

5: Examination Techniques for the Beginner / Yale Fisher, MD

Transcript

Examination Techniques for the Beginner: How do you start in this field if you've never done it before?

Look first at the transducer and you'll find a manufacturer's mark. I choose for beginners to have them place the transducer on the upper lid of the patient, looking down toward their knees and their eyes open.

So placing the probe right across the equator, you will see a very nice image of the beginning of the retina, the vitreous cavity, the choroid, as well as the orbital fat outside the sclera. You will also see, if you lower the gain, a cross-sectional image of a rectus muscle.

You can then register the image by knowing that the white dot represents the top of the screen and the other side of the probe represents the bottom. From this location, the probe can be tilted forward and backward, coming up behind the lens and even acquiring in some patients the pupillary diaphragm and the iris. And going the other way all the way back to the optic nerve toward the back wall of the eye. So, by scanning and tilting, we establish that there is or is not something abnormal in this quadrant of the globe.

I repeat this exact process for each quadrant of the globe, with one difference. When you move either laterally or nasally, there isn't a lot of lid. So you have to cheat just a little bit by having the patient either look down or look up, so that you can be on the skin - and usually it's the upper lid you're going to use- and then examine where you are by looking for that cross-sectional image of the rectus muscle. That helps you to establish a coronal position and registration.

Now I am well aware that there are many maps made for positioning the probe. I have not found them as useful in a clinical setting, so I register my pictures as views: inferior view at the equator, anterior to the equator, and posterior to the equator. And I take the equator to be an area where the length of the image from the left side of the screen to the right is the largest.

If you want to cross-reference yourself, you simply have to take the probe and rotate it so that it is close to the cornea, which would be a ninety degree turn, and you will now achieve a sagittal cut. The top of the screen, sagittally, will be close at an angle to the cornea and the iris and the bottom of the screen will be close to the back wall of the eye and the optic nerve.

Moving the probe laterally or nasally from this position will allow you to scan many clock hours of the inferior portion of the eye.

Once the superior lid is used, I rotate the probe, take it off the skin, and begin to examine the eye from a temporal position, pointed nasally. I make the manufacturer's dot superior and look straight across the globe. The screen now becomes superior nasal and inferior nasal. And I tilt again back and forth.

For the inferior lid, we take the probe up and then I place it on the lower lid with the patient looking up. Again, I'll get a coronal image, so that the superior portion of the screen is superior in nasal and the inferior portion of the screen is superior and temporal.

And the final position for the probe is nasally. We put it on the nasal skin of the upper lid, shooting toward the lateral rectus muscle area. In this situation, the white dot is superior and therefore the upper portion of the screen would be superior temporal and the bottom would be inferior temporal. Rotations sagittally will allow you to do clock hours in a similar fashion to my description for the superior lid.

In this way the beginner can get some handle on how to do an examination completely from the iris to the posterior lens area to the optic nerve. It is by registering and understanding the view that you are obtaining that determines how complete your examination is.