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CAREER AS AN OPTOMETRIST

DOCTOR OF OPTOMETRY

Respected Vision Healthcare Professional

“WHICH LOOKS CLEARER, LENS A OR LENS B?” IF YOU WEAR EYEGLASSES OR contact lenses, you’ve heard that question many times while peering into an optical device that resembles a bloated periscope. Testing eyesight and writing prescriptions for corrective lenses are a big part of this professional’s day, but there’s a lot more to this exciting career than meets the eye.

If you’re looking for a challenging and satisfying career in a healthcare field, you’re looking in the right place. As an optometrist, you’ll be able to help people regain or retain their most important human sense: sight. One of the best things about practicing in this area of healthcare is that you can definitely improve most problems – even the serious ones. Just imagine being able to tell patients whose eyesight has been fading to the point they fear they might be going



blind, that you have a ready solution and they'll be able to see clearly again.

Doctors of optometry are primary healthcare providers who examine, diagnose, treat, and manage diseases and disorders of the visual system. Farsightedness, nearsightedness, astigmatism, and prebyopia (stiffening of the retina) are the most common problems an optometrist looks for. They examine the internal and external structure of the eyes to diagnose diseases such as glaucoma, cataracts, retinal disorders, and conditions related to hypertension and diabetes. They also check the patient's focus, coordination, and depth and color perception. They prescribe eyeglasses, contact lenses, low vision aids, vision therapy, and medications as well as perform certain types of surgery.

Over half the population requires some kind of correctional eyewear, and everyone needs to see an optometrist regularly as part of an overall good health plan. Even people who are lucky enough to be born with good eyesight often find their eyes are negatively affected by excessive computer use, reading, head injuries, aging, or systemic diseases unrelated to the eyes. Deteriorating vision affects every area of life. If your eyesight is failing, you may not be able to work, drive, go to school, participate in sports, read a good book, or enjoy simple leisurely pleasures. Being able to help someone regain their sight so they can do all those things is very rewarding.

Optometry is a dynamic career with excellent opportunities for personal growth and achievement. You can expect respect from the community and your peers, enjoy financial success, and have plenty of time outside of work to pursue personal interests.

Opportunities for optometrists exist everywhere, in all types of practice. Most optometrists are general practitioners, but there are many specialties to choose from. Pediatric and gerontology are the areas of greatest need. Optometrists work in private offices, clinics, group medical practices, hospitals, universities, the military, community health centers, research centers, and corporate settings.

Americans are becoming increasingly aware that quality eye care is important for overall health and wellness. The demand for optometric services is growing. If you choose a career as a doctor of optometry, you'll be choosing a stable profession that can offer you satisfaction for a lifetime.

START YOUR PERSONAL INVESTIGATION

OPTOMETRY IS A GREAT CAREER FOR SOMEONE WHO WANTS JOB SECURITY, GOOD pay, and a bright future. To find out if it's the career for you, start by talking to optometrists in your area about their profession. If you wear glasses or contacts, you already know an optometrist. If not, ask your friends and family if they know anyone you can talk to. When you interview practicing optometrists, ask why they chose this career, what the positive and negative aspects are, and for any advice they have to offer.

There will be a heavy emphasis on math and science throughout your education, so be sure and load up on those courses in high school. Four years of natural sciences and advanced math courses are especially important. Biology and chemistry are a must. Courses in foreign languages and psychology will also come in handy when dealing with patients and their families.

Ask your guidance counselor to help you set up a class schedule that meets college entrance requirements for pre-optometry. Contact the college of your choice early to get a catalog and specific application guidelines and requirements.

The competition to get into both college and graduate school will be competitive. Admissions officers look for an aptitude for math and science, an excellent grade point average, and evidence that you are committed to meeting the rigorous demands of higher education.

Admissions officers like to see well-rounded individuals with plenty of extracurricular activities, community service, and volunteer work. Performing volunteer work in a professional environment associated with eye care is also a good way to make sure that it's the right career choice for you. Look for volunteer opportunities in hospitals, clinics, eye institutes, neighborhood health centers, or mobile vision screening programs.

HISTORY OF THE PROFESSION

THE NEED FOR CORRECTIVE EYEWEAR IS AS OLD AS THE HUMAN RACE. IN THE days of the cave dwellers, life was short; for those with poor vision it was shortest of all. Without good eyesight, how could one defend against the dangers of predatory animals, human enemies, and natural hazards?

There is historical evidence that vision problems were a concern throughout ancient societies, particularly for warriors and explorers, but also for slaves. The Romans are known for having placed a high value on good vision. The privileged bemoaned the onset of presbyopia (problems with near vision that commonly begins in middle age) because it meant they had to depend on their slaves to read to them. There are reports as far back as 460 BC that slaves with poor vision were sold at a discount. Myopic workers were naturally less productive and at that time, there was nothing that could be done to correct vision.

Although it is unclear exactly when or how it came about, crude eyeglasses were worn in ancient Rome and China. This is documented in the literature and artwork of both societies. Ancient Egyptian pictures also depicted eye surgery being performed. There were even rumors that the Romans were responsible for the first sunglasses. That was because Nero reportedly watched the gladiator fights through a huge emerald that he held up to his eye.

Technically, it wasn't until 100 AD that the existence of vision problems was discovered. In a publication called *Questiones Naturales*, a man named Seneca wrote about refraction – the basis for all optometric work. He made the observation that peering through a glass globe filled with water made blurry objects appear clear. However rudimentary, this simple observation was an important beginning in the history of optometry.

The first manufactured vision aid appeared around 1000 AD. It was officially known as a reading stone, but it was really nothing more than a magnifying glass. It looked like a glass sphere that users laid on top of reading material to magnify the letters. It sounds crude, but back then this was technology at its finest. Minstrels were so impressed with the idea, they even wrote songs about it.

