The field of low vision has included many “greats” throughout the 20th century. Names like Goldmann, Feinbloom, and Kestenbaum highlight some of the most notable scientists recognized in the literature and in the clinic for their instruments, acuity charts guidelines, etc. While these men were, indeed, revolutionary to the field of low vision, not all pioneers were as readily acknowledged nor advantaged within the social constructs of their respective societies. In reality, low vision would not have flourished today without the accomplishments of many women. Helen Keller, Dr. Eleanor Eaton Faye, and Dr. Jan E. Lovie-Kitchin are just a few of the strong women who overcame considerable limitations to revolutionize low vision practices today.

Helen Keller (1880-1968) endured a myriad of obstacles throughout her life and career. At only 19 months-old, she suffered from what was thought to be meningitis due to a Haemophilus infection, rendering her both deaf and blind.1 After numerous referrals to well-known physicians and scientists, such as J. Julien Chisholm and Alexander Graham Bell, she eventually enrolled at Perkins School for the Blind in South Boston, Massachusetts, where she connected with Anne Sullivan, her most notable companion.2,3 With Sullivan’s assistance, Keller became highly proficient in both fingerspelling and Braille and graduated at the top of her class.2,3 She gained national fame after achieving admittance into Radcliffe College of Harvard University and eventually earned support from icons such as Mark Twain, Charlie Chapman, and nine U.S. presidents.2,6 From then on, she became a world-renowned author and voice for countless marginalized individuals, such as women, people of color and people with disabilities—most notably, the blind.

Keller reformed the field of low vision in a multitude of ways. She organized nationwide movements to propel awareness and aid in the education of individuals with visual impairments. In 1929, she led a movement to distribute radios to blind and visually impaired individuals across the U.S. as learning aids and entertainment.4 In 1932, she persuaded the U.S. government to host the very first International Conference of Workers for the Blind where she met with delegates from 32 countries and spread awareness about disability rights in the workplace.5 In 1935, she petitioned Franklin Delano Roosevelt and the U.S. government to set aside funds to distribute “Talking Books”, the original audio books, to visually impaired people across the country.4 This program eventually expanded into the National Library Service for the Blind and Physically Handicapped, which currently serves millions of low vision patients.4 She contributed significantly to the growth and advent of several organizations for the visually impaired, such as the American Foundation for the Blind, Helen Keller International, Helen Keller Services for the Blind, and more.3,4 Most importantly, she serves as an example of how people in the deaf-blind community can achieve greatness regardless of their disability.

Despite her successes, she encountered numerous roadblocks as a woman in the late 19th and early 20th century. Legal discrimination and negative stereotypes against women were highly prevalent, limiting her educational opportunities and voice in society. In 1900, nearly half of all undergraduate institutions in the U.S., including all of the Ivy League schools, admitted only male students.5 In addition, women-only schools focused primarily on filling high-demand roles in society such as becoming schoolteachers and nurses, not authors or activists.3 Moreover, publishing companies notably discriminated against female authors, leaving numerous women to remain anonymous or utilize a male pen name.2,6 Only shortly after Keller’s 40th birthday were women in the U.S. allowed to vote in government elections, a cause she openly voiced and supported.2,6 Not to mention, at the time, a woman’s marital status primarily determined her role in society, which Keller, a lifelong bachelorette, refused to use to her advantage.2,6 Despite these obstacles, Keller’s perseverance and dedication to activism left a remarkable impact on women and the society around her.

