

MarkVCID OCTA VSD Biomarker Kit

Supplemental Instructions for Improving Image Reproducibility | v1 12/7/2020

Note: This document supplements the MarkVCID OCTA VSD Kit Protocol and OCTA Acquisition Instructions and is not intended to replace any instructions/procedures described in the protocol.

The Protocol, Acquisition Instructions, and additional training material are available at: <https://markvcid.partners.org/consortium-protocols-resources> > Imaging-based Biomarker Kits dropdown menu > OCTA Retinal Vessel Skeleton Density.

Overview: The guidelines below describe how to best “center” OCTA images. Image centration is important for obtaining reproducible scans as well as accurate data. Image centration is one aspect of data quality. In addition to obtaining well-centered images, it is important to follow the remaining guidelines in the OCTA Biomarker Kit Protocol to ensure that centered images are also of high quality.

Review examples below of acceptable and unacceptable image centration. Please use these images as a guide to help determine if an image is well-centered.

1. In order to view the images on the device software, follow step 19 in Section I of the “MarkVCID Spectral Domain Optical Coherence Tomography Angiography (OCTA) Acquisition Instructions” available on the MarkVCID website (link above). When you view the image, make sure you have a check mark next to slice navigators (red circle Figure 1) as these are essential for determining if an image is well-centered.

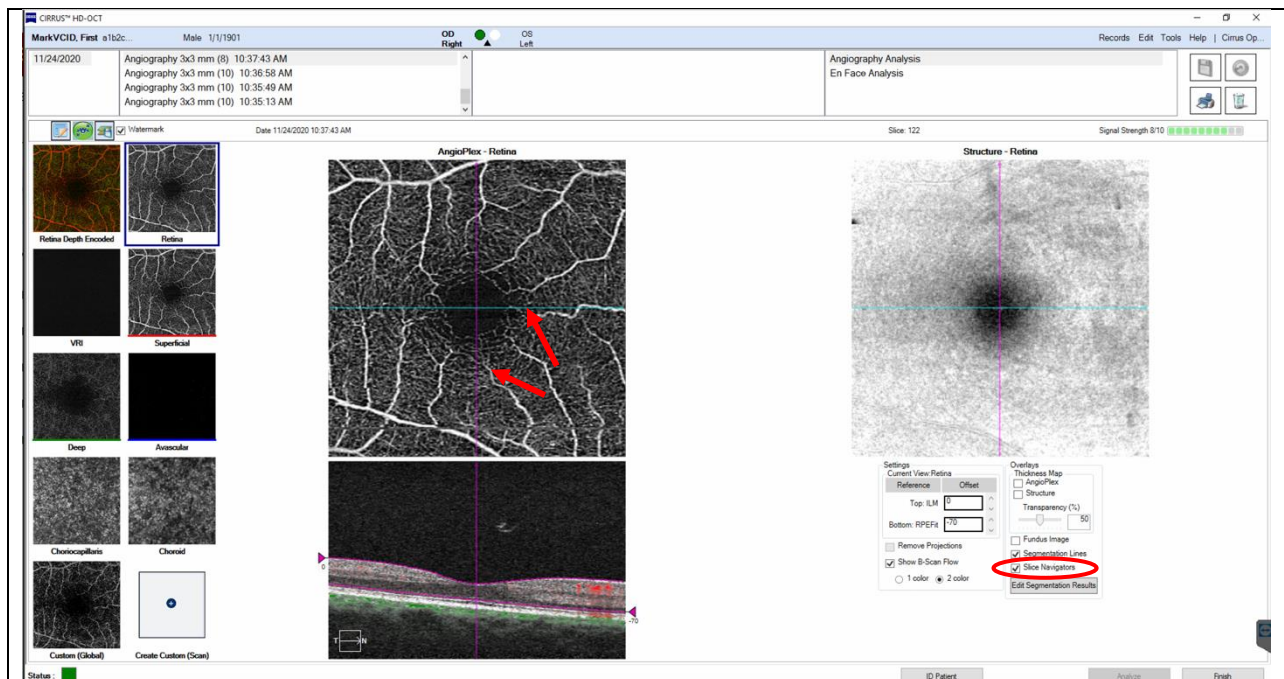


Figure 1: Screenshot of “Angiography Analysis” to review images with “slice navigators” checked (red circle). Checking this box displays the vertical purple line and horizontal blue line on the en face images noted by the red arrows.