It took nearly 200 years for someone to figure out that putting lenses directly in front of the eyes might be a better way to correct vision. The Chinese are credited with this discovery because Marco Polo first reported seeing spectacles on Chinese merchants in 1270 AD. Although glass was discovered long ago in 3000 BC, and lenses were used to start fires as far back as 1000 BC, the Chinese used natural sources such as smokey quartz and rock crystals to make their framed glasses.

The rest of the civilized world first saw eyeglasses early in the 14th century. The first eyeglass lenses were manufactured and mounted in frames in Venice, a city with a longstanding reputation for progressive glass making techniques. Soon after, a fellow named Roger Bacon refined the design of eyeglasses in his laboratory in Britain.

Within

a relatively short period of time – a hundred years or so – the demand for spectacles was widespread. As societies became more sophisticated and more people were reading and going to school, the need for eyeglasses became increasingly apparent.

The first book on practical optometry was published in 1600. But, there was still no way to diagnose and prescribe specific corrective lenses for individuals. For the next few centuries, people mostly considered eyeglasses to be a necessity of old age. It was rare for anyone to get fitted for new glasses; it was more common for them to be passed down from generation to generation. Spectacles were so valuable, they were often bequeathed in the wills of the upper classes. Due to the rarity and expense, wearing spectacles became a status symbol, a sign of intelligence and wealth. The gentry often bought them whether they needed them or not as a status symbol to prove their refinement. For a while, lower class citizens weren't even permitted to wear glasses in public, even if they could somehow get their hands on them.

During the years of early America, optometrists had to go to Europe for training. Here, optometry was a fledgling industry, one that wasn't yet considered a medical specialty. Still, even in Colonial America, progress was being made. Glasses were produced to correct both far and near vision problems. Benjamin Franklin had one of the first pairs that combined these corrections in bifocal lenses.

As a recognized profession, optometry began around the middle of the 19th century. That is when the first diagnostic instrument, the ophthalmoscope, was invented. With this instrument, an expert could examine the interior eye chamber without invasive procedures such as surgery, which had previously been the only option. The ability to accurately diagnose vision problems was the turning point for modern optometry. Shortly after this instrument was introduced, the first American schools for optometry were established.

By the beginning of the 20th century, eye care and corrective lenses were widely available to everyone. The demand for eye care was great, schools multiplied, and research propelled the profession forward. By midcentury, America was home to internationally recognized eye institutes, research and training centers, and many professional organizations. All state governments started to regulate eye care and professional associations established standards for certification of practitioners.

In 1940, contact lenses had been invented and by the 1950s, they were made available to the public. The first contact lenses were very hard because they were made of glass, and wearers found it difficult to adjust to them. Soon, contact lenses were made of plastic and their use became widely accepted. Soft contact lenses, which are comfortable for most people to wear, became available in 1970.

Once again, a new procedure changed the face of optometry in the early 1980s. A method was devised that makes corrective lenses of any kind unnecessary in many cases. Radial Keratotomy (RK) is a surgical operation that corrects myopia (nearsightedness) by changing the shape of the cornea. The idea of having a surgeon make deep incisions in one's eye with a scalpel wasn't met with a lot of enthusiasm. But scalpels were soon replaced with lasers, something that seems more acceptable to most people. Today, computer-guided lasers sculpt the surface of the cornea with unerring precision in a matter of minutes. Patients lay down (wide awake) with poor vision and arise from this short procedure able to see with near perfect vision. Laser correction techniques can now correct astigmatism and hyperopia, too. No more bifocals, trifocals, or contact lenses.

Over the past 30 years, eye care techniques have improved tremendously. With each step forward, the practice of optometry changes and grows. Today, optometrists can do much more than prescribe eyeglasses. They can diagnose a wide variety of eye diseases, treat many diseases with pharmaceuticals, and even (in some states) use lasers on patients.

WHERE YOU WILL WORK

OPTOMETRISTS CAN CHOOSE FROM A WIDE RANGE OF WORK ENVIRONMENTS and situations from working part time for a neighborhood outreach program to owning a chain of franchised superstores. Some practice alone, with a partner or partners, or with other healthcare professionals.

Over half of all optometrists are in private practice, but the trend is quickly moving away from solo shops. Optometrists new to the field are gravitating toward joining a partnership or group practice or working as salaried employees. Employers include other optometrists, ophthalmologists, hospitals, HMOs, and retail optical stores.

A small number of optometrists are consultants for industrial safety programs, insurance companies, and manufacturers of ophthalmic products. Others choose a career in the military, public health, or other government service. You may also practice at a clinic or community health center.

Those who go on with their schooling to obtain a master's or PhD degree can take up teaching at the college level or in optometry schools. Those few who possess exceptional experience can succeed in research positions in the corporate sector.

Opportunities may not be completely unlimited, but they are plentiful. Jobs are available in most areas of the country, although nearly half of all optometrists work in California, Illinois, New York, Pennsylvania, and Ohio. If you're not interested in city life, you'll be glad to know that optometrists are most needed in rural areas. Wherever they practice, there are more similarities than differences in work environments.

Solo Private Practice

The solo private practitioner usually is a primary care optometrist with a stand-alone practice. A solo practice might own a freestanding structure or lease a storefront or space in a professional building.

Partnership or Group Practice The setting for this type of practice is very similar to a solo practice except that there are at least two people working under the same roof. There are two types of group practice: eye care specialists and multidisciplinary care. In an eye care group, the optometrist practices in conjunction with an ophthalmologist or another optometrist with a different specialty. In this case patients are co-managed by all members of the group. In a multidisciplinary group, the optometrist works with other types of healthcare practitioners in a hospital-based or clinic setting as part of a team.

