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The New HarmonyTM Soundprocessor - Outcomes With The HiRes120 Speech Coding Strategy

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Actual speech coding strategies are based on the number of stimulation sites, which is identical to the number of physical contacts. The new speech coding strategy HiRes120 uses the current steering technique and offers up to 120 different pitches to the Cochlear Implant (CI) user. HiRes120 is supported by the new sound processor HarmonyTM of Advanced Bionics.

11 adults participated in a five months study, where HiRes120 as well as the impact of the improved HarmonyTM processor with respect to speech understanding were evaluated. The test battery consisted of HSM sentence tests in several conditions, questionnaires concerning speech understanding, sound of music and handling of the processor. The participants used a HiRes90K or CII implant system, had a mean age of 58.1 years (38.2 to 79.3 years) and a mean duration of deafness of 5.1 years (0 to 25.3 years).

A second study group of 14 patients tested the HarmonyTM processor for one month with both strategies HiRes and HiRes120. The same test battery as for the first study group was used. They had a mean age of 55.1 years (25.1 to 79.3 years) and a mean duration of deafness of 5.0 years (0 to 26.0 years).

A total of 84 % preferred the HarmonyTM processor. The group can be separated into preference for HiRes (24 %) and for HiRes120 (60 %) on the HarmonyTM. The speech test results for the HarmonyTM processor compared to their previous processor with HiRes showed a 7.7 % (1.6 % for the first study group, 11.6 % for the second study group) averaged increase in the HSM sentence test with 5 dB SNR competing talker.

The majority of the study participants wanted to change to the new HarmonyTM processor, because of better speech understanding in every day life, handling and improved battery life time.

