

History of Corneal Transplantation, Eye Banking and the EBAA

The Success of Early Corneal Transplants

In 1905, when Eduard Konrad Zirm, MD, performed the first successful corneal transplant, a long line of corneal transplantation, research and techniques began. During its existence, Zirm's eye bank, located in a rural area of Austria, treated over 47,000 patients. Not many years later in 1914, Anton Elschnig, MD, also of Austria, performed the second successful corneal transplant and over the next two decades, he would make various contributions to the study of peri-operative infection and pre-operative preparation. The 1920s and 1930s would find Russian ophthalmologist Vladimir Filatov refining lamellar keratoplasty and developing a new method for full thickness keratoplasty. He also used a donor cornea from a cadaver for a penetrating keratoplasty in the 1930s.

Ramon Castroviejo, a Spanish ophthalmologist, was an influential figure in both European and American developments in corneal transplantation, particularly from the 1920s through the 1940s. During his research fellowship at the Mayo Clinic, he developed a double-bladed knife for square grafts and conducted research that culminated in the development of new keratoplasty techniques.

The Beginnings of Eye Banking and the EBAA

The 1940s not only brought improvements to corneal transplantation, but also an incentive to mainstream those procedures into eye banking. R. Townley Paton, a renowned American ophthalmologist who was trained at Johns Hopkins in Baltimore, had established his own practice and had become affiliated with Manhattan Eye, Ear & Throat Hospital, where he began performing corneal transplants with privately-acquired tissue.

After performing many corneal transplants, Paton came to the conclusion that a formal system of eye collection needed to be developed – thus, the eye bank was born. In 1944, Paton established the world's first eye bank, the Eye-Bank for Sight Restoration, Inc., in New York, designing a plan for the attainment, preservation and distribution of eyes to corneal surgeons for transplantation.

The establishment of the world's first eye bank was only the beginning of the great steps taken to improve corneal transplantation and to increase eye banking's influence in the transplantation community. In 1955, 27 ophthalmologists (representing 12 eye banks), met with four major medical groups under the auspices of the American Academy of Ophthalmology and Otolaryngology (AAO&O). During that meeting, a Committee on Eye-Banks was formed and Paton was named Chairman. The members of that Committee included Ramon Castroviejo, MD, F. Phinzy Calhoun, MD, A.D. Ruedemann, Sr., MD, Alson Braley, MD, John Harry King, Jr., MD, Michael Hogan, MD, and Alfred Maumenee, MD.

Between 1956 and 1960, the Committee met numerous times, discussing various challenges shared by eye-banks, such as methods for increasing eye donations, the need for central clearing houses and the urgent need for uniform legislation in the eye-bank field.

During one of their meetings in 1959, the Committee recommended the creation of an “American Association of Affiliated Eye-Banks.” In 1960, the Council of the AAO&O approved the resolution, re-appointed all members of the Committee and recommended that the establishment of the Association be postponed until an open meeting in June 1961, to which all eye-bank representatives would be invited. The meeting was held and it was unanimously voted that an Association of Eye-Banks be organized.

In October 1961, the Committee of Eye-Banks formed the Association during an organizational meeting in Chicago and named it the Eye-Bank Association of America (EBAA). It was decided that the EBAA would be governed by a Board of Directors and House of Delegates, with the AAO&O Committee of Eye-Banks serving as its Medical Advisory Committee. The founding eye banks were Buffalo Eye Bank, Colorado Eye Bank, The Eye-Bank for Sight Restoration, Inc., Eye Foundation of Delaware Valley, Iowa Eye Bank, Lions of District 22-C of Washington, DC, North Carolina Eye Bank, Hawaii Eye Bank, Southern Eye Bank and Rochester Eye Bank.

In 1977, AAO&O officially recognized the EBAA as its eye banking sector and required the EBAA to set standards for handling eye tissue, and to establish a training program for technicians. The EBAA Medical Standards were officially adopted in 1980, outlining specific contraindications for transplantable tissue, personnel requirements, laboratory configuration and standards of practice.

Since its founding, the EBAA has thrived as a stalwart leader in the transplantation community. With an impressive membership of 97 eye banks, nationally and internationally, the EBAA has helped restore sight to over 1,000,000 people and continues to lead the eye banking community in corneal transplantation successes, technique developments and research.