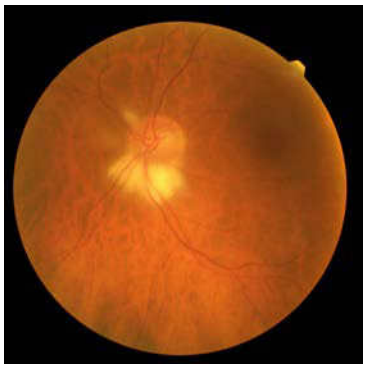
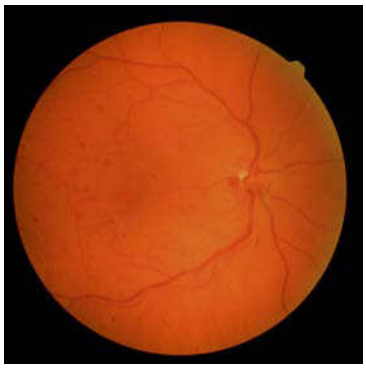
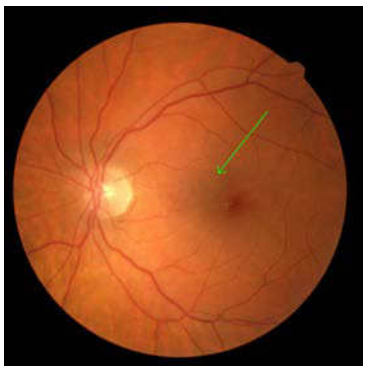
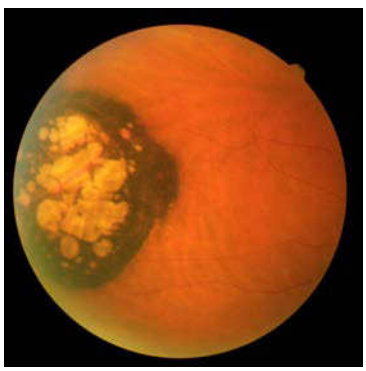
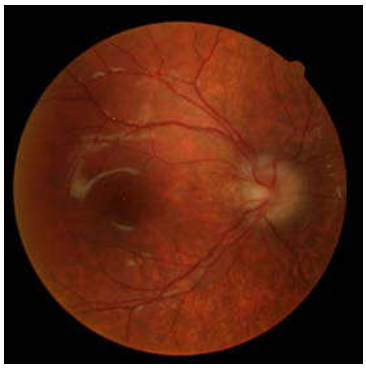
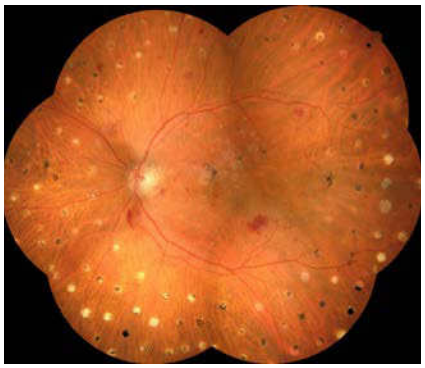
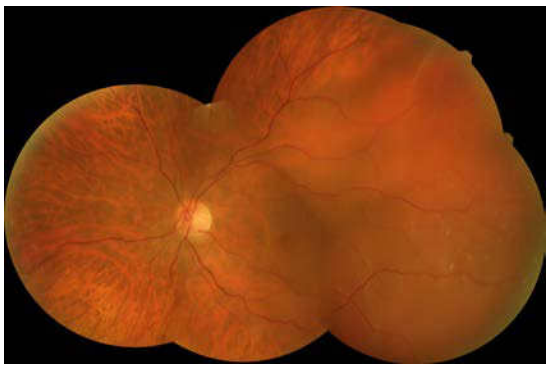
AFC-330