- The “center” of the image is where the blue horizontal line and the purple vertical intersect in the OCTA images. The fovea (the black circle in the center of the OCTA image in Figure 1) needs to be centered at the intersection of the blue and purple lines. Figure 1 is a good example of an OCTA image where the fovea is centered and the image qualifies to be used. Some other examples of acceptable centered images appear in Figure 2 and 3. The intersection between the blue horizontal line and the purple vertical line must cross in or very near the center fovea to be acceptable.

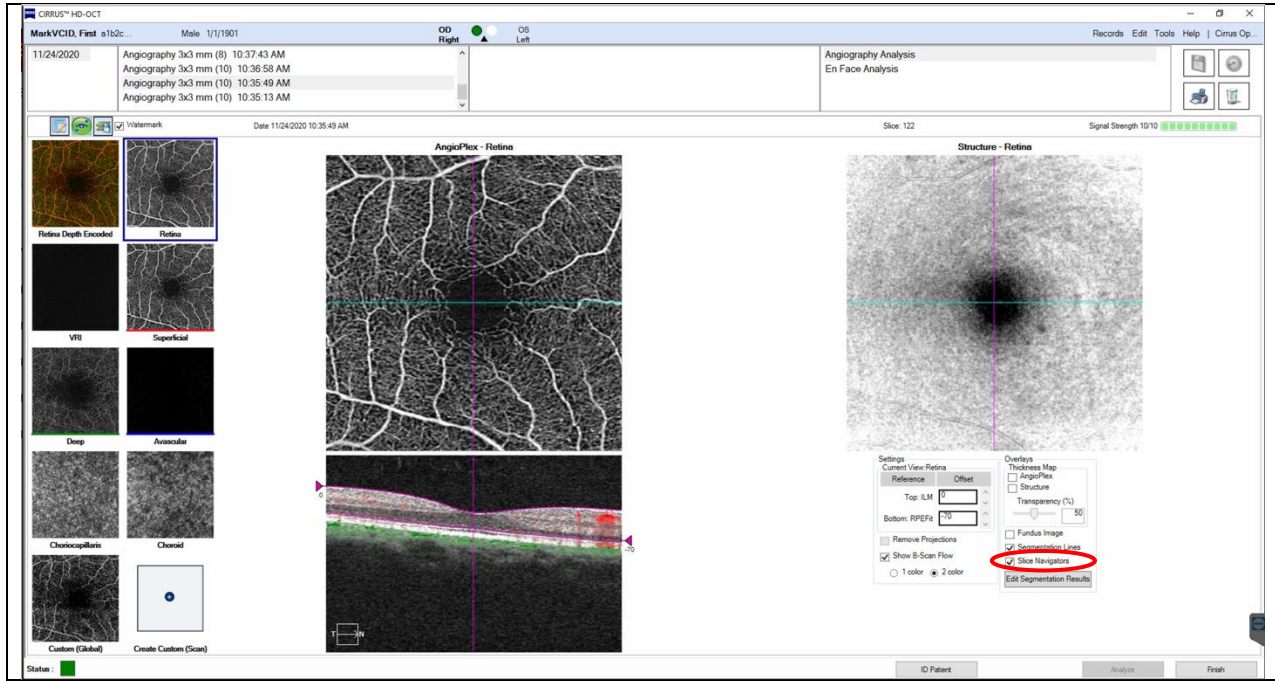


Figure 2: Screenshot of “Angiography Analysis” to review images with “slice navigators” to check for centration

