

Comfort Duett - a Way of Improving the Performance of a Hearing Aid

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Comfort Audio always strives after developing easy-to-use products, both for professionals and for end users. These products should function in many different circumstances and under various conditions; it is not easy to offer a product that should work for everyone.

Product Background

Comfort Audio's products can be divided into three main user areas: products for schools and classrooms, products for working life and products for private life. The latest product launched for private use is a speech amplifier called Comfort Duett. A previous version has been available since 2005. In 2012, Comfort Audio presented a new, upgraded and redesigned version of Comfort Duett. This speech amplifier can be used instead of a hearing aid or as a first step of amplification. Comfort Duett can also be used by someone who has impaired motor skills; it functions with rechargeable batteries and has well defined buttons. Another way of using Comfort Duett is together with an induction loop, with a hearing aid. Using Comfort Duett like this can reduce background noise and improve speech intelligibility.

Objective

Comfort Duett has been evaluated in several steps; the last test conducted was a comparison between the old version and the new version of Comfort Duett with a neck loop. The objective of this study was to ensure the sound quality of the previous version and to find out which design was easier to use. In an earlier evaluation, 17 of the 17 questioned test subjects chose the newly designed Comfort Duett. For more information, see the whitepaper "Does it have to be a hearing aid".

This most recent test should reveal which design was immediately selected in order to ensure the appropriate design in the long run.

Method

Four persons were invited to take part in the test. They were all actively involved in HRF Hylte, the Association of the Hard of Hearing in Hylte, a small town in the south west of Sweden. All test persons were retired and around 70 years old and had been using hearing aids for 7-40 years.

Test person	Gender	Hearing instrument
1	Male	Cochlea implant + BTE
2	Male	Binaural BTE
3	Female	Binaural ITE
4	Female	Binaural BTE

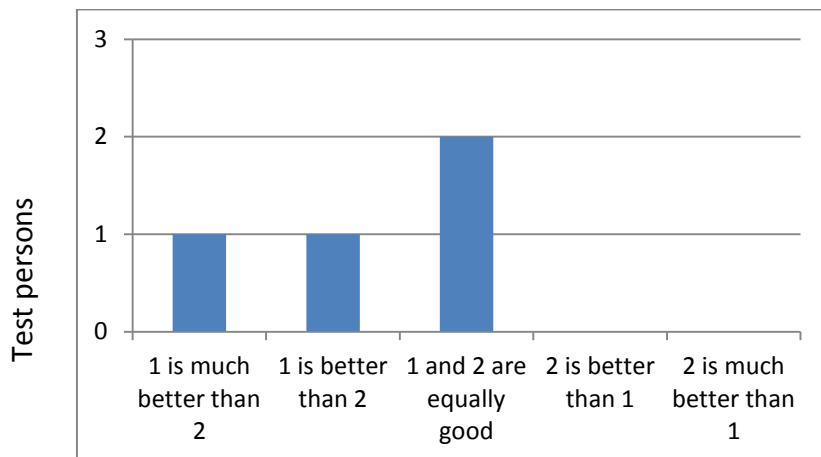
The test-persons' hearing aids were measured to see which level the MT and T-settings (microphone + tele coil or tele coil only) were chosen. Nothing was changed in the settings; the test-persons were in general satisfied with the level of their MT/T programs.

The test persons were instructed how to use the new and the old version of Comfort Duett with a neck loop. They were asked to use both versions and to compare the sound and handling of the two. They received a questionnaire which they should take home and fill in. **Version 1 is the new Comfort Duett, version 2 is the old Comfort Duett.**

After six weeks, the test persons were interviewed and the questionnaires were collected.

Results

Question 1. How do you experience sound with Comfort Duett?

