



# An Aural Rehabilitation Tool for an Instant-Fit Hearing Aid: Part 1

Robert M. Ghent, Jr.

Victor H. Bray, Jr

Merritt Johns

## ABSTRACT

Aural or audiologic rehabilitation has demonstrated increased patient satisfaction with hearing aids. The advent of instant-fit hearing aids results in fewer patient visits and, consequently, may reduce opportunities for individual counseling. The present study looks at the impact of an audiologic rehabilitation program in the form of a mailer to be delivered post-fitting, at intervals over a four-week period, to individuals fit with an instant-fit hearing aid. Outcome measures will be obtained on several self-assessment instruments.

## INTRODUCTION

A general definition of rehabilitation is the process of helping an individual overcome the handicap associated with a physical, social, or psychological impairment. Emphasis is placed on the difference between handicap and impairment in this definition. As clinicians, we cannot make the impairment go away. Instead, we aim to reduce the handicap imposed by an impairment through teaching affected individuals about the various resources at their disposal and facilitating their use of these resources.

Aural or audiologic rehabilitation (AR) is the process of mitigating the communication handicap associated with hearing impairment. In the vast majority of cases, hearing aids are an important resource in this process. However, the AR process to which audiologists are exposed in most dispensing practices is very different from the one they learned in school. Once again, note the emphasis: Dispensing practices must sell hearing aids in order to stay viable. Quite often the detailed and rigorous AR programs based on assessment and training are viewed as non-essential, or even detrimental to this business model. In some cases, the dispensing of a hearing aid and the brief counseling on use and care is the extent of the AR received by the patient.

Besides the clinical and ethical requirements for AR, there are compelling business reasons to incorporate more extensive counseling and training into an audiology practice. Data published by Northern and Beyer<sup>1</sup> show a 3% return-for-credit (RFC) rate among purchasers of hearing aids who attended AR classes provided by the dispensing practice as opposed to a 9% RFC rate among those who did not attend a class. A study reported by Kochkin<sup>2</sup> revealed that 67% of new hearing aid users received less than one hour of counseling while user satisfaction for these individuals was less than 60%. Those who received an hour or more counseling reported satisfaction rates of 65% and greater. This same study looked at the efficacy of a "proxy-counseling" program whereby the book *Consumer Handbook on Hearing Loss and Hearing Aids: A Bridge to Healing*<sup>3</sup> was used for at-home study during each patient's 30-day trial period. The results show a 3.3% RFC rate for those who followed the program as compared to a 47% RFC rate for those who did not.

## CONFORMA™ INSIGHT

The CONFORMA 2 SE hearing aid is a non-custom, instant-fit device incorporating the same digital signal processing (DSP) as the NATURA™ 2 SE, including Personalized Noise Reduction™ technology.<sup>4, 5, 6</sup> Among the attractive features of an instant-fit hearing aid like CONFORMA 2 SE are the fewer number of office visits required to fit the device. Some clinicians will see the time saved fitting the device as an opportunity to provide more counseling. On the other hand, less time with each patient may result in too little

intervention.

CONFORMA INSIGHT is a proxy-counseling program, developed independently from the one described by Kochkin,<sup>2</sup> that incorporates program elements from Wayner and Abrahamson.<sup>7</sup> CONFORMA INSIGHT is designed to be delivered to CONFORMA 2 SE wearers at regular intervals following the fitting. Comprised of three volumes, each contains communication strategies, listening exercises, and use and care tips. Appropriate expectations are established through discussions about hearing loss, the limitations of amplification, and reassuring counsel about the difficulties a hearing-impaired person may experience.

## VOLUME 1

The first volume is delivered at the time of the fitting, or it can be mailed to the patient within the first week following the fitting. The focus of Volume 1 is reaction and the theme is awareness of new sounds. There is a review of what causes hearing loss, basic hearing aid use and care reminders, and acknowledgment that some situations will be challenging and will require patience. The listening exercises on Page 4 proceed in a step-wise fashion, and are designed to ease the new hearing aid wearer into comfortable, consistent hearing aid use.

## VOLUME 2

The second volume, ideally, should be delivered to the patient in person during the first follow-up visit, or it can be mailed to the patient during the second week of the trial period. The focus of Volume 2 is interaction and the theme is awareness of factors that affect communication. The patient is made cognizant of how the signal source and the listening environment interact to enhance or detract from effective communication. The listening exercises require the patient's direct involvement in interacting with their primary listening environments.

