

# Using monovision to correct presbyopia - Premier Surgeon

By John A. Hovanesian, MD, FACS



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*J.E. “Jay” McDonald, MD, discusses the inclusion of monovision as a premium channel procedure.*

**John A. Hovanesian, MD, FACS:** Today we talk about a new technology that is not so new. We’re interviewing Jay McDonald, MD, who is an Assistant Clinical Professor at the University of Arkansas Medical Center and also the Medical and Surgical Director of the McDonald Eye Associates in Fayetteville, Arkansas. Dr. McDonald, thanks for joining us.

**J.E. “Jay” McDonald, MD:** John, it’s my pleasure. I’m glad to be here with you.

**Dr. Hovanesian:** In this column, we typically focus on new technologies, and today we’re focusing on monovision as an approach to cataract surgery for presbyopia correction, a concept that’s very old but that has found renewed interest. Tell me, in a time when there are so many options for presbyopia correction with IOLs, why monovision is finding its way into an important place in your practice.



J.E. McDonald, MD

**Dr. McDonald:** The first thing about monovision that I’ve always liked is it preserves quality of vision for the rest of the life, and you’re not taking away or embarrassing anybody’s total visual capacity when you do monovision.

The other reason it has really become accepted is we’ve learned how to do monovision, and we’ve changed how we do monovision. In the original papers by Scott Greenbaum, MD, describing monovision, he had a separation of about 2.5 D. What we’ve learned is that’s really way too much separation. At 2.5 D, you’ve got all the symptoms of monovision but without getting a lot of the benefits. So now that we live in a world of 24 inches and beyond, as far as our vision is concerned with the PDA, our iPhones and our computers, we’re able to move monovision out to only 1.25 D of defocus. And with the aspheric lens, we’re getting quality of vision, 20/20 vision at distance and 20/20 at near with only that separation.

**Dr. Hovanesian:** When you talk about near and only a focal difference of about 1.25 D, are patients still spectacle-independent for near vision tasks, like reading the newspaper at a normal near distance?

**Dr. McDonald:** Absolutely. They have J1 vision at 26 or 28 inches, so they hold the newspaper a little bit further. The quality of vision delivered by an aspheric lens makes that possible.

Now, the other thing that makes that possible in monovision is that if you think about the separation of defocus of only 1.25 D, the only things missing in the non-regarded eye, or the eye that’s not in focus at the regarded position, are just a few pieces of higher-frequency spatial information. Knowing that is delivered to the visual cortex, the visual cortex has the ability now to turn the gain up on the in-focus eye and turn the gain down on the out-of-focus eye.

**Dr. Hovanesian:** So the brain pays more attention to the eye that is properly focused at the place where the patient is

looking.

**Dr. McDonald:** That's exactly right, and the ability to do that is somewhat personally dependent. But we've found most people, even though they're a little bit right-eye or left-eye dominant, have enough overlap that this adaptation is really not an issue now that we're only separating by 1.25 D.

**Dr. Hovanesian:** Now the traditional thought on monovision is that it certainly doesn't work for everyone, and that's the case when we approach LASIK that way. How do you identify patients who are appropriate for this among your cataract surgery patients?

**Dr. McDonald:** I sit down and ask them what the most important thing is that they want when we get through. Some people who are driving trucks, and people who are hunters who really need that discriminating vision in low level, are people on whom I don't do monovision. Or, once I describe that we see with our brain not with our eyes, and I show them an example of blended vision, I look at their result and then their reaction. Then I ask them, "Do you think this is something you would adapt to?" If they say, "Absolutely not. I don't even want to think about it," those are the people I eliminate. But most people that say, "Yes, I see how that works," we don't do contact lens trials. We let them through.

The other thing I tell them is that if they don't accept or don't like monovision, I'll turn it back. It's that reassurance that really brings everyone through and makes them very comfortable with the fact that monovision is going to work for them.

**Dr. Hovanesian:** What preoperative testing do you do on all these patients?

**Dr. McDonald:** We have a set of preoperative testing that's specific for monovision. We test for phoria. We test for stereopsis because there are a few people who have very poor stereopsis that may be poor candidates for monovision. We do a simple blur test where we demonstrate 1 D or 1.5 D of blur in one eye, and then of course the Orbscan and corneal topography. We don't want to do a premium channel procedure on someone who doesn't have the capacity to have good 20/20 vision in each eye, and their cornea is an important component of that.

**Dr. Hovanesian:** What type of lens implant do you seek? You mentioned an aspheric implant. Are you looking for something that is negatively aspheric, like the Alcon IQ lenses or the AMO Tecnis lenses, or something that's more neutrally aspheric, like the Bausch + Lomb AO lenses?

