



SENIORS BOOM Seniors account for a substantial chunk of the North American population and their numbers are growing steadily.

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COURSE DESCRIPTION
 As the senior population continues to grow, its need for eyecare and eyewear will increase. While nearly all seniors are presbyopic, their visual and optical needs are widely different. The best method for eyecare professionals (ECPs) to assist this population is to understand the diverse needs of this group and the products that best serve them. This course provides the information you need to know.
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PHOTO COURTESY OF SHAMIR SIGHT, INC.

UNDERSTANDING SENIOR PAL PATIENTS

Getting to know needs of senior citizens can significantly help you provide this booming sector of the population the eye care they need.



PHOTO COURTESY OF SEIKO OPTICAL PRODUCTS OF AMERICA

DIMINISHING VISION By age 60, humans only have about 1.00D of natural accommodation left in the crystalline lens.

BY ERIC L. BRAN AND SHARON LEONARD

If 60 is the new 40, then what does that make an 80-year-old? Well, it makes both of them senior citizens. Seniors account for a substantial chunk of the North American population and their numbers are growing steadily. They are such an important part of all eyecare practices that their sheer numbers alone fuel much of the research and development initiative for lens companies. What lens company wouldn't want to tap into this booming market? And what eyecare office wouldn't want to beef up this aspect of its practice?

To get market share, you must offer products that have real value for senior citizens. I'm not talking about low price, but rather value in terms of making life and vision better. Those products are out there. It's the savvy eyecare professional (ECP) who understands

this age group's issues, knows the best-suited lens products, and applies that knowledge, and as a result actually improves vision for senior citizens. Here's what you need to know to make sure you make an impact among your senior patients.

YOUNG SENIORS

Seniors come in many different "flavors." Think of the early Boomer who's into in-line skating, biking, or kayaking. He spends more leisure time outdoors. This generation, born between 1946 and 1964, is now starting to retire. They have a more active lifestyle than any previous generation in that age category. And many will continue working long after the age of 65 because they want to.

This is also the generation that was brought into presbyopia with progressive addition lenses (PALs).

They did not want the age-revealing lines of standard bifocals and they were early adapters when it came to computers. That meant they wanted a smooth transition to intermediate vision for computer use.

This group of seniors forms the biggest pie-chart section of PAL wearers. However, in coming years, they will have many of the vision problems that beset their older sisters and brothers right now. Some of their needs will change and the products you provide them will change too.

70-SOMETHINGS

Contrast the early senior with the 70-something-year-old who may be having health issues, but still plays a few rounds of golf every week. This patient probably has incipient cataracts or may already have had cataract surgery. She probably started out in her 40s with standard visible bifocals. Remember, just 30 years ago when this group got their first multifocals, PALs did not have the biggest share of the multifocal market. Many ECPs still tell these patients that it's hard to adapt to a PAL if you've worn conventional bifocals in the past. Of course, you know that's not true...right? These are also the patients who tell you, "I don't drive at night anymore." Or, "I can't stand bright lights," or, "I tried PALs once before and they made me dizzy." There are solutions for all of these problems now. And yes, you can teach an old dog new tricks!

GOING UP

Then there are the 80-to-100-year-olds who probably have had cataract surgery and may have age-related macular degeneration (ARMD), arthritis, and problems with mobility. They have different lifestyles, different problems, and very different visual needs. They almost certainly are dealing with post-cataract issues. The oldest in this group probably had conventional (non-implant) cataract removal and may have had subsequent secondary implants, and he may be more likely to be using some type of mobility assistance like a cane or a walker. He's the least likely of the seniors to use a computer but still has a need for intermediate vision. Remember, with no accommodation left and with near adds in the +2.75D to +3.00D range, intermediate vision (like kitchen counter height) is a real problem. These seniors do not spend much time outdoors and are most likely to be focused inward on family, home, and peer social groups. You can improve this group's vision with PALs too!