## VOLUME 3

The third volume is delivered during the third week post-fitting. Again, personal delivery is recommended as it keeps the patient in contact with the clinician and fosters a strong professional relationship. Volume 3's focus is proactive and the theme is taking control of one's communicative situations. The listening exercises are detailed and provide specific suggestions for taking advantage of resources and opportunities to maximize communication in challenging situations.

**CONFORMA INSIGHT** VOLUME ONE

**ON BEHALF** of your hearing care professional and SONIC Innovations, thank you for choosing CONFORMA 2 SE. We are confident that CONFORMA 2 SE will delight you today and keep you as your retirement while providing activities in your world. CONFORMA 2 SE features innovative design, advanced sound processing, and Personalized Noise Reduction. In the smallest, most comfortable sound digital hearing aid that is customized for your hearing loss in your first office visit.

To help you maximize the benefit of using CONFORMA 2 SE, you will receive two additional issues of CONFORMA INSIGHT over the next month. This publication is designed to help with the rehabilitation of your hearing while using CONFORMA 2 SE. You may also want to visit our web site at [www.sonicci.com](http://www.sonicci.com) for additional information about hearing rehabilitation.

Sincerely,  
SONIC Innovations

**HIGHLIGHTS:**  
HEARING REHABILITATION EXERCISES PAGE 2  
USING CONFORMA 2 SE PAGE 3

**HEARING REHABILITATION**

With every issue of CONFORMA INSIGHT, you will provide a special section that focuses on hearing rehabilitation or the process of regaining better communication. Several clinical studies indicate that people who follow a guided training program realize a smoother, more satisfactory transition to using amplification.

**HEARING REHABILITATION**

Beginning to use CONFORMA 2 SE is also the beginning of a new process of rehabilitating your hearing. People adjust to this change at different rates. Sometimes hearing loss is caused because of too few thousands of tiny hair cells in the cochlea in your ear. As a result, your auditory system may become accustomed to having less sensitivity at certain frequencies. Your hearing care professional has finely tuned CONFORMA 2 SE's independent channels to compensate for the hair cells, and your auditory system needs time to adapt to the specially designed sound processing. In the meantime, it's important to be aware that some listening environments may seem a little challenging while you adapt to CONFORMA 2 SE.

**HERE ARE A FEW THINGS TO REMEMBER WHILE YOU WEAR CONFORMA 2 SE:**

1. Wear CONFORMA 2 SE as much as possible, but remember to be easy on yourself. It takes time to become comfortable with the way a new hearing instrument feels in your ear.
2. You may find certain situations to be somewhat challenging at first. Fortunately, your CONFORMA 2 SE utilizes Personalized Noise Reduction that has been customized for your particular loss. This noise reduction system helps reduce many unwanted background noises. You may, however, continue to find certain listening conditions difficult, such as rooms with poor acoustics or crowded party-like situations. If you are a new user of hearing aids, listening to background noise may become easier as you adapt to CONFORMA 2 SE. Keep in mind that people with normal hearing have difficulty understanding speech in these difficult listening environments. You may prefer to avoid difficult listening environments at home where the noise level is generally lower.
3. Be patient. Researcher after your brain is adapting to sounds it has become accustomed to your hearing.

Please go to page 4 for more listening exercises . . .

**USING CONFORMA 2 SE**

Insert your issue of CONFORMA INSIGHT, we will cover important techniques for maintaining CONFORMA 2 SE. For more details, please see your User's Guide or contact your hearing care professional.

**INSERT CONFORMA 2 SE INTO THE EAR CANAL**

1. ONE: Prepare the soft shell with your fingers.
2. TWO: With the rounded end on the bottom, guide the soft shell end into your ear canal.
3. THREE: When it is in the canal, lightly pull on your earlobe and press the hearing instrument in place. CONFORMA 2 SE with shell will mold comfortably to the size and shape of your ear canal.

If you experience irritation, inflammation, or pain when inserting CONFORMA 2 SE, immediately contact your hearing care professional.

**REPLACE CONFORMA 2 SE'S DISPOSABLE SOFT SHELL**

It is recommended that you change the soft shell at least once a week, more often if you experience rapid swelling. Even if you are wearing CONFORMA 2 SE in occasion, to remove the soft shell, grasp the CONFORMA 2 SE instrument carefully between your thumb and forefinger and pull off the disposable soft shell with your other hand. Do not hold by the battery door. This can damage your hearing instrument.

To insert the CONFORMA 2 SE instrument into a newly disposable soft shell, hold it between your thumb and forefinger. The soft shell pull cord should be directly behind the battery door. Gently slide a new soft shell over the narrow end of the hearing instrument and push it into the place. The edge of the soft shell should be flush with the areas of the instrument.