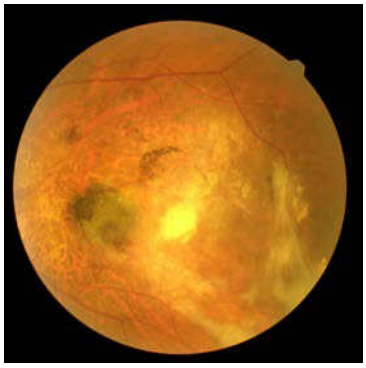
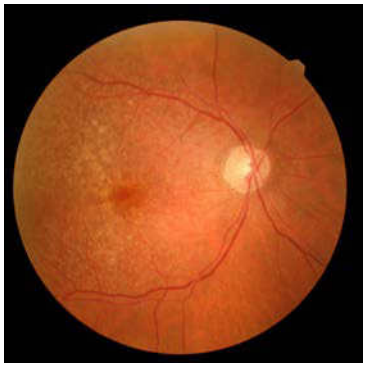
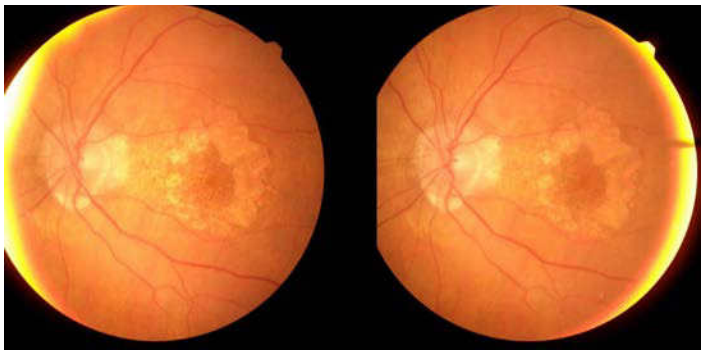
Automated Fundus Camera

Clinical Atlas

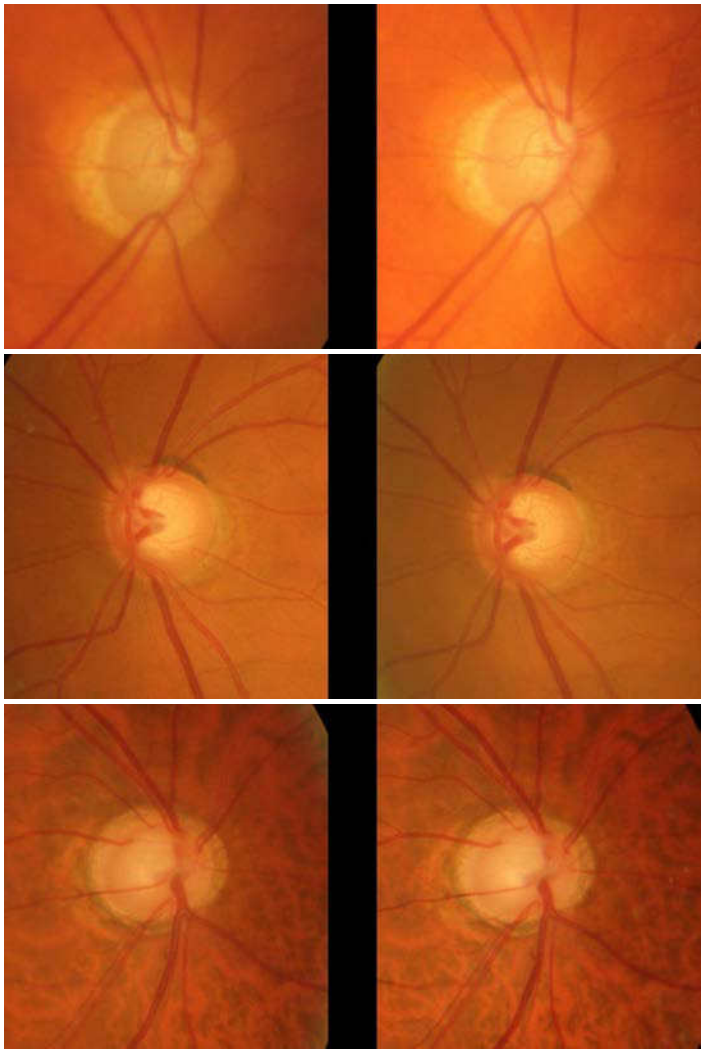
	**Myelinated-Nerves** - A simple "birth mark." This was the first time the patient could see what previous eye doctors told him concerning his eye.
	**Central Vein Occlusion** - Photo was taken undilated during routine pre-testing with an asymptomatic patient. The patient was dilated and the photos were re-taken after dilation. The photos were the same quality dilated and undilated (the patient had cataracts so the photos were not sharp). The patient was referred to a retinal specialist for injections to restore her vision.
	**Commotio-Retinae** - Bruising from blunt force trauma. This patient was kicked in the eye 10 years prior during a soccer event. Undilated photo.
	**Hollenhorst-Plaque** - A small piece of cholesterol that got stuck in one of the small retinal vessels. This was a pre-test photo (undilated). The cholesterol could not be found easily on the eye though it is obvious in the photo. On a routine dilated exam, it would have been missed looking at the patient's retina. The camera found it. The patient was advised to get a cholesterol and neck artery (carotid) exam. If this happens in the brain (cholesterol emboli), this would be a stroke.
	**Retinal-Hole** - The retinal defect was out in the periphery (next to the ora serrata), out beyond the standard-7 shot mode. After switching to the manual mode, this shot was easily taken. This was the first time the patient could see the retinal hole after being told about it for 15-20 years.