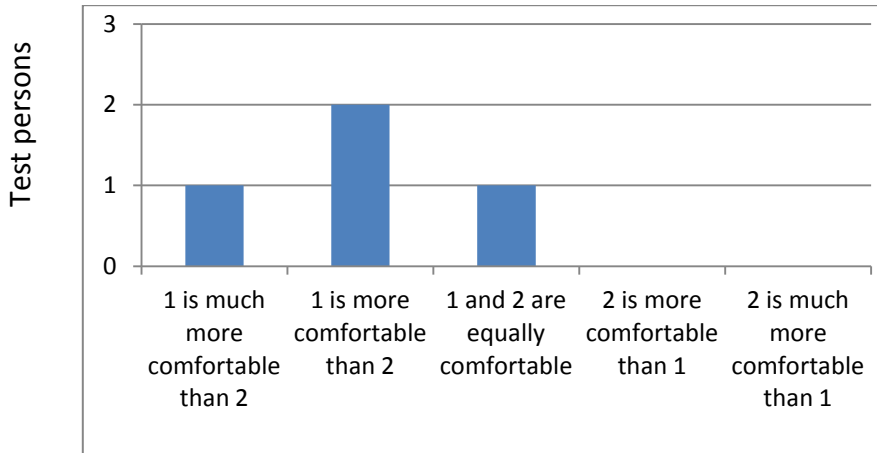


Comments:

1. I have tried them in many different situations, but I have not noticed any differences.
2. Version 2 has a louder and more distorted sound.
3. The neck loop in version 2 is stronger.

When developing the new Comfort Duett, the intention was that it should be as easy as or easier to use than the old version; in the same time the design should be more appealing. Comments 2 and 3 are probably depending on the fact that version 1 was often used with a longer cable and because of that, the sound was softer.

Question 2: How comfortable is the sound of Comfort Duett?

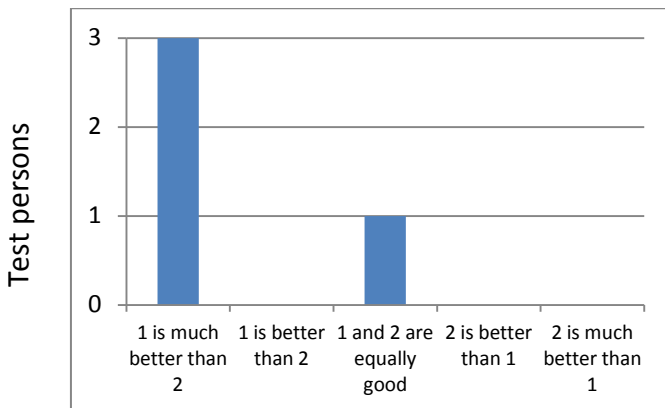


Comments

- It is hard to tell the difference, but version 1 has a little softer sound than version 2.

The intention was to keep the sound picture of version 2 in version 1, since most users have been very satisfied with it. The sound processing in version 1, the new Duett, is digital and has made it possible to set AGC, (automatic gain control) to make sound more comfortable than in version 2.

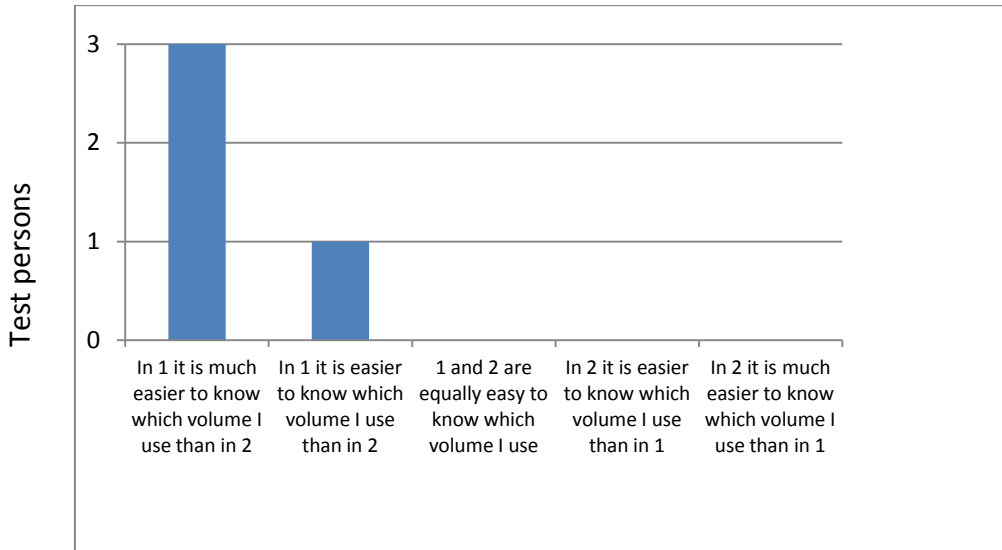
Question 3: How do you experience the volume adjustment of Comfort Duett?



Comments

- Version 1 is easier to adjust than version 2. The light in version 2 is weaker due to the LED, but it is better when you have learned which level you should use in a specific situation.