THE 'PLAIN VANILLA' PRESBYOPE

The youngest seniors have been presbyopes for >>



PHOTO COURTESY OF HOYA VISION CARE, NORTH AMERICA

PAL CONVERSION Wearers of lined bifocals and trifocals do quite nicely with PALs, but you need to choose lens design wisely.

almost 20 years. Chances are pretty good that they are currently wearing a PAL, especially if they use a computer. That brings intermediate vision issues to the forefront. Donder's Table (see "The Progression of Presbyopia," p.8) tells us that by age 60, humans only have about 1.00D of natural accommodation left in the crystalline lens. Since they can only access about half of the available accommodation, this leaves a paltry 0.50D for use.

The average reading distance is about 40cm (about 14 in.). If we do the classic $D=1/f$ (D is for diopter, and f is the focal length expressed in meters) then: $D=1/.4$ or 2.50D. That means you need +2.50D of available power to read at this standard distance. Well, at age 60, the average person does not have that around anymore. It also means that her intermediate vision is compromised. She needs about half of that +2.50D just to see the computer monitor, car dashboard, or kitchen countertop!

Out of all seniors, this is the group that is also most likely to still be in the work force, and essentially, who "near-environment" lenses were designed for. These lenses feature an intermediate vision top that gradually changes to a near vision bottom. There are many such lenses available. Take a look at Carl Zeiss Vision Inc.'s Access®, Shamir's Office™, and Essilor of America, Inc.'s Interview™, to mention a few. You need to know the working distances for your patient to correctly use these lenses. Typically, they have full near at the bottom with a power "back-off" from 0.75D to 1.25D at the lens top. That means your patient will not wear these to see 20 ft. down the office hallway, but anything within 1 ft. to 6 ft. should be reasonably clear.

Patients need to understand that these lenses are occupational—they are not designed to be their primary glasses. But talk to anyone who sits at a computer for long periods and you'll hear that with a conventional PAL, life can be a literal "pain in the neck." Constantly lifting the chin for computer screen viewing is not pleasant. These lenses are a great solution!

For the very active "Boomer," the AO b'Active™ lens from Zeiss has all the answers. It's not the newest kid on the block, but it's a great solution for active people who are into biking, roller-blading, or skiing. There is a smaller near area (but adequate), and virtually no "swim" in the periphery which means a lot for the active Boomer. Newer free-form PALs help to

eliminate peripheral aberration. These are great choices for active senior patients too.

DEVELOPING CATARACTS

Almost all seniors will have to deal with cataract formation, either as a part of the aging process or concurrent with other conditions such as diabetes. Cataracts most often form due to the hardening, clouding, and discoloration of the crystalline lens. As the crystalline lens clouds, several other things happen to vision. There may be a myopic shift in vision (patients start requiring minus power to see better). This is sometimes referred to as "second sight." Color discrimination may change, and colors may not look as vibrant. Contrast sensitivity will be diminished.

Depending on exactly where the cataracts are forming—in the center or the periphery of the lens—patients may see better in dim light when the pupil is dilated (central) or in bright light when the pupil is more constricted (periphery). As their vision may be changing rapidly due to the cataract, PALs offer varying near and intermediate focal points within the lens to reduce the number of Rx changes prior to surgery.

High-contrast lenses are often beneficial for these patients. Younger Optic's Image® progressive DriveWear® lens is one example that can be useful for the patient with an incipient cataract outdoors. This sunwear lens is photochromic and polarized so it regulates the light level outdoors while knocking out plane polarized glare that can be disturbing to these patients. In its lightest phase, it has a green color that filters out scattered blue light, and when fully darkened, its deep copper hue provides higher contrast. All these factors are helpful for the cataract patient who is not yet ready for surgery, yet spends much time outdoors or driving.

There are other ways to provide your patients with high-contrast PALs too. You might consider BPI's Filter Vision/Blue Barrier® Tints as an add-on for your senior PAL patients. They come in a variety of colors but all filter out annoying blue light that can scatter in the ocular media of seniors. This helps improve contrast sensitivity too. These lenses can really help the patient with developing cataracts to maintain a full range of daily activities.