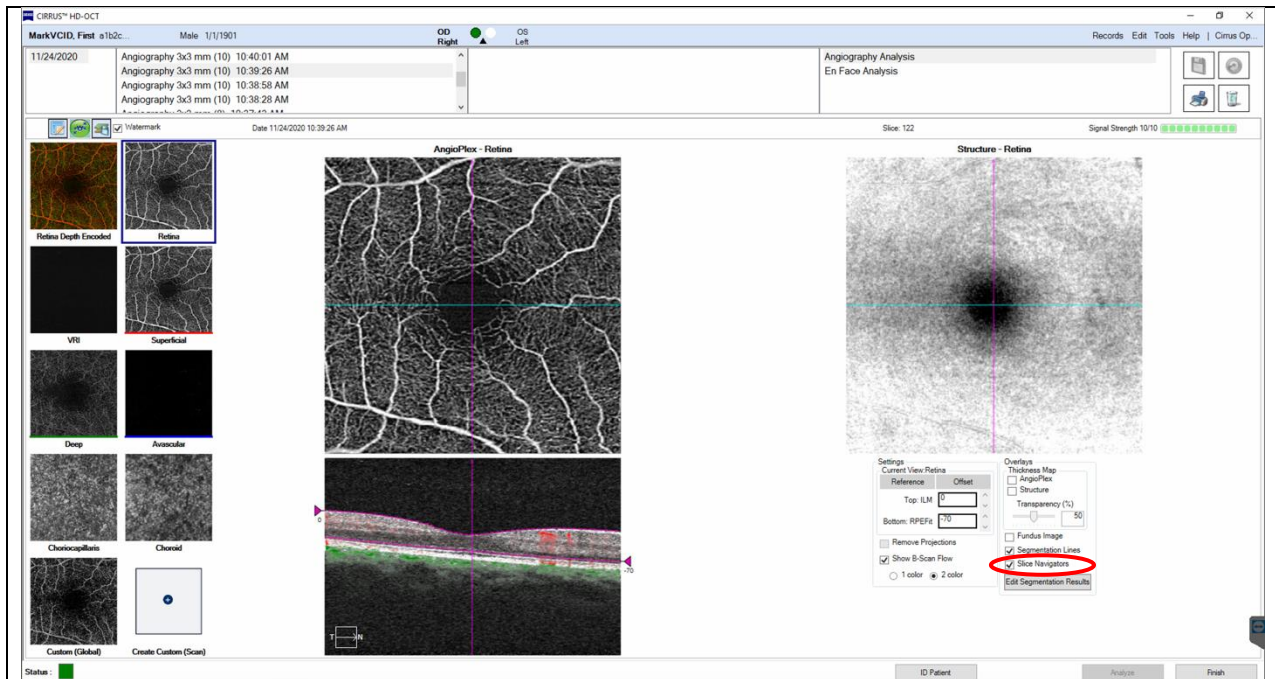


Figure 3: Screenshot of “Angiography Analysis” to review images with “slice navigators” to check for centration

- Figures 4-9 show images that do not have the fovea centered and therefore are not acceptable.