Retail Optical Superstores Optometrists either rent space within an established optical store or are salaried employees. This is where the fastest employment growth is taking place. These stores are commonly found in malls and shopping centers and cater to shoppers who are looking for one-stop, quick-turnaround convenience. Superstore customers respond to the flashy advertising and are more likely to shop for fashion rather than quality. It's a very competitive marketplace, but it can be a good choice for optometrists who don't want the expense and risk of starting their own shop.

Home Maintenance Organizations (HMOs) An optometrist may be employed to work on salary or be contracted as an independent practitioner by an HMO. In this case, the optometrist is typically the primary eye care practitioner.

Military and (Veterans Administration) VA

Optometrists who work in one of the armed forces are commissioned officers who work in a military hospital or clinical setting with other healthcare practitioners. Those who work in VA hospitals are not necessarily members of the military. Either way, the Veterans Health Administration provides great benefits for VA employed optometrists not to mention a state-of-the-art environment not always found in other practice settings.

Public Health Community health centers and neighborhood clinics either employ or contract with optometrists depending on the size of the population and budget. Optometrists are also contracted to serve on health advisory committees of federal, state, and local governments.

Academic/Research

With the proper educational credentials, an optometrist can teach optometry students about primary care. A few perform research in a university setting.

Corporate/Industrial

Optical manufacturers employ optometrists to perform clinical research. Some large corporations employ them to provide patient care to employees in a clinic within the corporate setting.

Consultants Practice structures for consultants are varied and complex. Optometrists can work as consultants to industry, education, sports (high school to professional) and government. In the most common situation, the optometrist consults with engineers who specialize in improving work environments.

WORKING CONDITIONS

WHEREVER YOU WORK AS AN OPTOMETRIST, YOU CAN EXPECT THE WORKPLACE TO be clean, well lighted, and comfortable.

It is standard for full-time optometrists to work about 40 hours a week. Those who own their own shops work more hours. In order to accommodate the needs of busy patients, Saturdays and some evening hours are common.

Some optometrists work in more than one setting because they hold two or more jobs. For example, an optometrist may have a private practice, but also work part time as a consultant, in a clinic, or for an optical retail center.

THE WORK YOU WILL DO

DOCTORS OF OPTOMETRY PROVIDE over 70 percent of eye care that people need. They are the primary healthcare providers who examine, diagnose, treat, and manage diseases and disorders of the eyes and the entire visual system.

Most optometrists are practicing general full-scope primary care. Although the most basic practice of optometry involves correcting vision problems by conducting examinations and prescribing eyeglasses or contact lenses, that is only the beginning for this professional who provides a wide range of services for patients.

As in many other areas of modern healthcare, optometrists are increasingly taking a holistic approach to eye care these days. Examinations include an in-depth look at the patient's overall medical condition and history for clues that might lead to causes that are not readily apparent. They use special tests and tools to identify and evaluate vision defects that are symptomatic of any condition other than the usual ocular defects and diseases.

The holistic approach also means treatment options can cover a broad range. In addition to prescribing corrective lenses, an optometrist might suggest nutritional therapy or consult with an elderly patient's geriatric physician about possible vision-related side effects from medications.

Optometrists prescribe and administer medications for diagnostic purposes and to treat eye diseases.

General Practice When an optometrist works for a retail optical center or as an employee of a corporation, the tasks to be performed are limited to the requirements of the employer. But more often than not, optometrists are independent professionals, in charge of their own practice. They set their own schedules and decide which services to provide and what kind of patients they will cater to.

A day in the life of a general optometrist is varied and challenging. Patients come from all age groups and backgrounds. Typical tasks might include performing routine visual exams, removing foreign objects from the cornea, evaluating a child who is having problems in school, fitting contact lenses, prescribing medication for glaucoma, providing post-operative care after refractive surgery, and fitting a legally blind patient with a magnifying device to make reading possible.

Depending on the size of the practice, a generalist who owns a shop could be working entirely alone, performing all duties from scheduling patients to processing payments. Most, however, have some staff to help out. One of the most helpful staff members is an assisting technician. The technician typically administers preliminary tests, teaches patients how to use and care for contact lenses, and helps people choose eyeglass frames. That allows the doctor to spend more time gathering in-depth patient information, performing necessary tests, making a diagnosis, and discussing treatment options and regimens with patients.

Optometrists examine eyes not only for vision problems, but also to detect disease or other abnormal conditions. They also test patients for proper depth and color perception and the ability to focus and coordinate the eyes. Tests performed are comprehensive examinations of both the internal and external structures of the eye and utilize some rather imposing instruments. Test results are analyzed and used to develop a treatment plan, which can include a prescription for eyeglasses or contact lenses, low vision aids, vision therapy, and/or medications.

The optometrist records test results and observations from the exams in patient records. When a condition such as diabetes, hypertension, or dyslexia is detected that requires special treatment by another health practitioner, the optometrist dictates a letter of referral. A receptionist or office manager types and sends referral letters, plus handles preliminary patient information and correspondence with health insurance providers.

Common conditions treated by general optometrists include:

Clarity problems such as farsightedness, myopia (nearsightedness), astigmatism, or presbyopia (the need for reading glasses among people over age 40). Some of these problems are lifelong, while others are complications due to aging, disease, accident, or malfunction.

Difficulties with visual skills such as the inability to move, align, fixate, or focus the eye. Any of these problems can make it difficult to perform common tasks at work or play.

Diseases such as glaucoma, cataracts, and retinal disorders.

Corneal injuries resulting in abrasions, ulcers, or infections.

Optometrists also act as part of the patient's healthcare team. As a member of the team they often:

Diagnose, manage, and refer systemic ocular diseases caused by hypertension (high blood pressure) or diabetes.

Provide presurgical and postsurgical care for cataract removal, refractive laser treatment, or other eye surgery.

Provide preventative eye care guidance such as nutritional guidelines, eye exercises, or proper hygiene advice.

