Hadley

Bioptics for Driving and More

Presented by Ricky Enger

**Ricky Enger:** Welcome to Hadley Presents. I'm your host, Ricky Enger, inviting you to sit back, relax, and enjoy a conversation with the experts. In this episode, occupational therapist Fay Tripp, along with Hadley's Chief Program Officer, Ed Haines, join us to discuss bioptics. Welcome to the show, both of you.

**Ed Haines:** Thanks, Ricky.

**Fay Tripp:** Good morning.

**Ricky Enger:** So glad to have you here, Fay, and always good to have you, Ed. We're talking today about a subject that I know very little about. This is one thing I love about my job is that I get to learn something new every day, and we get to share that with our audience as well.

So, before we get started talking about bioptics, what they are, and what they do, and who can use them, let's just take a moment to get a little information about each of you. Ed, you've been on the show before, but we'll start with you. Of course, you're Hadley's Chief Program Officer and I think you've also had some field experience as well, right?

**Ed Haines:** Thanks Ricky. Yeah, I'm the Chief Program Officer at Hadley, but I've also worked as a vocational rehab counselor and a vision rehab therapist for many years. So, I am a little familiar with the use of bioptics. It's an important topic, so I'm really glad we're talking about it today and I'm grateful that Fay is willing to speak with us today.

**Ricky Enger:** Yes, we so appreciate that. Fay, can you tell us a bit about yourself as well?

**Fay Tripp:** Good morning, and thanks so much for having me chat with you this morning. I am an occupational therapist. I've worked within the Duke system for about 33 years and for about 15 years I've been involved with the Duke Eye Center Vision Rehab group, full-time for the last eight years. Within the realm of occupational therapy, prior to the vision rehab part, I worked in a general rehab setting, and then acute care. I've worked in outpatient in a variety of different settings.

So, with the background, I feel like it's brought a good foundation to the world of vision, because we don't just see the person with their vision limitation. We work with the person. It's a whole person. So, in our setting, especially with our population now of older adults, we typically don't have just the vision issue to address. It's other issues, too.

So, I'm thankful for the background and to be able to pull all of that into the world of vision. I have had an opportunity to work with folks with bioptics over the last eight years, so I hope that I can share some information today that will be helpful.

**Ricky Enger:** Yeah, it really sounds like you're the ideal person to take this on, not only because you do have experience with bioptics, but also the fact that you are treating patients as whole people, not just a vision problem to be solved. It’s so important and doesn't always happen. Really glad to have you here to talk about bioptics, and I'm looking forward to learning a bit more about them and who might be able to use them.

So, with that, I'm ready to sit back and take it all in. I'm going to throw things over to you, Ed. I know you have a lot of great questions, so let's get right into it.

**Ed Haines:** Well, thanks, Ricky. Fay, let's just start with the basics. If you could just tell us, what are bioptics? What do they even physically look like and how are they constructed?

**Fay Tripp:** Sure. So bioptics, it's two parts. Bi is two, and then optics is the glasses part. So bioptic telescope lens system glasses are essentially made up of the two parts of regular glasses as you think of glasses, with a prescription lens. And then the bioptic is either attached, as we would say a frame-mounted system, or a clip-on system.

There are different versions of bioptic glasses, and it really depends on what a person's needs are and how they would be fit or prescribed the glasses. So generally, it's a pair of glasses with the telescope mounted to it in a variety of ways so that it allows a person to use their regular lens just for distance, but then the telescope gives that ability to see much further. So, to expand the world to a much further space than what the regular glasses would.

**Ed Haines:** Well, that makes sense. And maybe you could explain a little about the experience of using bioptics. I know that folks who are new to vision loss, they're always looking for some kind of optical device that's going to make them see the way they used to see, right? It's just a normal thing. So, do bioptics do that? Are they easy to use? And what do people say they like about them and what are the kinds of things that people don't like about them?

**Fay Tripp:** Sure. It's not going to revert the vision back to the way it used to be. For example, before the vision loss or the vision impairment, it may not get the vision back to that point. What the telescope glasses do is to magnify. So, if the person's limited in their vision in a way, like a visual field limitation, it's not going to replace that visual field limitation.