 	**Pseudo Tumor Cerebri** - Photos of a13-year-old white female presented for a routine eyeglass exam. Notice the optic nerve head swelling. Diagnosed with pseudo tumor. This is a very strong example of how important it is to perform retinal exams. Symptoms of pseudo tumor cerebri: • headache, sometimes daily, sometimes severe, not relieved by medication • hearing loss • impaired vision or eventual blindness • memory problems • Migraine attacks with unexplained triggers • nausea • pain behind the eyes • pulsating intracranial noises • shoulder and/or neck pain • tinnitus
	**Diabetic-Laser-Surgery** - An eye with very poor vision (20/100) taken by a tech recently graduated from high school. This would have been an extremely difficult photo to do with other cameras. The AFC-330 easily takes photos that were previously difficult to take, or needing highly trained/ specialized staff.
	**Coloboma** - This is a Panoramic set acquired by the AFC-330 and auto-montaged with NAVIS-EX software: this displays a birth defect where a hole does not close. Effects to vision is dependent upon location of the hole. In this case the patient can fixate and it is located in the peripheral retina.
	**Retinal-Detachment** - This patient was seen the day the detachment was in progress. The patient could see the detachment moving across, and her losing her vision as it happened. The patient was in surgery a couple hours after this photo. This photo was difficult to obtain because the patient had very little vision and could not focus on the camera target. The AFC was set to manual mode to get these shots.

Age-Related Macular Degeneration (AMD)

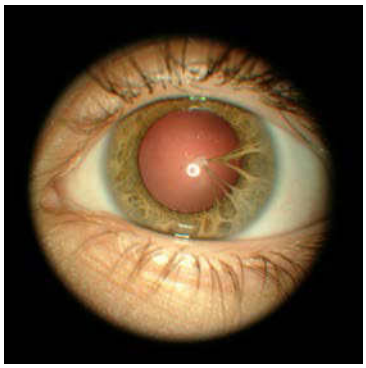
	**Dry-Macular-Degeneration** - This was a pre-test photo on an undilated eye from a new patient referred from a retinal specialist for a low vision evaluation. The patient was recently dilated and the pre-test photo was clear to where the patient did not need to be dilated again. Nothing more could be done with her glasses or magnifiers but her family with her got to see why she could no longer see. It was the first time they saw what was going on in her eye.
	**Wet AMD** - Wet age-related macular degeneration. This is a pre-test photo on an undilated eye. The patient had seen the retinal specialist with dilation a week earlier.
	**Disciform-Scarring** - The end stage of wet macular degeneration. These photos shown to the patient and family conveyed the reason to why you "just can't make their glasses stronger" to see better. It is a good tool for patients to come to understand the reality of their vision and bring closure to it.
	**Drusen** - This is a single 45 degree photo automatically acquired with the AFC-330: Drusen are yellow or white build ups of extracellular material in the retinal layers. It is normal to have presence of drusen as we age, but large amounts can indicate signs of age-related macular degeneration (AMD).
	**Stereo-Macula** - Viewing with a stereo viewer. The AFC camera has the ability to take full 45 degree photos of the retina twice (separated by 3 degrees). When doing the stereo composition you can use the "zoom out function" to get back to the full view of the retina (instead of zoomed in on the ONH) and voila! You can get an entire retina in stereo. When you look at this photo in stereo full-screen, you can see the retina surrounding the macula is gone. There is just a central island of retina left. "Stereo macula" shots can also be used to see if there is any elevation (like a choroidal nevus).

