The glass case just off the main entrance to the recently expanded and remodeled Eye Center contains a wide variety of ophthalmology-related instruments Hovland has collected across the years from retiring colleagues.

“I had a wide referral practice so I knew most of the ophthalmologists in the state and the region,” he says. Along the way, he also picked items from libraries, estate sales, and businesses. A collection standout is a group of painstakingly designed, fitted, and painted prosthetic eyes produced by Walter Johnson, an ocularist with the Denver Optic Company, which was founded in 1906.

The collection has several other Colorado connections, including photos of Philip Ellis, MD, who was the first full-time head of ophthalmology at CU and served as chair of the department for 35 years (1960-1995), and Gertrude Hausmann, MD, Colorado’s first female ophthalmologist. She practiced for more than half a century (1938-1992). In addition, ophthalmologist Joel Goldstein, MD, donated items from Leonard Swigert, MD, an ophthalmology
resident at CU from 1930 to 1932 and father of Apollo 13 astronaut Jack Swigert.

**Where we've been.** The double-sided case offers a look at the road ophthalmology followed to reach its high-tech present. On one shelf is a Schiotz tonometer, invented in Norway in 1905, used to measure pressure in the eye. Nearby sit pinhole glasses patients wore for a week or two to limit eye movement after retinal detachment surgery. Another shelf holds multi-mirror lenses that helped physicians determine the eye’s ability to move and rotate.

The pieces date as far back as the mid-nineteenth century, but others recall Hovland’s early training. A picture from 1966, for example, illustrates erisophake, a cataract surgery procedure that used suction to help the surgeon grasp and extract the clouded lens.

He rattles off only a partial list of the major advancements he’s seen during his career, including laser surgery, **optical coherence tomography**, drugs to treat macular degeneration, rapid improvements in lens implants, ultrasound, and more.

**Visions of the future.** But the display looks back to look forward. For example, a picture of a Plexiglas canopy from a World War II British Spitfire plane with bullet holes would seem to have little to do with ophthalmology. But in fact, the bullet-riddled piece played a pivotal role in the development of **intraocular lenses** to treat cataracts, Hovland explains.

Harold Ridley, a London-based ophthalmologist, saw that fragments of Plexiglas embedded in the eyes of Royal Air Force pilots did not trigger rejection. From that observation, he reasoned that he could implant plastic artificial lenses in the eyes to correct cataracts. He was correct, but the medical community was slow to accept his finding, and it wasn’t until 1981 that the Food and Drug Administration approved the intraocular lens for use in the United States.

World War II influenced the development of ophthalmology, particularly the retinal specialty, in other ways, too, Hovland adds. The display notes the life of Charles Schepens, a Belgian-born ophthalmologist who trained in London, served as a medical officer in the Belgian Air Force, and escaped to France after the Nazis invaded and occupied his home country.

During the war, Schepens fought on the side of the French Resistance – operating under an alias in a lumber mill, as Hovland relates it – escaped the Gestapo, and settled in England to resume
his medical career after the war ended. He immigrated to the United States in 1947 and two years later founded the first-ever retina service at the Massachusetts Eye and Ear Infirmary, which is affiliated with the Harvard Medical School. He was there during Hovland’s fellowship in 1968.

Schepens went on to a long and influential career that included developing the binocular indirect opthalmoscope, a device for looking at the retina and vitreous; the scleral buckle, which ophthalmologists use to keep the eye in place during surgery; and techniques to close retinal tears.

Hovland says he had approval to create the exhibit from current Ophthalmology Chair Naresh Mandava, MD, before the expansion. “Now we have the location and space for it,” he says. He sees it as a point of interest for residents taking breaks from presentations in the nearby auditorium. He mused about what artifacts modern ophthalmology may one day yield.

“In 50 years,” Hovland says, “what will those guys say they knew about ophthalmology?”

Hovland’s collection also includes contributions from those less learned but possessed with a practical eye and business sense. A trial lens set, circa 1890, was among the goods toted by itinerant peddlers, Hovland says. Frequent customers were women who did a lot of sewing and knitting. “He’d ask them to put their hands where they did their knitting, and used a string to measure the distance from their eyes,” Hovland relates. The peddler then selected a lens to match their needs.