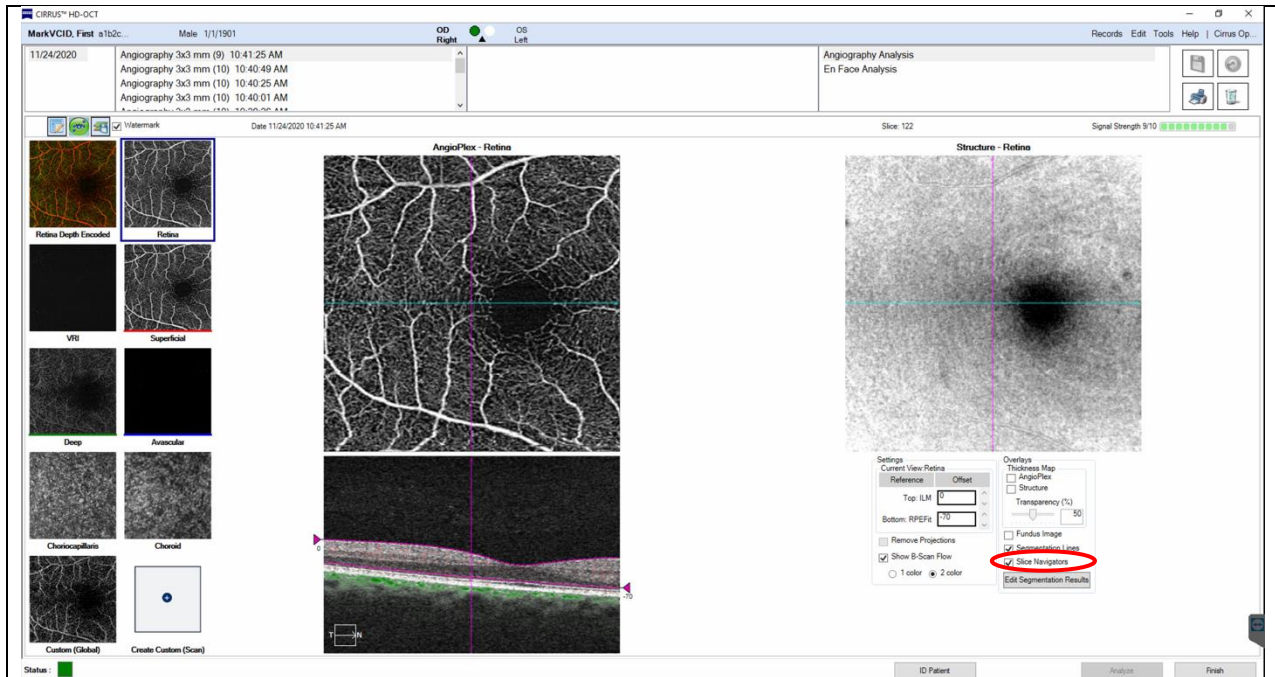


Figure 4: Screenshot of “Angiography Analysis” to review images with “slice navigators” to check for centration: Poor Centration (fovea is to the right of center)

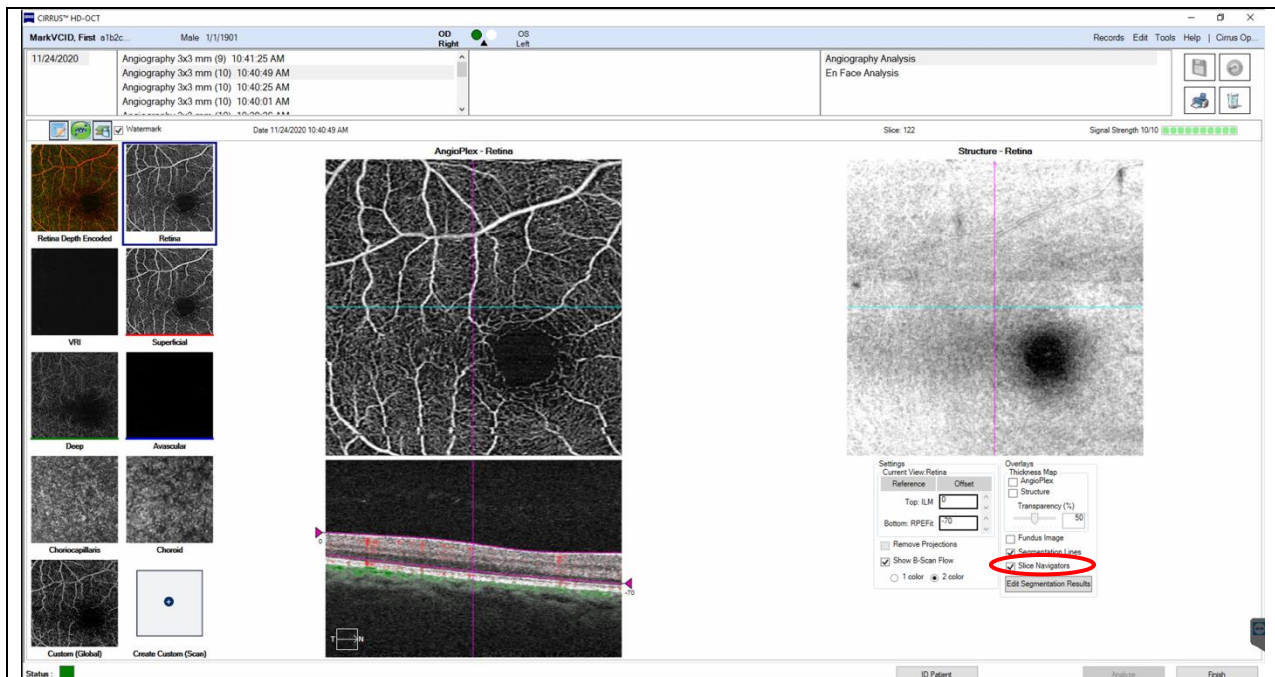


Figure 5: Screenshot of “Angiography Analysis” to review images with “slice navigators” to check for centration: Poor Centration (fovea is down and to the right of center)