What it will do is magnify an image so that it's like bringing it up closer. So, to relate to the use of binoculars. When a person looks through binoculars, everything is up really close. It magnifies. It gets a bigger image on the retina or the back of the eye so that a person can take that information in more easily and then, functionally, they see it better. The telescope glasses will not correct for any visual field limitation, or if there's distortion, or so forth.

So, it's not going to make it like it used to be. But what it does is magnify the image so it's a bigger image on the retina, on the back of the eye, so that the whole visual system can take that information and use it more efficiently. Whether it's easy to use or not, that's depends on the user. Some people catch on very, very quickly, and some people may have more trial time and more practice time to get really comfortable with it.

The practice time is really important. One of the factors that we would consider prior to the optometrist or ophthalmologist prescribing bioptics is to really encourage a trial use. A person would come into the clinic to see if they can actually do it and it's something that they really want to pursue, because it can be a challenge.

When a person is using one of the common types of telescopes, they may be looking through their regular lens glasses, but the telescope's mounted on the top of the frame. So, what they have to do is just transition, or find a target with their eye vision, transitioning from the carrier frame lens, the regular lens, down into the telescope, and to be able to spot their target as they look through the telescope. So, it does require a level of eye control, cognitive ability to learn new skills, and the ability to get comfortable with that movement.

**Ed Haines:** That's really useful, Fay, because I know in the past, I've had folks who are new to vision loss tell me, "Oh, a friend of mine said you can get these great glasses and they'll just fix everything, and it'll be super easy." It sounds like this is something that does require practice and a certain amount of cards to all be in the right order. So, are there certain types of patients that do better with bioptics, or are there certain types of eye conditions that people have that are more prevalent among bioptic users?

**Fay Tripp:** Yes. So again, we might look at the whole person and the whole visual functional status. Although there are certain eye disease processes that would be more supportive of using the telescope. Ocular albinism is one of those, whereas, the visual fields are usually full, but it's an acuity limitation. So, when a person uses the telescope, then it magnifies, so it improves their visual acuity at a distance. And they're not hindered by any limitation in the visual field, potentially.

Another common might be Stargardt's. That's a macular degeneration issue, usually an earlier onset limitation. But then again, it depends on the person, because if there's a central vision deficit and there's a significant visual blind spot or a scotoma, that may hinder the person from using a telescope because of the way it has to be mounted.

Certainly, other eye issues, myopia, which would be nearsightedness, or when a person can see close up, but they can't see far away, would be a strong indication for possibly benefiting from the telescope glasses because they can see up close. But then the corrective lenses may not help them see as far away as they might need to for their functional goals, like for employment, or just in the community and seeing those fast-food restaurant menus or the bathroom sign. They want to be able to see those kinds of things from a distance and expand their whole visual world, so they have a little bit more accessibility to real things in life.

One of the primary reasons a person may use a telescope that's mounted to their glasses and be hands-free is for driving or for use when they're in a moving situation, because you can't hold the telescope device when moving or doing other things. Being able to expand their world for that is important, but not everyone might be able to use that. Again, it depends on their visual field, and if their visual field is intact to where the telescope would be mounted. And if their visual acuity is sufficient to allow them to look through the telescope and benefit from that.

**Ed Haines:** That's really interesting. It sounds like they're not for everyone. And you've mentioned some specific activities that people do use them for. You mentioned looking at menus. I like that idea at a fast-food restaurant, looking up at the menu.

The million-dollar question, of course, is using them for driving. But before we get there to talk about that, are there, just in your experience, are there some specific activities that people really tend to use bioptics for if they're not using them for driving?

**Fay Tripp:** Yes, there are. In our clinic, many people do come in specifically for that. But my main message to them is that it’s not just for that purpose. The bioptic telescope glasses are for all of your life activities that may require distance vision. And there're different options for the telescope glasses, too, that allow for near vision, for spot-checking. Not to read a book, but for spot-checking details.