**LISTENING EXERCISES**

ONE OF THE KEYS to a successful hearing rehabilitation process is to be aware of your comfort in different listening environments. While today you may find some listening environments to be uncomfortable, with persistence they will gradually become more comfortable. Each issue of CONFORMA INSIGHT will feature listening exercises to help you become more at ease in listening environments you may find difficult at first.

**EASIER**

- While wearing CONFORMA 2 SE, speak with a single person in a quiet room. Practice listening to the person in different places and at varying distances.

**MODERATE**

- Speak with a single person in a room, such as a kitchen, where there are some background noises.

**DIFFICULT**

- Engage in conversation in a quiet room with two, three or four other people.
- Try listening to TV in a quiet room. Try listening to the radio and TV when it has been adjusted to comfortable listening levels by a person without a hearing loss.
- Wear CONFORMA 2 SE inside in a quiet place (bedroom). The goal is to become accustomed to wind noise.
- Try using CONFORMA 2 SE at church, a lecture, or a play. Sit as close to the person talking as possible; the first time. Next time, try listening at a distance.

**WORLD HEADQUARTERS**  
2795 East Centennial Parkway  
Salt Lake City, Utah 84121-7036  
Tel: Fax: (888) 678-1648 (4327)  
Fax: (801) 965-3000

**IN EUROPE**  
Sonic Innovations, Ltd.  
Hemel Hempstead, Herts  
HP1 2PS, UK  
Surrey, Surrey  
Phone: +44 1474 52 25 50  
Fax: +44 1474 52 25 44

[www.sonicci.com](http://www.sonicci.com)

Figure 1. CONFORMA INSIGHT, Volume 1

**CONFORMA INSIGHT** VOLUME TWO

**WELCOME** to your second issue of CONFORMA INSIGHT. Now that you have worn CONFORMA 2 SE for some time, you have likely recognized that some listening situations are more challenging than others. While this experience is normal, there are several listening techniques that you can use to make these situations more comfortable. These techniques are discussed in the "Hearing Rehabilitation" article in this issue.

Thank you for purchasing CONFORMA 2 SE for making the commitment to rehabilitating your hearing.

Sincerely,  
SONIC Innovations

**HIGHLIGHTS:**  
HEARING REHABILITATION EXERCISES PAGES 1-2  
CONFORMA 2 SE MAINTENANCE PAGE 3  
REPLACING THE BATTERY PAGE 4

**HEARING REHABILITATION**

By purchasing CONFORMA 2 SE, you took the most important step in improving your ability to communicate. Your hearing care professional programmed CONFORMA 2 SE for your specific hearing loss. But other factors influence the ease or difficulty of listening.

**THE SPEAKER**

Some people are simply easier to understand than others. The pitch of their voice, how fast they talk, and your familiarity with their accent may influence your ability to understand. Some are easier to "figure out" than others because of the consistency of their mouth and their facial expressions. For most people with hearing loss, higher pitched voices like women and children, and fast talkers are the most difficult to understand.

**POINTS TO REMEMBER**

1. ONE: When faced with a consistently challenging listening situation, recognize your personal listening limitations to influence your hearing.
2. TWO: Remember that in noisy environments, even individuals with normal hearing have a difficult time understanding speech.
3. THREE: If understanding speech is difficult in a certain environment, look for consistent changes in the environment. Move closer to the speaker or move to a quieter place.
4. FOUR: Be patient. Researcher after your brain is adapting to sounds it has become accustomed to your hearing.

**THE LISTENING ENVIRONMENT**

Listening in one person in a quiet room remains easier than listening to a group of people sitting at a table in a noisy room. Fortunately, your CONFORMA 2 SE utilizes Personalized Noise Reduction that has been customized for your particular loss. This noise reduction system helps reduce many unwanted background noises. You may, however, continue to find certain listening conditions difficult, such as rooms with poor acoustics or crowded party-like situations. If you are a new user of hearing aids, listening to background noise may become easier as you adapt to CONFORMA 2 SE. Keep in mind that people with normal hearing also have difficulty in understanding speech in these difficult listening environments.

**REPLACING THE BATTERY**

CONFORMA 2 SE uses a Plus size battery. Battery life varies based on your hearing program, listening environment, and length of daily use. The typical CONFORMA 2 SE user should expect about 3 days of battery life.

As an indication that a battery is low, you will hear a series of brief tones. Should this occur, simply replace the battery. The volume of these tones is adjustable and your hearing care professional can set to the appropriate level for you.

