	
9	* Treasure EARland * EARonaut, in high noise	Child All types	
10	* pEARl Crunch, in high noise * MountainEAR	All types All types	
11	* FarmEAR in the Dell * Treasure EARland	All types All types	
12	* pEARl Crunch, in high noise * Patient's choice	All types Patient's choice	

		<p>“Female voices are often harder to hear than male voices. Many times a new hearing aid will make female voices easier and more pleasant to hear. Try playing a few rounds with your hearing aids turned off and then play a few rounds with your hearing aids turned on. Do you notice a qualitative difference in how the voices sound?”</p>
Week 3	<p>Play EARonaut at least 10 minutes twice this week with a female talker in light noise.</p> <p>Play MountainEAR about 10 minutes twice this week with a male talker.</p>	<p>“Female voices are particularly difficult to hear in background noise, even when you have optimally-fitted hearing aids. Try playing a few rounds of EARonaut with the noise bar set to quiet. Over the next rounds of the game, gradually increase the level of background noise and try to determine the maximum amount of noise that can be present during the game and yet allow you still to hear the female voice. You might find that you are using a lot more ‘mental effort’ when you are listening in noise than when you are listening in quiet. This is a very natural phenomenon.</p> <p>“This game may help you to recognize words 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> <p>“This game may help you to listen more effectively in the presence of background noise because it forces you to pay attention</p>

		<p>to the target word and ignore competing speech.”</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 perform, the more noise is introduced into the training task. The game is programmed to add more noise after you make consecutive correct answers and less noise after you make consecutive incorrect answers.”</p>
Week 4	Play MountainEAR at least 10 minutes twice this week with a female talker.	<p>“Listening to talkers in a noisy environment can take some adjusting when you have a new hearing aid. You might find that you are more aware of background sounds and that you are hearing some sounds that you had not noticed before. cLEAR auditory training will accelerate the adjustment phase.”</p> <p>“Hearing aids can help you to recognize words faster because your brain can allocate more mental resources to understanding the meaning of the word as opposed to simply trying to figure out what word your ears just heard. Try playing a few rounds with your hearing aid turned on and then play a few rounds with your hearing aids turned off. Do you notice a difference in your speed of responding? ”</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 add more noise after you make consecutive correct answers and to</p>

	<p>Play FarmEAR in the Dell at least 10 minutes twice this week with a male talker.</p>	<p>subtract noise after you make consecutive incorrect answers.”</p> <p>“cLEAR teaches you to recognize common words that occur frequently in everyday conversation. Over time, this kind of training will make listening easier for you.”</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 add more noise after you make consecutive correct answers and to subtract noise after you make consecutive incorrect answers.”</p>
Week 5	<p>Play FarmEAR in the Dell at least 10 minutes twice this week with a female talker.</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>“Hearing aids often improve people’s confidence in their listening skills. Try playing a few rounds of the game with your hearing aids turned on and then play a few rounds with your hearing aids turned off. Do you notice a difference in how confident you feel about your responses? Do you bet more coins when the hearing aids are turned on?”</p>

	Play Treasure EARland at least 10 minutes twice this week with a male talker.	<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 6	Play Treasure EARland at least 10 minutes twice this week with a female talker.	<p>“This game may help you learn to recognize common, everyday words more easily. This is important because during everyday conversations, we tend to speak and hear many of the same words over and over again. For example during a typical day, you are likely to hear someone say the words <i>girl</i>, <i>boy</i>, <i>table</i>, and <i>chair</i>. These are all examples of ‘frequently spoken words’.”</p> <p>“Female voices are often harder to hear than male voices. Many times a new hearing aid will make female voices easier to understand and more pleasant to hear. Try playing a few rounds with your hearing aids turned off and then play a few rounds with your hearing aids turned on. Do you notice a qualitative difference in how the voices sound when listening with the aids versus without the aids?</p> <p>“Try playing a few rounds of the game with your hearing aids turned off and then a few rounds with your hearing aids turned on. You will likely find that the different talkers are much more distracting to your performance when your hearing aids are turned off than when they are turned on. One advantage of using hearing aids is that they allow you to better acclimate to the speech of ‘multiple talkers’.”</p>

