



## General Ophthalmology Timeline

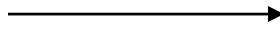
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1950 BCE Code of Hammurabi described fees for medical services including eye operations

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1534 BCE Ebers Papyrus listed 100 cures for eye diseases

Eye of Horus amulet,  
2200-400 BCE



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600 BCE Susruta Samhita listed 76 eye diseases and 51 eye operations including couching for cataract

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440 BCE Hippocrates (460 - 375 BCE) wrote about "glaukoma," a light blue or green color of the iris and lens

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30 BCE Celsus (25 BCE - 50 CE) wrote about couching for cataract

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170 CE Claudius Galen (130 - 200) wrote over 100 books on medicine, including eye diseases and their treatments

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610 Chao Yuanfang published the first Chinese medical text to specifically list eye diseases; it includes special mention of pediatric conditions

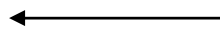
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1286



Eyeglasses first appeared in Pisa, Italy

Leather framed spectacles, c1700



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1578 Eyecups or eye baths found listed in a European household, possibly the earliest record of daily, personal eye care

Spode porcelain eyecup, c1840



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1583 Felix Platter proposed that the lens was “the looking glass” of the eye and that the retina was the true photoreceptor

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1603 Johannes Lippershey discovered the telescope



Notgeld printed by Rathenow, Germany c1920



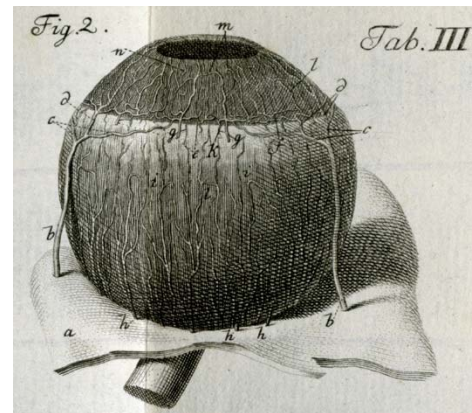
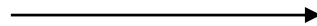
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1604 Johannes Kepler described the image formed on the retina

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1755 Johann Gottfried Zinn (1727-1759) published a definitive anatomy of the eye

“Descripto Anatomica Oculi Humane Iconibus Illustrata,” 1755



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1765 King Louis XV named Deshais-Gendron the Chair of the world’s first ophthalmology department

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1779 Benjamin Franklin invented bifocal eyeglasses



Split bifocals, c1850



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1801 Thomas Young (1773-1829) discovered astigmatism and was the first to map the normal field of vision

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1805 John Cunningham Saunders (b.1773) established the world’s first public eye hospital, the Royal London Ophthalmic Hospital (Moorfields)

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1826



French postage stamp, 1948

**Louis Braille (1809-1860)** invented an alphabet of raised dots to aid the blind

1827

John Isaac Hawkins (1772-1855) invented trifocal lenses

1839

Wills Eye Hospital started the first US eye residency program

1850

**Hermann von Helmholtz (1821-1894)** demonstrated the ophthalmoscope

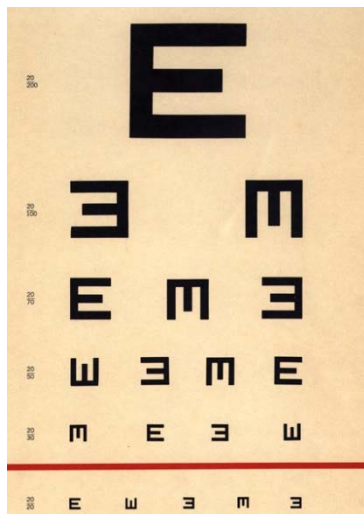
Helmholtz plaquette, 1894



1854

Herman von Helmholtz (1821-1894) demonstrated the keratometer

1862



**Hermann Snellen (1834-1908)** created a test card for visual acuity

Snellen chart, c1950

1871

Isabel Hayes Chapin Barrows (1845-1913) was the first woman to study ophthalmology at the University of Vienna and the first woman ophthalmologist to practice in the US

1872

F. Monoyer (1836-1912) suggested that lenses be marked with their dioptric power, standardizing spectacle manufacture

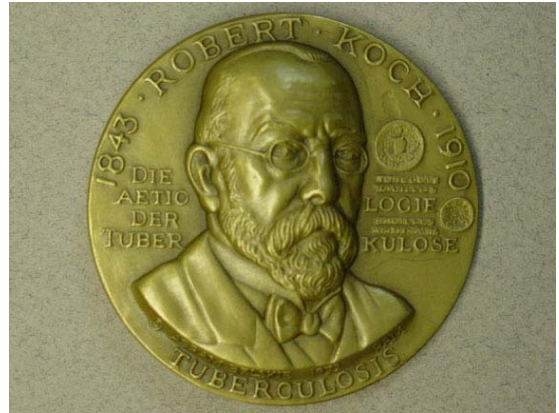
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1878 Willy Kuhne (1837-1900) demonstrated that visual pigments regenerate in the dark, the first clue to how the visual cycle works