Independent optometrists also manage the business aspects of running an office. In addition to seeing patients, a shop owner must make time to develop a patient base, hire and train employees, manage patient and business records, deal with bookkeeping and accounting procedures, order equipment and inventory, and make decisions about advertising and promotion.

Specialties Not all optometrists are general practitioners. Many choose to concentrate on treating a special population or visual condition. There are many possibilities for specialties in optometry; some require additional education, training, or experience. Unlike some other medical specialties, optometric specialties do not require residencies or internships. Specialists often work in group settings, as part of a team. The team may be made up of different types of eye care specialists or it may be multidisciplinary.

Pediatrics

Treating children's visual needs is a popular specialty. It is estimated that 20 percent of children between the ages of five and nine and over 30 percent of the children in their teen years have vision problems. The most common conditions that afflict children are myopia (nearsightedness), amblyopia (lazy eye), and strabismus (squinting). Pediatric optometrists are trained to work with children and their parents to correct these conditions through training and therapy.

A subspecialty of pediatric optometry is infant care. This covers the treatment of eye conditions that might occur in children under the age of four. Vision problems can be the result of a birth defect.

Geriatrics

Treating the elderly is a huge and growing specialty. Most elderly people have vision problems. In addition to corrective vision treatment, eye care is a major health area of concern for aging patients. There are numerous eye diseases that afflict the elderly including cataracts, glaucoma, diabetic retinopathy, hypertensive retinopathy, and macular degeneration.

Many geriatric optometrists spend all or part of their time working in nursing and retirement homes. Many of these care facilities have on-site wellness centers that are specially equipped for the visiting optometrist. Some optometrists have vans equipped as mobile eye care units so they can make the rounds among several facilities and/or make house calls.

These specialists are trained to recognize and diagnose ocular disorders caused by age-related diseases, such as eye problems caused by diabetes. The geriatric optometrist is responsible for screening for eye diseases that will need treatment by an ophthalmologist – a medical doctor specializing in eye care. The most common examples are cataracts and glaucoma. Optometrists work closely with ophthalmologists to provide postoperative monitoring and care after treatment procedures.

Since many elderly people take a variety of prescription drugs, a geriatric optometrist is also an expert on detecting the ocular side effects of medications. There are numerous drugs and drug combinations that can cause blurred or dimming vision. More often than not, it doesn't occur to patients that the medications they're consuming are the culprit. Often a simple change in medication can clear up the problem.

Contact Lenses

Nearly 20 million Americans now wear contact lenses, and many optometrists limit their practices to fitting contact lenses. The popularity of extended wear and tinted lenses has significantly increased the demand, making this a lucrative specialty. Contact lens specialists are trained to deal with complications such as infections, irritations, and other problems associated with wearing contacts. Lens manufacturers occasionally employ these specialists to help design more comfortable and problem-free products.

Optometrists who specialize in prescribing contact lenses are necessarily trained to treat conditions of the cornea. That's because cornea problems are treated with specialized contact lenses and/or medication. For example, orthokeratology is a method that uses a series of progressively flatter contact lenses to gradually reshape the cornea and reduce myopia.

A subspecialty in this field is pediatric contact lenses. This is more complicated than it sounds. Fitting young patients is a more complex procedure than for adults. Plus, teaching children to insert and care for their lenses requires a great deal of patience and rapport.

Low Vision

Certainly anyone who wears prescription eyewear has some level of low vision. But this specialty is about treating partially sighted patients, often classified as "legally blind," most often due to reduced retinal function. Conventional eyeglasses or contact lenses are not enough to treat the clarity problems among these patients. They require more sophisticated magnifying vision aids.

Low vision specialists commonly work as part of a team made up of ophthalmologists, social workers, and government and private agencies. The optometrist's role on this team is to design optical devices such as laser canes, magnifiers, and illuminators. The adaptive devices the optometrists design improve the quality of life for low-vision patients by making it possible for them to work, attend school, and enjoy simple pleasures like watching television that most of us take for granted.

Vision Therapy

This specialty has several names including developmental vision, behavioral optometry, and functional optometry. It is basically the study of how eyesight is related to human behavior. It is a fairly complicated area, but one that practitioners report is very rewarding. The goal is to overcome deficiencies in how a patient moves, aims, fixates, tracks, and focuses his eyes. The specialist finds ways for the patient to better process visual information and interact with the environment in order to overcome problems of perception, visualization, retention, and vision-body coordination.

There are several subspecialties in this field. Learning disabilities is one. Specialists in this area often work with pediatricians, child psychologists, educators, and social workers to diagnose and treat learning disorders like dyslexia. They use their special training in eye-hand and other vision related sensory-motor coordination to help students succeed at school as well as participate in sports and other activities.

Binocular vision is another subspecialty. Here, the specialist is dealing with situations where the two eyes do not work together effectively, causing discomfort or, in extreme cases, crossed eyes. Two of the most common problems are amblyopia and strabismus – lazy eye and squinting. The symptoms of amblyopia include dimness of sight, especially in one eye, without apparent change in the eye structures. Strabismus occurs when one eye is unable to attain binocular vision with the other because of an imbalance of the muscles of the eyeball. The body compensates by causing involuntary squinting. A binocular vision specialist is specially trained to help overcome these vision problems.

Occupational Vision

Most people need good eyesight to do their jobs, but in some occupations there is particular risk of serious strain or injury. For example, enhanced visual skills are essential for near-point tasks such as data entry, sewing, and accounting. Occupational vision specialists (also known as environmental vision specialists) protect and preserve workers' vision and minimize eyestrain. They prescribe eyewear such as computer glasses to reduce strain. They also develop and provide ways to protect workers' eyes from injury while working in hazardous environments.

Some lesser known specialties include:

Sports Vision

Enhancing visual skills required in sports.

Head Trauma

Rehabilitation of lost visual skills due to stroke or head injury.