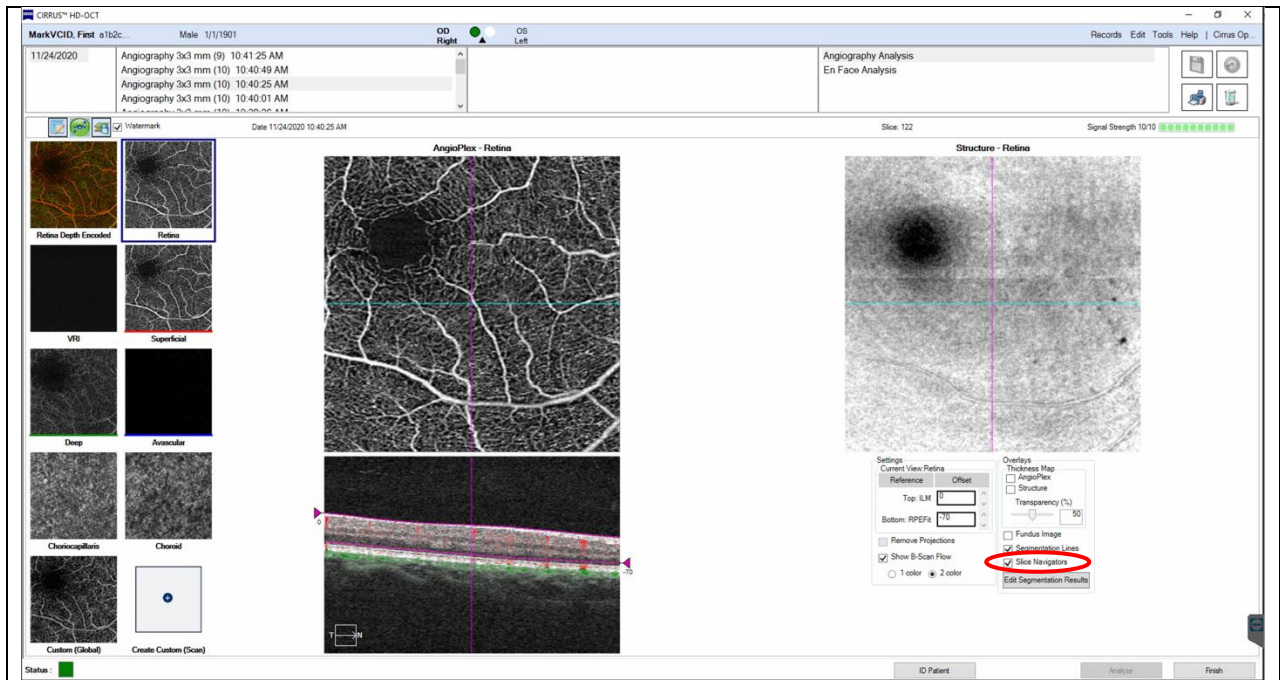


Figure 6: Screenshot of “Angiography Analysis” to review images with “slice navigators” to check for centration: Poor Centration (fovea is above and left of center)