Another influential woman who cared deeply about the visually impaired and bringing low vision leaders together was ophthalmologist Eleanor Eaton Faye. Faye (1923-2020) completed her Bachelor of Science and Doctor of Medicine degrees from Stanford University in the 1940s and was instrumental in numerous facets of low vision.7 In the early 1950s, she established the first low vision rehabilitation centers, encouraging individuals with visual impairments to utilize their remaining vision to the fullest extent with the help of new technology and specialized training.7 This propelled the advent of new devices, such as CCTVs, to be taught in these facilities and discover new ways to improve activities of daily living in low vision patients.7,8 Faye served as a lifelong leader for Lighthouse International and united MDs, ODs, OTs, and vision rehabilitation teachers as an author to one of the first publications to address all of the professions at once.7 Furthermore, she reformed today’s low vision examination by introducing the Amsler grid and contrast sensitivity tests into the normal testing regimen.8 Even the term “low vision” was thought to be first coined by Faye.7 Involved in numerous other studies and publications to broaden the field, Faye became known as one of the most influential pioneers in the history of low vision.
Faye encountered roadblocks as a woman during that time. Similar to Keller, Faye lived through a time when negative stereotypes and discrimination against women were highly prevalent, especially for women pursuing medical degrees. In the 1950s, only around 6% of medical doctors were women, making attending medical school at Stanford a challenge for women like her. Furthermore, until the U.S. government enacted Title VII of the Civil Rights Act in 1964 and Title XI of the Education Amendments in 1972, hospitals and higher education largely (and legally) discriminated against women pursuing medical school or jobs afterwards. On top of that, women earned approximately 60% of what men earned doing the same job for the same amount of time. Regardless of these limitations, Faye’s hard work and perseverance left a lasting impact on the profession and has influenced women around the world to do the same.

One of those women was Dr. Jan E. Lovie-Kitchin, who completely revolutionized the screening and prescribing methods of the low vision examination. Lovie-Kitchin, born in Melbourne, Australia, completed her Bachelor of Science degree in optometry, as well as her Master of Science degree from the University of Melbourne in the 1970s (and eventually her PhD in 1996). Per her most notable accomplishment was the development of the LogMAR chart with Dr. Ian Bailey in 1976, also known as the Bailey-Lovie chart. The chart ultimately allowed for practitioners of the LogMAR chart with Dr. Ian Bailey in 1976, also known as the Bailey-Lovie chart. The chart ultimately allowed for practitioners to more accurately and precisely assess visual acuity by providing more letters at larger sizes, more testable levels and working distances and identical tasks at each level. The LogMAR chart currently serves as the gold standard for visual acuity assessment in low vision and has been integrated into the Early Treatment Diabetic Retinopathy Study and other specialized examinations (in the form of the illiterate E, Landoldt C, and Lea Symbols charts).

Lovie-Kitchin also reformed how low vision providers determine the power of near magnifiers. After discovering that Kestenbaum’s Rule (i.e. the reciprocal of the distance Snellen VA) grossly underestimated the true required power of a near magnifier, she developed a more precise formula that incorporated the patient’s desired print size, near VA, and working distance. She also introduced the idea of an acuity reserve into her formula, which allowed for patients to specify whether or not they wanted to use their magnifier for fluent reading or spot-checking. This accomplishment and numerous others of hers are widely used in clinical practices today and have left a substantial impact on low vision rehabilitation as a whole.

As a woman in science in the 1970s and onward, she also encountered limitations within her respective society. Until 1977, Australian employers and research departments could legally discriminate against hiring female employees, rendering a largely male-dominant research and health care field. After the Victorian Equal Opportunity Act of 1977 outlawed gender and marital status discrimination, Lovie-Kitchin became an icon for countless women in pursuit of scientific research around the world. Despite encountering limitations such as a male-dominated science field and significant gender wage gap, she became one of the first Australian female researchers to run her own lab and conduct her own research, leading to over 130 successful publications and a lasting impression on women world wide.

While Goldmann, Feinbloom, and Kestenbaum are widely remembered as great pioneers of low vision, many of the field’s greatest advancements were propelled by the hard work and perseverance of women like Keller, Faye, and Lovie-Kitchin. They helped to significantly reform research, examination techniques, rehabilitation, relations, disability rights and more within the field of low vision. Most importantly, however, these women and numerous others powered through the challenges of gender inequality and have built a foundation that will continue to provide us the best vision care we can offer for many generations to come.

REFERENCES