**Dr. McDonald:** I've started with and have stayed with the neutral aspheric lens — kind of the idea of let the person see with the cornea that brought them there. The other thing I like about the aspheric lens is when we began doing monovision and switched from the old, positive aspheric lenses to the aspheric lenses, my staff came to me and said, "Our people are seeing better. They like this better." We were able to decrease our separation from 1.75 D to 1.25 D. So, it's more of an empiric; we fell there and we stayed there.

The other thing that I started using is the new Hoya lens which is 0.18  $\mu\text{m}$  versus 0.27  $\mu\text{m}$ , so it's more of a "cover everybody," but not too much.

**Dr. Hovanesian:** This lens falls in the negatively aspheric range but not as negatively aspheric as the Tecnis, which is -0.27, and yet more negatively aspheric than the Bausch + Lomb AO lenses.

You mentioned that you need to do enhancements in some cases. Do you bundle that with the pricing? How do you technically approach enhancements for these patients?

**Dr. McDonald:** Since we're saying we're going to bring you to spectacle independence, one of the most important things in the psychology of the patient's acceptance and willingness to pay for that, and their happiness in the end, is that you have to take it all the way to the end. You've got to finish the game. I think that's the biggest challenge to anyone who works in the premium space. We don't call them enhancements, we call them incisional touch-ups, and that's just an old term left over from our incisional days. The two-incision RK is my number one, go-to procedure in touching up people with monovision, and so that is included in the price. The global fee includes any touch-up, and that's part of the way we determine our pricing.

**Dr. Hovanesian:** Now, I understand that there are a number of practices across the country offering an approach to monovision cataract surgery similar to yours. Is that the case?

**Dr. McDonald:** Yes. Of course everybody is a little bit different but, yes, there are many colleagues I've found who have adapted this use of monovision as sort of an intermediate premium channel.

**Dr. Hovanesian:** And in those practices, are you aware of the ranges of prices that they charge?

**Dr. McDonald:** I've heard some of my colleagues mention this, and there's a range of anywhere from \$250 to \$1,000. Of course, that does not include the charge for astigmatism. So, 30% of our people are going to need some sort of astigmatic touch-up or astigmatic correction. That's not included in monovision because the monovision charge is a charge, other than for the Orbscan or the topography, based on a super-refraction because of those added tests that we referred to. Astigmatism is excluded from that; that's a surgical procedure, so that charge is significantly more.

**Dr. Hovanesian:** And among those who are charging the lower prices for monovision cataract surgery, are they not necessarily bundling the cost of enhancements if they're necessary?

**Dr. McDonald:** Well, if you're charging a global fee, I would advise that because it does two things, depending on your enhancement rate, and mine is right at 20%. If you don't charge for those or don't bundle them in there, you're going to be under-charging for the delivery of the product.

**Dr. Hovanesian:** Have you had some guidance from any industry experts on the legality of charging for these services and how to structure those types of charges? Who has given you guidance on that, if anyone?

**Dr. McDonald:** Several years ago when I came up with this concept, the first thing I did was spend some time with Kevin Corcoran. What Kevin helped me with is the fact that the things that we're doing for people who we're giving monovision to are considered "super-refraction." So we bundle those things together and then charge them as a super-refraction charge, and the patient signs and pays for those. Those refractions aren't covered under Medicare, so that's sort of the legality umbrella.

The other is that astigmatism is a surgical procedure. It requires preoperative evaluation. It requires some significant testing, it requires postoperative care, and it requires in my hands 20% come back to the table. So it's a significant charge, and that is something that's put into our premium channel whether we're doing what is considered the standard premium channel lenses or monovision.

**Dr. Hovanesian:** For a surgeon who's interested in incorporating monovision to his or her offerings for cataract patients, what resources might you suggest as a comprehensive source of information to get started?

**Dr. McDonald:** I have a chapter in David Chang's book, *Mastering Refractive IOLs: The Art and the Science*, on monovision, as well as an accompanying chapter on the neuroadaptation and the neurocognitive piece of monovision that we talked about earlier.

**Dr. Hovanesian:** Dr. McDonald, thanks for joining us.

**Dr. McDonald:** John, it's been my pleasure. I hope that this is helpful and will stimulate some of our colleagues to put monovision in its real place, which is a premium channel spectacle-independent. It takes some work, but your patients will really be pleased and I think it will be a source of some additional income and payment for all the hard work we do in delivering it.

**John A. Hovanesian, MD, FACS**, is a clinical instructor at the UCLA Jules Stein Eye Institute and is in private practice in Laguna Hills, Calif. He can be reached at Harvard Eye Associates, 24401 Calle De La Louisa, Suite 300, Laguna Hills, CA 92653; 949-951-2020; fax: 949-380-7856; e-mail: drhovanesian@harvardeye.com.

**J.E. "Jay" McDonald, MD**, can be reached at McDonald Eye Associates, 3318 North Hills Blvd., Fayetteville, AR 72703; 479-521-2555; fax: 479-521-6761; e-mail: mcdonaldje@mcdonaldeye.com.