Optometry

Optometry is a health care profession concerned with eyes and related structures, as well as vision, visual systems, and vision information processing in humans. Like most professions, optometry education, certification, and practice is regulated in most countries. Optometrists and optometry-related organizations interact with governmental agencies, other health care professionals, and the community to deliver eye and vision care. Optometrists are one of three eye care professionals, the others being ophthalmologists (medical doctors), and opticians. [1]

Background

The term "optometry" comes from the Greek word optos, meaning eye or vision, and metria, meaning measurement. The eye, including its structure and mechanism, has fascinated scientists and the public in general since ancient times. Many of the expressions in the English language that mean to understand are equivalent vision terms. "I see," to mean I understand.

Many patients will be more concerned about diseases that affect vision than other, more lethal diseases when told that they may have an eye problem. Being deprived of sight can have a devastating effect on the psyche, as well as economic and social effects. Many blind individuals require significant assistance with activities of daily living and are often unable to continue gainful employment that might have previously been held while they could see. It is also well-known that serious diseases such as myasthenia gravis, diabetes, and atherosclerosis can show their first signs during an eye examination, well-before a patient experiences any symptoms.

The maintenance of ocular health and correction of eye problems that decrease vision contribute greatly to the ability to appreciate the longer lifespan that all of medicine continues to allow. Given the importance of vision to quality of life, many optometrists consider their job to be rewarding, as they are often able to restore or improve a patient's sight.

Behavioral optometry is a related area of non-strabismus vision therapy that some optometrists practice. Generally ophthalmologists and orthoptists do not practice this. It generally involves intense therapy that requires at least a weekly visit with eye exercises at home. In some cases it can improve vision beyond that which eyeglasses alone can do.

In the United States, optometry is currently governed by state boards that determine their scope of practice. The scope of practice can vary dramatically from state to state. Optometrists have been successful in getting the right to use some types of medication, including pills, eye drops, and injections. [2] In Oklahoma, optometrists are allowed by the state legislature to perform laser surgery. [3]
Optometry

History
Optometric history is tied to the development of

- vision science (related areas of medicine, microbiology, neurology, physiology, psychology, etc)
- optics, optical aids
- optical instruments, imaging techniques
- other eye care professions

The history of optometry can be traced back to the early studies on optics and image formation by the eye. Benito Daza de Valdes published the third book on optometry in 1623, where he mentioned the use and fitting of eyeglasses. The term optometrist was coined by Edmund Landolt in 1886, referring to the "fitter of glasses". Prior to this, there was a distinction between "dispensing" and "refracting" opticians in the 19th century. The latter were later called optometrists. [4]

The first schools of optometry were established in 1850-1900 (in USA), and contact lenses were first used in 1940s [5]

Licensing
Most countries have regulations concerning optometry education and practice. Optometrists like many other health care professionals are required to participate in ongoing continuing education courses to stay current on the latest standards of care.

Optometry is officially recognized:

- in North America (Canada and US)
- in Latin America and some Caribbean countries
- in most English speaking countries including UK, Republic of Ireland, Australia and South Africa
- in Europe including Spain, Germany and the English speaking European countries
- in Asia including Malaysia, China, Hong Kong, Philippines, Thailand and Taiwan
- in the Middle East including Saudi Arabia, Iran and Israel

Argentina
In Argentina optometrists are required to register with the local Ministry of Public Information, but licensing is not required. Anyone holding a Bachelor's degree may register as an optometrist after completing a written exam. Fees for the exam are set by the provincial government and vary from province to province.

Colombia
In Colombia optometry education has been accredited by the Ministry of Health. The last official revision to the laws regarding health care standards in the country was issued in 1992 through the Law 30.[7] Currently there are eight official universities that are entitled by ICFES to grant the Optometrist certification. The first optometrists arrived in the country from North America and Europe circa 1914. These professionals specialized in optics and refraction. In 1933, under Decrees 449 and 1291, the Colombian Government officially set the rules for the formation of professionals in the field of optometry. In 1966 La Salle University opened its first Faculty of Optometry after recommendation from a group of professionals. At the present time optometrists are encouraged to keep up with new technologies through congresses and scholarships granted by the government or the private sector (such as Bausch & Lomb).
Europe
Currently, optometry education and licensing varies throughout Europe. For example, in Germany, optometric tasks are performed by ophthalmologists and professionally trained and certified opticians. In France, there is no regulatory framework and optometrists are sometimes trained by completing an apprenticeship at an ophthalmologists' private office. [8]
Since the formation of the European Union, "there exists a strong movement, headed by the Association of European Schools and Colleges of Optometry (AESCO), to unify the profession by creating a European-wide examination for optometry” and presumably also standardized practice and education guidelines within EU countries.[9]

Ireland
The profession of Optometry has been represented for over a century by the Association of Optometrists, Ireland [AOI]. In Ireland an optometrist must first complete a four year degree in optometry at D.I.T. Kevin Street. Following successful completion of the a degree, an optometrist must then complete Professional Qualifying Examinations in order to be entered into the register of the Opticians Board [Bord na Radharcmhaistoiri]. Optometrists must be registered with the Board in order to practice in the Republic of Ireland.
The A.O.I. runs a comprehensive continuing education and professional development program on behalf of Irish optometrists. The legislation governing Optometry was drafted in 1956. Some feel that the legislation restricts optometrists from using their full range of skills, training and equipment for the benefit of the Irish public. The amendment to the Act in 2003 addressed one of the most significant restrictions - the use of cycloplegic drugs to examine children.