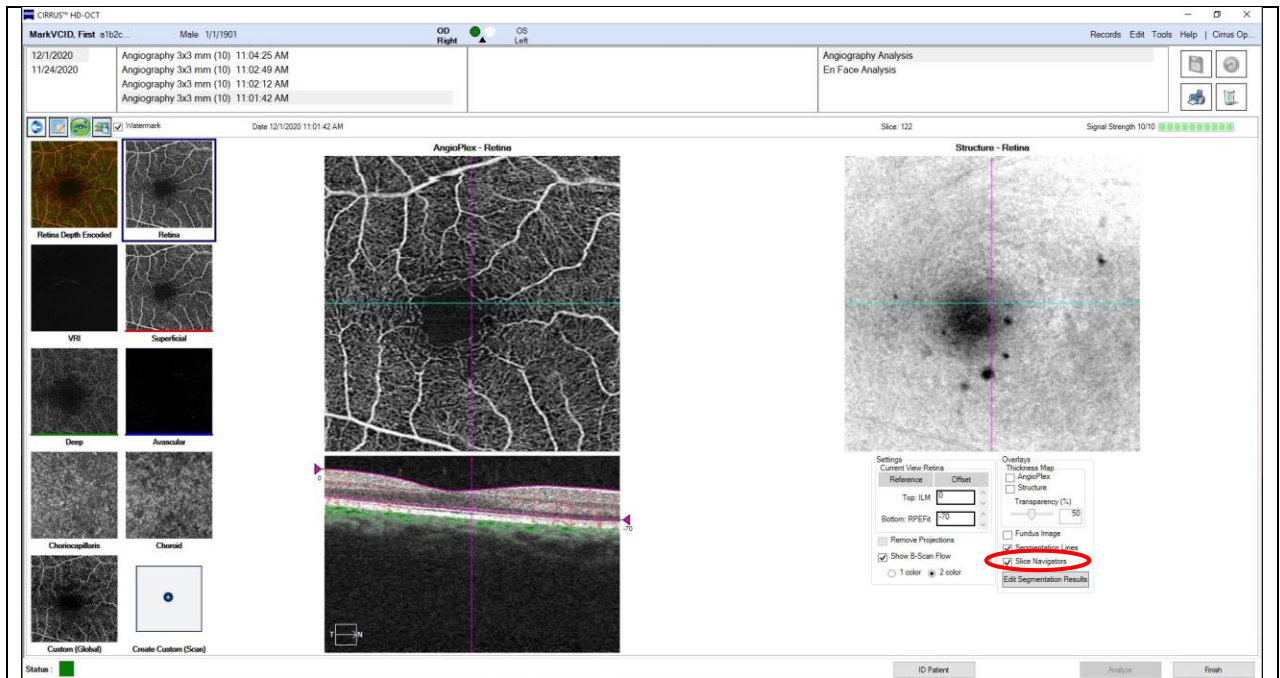


Figure 7: Screenshot of “Angiography Analysis” to review images with “slice navigators” to check for centration: Poor Centration (fovea is directly to the left of center)