THE POST-CATARACT SURGERY PATIENT

These patients are often the most challenging. Their surgeries may be weeks or months apart, and there are issues with widely different Rx's during the interim. PALs can be surfaced with slab-off prism to handle the vertical imbalance that may occur during this period. The rule for slab-off changes when it comes to

PALs. Even though the lenses are most likely plastic, reverse slab-off is not done. Go back to what you learned about glass lenses—the strongest minus or weakest plus lens gets the slab-off. Even better, let the lab figure it out!

Other important factors you need to know about these patients include the kind of implant that was used and what its features are. If the patients have a traditional distance-vision-only intraocular lens (IOL) implant, then they are great candidates for PAL lenses. The PAL can restore near and intermediate vision to near pre-surgery levels. Some patients have implants based on the theory of monovision—one IOL for distance and a near IOL in the non-dominant eye. These patients may require additional help for intermediate vision.

Properly prescribed PALs can give them what the IOL lacks in terms of visual range. Increasingly, implant surgery may involve an "accommodating" IOL. There are several designs, including AcrySof, ReSTOR, ReZoom, and Crystalens. While they may not "accommodate" exactly like the natural crystalline lens, they can provide a full range of vision for many patients. When these patients do need supplementary glasses, PALs can fill the bill. Insurances, like Medicare, may not completely cover the cost of PAL lenses for these patients. That is a big concern for seniors living on a limited income. They need to understand that the improvement in visual performance may be well worth the additional modest expense.

FROM FLAT-TOPS TO PALS

Many of today's seniors, especially women, are spending lots of money and time on personal appearance. Cosmetic companies are rolling out entire lines of skin care products designed to minimize facial lines and restore skin texture. This is the market that wants to get rid of their eyeglass lines too!

Unfortunately, many older patients have been told that if they started out with a conventional "lined" multifocal, they should not change to a PAL design. Such patients may also have been told that smaller fashionable frames are not suitable for PAL lenses. This "conventional wisdom" is neither conventional nor wise. Yet, for many ECPs, these attitudes prevail. Wearers of lined bifocals and trifocals do quite nicely with PALs, but you need to choose the lens design wisely. You need to understand the patient's daily visual activities, working distances, and any

physical problems that limit head or neck posture.

Short-corridor lenses like Signet Armorlite, Inc.'s KODAK Precise Short™, Zeiss' Compact ULTRA™, or Essilor's Varilux® Ellipse®, work surprisingly well for these patients. The user accesses the reading area quickly and without the annoying image jump of a lined multifocal. Her need for intermediate vision is answered. Also consider standard corridor lens designs like the Varilux Liberty® that are specifically meant for these patients. The learning curve is not long. Simply explain to patients that instead of visually "going down steps," they are going to "slide down a ramp" to access the near portion. Any extra time spent at the dispensing table explaining the features and benefits of the lenses is time well spent. If patients understand how PAL lenses work, they are more likely to maintain patience through any adaptation period.

Older multifocal wearers who may be using a cane or walker can also benefit from PALs because they do not have the image jump present in most lined multifocals. They would certainly benefit from the newer free-form lens offerings. This option reduces peripheral swim and astigmatic aberrations that are often annoying.

You've probably seen the elderly male patient who wants a big double-bridged frame too, right? Consider lenses like Signet's KODAK Precise and Seiko Optical Products of America, Inc.'s Super Proceed® Internal for these patients. Be careful about using short corridor lens designs with big B dimension frames, though. The patient will run out of add power at the bottom of the lens and right into some aberration. At the same time, be aware that newer wavefront designs make flat-top-to-PAL conversions a breeze. Essilor's Varilux Physio 360™, Signet's KODAK Unique, or Seiko's Succeed Internal Free-Form™, are all examples of lenses that use free-form technology in the surfacing process. They offer reduced swim effect and lenses designed specifically for the Rx and frame choice. >>

REWARDS Providing PALs to seniors can be one of the most satisfying parts of dispensing.