So, the main message is to get used to using the telescope glasses in your whole life. When you go shopping and see those overhead signs. When you're traveling and you need to see in an airport the flight numbers or the gate numbers. A common thing is when we're in the community and we see someone at a distance, and it looks like they're waving, but are they waving at me, or are they waving at somebody else, or who is that person? I always think of using the telescope to expand the world to see the detail that's necessary to make a good decision.

So, in the community for real-life functions like shopping, social interactions, on the job. Of course, depending on what the job is, but for being able to interact more with customers, or the presentation that's on the board. In social situations like at church or other kinds of meetings where sitting may not allow to sit up close. The telescope will allow that use of ability to see the pastor, or to see the speaker, or to see the choir members, or to see other signs and information that would be helpful in interacting with the community.

**Ed Haines:** Well, it sounds like, for the right person, they could really be useful. So, if someone wants to get bioptics does Medicare pay for them? Insurance? How do you actually get them?

**Fay Tripp:** It is a whole process to get the bioptic telescope glasses. The individual would need to be seen by an eyecare professional, one that can prescribe glasses, because it is an optical device. So, it would be an optometrist or an ophthalmologist. Not every optometrist or ophthalmologist may be familiar with the bioptic telescope ordering or prescribing process. So, it would be helpful to ask those questions before scheduling an appointment.

Typically, it would be someone that's identified as a low-vision specialist or low-vision care provider. That person would be able to prescribe, just like the eye doctor prescribes glasses, there is a prescription. And then, the decision has to be made as to what type of telescope would meet the individual's needs, and how strong the telescope could be to meet the individual's needs. Some states, if the individual's visual acuity has an indication on how strong the telescope should be, and in some states, for example, for driving, the individual would need to have a certain visual acuity through the telescope.

That's where the optometrist's or ophthalmologist's skill comes in, they need to prescribe the certain power of telescope to allow the individual to have that certain visual acuity when looking through the telescope. Elsewise, the person may get a telescope that does not meet the guidelines, so they're limited because they can't pursue their main goal.

Once a person has been prescribed a pair of bioptic telescope glasses and that order has been filled, the telescope user would come in and be fit for the telescope, have the telescope glasses dispensed, and then they would do training. The individual optical shops have different processes for training. I highly suggest that whether it's through the optical shop or through another low-vision center or vision rehab center, make sure that there is training that's completed on how to use the telescope glasses, how to care for it, and how to use it functionally for safety.

You asked about Medicare insurance. It's up to the individual provider what their guidelines are for insurance coverage or if it's an out-of-pocket expense. I can tell you that Medicare itself does not cover bioptic telescope glasses. Most private insurances do not. There are some private vision insurances that can help cover, but that would be up to that individual insurance. And then the insurance subscriber should communicate very clearly about what the coverage options are prior to pursuing the telescope glasses, because it would be very important to know what the options are ahead of time before committing.

There are coverage options in some states for vocational rehab and independent living skill services where the device may be used, for example, on the job with vocational rehab. Some states can cover the telescope glasses for on-the-job performance. Many states, from my understanding, will not cover it for driving purposes because they may not have an option for driver's training, and for the liability circumstances, they may not be able to pursue that.

**Ed Haines:** We've touched on the topic of bioptic driving and that's what a lot of folks are really interested in. So obviously, it's not easy to get bioptics in the first place. There's a lot of tests and training that needs to take place.

What else has to happen? If you're determined that bioptics are appropriate for driving for you, at least visually, then in short, what has to happen in addition to that to be able to actually obtain a bioptic license? And I know it's different in every state, but just in general.

**Fay Tripp:** The first step would be for the individual to pursue getting the bioptic telescope glasses. Again, that would be through the optical provider, the optometrist or ophthalmologist. And then generally, based on the state's guidelines, the eyecare specialist should know what the guidelines are and be able to determine if that individual is actually a good candidate and if they will meet the guidelines for driving.