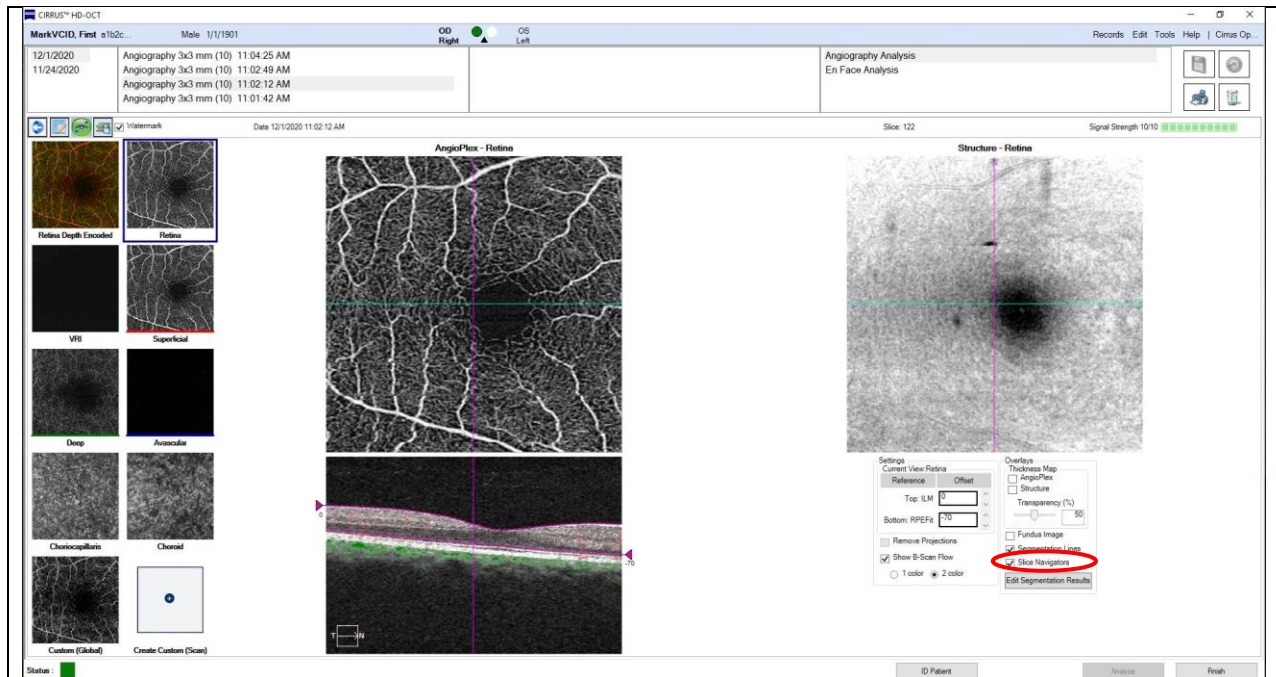


Figure 8: Screenshot of “Angiography Analysis” to review images with “slice navigators” to check for centration: Poor Centration (fovea is directly to the right of center)

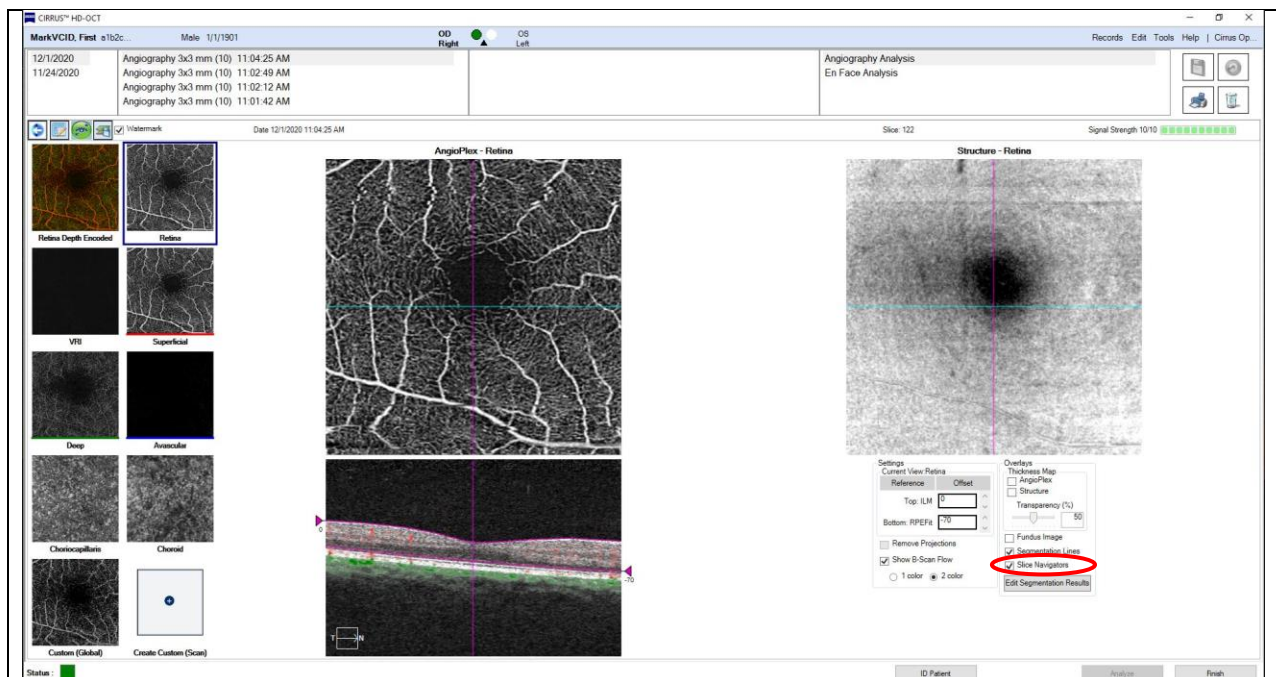


Figure 9: Screenshot of “Angiography Analysis” to review images with “slice navigators” to check for centration: Poor Centration (fovea is directly above the center)

- It is important for the fovea to be centered as much as possible in order to produce acceptable images for OCTA analysis.

For additional guidance, please contact Amir Kashani at akashan1@jhmi.edu