School Consultant

Evaluating and designing an optimal learning environment, plus testing for vision-related learning disorders.

Ocular Disease Testing

All optometrists diagnose common eye diseases, but some specialists are trained to diagnose, manage, and refer in very complex and rare diseases.

Teaching and Vision Research

Both require advanced experience and/or degrees.

THE PROFESSIONALS SPEAK

I Specialize in Contact Lenses “I was always a very independent type of person. So when I graduated from optometry school, I knew I didn’t want to work for anyone else or be part of a group. I wanted to start a solo practice, but that can be quite a financial burden when you’re just starting out. By specializing in contact lenses, I avoid a lot of overhead some other optometrists have. I don’t need to stock hundreds of expensive eyeglass frames or pay for a space that’s big enough to handle all that inventory. I also don’t have to hire any staff. I work one-on-one with my patients from beginning to end.

My time is my own and I like to schedule patients far enough apart so that I can give them plenty of personal attention. Correcting vision problems is only part of what I do. New patients are always surprised by how thorough my examinations are. When I detect a problem like the onset of a disease, they are so grateful I took the time to do it right. And that makes me feel really good about what I do.”

I Own My Own Optical Store “When my wife and I decided to get out of the big city rat race, we moved to a beautiful little resort town where the nearest optometrists are in the next town down the road. We opened an optical store on the main street where we work together to provide quality care and good service. I provide the examinations and prescriptions; my wife handles the retail end.

While working in one of the top optical retail chains, I noticed that eyeglass customers have become more sophisticated. Nowadays, people don’t just buy eyeglasses so they can see better. They expect to look good and want their glasses to make a statement about who they are.

In my shop, we carry a big selection of designer frames and offer personalized service to please even the most fashion conscious shopper. We don’t just point at a wall covered with frames and tell someone to pick some. Every patient receives a

color and face shape analysis, and we offer a selection of possibilities based on those results.

When you're running your own shop, it's as much about retailing as it is about healthcare. It can be a competitive business, one that keeps you on your toes."

I Am a Behavioral Optometrist "My work is a specialty related to learning problems. In some areas, it's also known as developmental optometry. I am contracted as a consultant for a large city school district. I am called in to examine students when it's suspected that the underlying cause of a learning problem is visual. I also train teachers how to spot visual problems, particularly those that are behavioral. Too often, kids are diagnosed as ADD [attention deficit disorder], and no one thinks about the possibility of visual problems.

Common signs of behavioral vision problems are covering one eye while reading, frequently resting one's head on the desk, or not looking directly at the teacher or the blackboard. These symptoms can indicate problems with focusing – the two eyes are not working together as a team the way they're supposed to. It doesn't matter if the kids have been told by the school nurse that they have 20/20 vision. They can still have problems with muscle control that make reading almost impossible and can cause headaches. With just a few weeks of vision therapy, kids can learn to control their eye muscles and see normally. It makes a huge difference in their lives."

I Work on Salary for an HMO "A couple of years out of optometry school, I was still struggling to get my solo practice off the ground. The business end of it was more challenging than I had expected. A friend of my family practiced dermatology at a major HMO. He told me the organization was looking to add a couple of specialties to their care center and optometry was one of them. I wasn't so sure I wanted to be involved with managed care, but it has turned out very well.

I work under a contract that is renewable every three years. I have security, a steady flow of patients, and plenty of support. The

facilities are first rate, and I have access to better equipment and staff than I could possibly get on my own. There are a dozen different medical specialties practiced here; I am the only optometrist. We share a receptionist and never have to deal with scheduling or billing. There is a lot of paperwork to be done after every patient visit. Still, it's a lot easier than doing everything myself.

I enjoy working with other healthcare professionals. There's an area in the building where we can get together and socialize. Plus, it's convenient being able to make referrals to other members of the group.

My work is interesting because I meet so many different kinds of people. My patients cover the gamut from little kids to their great-grandparents; from a teenager who couldn't pass the eye exam to get a driver's license to an industrial worker who's developing glaucoma."

I Am a Generalist in Solo Practice "The choice to become an optometrist was probably the best decision I ever made. I've been practicing optometry for over 30 years, and I have no plans to retire anytime soon.

I got into this field because of my own experiences, particularly in childhood, with bad eyesight. When I was a kid, it wasn't customary to test children's eyes. There weren't any kids in my class wearing glasses. Unless someone noticed an obvious problem, poor vision could go uncorrected for years. Of course, a child doesn't know the difference. I was in the fourth grade when my teacher finally figured out that I was squirmy in class and not doing well in school because I couldn't see the chalkboard. I remember being stunned when I put on my first pair of glasses and realized what I'd been missing!

Fortunately, times have changed and people are more aware of vision problems and the need for eye examinations in people of all ages. It gives me great satisfaction to help people enjoy their lives because they can clearly see the world around them."

PERSONAL QUALIFICATIONS YOU WILL NEED

OPTOMETRISTS DEAL DIRECTLY WITH THE PUBLIC AND MUST ENJOY WORKING closely with all different kinds of people. It is not enough to simply be a people person, although that's a good start. You must be able to quickly develop effective interpersonal relationships with dozens of individual patients each and every day. This is accomplished through tactful communication and by demonstrating compassion and concern for the people who come to you depending on your expertise.

You will see patients of all ages and walks of life. Children require patience, their parents need reassurance, the elderly appreciate respect, and everyone responds to empathy and sensitivity. Performing your duties as a dignified professional will help put people at ease by making them feel they can rely on your good judgment.

Good communication skills are a big plus, from writing legible and accurate patient records to asking the right questions in order to elicit necessary information from patients. It is important to be a good listener, but also to have the ability to read non-verbal cues that would indicate sadness, worry, agitation, or lack of comprehension.

