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https://reachmd.com/programs/cme/3d-heads-up-visualization-tips-for-getting-started-in-glaucoma-surgery/32253/

Released: 03/05/2025
Valid until: 03/06/2026
Time needed to complete: 58m

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# 3D Heads-Up Visualization: Tips for Getting Started in Glaucoma Surgery

**Announcer:**
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**Dr. Petrakos:**
3D heads-up displays are a great new tool for the operating room. But like anything else, there's a learning curve to using these systems. What are some of the best practices that can help ease our transition while using these new systems?

This is CME on ReachMD, and I'm Dr. Paul Petrakos.

**Dr. Singh:**
And I'm Dr. Paul Singh. Paul, that was a great question. And for me, I've been using 3D heads-up displays now for the last few years, and it is a learning curve, of course. And I think the first, I think, advice I give any surgeon is allow yourself the opportunity to try. Get out of your comfort zone.

We're so used to using the oculars out of slit lamps and of course lasers and of course during surgery. But give yourself the opportunity to start thinking about, hey, can I decouple myself from those oculars? Can I free myself? And what you start to realize is, wow, I have more comfort.

My muscle tone – there's actually studies. Arjan Hura has done a study looking at basically, how the muscle tension in your body, when you have the oculars versus 3D, and how much more relaxed our muscles are in our back and our neck. And so the key, I think, for me is when you do think about this, try your best to not go back and forth between oculars and 3D. Give yourself an opportunity for 2 or 3 full days, use the heads-up. But with that said, you don't have to do the whole case right away with the 3D. Start with just making your incisions and then getting comfortable because, again, it's muscle memory. You have to get your eye and your body, your hands, to move together. So start with maybe a few parts of the case, then go to the oculars for the main part of the case. And then, once you start to feel comfortable, then you do the full case as well. But definitely don't go back and forth. Give yourself the opportunity. Because once, all of a sudden, it hits, your muscle memory hits, all of a sudden you think, wow, this is great, and this is where I do enjoy, now, more 3D heads-up than I do using the oculars as well.

But, Paul, I know you've also been using 3D heads-up systems, and what were some of the struggles that you had when you began, and what did you do to help lessen that learning curve?

**Dr. Petrakos:**
Yeah, great question. I mean, any time you change anything in the operating room, there's a learning curve, okay? So figuring out what settings I preferred for the screen was difficult in the beginning, so having the rep there was really crucial for that, to learn the nuances of using the technology. Where to place the screen in the operating room, because now you have to adjust for that and find the best place for the screen so you can position the patient was crucial. And so having a surgeon that had done this before was really beneficial

to me in the beginning.

Simple things like, in the beginning, I was turning my head to the side, and I found that I was having different neck pain because now I'm turning to the side versus like tilting back and forth. And noticing that, and realizing I can position the patient differently, I can put the screen differently, and so this time it doesn't matter left or right eye, the screen stayed in the same place and I just turned the patient around and was able to look straight at the screen and not have to turn around, because I was so used to using the oculars and having the oculars in front of me.

**Dr. Singh:**
Yeah, that's a great point. I'm really glad you brought that up because one of the negatives I hear from colleagues as well. If I'm using my 3D heads-up, or if I try 3D heads-up like you said, I was turning my head to one side, keeping my screen to the side, left or right of my scope. And that will cause back problems. So anytime you're just stuck in one position with your neck and not free, that's going to cause neck issues. So exactly right, you want to be as perpendicular to the screen as possible, facing it.

So I think we have to somehow mentally realize that we do not have to sit exactly across from the oculars when you have 3D heads-up. So for instance, I'll give you an example. A left eye. I'm doing cataract surgery temporally. Well, I'm not sitting exactly temporal. I'm actually sitting inferior temporal and my screen's straight ahead of me, but I'm still doing a temporal incision. Again, your body and your eyes and your positioning can be decoupled from the oculars. And that is important. And if you have a big enough room, you're just basically changing that position of the patient, so that way that screen is always there, so that way you're not changing. You're changing the patient's positioning and you can stay comfortable the way you like to be as well.

**Dr. Petrakos:**
I completely agree. I would just encourage our colleagues to try it. Take the time to find what works for you in the operating room with these new technologies. Try to set up some cases that you feel comfortable with in general. This is not the time to try new technologies with these complex surgeries. I would also schedule probably less cases that day. It's going to take a little longer than you normally do, but it's going to pay dividends in the end.

Unfortunately, this is all the time we have today. Paul, thank you so much for being here.

**Dr. Singh:**
Oh, thanks for having me, Paul. I appreciate it.

**Dr. Petrakos:**
And thank you to our audience for tuning in. This has been CME on ReachMD.

**Announcer**:
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