If you wear two CONFORMA 2 SE instruments, we recommend that when you change the battery in one instrument you also replace the other.

Remove the tab on the size of the battery before inserting it into the hearing instrument. Insert the battery so the "+" sign matches the "+" sign imprinted on the battery door. Close the battery door.

**NOTE: Batteries are small and can be harmful if swallowed. Keep batteries out of the reach of children and pets. In case of an injury, contact physician or call the National Battery Recollection Hotline toll-free at (800) 625-2333.**

**CLEANING THE CONFORMA 2 SE INSTRUMENT**

With the battery door closed and the soft shell removed, grasp gently the core with a lint-free cloth (see pg. 4).

**CLEANING THE SOFT SHELL**

With the soft shell on the CONFORMA 2 SE, use the cloth to gently remove ear wax and other debris from the shell. Do not use an abrasive brush or any liquid (including water), as it will damage the soft shell (see pg. 4). It is recommended that you change the soft shell at least once a week, more often if you experience rapid swelling. Even if you are wearing CONFORMA 2 SE in occasion.

**WORLD HEADQUARTERS**  
2795 East Centennial Parkway  
Salt Lake City, Utah 84121-7036  
Tel: Fax: (888) 678-1648 (4327)  
Fax: (801) 965-3000

**IN EUROPE**  
Sonic Innovations, Ltd.  
Hemel Hempstead, Herts  
HP1 2PS, UK  
Surrey, Surrey  
Phone: +44 1474 52 25 50  
Fax: +44 1474 52 25 44

[www.sonicci.com](http://www.sonicci.com)

Figure 2. CONFORMA INSIGHT, Volume 2

**CONFORMA INSIGHT** VOLUME THREE

**WELCOME** to your third issue of CONFORMA INSIGHT. By now you are far along in the process of rehabilitating your hearing. While CONFORMA 2 SE played an important role in this process, ultimately it is your own efforts that made the difference.

If you have listening techniques or other activities you use to improve your hearing with CONFORMA 2 SE, please share them with your hearing care professional.

Thank you for purchasing and using CONFORMA 2 SE.

Sincerely,  
SONIC Innovations

**HIGHLIGHTS:**  
LISTENING EXERCISES PAGES 2-3  
MAXIMIZING PERFORMANCE PAGE 3

**HEARING REHABILITATION**

By taking a few simple steps, you will be able to reduce the communication challenges that accompany hearing loss.

1. **Observe the talker:** What can we see complement what you hear?
2. **Pay attention:** Concentrating on what is being said can improve your comprehension.
3. **Make specific requests:** If you do not understand what was said, it is better to ask a person to slow down or rephrase a comment than to say, "What?"
4. **Provide confirmation:** Confirm key points of the discussion to prevent misunderstandings.
5. **Set realistic expectations:** Some situations are just too noisy to expect to be clear—even for people without a hearing loss.

**LISTENING EXERCISES**

1. ONE: Think about an upcoming event, like a meeting at work, a church gathering, or a social function. Choose a situation in which you really want to hear better. Consider what elements of that situation might make it harder for you to hear, even with CONFORMA 2 SE.

**A FEW QUESTIONS YOU MIGHT ASK:**

- "What is the noise level here?"
- "Is the speaker talking fast?"
- "Will I always be here?"
- "Does the person with whom I will be talking have a high-pitched or soft voice?"

**MAKE A LIST** of the things that may make it a difficult listening situation:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_

**THREE:** At the time of the event, think about each of the situations you read. Which ones worked? Which ones did not? Describe how you did. If something did not help, what can you do differently in the future? Did you anticipate all of the potential problems? If so, what did you do to make understanding easier?

**MAXIMIZING PERFORMANCE**

**USING THE PHONE**

Place the telephone handset lightly against your ear. Be careful to not completely cover your ear. Your ear can be completely covered, reducing sound (called feedback) that may occur. If feedback does occur, move the handset slightly away from your ear or change the angle of the phone until the whistling stops.

**OPTIMIZING YOUR HEARING**

Occasional use of CONFORMA 2 SE is acceptable, however, consistent use allows you to obtain full benefit from your CONFORMA 2 SE. Your CONFORMA 2 SE has been precisely customized to fit your hearing needs. If you feel your program needs modification, your hearing care professional can make adjustments to maximize the effectiveness of CONFORMA 2 SE. Your hearing care professional can also assist you with additional hearing rehabilitation techniques if necessary. No hearing aid completely restores normal hearing, but can it prevent or improve hearing impairment caused by a regressive condition.