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1883 Robert Koch discovered *Haemophilus aegyptius* or Koch-Weeks bacillus, the cause of acute conjunctivitis

Koch commemorative medal, 1972



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Julius von Michel determined *Mycobacterium tuberculosis* was the cause of uveitis

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1884 **Carl Koller (1857-1944)** introduced topical anesthesia

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1887

F.E. Muller created first hard contact lenses



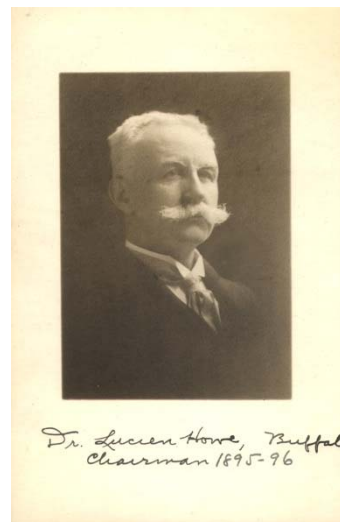
Scleral contact lenses, c1950



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1890 New York State passed the Howe Law, mandating the use of silver nitrate in newborns to fight ophthalmia neonatorum

Lucien Howe, 1895



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1896 American Academy of Ophthalmology founded, originally named the Western Ophthalmological, Laryngological and Rhinological Association

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1905 United States instituted mandatory eye exams for trachoma at all immigration centers; anyone found to have the disease is refused entry

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1911 **Allvar Gullstrand (1862-1930)** awarded the Nobel Prize in Physiology or Medicine for his work on the dioptrics of the eye

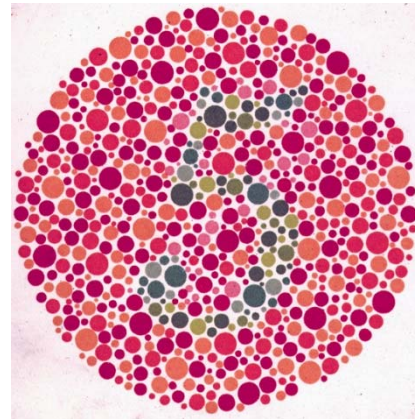
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1916 American Board of Ophthalmology established, the first medical specialty board in the US

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Shinobu Ishihara (1879-1962) published his definitive color vision test

“Test for Color Blindness,” c1940



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1921 Friedrich Dimmer published the first **fundus photographs**

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1932 Lord Edgar Douglas Adrian (1889-1977) received the Nobel Prize in Physiology or Medicine for his work in the electrophysiological activity of the brain, visual cortex and optic nerve

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1941 Norman McAlister Gregg linked congenital cataract and rubella infection of the mother in the first trimester

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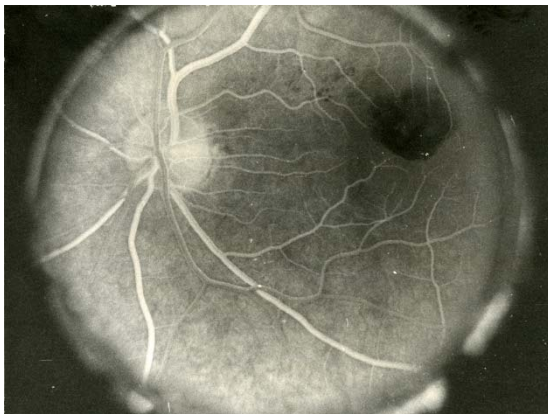
1950 Helenor Campbell Wilder Foerster (1895-1998) of the Armed Forces Institute of Pathology documented nematode infections in the eye

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1956 Drs. H. Harms and Joaquin Barraquer adapted the Zeiss optical microscope for use by physicians during eye surgery

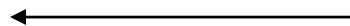
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1959



David Alvis and Harold Novotny performed the first fluorescein angiography

Fluorescein angiogram of Dr. David Alvis, 1959



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1957 T'ang and colleagues in China were the first to culture *Chlamydia trachomatis* and confirmed it was bacterial

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1961 Otto Wichterle created first soft contact lenses

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Charles Campbell and Charles Koester reported the first human ophthalmic laser treatment for a retinal tumor

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1967 Ragnar Granit (1900-1991), Haldan Hartline (1903-1983) and George Wald (1906-1997) were awarded the Nobel Prize in Physiology or Medicine for demonstrating the primary neural organization of the retina and the role of vitamin A

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1968 United States established the National Eye Institute

Pen used by President Lyndon B. Johnson to sign H.R. 12843, August 16, 1968



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L'Esperance conducted the first human trial utilizing an ophthalmic laser treatment

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1981 David Hubel (b.1926) and Torston Wiesel (b.1924) jointly received the Nobel Prize in Physiology or Medicine for their work demonstrating how visual information is coded in the retina and brain

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2015 William Campbell and Satoshi Omura received one half of the Nobel Prize in Physiology or Medicine for their work leading to a therapy for onchocerciasis, also known as river blindness

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