United Kingdom
In the United Kingdom, optometrists have to complete a 3 or 4 (Scotland) year undergraduate honours degree followed by a minimum of a one-year "pre-registration period" where they complete supervised practice under the supervision of an experienced qualified practitioner. During this year the pre-registration candidate is given a number of quarterly assessments and on successfully passing all of these assessments, a final one-day set of examinations. Following successful completion of these assessments and having completed one year's supervised practice, the candidate qualifies for membership of The College of Optometrists and is eligible to register as an optometrist with the General Optical Council (GOC). Registration with the GOC is mandatory to practice in the UK. Members of the College of Optometrists may use the suffix MCOptom. There are 9 universities which offer optometry in the UK. In the United Kingdom, optometrists are often addressed as "Mr." or "Ms." and not as a "Dr." since the majority do not hold doctorate degrees. However, this is changing, due partly to the fact that GPs are themselves the patients of and dependent on optometrists for much of their own and their patients' welfare.

Philippines
Optometry is regulated by the Professional Regulation Commission of the Philippines. To be eligible for licensing, each candidate must have satisfactorily completed a Doctor of Optometry course at an accredited institution and demonstrate good moral character with no previous record of professional misconduct. Professional organizations of optometry in the Philippines include Optometric Association of the Philippines[10] and Integrated Philippine Association of Optometrists, Inc. (IPAO)[11]
Russia

In Russia optometry education has been accredited by the Federal Agency of Health and Social Development.

United States

The American Optometric Association (AOA) represents optometrists nationally in the USA. Prior to admittance into optometry school, optometrists typically complete four years of undergraduate study, culminating in a bachelor’s degree. Required undergraduate coursework for pre-optometry students covers a variety of health, science and mathematics courses. These courses include: 4 semesters of chemistry to include organic and biochemistry, 2 semesters of physics, biology, 1 semester of calculus, and 1 semester of statistics. Additional requirements may be imposed by specific institutions.

Optometrists are required to complete a four-year post-graduate degree program to earn their Doctor of Optometry (O.D.) titles. The four-year program includes classroom and clinical training in geometric, physical, physiological and ophthalmic optics, ocular anatomy, ocular disease, ocular pharmacology, neuroanatomy and neurophysiology of the vision system, color, form, space, movement and vision perception, design and modification of the visual environment, and vision performance and vision screening. In addition, an optometric education also includes a thorough study of human anatomy, general pharmacology, general pathology, sensory and perceptual psychology, biochemistry, statistics and epidemiology. There are 19 schools of optometry in the United States. Two new colleges of optometry have received pre-accreditation status of preliminary approval from the Accreditation Council on Optometric Education.\textsuperscript{12,13}

Upon completion of an accredited program in optometry, graduates hold the Doctor of Optometry (O.D. - Oculis Doctor) degree. Optometrists must then pass a national examination administered by the National Board of Examiners in Optometry (NBEO)\textsuperscript{14}. The three-part exam includes basic science, clinical science and patient care. (The structure and format of the NBEO exams are subject to change beginning in 2008.) Some optometrists go on to complete 1-2 year residencies with training in a specific sub-specialty such as pediatric eyecare, geriatric eyecare, specialty contact lens, ocular disease or neuro-optometry. All optometrists are required to fulfill continuing education requirements to stay current regarding the latest standards of care.

In the United States, optometrists function as primary eye care physicians, but will refer patients to ophthalmologists for necessary invasive treatments (surgery). Ophthalmologists should not be confused with optometrists or opticians. Ophthalmologists are eye surgeons who complete longer residencies, and sometimes even fellowships, who also receive a different doctorate degree, M.D. or D.O. Opticians generally dispense corrective eye wear, and in some cases will also construct the corrective eye wear. The scope of practice in optometry varies as it is regulated by each state. Optometrists are not trained in surgical techniques as a general rule, other than minor foreign body removals; in Oklahoma, however, the state optometry board has allowed state certified optometrists to become trained in minor laser surgical techniques and perform minor laser surgeries. Additionally, VA hospitals have considered having optometrists licensed in Oklahoma, which have been trained in these laser techniques, to perform minor laser surgeries in any VA hospital in the country, not just Oklahoma VA hospitals.
See also

- Behavioral optometry
- Orthoptics
- Vision therapy
- Eye care professional
- Eye examination
- Eyeglass prescription
- Ophthalmology
- Optometry in Singapore
- Visual perception

External links

- World Council of Optometry [15]
- U.S. Bureau of Labor Statistics Optometry Page [16]
- State Optometry Boards [17]
- How to Recognize an Experienced Optometrist [18]

References

[14] (http://www.optometry.org/passfail.cfm)
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