This work requires keen observation skills. First, your own visual acuity and perception are of primary importance. So is attention to detail. Diagnostic tests and instruments provide a lot of numbers, images, and patterns that need to be seen and interpreted. Observation skills also include tactile abilities because examinations often require actually touching a patient's eyes to feel for structural anomalies or certain cardiovascular pulses. Can you observe changes in mood among your friends? This kind of sensory observation is a good trait for any optometrist to possess.

Problem solving is probably the most valuable skill for anyone considering optometry. Every examination requires you to accurately assess the situation and come up with the right solution. It is essential that you be able to act and react quickly, especially in emergency cases.

Manual dexterity will be needed throughout your working day. During examinations, you will simultaneously manipulate lenses, instruments, and therapeutic agents and devices. Eyeglass fittings often require reshaping frames and replacing tiny screws. You will need to be able to insert, remove and manipulate contact lenses. And a steady hand is vital when it comes to removing foreign objects from the cornea.

Aptitudes for math and science are necessary in order to complete the educational requirements for this career. For anyone who intends to own an independent practice rather than working for someone else, a head for business and self-discipline are important for success.

Other good attributes to have are emotional stability, high ethical standards and integrity, and good physical health.

ATTRACTIVE FEATURES OF THIS CAREER

OPTOMETRY IS A REWARDING CAREER IN MANY WAYS. IT IS CONSIDERED ONE OF the best jobs in the US. Out of the top 250 jobs ranked by Jobs Rated Almanac, optometry is 39th.

A career in optometry offers a high income, tremendous potential for growth, job security, and a good work environment. It is virtually stress-free and is not physically demanding.

The average income for optometrists is very good and has always outpaced inflation. In fact, it is one of the top 10 professions in the country based on income potential alone.

When asked if they are satisfied with their career choice, practicing optometrists overwhelmingly say yes. What they like best is being able to help patients care for the most important human sense – sight. Because of expanding coverage provided by insurance plans, optometrists are able to continually add more health-related services and new techniques. The ability to offer more services and to work with patients on a regular basis over a long period of time provides tremendous satisfaction. Many like it so much that they choose to continue working part time even after retirement.

There is prestige associated with this career. Optometrists are recognized in their communities as respected citizens and leaders. While esteemed healthcare providers, optometrists enjoy benefits that most doctors don't. For instance, optometrists hardly ever receive emergency calls or get roused out of bed in the middle of the night or called in to work during their days off. They can usually establish a flexible work schedule, one that provides ample time to enjoy a personal life that is as satisfying as the professional one. That's a luxury most doctors don't have. As an optometrist, it's easy to avoid the high level of stress that is so pervasive in most medical professions.

Optometrists typically have reasonable and regular schedules with work being conducted during normal business hours. Rarely do optometrists have to work late at night or more than five days per week.

The working conditions are excellent. Whether an optometrist works in an independent practice or for a superstore or clinic, the environment is always clean, well lit, and pleasant.

UNATTRACTIVE FEATURES

A CAREER IN OPTOMETRY HAS MANY BENEFITS AND THE DOWNSIDE IS MINIMAL. But no career is perfect. Probably the biggest drawback is the investment in time and effort to prepare for this career. There are substantial educational requirements, which require careful planning, dedication, and hard work starting in high school. Because there are only 17 accredited schools of optometry in the US, competition for entry is tough. This may be the biggest hurdle to overcome on your road to becoming an optometrist.

Dealing with the public day in and day out isn't always easy. Patients may be cranky, impatient, ill-tempered, or just plain rude.

Optometrists who choose to work in retail locations may be required to work on Saturdays. Depending on the setup, there may be a lot of standing and few breaks.

To start an independent practice requires a considerable investment in office space, diagnostic instruments, inventory, payroll, and furnishings. This isn't always a viable option straight out of optometry school when there are student loans to repay. Most newly licensed optometrists start out working as employees for a few years until they are in a financial position to open their own offices.

EDUCATION AND TRAINING REQUIRED

A CAREER IN OPTOMETRY DOES REQUIRE A SUBSTANTIAL INVESTMENT OF TIME, hard work, and education. The basic requirements are:

- Four-year bachelor's degree
- Four-year Doctor of Optometry degree
- State board certification
- Continuing education credits

College To enter the field of optometry, you must first obtain a bachelor's degree from an accredited college. Currently there are only 17 schools of optometry that offer graduate degree programs in the United States and the competition for entry is quite competitive. Therefore, your college years will be all about preparing for graduate school.

Undergraduate students can enhance their chances of acceptance into graduate school by excelling in the right courses. In fact, most schools of optometry require three years of preoptometric study. Admissions boards look for good grades in math (geometry and calculus), physics, organic chemistry, biology, anatomy, physiology, and English. Other course work for preoptometry students should include statistics, psychology, microbiology, social sciences, and a foreign language. Any science courses should be advanced level courses designed specifically for preoptometry students and should also include appropriate laboratory instruction. Survey courses in the sciences would not be adequate to prepare you for optometry school.

It's important to note that every graduate school has its own prerequisites, so be sure to contact the school of your choice for specific course requirements. If you're not sure where you want to go, check with your guidance counselor.

Aside from college transcripts with a good grade point average, there are several other factors considered by optometry school admissions boards. Applicants are evaluated during personal interviews and must also write a personal essay. Letters of recommendation are required.

A lot of emphasis is placed on OCAT (Optometry College Aptitude Test) scores. The test is usually given after the sophomore or junior year in college and is designed to measure academic ability and scientific comprehension. The test is sponsored by the ASCO (Association of Schools and Colleges of Optometry) and is required by every school of optometry in the U.S. and Canada.