	<p>Play pEARL Crunch at least 10 minutes twice this week with all types of talkers in moderate noise.</p>	<p>“Even though listening to all types of talkers is more difficult than listening to a single type of talker, such as a male voice, research has shown that training with all types mixed together leads to faster learning and to better generalization into everyday listening than does training with a single talker type.”</p> <p>“You can determine what is “moderate noise”. Start by playing the game in quiet. On the second trial, bump up the noise just a little. On each subsequent trial, bump up the noise just a little more until you reach a point where you are getting between three and four pearls for every necklace. Do not move the bar again but train at this noise level.”</p>
Week 7	<p>Play EARonaut at least 10 minutes twice this week with all types of talkers in moderate noise.</p>	<p>“You can determine what is ‘moderate’ noise. Start by setting the noise bar to its midway setting. If this makes it too difficult to hear the words, decrease the noise where you can hear the talkers, but you are still aware of noise. If in the midway setting, you can still easily hear the talkers, adjust the noise to be louder. During this process, you will not only exercise your ‘auditory attention’, or the brain’s ability to focus on a single speech stimulus, but you will also develop an awareness of the levels of noise that you can tolerate. This awareness will be helpful when you have to assess whether you will have to make accommodations for a particular setting, such as asking for a quiet section of a noisy restaurant.”</p>

	<p>Play ShakespEARE at least 10 minutes twice this week with all types of talkers.</p>	<p>“Try to ignore the sound of the talkers’ voices and to focus on the meaning of the sentences that they are speaking. This will develop your ability to understand spoken stories.”</p> <p>“At first you may have a hard time remembering which sentence came first, second, third, fourth and fifth. Try to get at least three sentences in the correct order for each paragraph.”</p>
Week 8	<p>Play MountainEAR at least 10 minutes twice this week with a child talker.</p> <p>Play FarmEAR in the Dell at least 10 minutes twice this week with a child talker.</p>	<p>“The voices of children are typically more difficult to understand than those of adults, especially for people who have hearing loss. This is because children’s voices have a high pitch and people with hearing loss often lose their ability to hear high pitches. In addition, some children do not enunciate their words as clearly as adults do, so they might sound as if they are mumbling.”</p> <p>“Background noise will make children’s voices especially difficult to understand. This is because children tend to talk more softly than adults and because noise is especially detrimental to high pitched voices.”</p> <p>“Children’s voices are often the most difficult types of voices to hear. Try playing a few rounds of the game with your hearing aids turned on and then play a few rounds with them turned off. Do you notice a difference in how the voices sound?”</p>

	<p>Play MountainEAR at least 10 minutes twice this week with all types of talkers.</p>	<p>training is getting too easy, turn up the noise.”</p> <p>“You may not realize it, but you will likely be just a little bit slower in playing this game now that you are playing with many types of voices. The reason for this is that when you listen to multiple talker types, the brain has to use more ‘mental effort’ to process the meaning of words than when you listen to the same talker type speak the words. As a result of increased mental effort, the brain has to take more time to process meaning, and this will slow down your response time.”</p>
Week 11	<p>Play FarmEAR in the Dell at least 10 minutes twice this week with all types of talkers.</p> <p>Play Treasure EARland at least 10 minutes twice this week with all types of talkers.</p>	<p>“Training with all types of talkers is the most difficult training task. However, research shows that training with a mix of talker types is most effective in training the brain to recognize common, everyday words.”</p> <p>“Playing with all types of talkers is more effortful than playing with a single type of talker. Try playing a few rounds with your hearing aids turned off and then play a few rounds with your hearing aids turned on. Do you feel more relaxed when you are playing with your hearing aids turned on? One goal of Treasure EARland is to reduce the amount of mental effort you need to recognize speech.”</p>