If the person does meet the guidelines for driving in the sense of visual acuity measures and visual field measurements, and the individual demonstrates that they actually can function with the telescope in the clinic and do a trial use, then they could go to the next step to pursue getting the telescope glasses.

Once the telescope glasses are obtained, each state will have their individual guidelines and requirements. It may require specific in-the-clinic training to get used to how to use the telescope glasses safely. Typically, it requires on-the-road driver's training as well. That is where the tricky part comes in because a person may need to have a learner's permit or a driver's license prior to going on the road.

**Ed Haines:** This is a long process to go through. It's not an instant thing where you walk into a store and you buy a bioptic, and you're back on the road. We mentioned, things are different in every state. I think there's different rules about driving with bioptics in every state too. For instance, in some states you can't drive at night or maybe you're given a trial period. What advice would you give to someone who's heard this podcast and just says, "I'd like to try out bioptic driving." Where should they just start?

**Fay Tripp:** Yeah, I think a good start is to communicate with a vision rehab or low-vision care provider. A good starting point may be with the state services to find a resource to go to. Although the state services for the blind or visual impairment may not have the answers, they may know someone to refer to ask those questions.

Another service would be, or an option would be to go to the state's DMV or Department of Motor Vehicles website and search out information about the options for using a bioptic telescope. Because again, every state will have their own guidelines for using. The questions to ask would be, "What is the required visual acuity with the carrier frame or best corrected vision? What is the requirement for visual acuity through the telescope? And then, what is the visual field requirement?"

The next set of questions would be. "What's required for using the telescope?" For example, what are the allowable strengths of telescope? Some states require 4x or less. Others will allow up to 6x power telescopes. So, know the specifics for options for the telescope use. And then the requirement for training, which may include the clinical and the behind the wheel. And then a length of time of having the telescope prior to pursuing getting a license.

Another resource specifically for driving would be through the website aded.com is the Association of Driver Educators for Disabled. It's the host for certified driver rehab specialists. And there are specific guidelines on that website for driving with a vision impairment, which includes bioptic telescope information.

There's another website that's helpful to understand the function of the telescope and guidelines for use. Bioptic Driving USA is a good website for an overview. There's also some very good information on the websites for the telescopes themselves. Two main companies would be Ocutech, ocutech.com, and the other is designsforvision.com.

There are two different types of telescopes, and different telescope providers or optical services would cater toward one or the other probably. But those websites can give you some really good guidance on just general information about, "Oh, what looks best for me, or what might I want to pursue? And then what is this local provider going to be able to provide for me?"

**Ricky Enger:** We will have the links to all of those websites in our show notes. So, if you're listening and frantically trying to write those down, no worries. We'll have those in our resources.

This has been really educational. And as Ed said, not a quick thing that you're going to do, just go in and grab one off the shelf. But it does sound like, for the right person, this could be a life-changing device once you go through the acquisition of it and then all of the training. You can do things that you weren't able to do previously, especially with distance vision. So that's amazing.

Fay and Ed, thank you both so much for stopping by and just letting us know about bioptics. Any final thoughts before we wrap up?

**Fay Tripp:** I'd just like to say, I really appreciate the opportunity to chat this morning. I do totally agree with what you're saying, Ricky. It can be life-changing for whatever age of life, whether it's a teen or an older adult. And just to expand the visual world is so helpful if they're a good candidate. Although it is a very, quite involved process, it can really maximize a person's function and benefit them in all types of activities. So, it's a good thing to pursue. Again, may not be for everyone, but it's a really good option.

**Ed Haines:** And thanks, Ricky. This was really an important topic. And many thanks to you, Fay, for sharing your expertise. We really appreciate it.

**Ricky Enger:** Yes, we really do. Thank you so much for joining us.

**Fay Tripp:** Oh, thanks for having me. I've enjoyed it.

**Ricky Enger:** Got something to say? Share your thoughts about this episode of Hadley Presents or make suggestions for future episodes. We'd love to hear from you. Send us an email at podcast@hadley.edu. That's P-O-D-C-A-S-T at hadley.edu. Or leave us a message at (847) 784-2870. Thanks for listening.