Glaucoma Disease Management

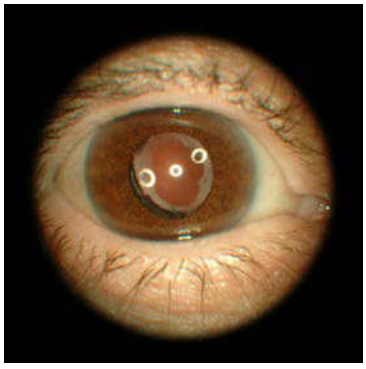


Glaucoma - The ability to obtain so many stereo optic nerve head (ONH) shots and see these on a large 22 inch computer at full screen can change your diagnosis and treatment plan for patients. To be able to set and focus on the ONH on-screen (instead of with an uncomfortable bright light slit lamp light) is invaluable. You can really see what is going on with the nerve - really a game changer. The stereo photos are also incredibly easy to get.

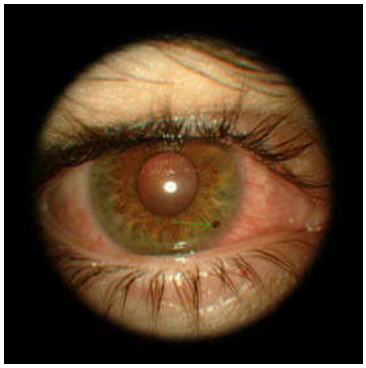
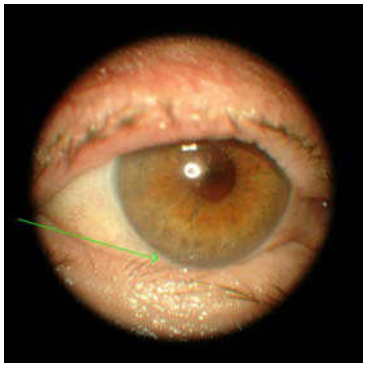
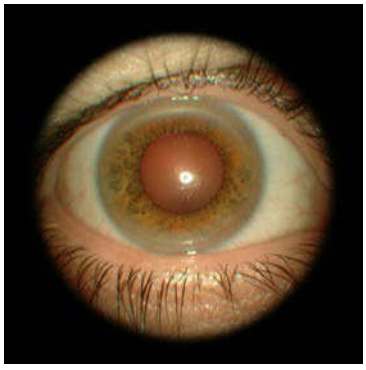
Anterior Segment Images

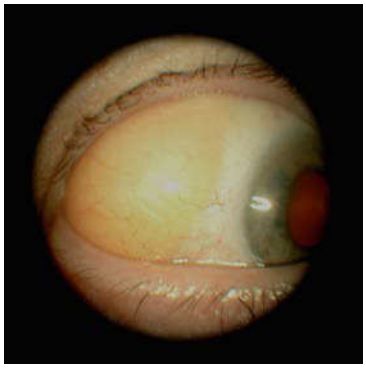


Congenital Cataract - Routine photos can be taken (internal nonmydriatic and external) on all patients during pre-testing since the AFC-330 is so quick and easy to use. Especially since it has the ability to interface with OfficeMate software. There is no need to manually re-input patient demographics into Navis or the AFC. The is just one of the everyday photos taken during a routine pre-test.



Intraocular-Lens - A patient returned after cataract surgery. She had extraordinarily large pupils (this photo was undilated) and she was shown her new lens put inside her eye. It was her "ah-ha" moment. She realized what cataract surgery was. She was unable to understand the concept of cataract surgery from the explanations by the physician, the surgeon, or techs, but she was able to understand the photo.

	**Iris-Nevus** - A routine pre-test photo. It is quick and easy with the AFC to document any changes in a patient's iris nevus (freckles) over time.
	**Corneal Foreign-Body** - This photo was taken by a tech during the routine pre-test for a patient who had a foreign-body sensation. The physician saw the photo and was ready with an Algar Brush to remove the foreign object when it was time to see the patient. This is good legal-medical documentation of an external condition with a "retinal camera."
	**Basal-Cell-Carcinoma** - This eyelid cancer was confirmed via a biopsy by dermatology. This is one of those conditions you want documentation to compare to at the next exam and after excision.
	**Trichiasis –** Anterior Photo acquired by the AFC-330: note the eye lashes growing abnormally back towards the eye. This can cause corneal scarring and potential vision loss if untreated.
	**Arcus Senilis –** Anterior Photo acquired by the AFC-330: note the white ring visible in the peripheral cornea. The ring is related to high cholesterol.

	**Conjuctival Cyst** - Anterior Photo taken by the AFC-330: This is a fluid filled mass within the conjunctiva. Symptoms are discomfort and excessive tearing.