Graduate School

Graduate school takes four years. Much of the course work is similar to that of any medical school student. Topics covered include:

- **Human anatomy**
- **General pharmacology**
- **Pathology**
- **Psychology**
- **Biochemistry**
- **Statistics**
- **Epidemiology**

Unlike other doctors, future optometrists receive extensive classroom and laboratory study of visual sciences. Clinical training focuses on the study of optics and the diagnosis and treatment of eye disorders and covers:

- **Ocular anatomy, disease, myotology, and pharmacology**
- **Neuroanatomy and neurophysiology of the vision system**
- **Physiological and ophthalmic optics**
- **Color, form, space, movement, and vision perception**
- **Design and modification of the visual environment**
- **Vision performance and screening**
- **Lens design, construction, application, and fitting**

During clinical training, students work in a simulated optometric environment, working on each other before moving on to real patients. This training provides experience in taking case histories, performing examinations, employing diagnostic techniques, and discussing treatment services and options with patients.

Not all graduate work is scientific; some is very practical. In your senior year, you can expect to learn how to manage a practice, work with children and the elderly, healthcare law and policies, ethics, and economics as they apply to the field of optometry.

Also during the fourth year, internships are available for those who desire hands-on experience in the field. Qualified professional optometrists supervise students in various practice settings including community service clinics. It's a good way to gain exposure to the unique problems of nursing home patients, inner-city neighborhood clinics, inmates, institutionalized and low income patients that wouldn't otherwise receive the visual care they need.

If you're interested in pursuing a career in research or teaching, you'll also need a master's or PhD degree. The choices of study are visual science, physiological optics, neurophysiology, public health, health administration, health information and communication, or health education.

There are also clinical residency programs available for optometrists who want to specialize in family practice optometry, pediatric optometry, geriatric optometry, vision therapy, contact lenses, hospital-based optometry, primary care optometry, and ocular disease. Each residency lasts for one year. These programs are entirely optional and are not required for licensure or to work in a specialty practice.

Licensing With your Doctor of Optometry (OD) degree, you are eligible to sit for the state board examination. This is a licensing procedure that is required in every state and the District of Columbia. It is not a simple test. It includes both a written exam and clinical exams. In some states, you can substitute the National Board of Examiners in Optometry test for the written portion. This exam can be taken at any time during graduate school. Successful passage entitles you to practice optometry in your state. If you want to move your practice to another state, the license can usually be transferred without repeating the exam.

Continuing Education All states require licenses to be renewed every one to three years. Continuing education credits are needed for renewal. Courses that meet the requirements are widely available throughout the country.

EARNINGS

OPTOMETRY IS AN EXCELLENT CHOICE FOR ANYONE WHO IS INTERESTED IN financial security with very little downside. Recent surveys indicate that optometry is a stable career that is unaffected by the cyclical ups and downs of the American economy.

How much can you expect to earn as an optometrist? That depends mostly on your own initiative. That's because salaried optometrists – those who work for someone else – earn less than those who are self-employed and own their own practices. Overall, the average yearly income is about \$150,000. But taking a closer look, there is a big variation in income that depends on where you work, where you live, how big your employer's company is, and of course, how much experience you have.

Salaried optometrists earn \$85,000 on average with a range of \$60,000 to \$120,000. Those working in doctors' offices and medical clinics do the best with earnings of nearly \$90,000 per year. Working in other types of health practices such as HMOs lowers the income by about \$5,000 a year.

As a new graduate, you can expect anywhere from \$35,000 to \$55,000 for your first year on the job depending mostly on the geographic area.

This is a career where experience counts for a lot. After only four to five years on the job, the average salary shoots up to \$85,000. Keep in mind, that one of the reasons for the rise in salary is that so many professionals return to school to earn graduate degrees or pursue training in specialties such as neuro-optometry, pediatrics, or research.

At this point, salaried and self-employed optometrists are on equal footing, earning about the same amount after five years of experience. Unless, as a salaried optometrist, you live in a major metropolitan area, have an excellent reputation, and practice a specialty, the only way to increase earnings from here is to go into your own practice.

In the long run, it is those who are self-employed who will earn the most. For solo practitioners, the average annual income is about \$135,000. If you are working in association with one of the major optical chains, you'll give up some income, but not much. Expect to earn about \$115,000 in that situation. Getting together with a partner

or small group of no more than five others is your best bet – average earnings can go as high as \$200,000. Part of the reason that this situation works so well economically is because a group can reduce overhead and offer specialized services to draw a larger clientele.

Although most optometrists end up being self-employed, there is an advantage to starting out on salary, working for someone else. It takes time and money to set up a successful practice. Therefore, salaried optometrists usually earn more in the beginning. A common career track for beginning optometrists is to enter into associate practices. While working on salary, they set aside earnings to invest in starting their own practice, develop a reputation and client base, and learn how an optometry business is run.

OPPORTUNITIES ABOUND

THERE IS A GOOD REASON WHY OPTOMETRY IS AMERICA'S THIRD LARGEST healthcare profession. Over half the population wears eyeglasses or contact lenses. That amounts to about 150 million people who need to be examined and fitted for corrective lenses. Many people get more than one pair of glasses especially considering the growing popularity of designer prescription sunglasses. Soft contact lens wearers require constant replacements. And even people with no vision problems need routine care to prevent and/or manage eye disease. Americans are becoming increasingly aware that vision care is an important part of a good health plan.

Opportunities for optometrists are expected to grow. The American population is aging and that has two effects on this career. First, one out of four practicing optometrists are nearing retirement age, creating the need for replacements due to attrition. Second, as the huge baby boomer generation ages, more eye care services will be in demand for the burgeoning elderly population.

Nearly everyone over the age of 50 needs some kind of vision correction. Plus, there are a number of age-related eye diseases that require care such as cataracts, glaucoma, diabetic retinopathy, hypertensive retinopathy, and macular degeneration. Elderly patients need to be examined frequently for these common eye diseases. Fortunately, senior citizens are able to make regular visits to optometrists because of changes in Medicare coverage. Eye care examinations have grown the most for people over 65 since Medicare authorized reimbursement to optometrists.

