



Second Sight

Second Sight announces significant results from the Argus™ II Retinal Prosthesis trial at the ARVO 2011 Annual Meeting

Investigators present trial update and compelling data on blind participants reading sentences and seeing colors with the retinal implant.

Fort Lauderdale, May 3rd - Exciting results from the **Argus™ II Retinal Prosthesis System ('Argus II')** clinical trial were presented today at the Association for Research in Vision and Ophthalmology, Inc. (ARVO) 2011 Annual Meeting. The clinical trial included 30 subjects implanted in 10 centers worldwide, and has run for nearly 4 years. The results that were presented from the trial showed that the Argus II System provided significant improvements in vision for the blind subjects who are suffering from profound Retinitis Pigmentosa (RP). Two paper presentations outlined the safety, reliability and performance of the system. In February 2011, Argus II became the first such treatment for the blind to obtain the CE Mark and make the leap from research to the marketplace in Europe. An application for FDA approval in the US is being submitted in 2011.

Argus II is Second Sight's second generation implantable device intended to treat blind people suffering from degenerative diseases such as RP. The system works by converting video images captured from a miniature camera, housed in the patient's glasses, into a series of small electrical pulses that are transmitted wirelessly to an array of electrodes on the surface of the retina (epi-retinal). These pulses are intended to stimulate the retina's remaining cells resulting in the corresponding perception of patterns of light in the brain. Patients can learn to interpret these visual patterns thereby gaining some functional vision.

Mark S. Humayun, MD, PhD, Professor of Biomedical Sciences, Professor of Ophthalmology, Biomedical Engineering, Cell and Neurobiology, Doheny Eye Institute, University of Southern California, presented the interim performance results from the Argus II Retinal Prosthesis trial:

With over 70 cumulative subject-years of follow-up on 30 subjects, this is the largest trial of a visual prosthesis to date. The results confirm previous reports of the ability of Argus II to provide visual function over the long-term.

"All subjects implanted with a **Second Sight® Argus II Retinal Prosthesis System** previously had only bare light perception or worse vision due to RP or related outer retinal degenerative disease. During the clinical trial we were pleased to observe the promising results of the system that revealed that all 30 subjects in the trial obtained visual perceptions from the device. A large majority of them experienced benefit from the system in terms of visual function tests that ranged from localizing and identifying an object to grating visual acuity. Functional vision orientation and mobility tests demonstrate that subjects were significantly better at performing visual tasks such as following a line or finding a door with the system ON vs. OFF. These gains in vision were maintained by many subjects during long-term follow-up (i.e. > 2 years)," explained Professor Humayun.

Dr. Humayun also reported on research conducted by Dr. Paulo Stanga, Consultant Ophthalmologist and Vitreoretinal Surgeon for the Manchester Royal Eye Hospital, Manchester, UK, that showed that subjects fitted with Argus II were able to consistently perceive colors.

“We were delighted to observe, for the first time ever, that nine participants were able to reliably and repeatedly perceive up to eight different colors using Argus II”, said Dr. Stanga. “Color perception could be achieved by precisely controlling aspects of the electrical stimulation. Color vision obtained in this manner represents a unique feature of an epi-retinal approach employing an external camera and processor.”

Argus II is the first retinal prosthesis in which the feasibility of reading sentences with prosthetic vision has been demonstrated.

As cited by Professor Sahel, Chairman, Department of Ophthalmology: Centre Hospitalier National d'Ophtalmologie des Quinze-Vingts, Paris, France. “The fact that two of our patients implanted with Argus II were actually able to correctly read 4-word sentences, was beyond our highest expectations. We were also excited to observe that reading speeds increased quickly for these motivated patients, and that one patient was able to read at the rate of ten words per minute”.

April Lufriu, recently crowned Mrs. America, and Tampa Bay Chapter President for the Foundation Fighting Blindness (FFB), was excited by the Argus II results. “It is a blessing that Argus II has already helped so many people suffering from severe RP. As a person who is afflicted with the disease, it was a pleasure meeting some of the trial participants, and to see that Argus II can restore some functional vision to them. We should all be encouraged that a treatment for this disease is now available in Europe and, hopefully, soon here in the US as well.”

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Second Sight Medical Products, Inc., located in Los Angeles, California, was founded in 1998 to create a retinal prosthesis to provide sight to patients blinded from outer retinal degenerations, such as Retinitis Pigmentosa. Through dedication and innovation, Second Sight's mission is to develop, manufacture and market implantable visual prosthetics to enable blind individuals to achieve greater independence. Argus II is not yet approved for sale in the United States. European Headquarters are in Lausanne, Switzerland. Second Sight is a registered trademark and Argus is a trademark of Second Sight Medical Products, Inc.