**PRESERVING THE BATTERY**

If your hearing aid is not in use, open the battery compartment door to prevent battery drain and to avert the risk. Always remove the battery if your hearing aid is not going to be used for a long period of time.

**WORLD HEADQUARTERS**  
2795 East Centennial Parkway  
Salt Lake City, Utah 84121-7036  
Tel: Fax: (888) 678-1648 (4327)  
Fax: (801) 965-3000

**IN EUROPE**  
Sonic Innovations, Ltd.  
Hemel Hempstead, Herts  
HP1 2PS, UK  
Surrey, Surrey  
Phone: +44 1474 52 25 50  
Fax: +44 1474 52 25 44

[www.sonicci.com](http://www.sonicci.com)

Figure 3. CONFORMA INSIGHT, Volume 3

## PRESENT STUDY

A study is currently underway at **SONIC innovations** to evaluate the efficacy of the CONFORMA INSIGHT program. Twenty hearing-impaired individuals who have never worn hearing aids are participating in the study. Fittings have been accomplished on several subjects to-date. The protocol requires that the subjects have a hearing loss appropriate for remediation with CONFORMA 2 SE. Subjects are randomly assigned to two experimental groups and one control group. All qualified subjects undergo the same fitting procedure, immediately following audiometry and prior to routine counseling. They leave within the hour wearing their new hearing aids. The control group receives no additional intervention, other than self-initiated visits. One experimental group is given all three volumes of CONFORMA INSIGHT at the time of their fittings, with instructions to read each volume in turn. The second experimental group is given the first volume at the time of their fittings and then are scheduled for follow-up visits at 7 to 10-day intervals. Subsequent volumes of CONFORMA INSIGHT are delivered to each subject and reviewed with them during the follow-up visits, which last 15 to 30 minutes each.

Each subject completes an ECHO<sup>8</sup> at the beginning of the protocol, and a SADL<sup>9</sup> and an APHAB<sup>10</sup> at the end of the protocol. At the end of the study, ECHO and SADL scores will be compared using methods similar to those described by Cox and Alexander<sup>8</sup> to see whether subjects' expectations were met or not, if their expectations about owning hearing aids changed during the trial period, and to evaluate satisfaction with CONFORMA 2 SE as a first hearing aid. Objective measures of benefit from amplification will be obtained using the HINT<sup>11</sup> in quiet and in noise at the final visit.

## REFERENCES

1. Northern, J., & Beyer, C.M. (1999). Reducing hearing aid returns through patient education. *Audiol. Today* 11(2), 10–11.
2. Kochkin, S. (1999). Reducing hearing instrument returns with consumer education. *Hear. Rev.* 6(10), 18–20.
3. Carmen, R. (Ed.). (1998). *The consumer handbook on hearing loss and hearing aids: A bridge to healing*. Sedona, AZ: Auricle Ink Publishers.
4. Bray, V., Johns, M.A., & Ghent, R.M. (2001). Description and rationale of a digital, instant-fit hearing aid. *Hear. J.* 54(4), 38–46.
5. Bray, V., Chabries, D., Davis, K., & Johnson, J. (1998). Digital signal processing (DSP) derived from a nonlinear auditory model. Poster presentation, Am. Acad. Audiol. Conv., Los Angeles, CA.
6. Bray, V., & Nilsson, M.J. (2000). Objective results support benefits of a DSP noise reduction system. *Hear. Rev.* 7(11), 60–65.
7. Wayner, D.S., & Abrahamson, J.E. (1996). *Learning to hear again: An audiologic rehabilitation curriculum guide*. Austin, TX: Hear Again Publishing.
8. Cox, R.M., & Alexander, G.C. (2000). Expectations about hearing aids and their relationship to fitting outcome. *J. Am. Acad. Audiol.* 11, 368–382.
9. Cox, R.M., & Alexander, G.C. (1999). Measuring satisfaction with amplification in daily life: The SADL scale. *Ear Hear.* 20, 306–320.
10. Cox, R.M., & Alexander, G.C. (1995). The abbreviated profile of hearing aid benefit. *Ear Hear.* 16, 176–186.
11. Nilsson, M., Soli, S.D., & Sullivan, J.A. (1994). Development of the hearing-in-noise test for the measurement of speech reception thresholds in quiet and in noise. *J. Acoust. Soc. Am.* 95, 1085–1099.

Presented at the American Academy of Audiology 13th Annual Convention on April 18–21, 2001, in San Diego, California.