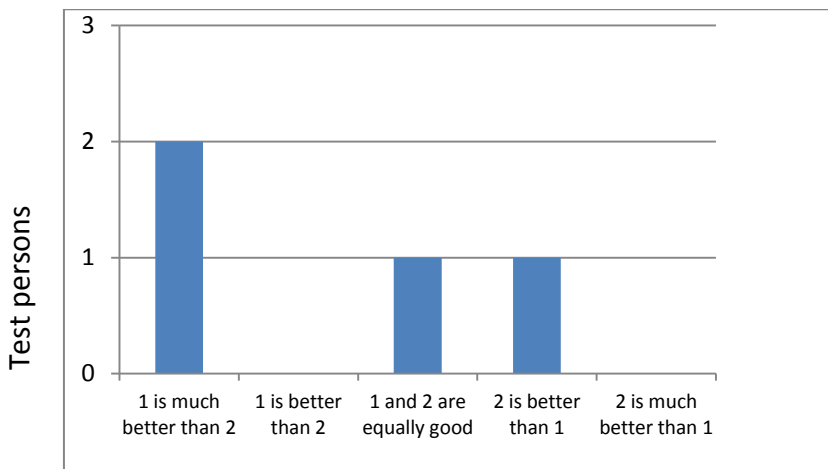
Question 4: How do you know which volume you use in Comfort Duett?



Comments:

- I have not thought about which exact volume I use, it can differ from situation to situation. I listened and adjusted after the environment.

Question 5: How do you experience the recharging of Comfort Duett?

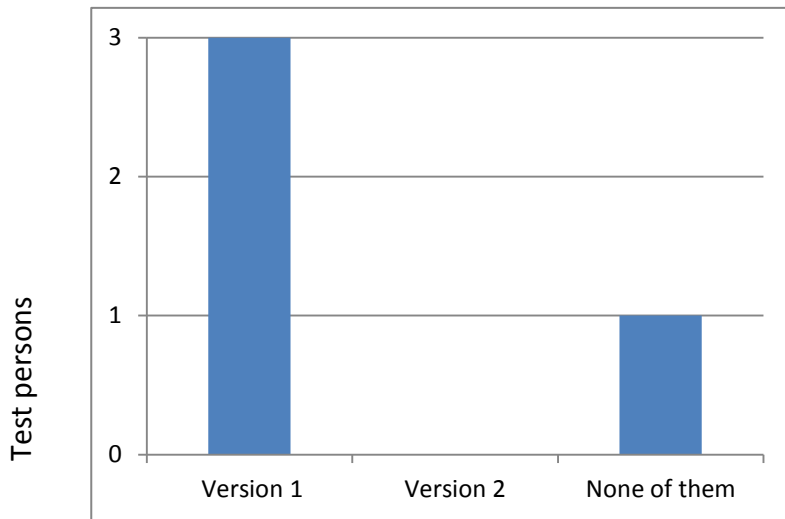


Comments:

1. Version 2 is a little bit easier to get right directly; version 1 you have to make sure that it is put in the right charging place.
2. The LED gives me instant feedback if the “listener” is recharging, I just look for the lights.

The test persons did not experience any problems recharging the Comfort Duett, no matter if it was the new or the old version. Three test persons compared it with recharging a mobile telephone or a wireless landline telephone.

Question 6: If you could keep one version of the Comfort Duett, which one would you choose?



Comments

1. Version 1 looks nicer and is easier to use.
2. I brought it to a friend's house to use when we watched TV; she was relieved that the volume could be at a lower level than before.
3. My children say that I have to keep one of these; it has really made a difference when we meet.
4. I would not keep any of them because I have a system that is wireless and that is more comfortable to use.
5. I could not hear a word of what my son-in-law says; he talks so softly and with a different accent. This time I could have a real discussion with him. We watched a football game and we found out that we were both fans of Manchester United!

Discussion

The four test persons have really made an effort testing the two versions of Comfort Duett. From the beginning they were satisfied with their hearing aids, but admitted that there were situations in their everyday lives which their hearing aid could not handle. After testing Comfort Duett for some weeks, they discovered more and more situations in which they were using it. Families and friends around them were positively surprised by the fact that the test persons could follow more easily discussions in demanding sound environments that had caused problems before when they had just used hearing aids. All four test-persons emphasized that using Comfort Duett with a neck-loop improved considerably the performance of their hearing aids.