More people than ever are able to receive optometric services because HMOs and other healthcare plans provide coverage. Vision plans are now a common part of employee health insurance benefits.

People who use computers extensively often develop visual problems. These days, that's a lot of people! It's not just computers that strain our eyesight. More tasks than ever require good vision in the workplace, at school, and for leisure activities.

State laws, which regulate optometric practice, have expanded to allow optometrists to provide nearly all primary eye care services. This creates more opportunities for optometrists as they take over the tasks of prescribing medications, performing pre-op and post-op care for laser patients, and actually performing laser corrective surgery in those states where regulations permit.

Half of all optometrists are self-employed, independent professionals. However, for those looking for employment, the job outlook is best in retail optical stores and outpatient clinics. There are also a growing number of corporations with optometric services on site. Employers also occasionally hire optometrists to design lighting for the workplace or offer ways to prevent the occurrence of eye injuries on the job.

The biggest growth in job openings has been with chain superstores. National franchised chain vision centers are in every mall, and even discount superstores that sell everything from popcorn to patio furniture have optometric departments. These setups make eye care easily accessible and affordable for the general public. It means more people are being examined and more optometrists are needed to conduct those examinations.

If you want a career with a good job outlook, this is one of the best. There are many opportunities for thriving independent practices or employment working on salary. In this career, you will always know that your services are in demand.

GETTING STARTED

YOU'VE MADE IT THROUGH FOUR YEARS OF COLLEGE, GRADUATED FROM optometry school, and passed your state's required tests. Now, you're a duly licensed Doctor of Optometry ready to practice your chosen profession. Where do you start? Fortunately, this is one career where experience isn't a prerequisite for employment. Your license and a good interview are all you need.

The first place to look for a job is at your optometry school. Most schools maintain a current list of job openings. Check with your guidance counselor and the Office of Student Affairs.

One of the best ways to find employment in this field is through networking. Spread the word even before you graduate that you're looking for opportunities. During your graduate study, you worked closely with practicing optometrists. You've made valuable contacts there and also while doing volunteer work. Ask those contacts plus your professors, relatives, friends, and any optometrists you've met to let you know about any job openings that come up.

Professional associations could be helpful in finding opportunities. Go to the association Web sites and look for job postings and/or post your own resume on the bulletin boards. You can also post your resumé on any of the online job boards. The ones that specialize in health industry jobs are particularly good bets, but use the general sites, too.

The demand for optometrists is so strong that openings often appear in the local newspaper help wanted ads. This is especially true for part-time positions with retail super stores. If you see no openings being advertised, it doesn't mean employers aren't hiring. Apply to eye care super stores, clinics, and hospitals.

Prepare a good resumé and cover letter. Include specific experience and skills derived from volunteer work, internships, or part-time jobs that may be relevant. Also include references from professors plus practicing professionals and supervisors you've worked with.

The key to acing the interview process is to let your enthusiasm for your career choice show. Employers know that you've learned the necessary technical skills in school. They'll be looking at your people skills – empathy, understanding, and the ability to communicate effectively.

ASSOCIATIONS

- **American Academy of Optometry**
<http://www.aaopt.org/>
- **Association of Schools and Colleges of Optometry**
<http://www.opted.org>
- **American Optometric Association**
<http://www.aoanet.org>
- **Council on Optometric Practitioner Education**
<http://www.arbo.org/cope/>
- **Future Optometrists**
<http://www.futureoptometrist.com/>
- **National Board of Examiners in Optometry**
<http://www.optometry.org/>
- **Vision Council of America**
<http://www.visionsite.org/>
- **National Optometric Association**
<http://www.natoptassoc.org/>
- **World Council of Optometry**
<http://www.worldoptometry.org/>

PERIODICALS

- **Optometric Management**
<http://www.optometric.com/>

- **20/20 Magazine**
<http://www.2020mag.com/>
- **Review of Optometry**
<http://www.revoptom.com/>
- **Eyeworld**
<http://www.eyeworld.org/>
- **Contact Lense Spectrum**
<http://www.clspectrum.com/>

ACCREDITED SCHOOLS

- **University of Alabama at Birmingham**
<http://main.uab.edu/optometry>
- **Illinois College of Optometry**
<http://www.ico.edu/ico2/flindex.html>
- **University of Missouri – St. Louis School of Optometry**
<http://www.umsl.edu/divisions/optometry/index.html>
- **Southern California College of Optometry**
<http://www.scco.edu/>
- **Indiana University School of Optometry**
<http://www.opt.indiana.edu/>
- **Pacific University College of Optometry**
<http://www.pacificu.edu/oce/>
- **University of Houston College of Optometry**
<http://www.opt.uh.edu/>
- **Southern College of Optometry**
<http://www.sco.edu/>
- **University of California, Berkeley School of Optometry**
<http://spectacle.berkeley.edu/>
- **New England College of Optometry**
<http://www.ne-optometry.edu/>

- **The Ohio State University College of Optometry**
<http://optometry.osu.edu/>
- **Nova Southeastern University**
<http://www.nova.edu/cwis/centers/hpd/optometry/>
- **Michigan College of Optometry**
<http://www.ferris.edu/mco/>
- **Northeastern State University**
<http://arapaho.nsuok.edu/~optometry>
- **Pennsylvania College Of Optometry**
<http://www.pco.edu/>

WEB SITES

- **Optometrist Jobs**
<http://www.optometristjobs.com/>
- **International Vision Expo**
<http://www.vision.reedexpo.com/>
- **Optometric Extension Program**
<http://www.healthy.net/oep/>
- **Vision Therapy**
<http://www.vision-therapy.com/>
- **Vision and Learning**
<http://www.visionandlearning.org/>