

## Medical Coverage Policy | Optical Coherence Tomography of the Anterior Eye Segment



**EFFECTIVE DATE:** 01|01|2017  
**POLICY LAST UPDATED:** 12|06|2016

### OVERVIEW

This policy relates only to the anterior eye segment and not the posterior segment, which is a covered service.

Optical coherence tomography (OCT) is a high-resolution method of imaging the ocular structures. OCT for the anterior eye segment is being evaluated as a non-invasive diagnostic and screening tool for the detection of angle closure glaucoma, to assess corneal thickness and opacity, to evaluate pre-surgical and postsurgical anterior chamber (AC) anatomy, to calculate intraocular lens power, to guide surgery, to assess complications following surgical procedures, and to image intracorneal ring segments. It is also being studied in relation to pathologic processes such as dry eye syndrome, tumors, uveitis, and infections.

**This policy is applicable to Commercial Products only. For Blue CHiP for Medicare, see related policy section.**

### MEDICAL CRITERIA

Not applicable

### PRIOR AUTHORIZATION

Not applicable

### POLICY STATEMENT

#### Commercial Products

Scanning computerized ophthalmic (e.g., OCT) imaging of the anterior eye segment is not medically necessary as there is inadequate peer reviewed data to support its use.

### COVERAGE

Benefits may vary between groups/contracts. Please refer to the appropriate Benefit Booklet, Evidence of Coverage or Subscriber Agreement for applicable benefits/coverage for diagnostic imaging services or for limitations when services are not medically necessary.

### BACKGROUND

OCT is a non-invasive method that creates an image of light reflected from the ocular structures. In this technique, a reflected light beam interacts with a reference light beam. The coherent (positive) interference between the 2 beams (reflected and reference) is measured by an interferometer, allowing construction of an image of the ocular structures. This method allows cross-sectional imaging at a resolution of 6 to 25  $\mu\text{m}$ . The Stratus OCT™ (Carl Zeiss Meditec), which uses a 0.8- $\mu\text{m}$  wavelength light source, was designed for evaluating the optic nerve head, retinal nerve fiber layer, and retinal thickness. The Zeiss Visante OCT™ and AC Cornea OCT (Ophthalmic Technologies) use a 1.3- $\mu\text{m}$  wavelength light source designed specifically for imaging the anterior eye segment. Light of this wavelength penetrates the sclera, allowing high-resolution cross-sectional imaging of the AC angle and ciliary body. The light is, however, typically blocked by pigment, preventing exploration behind the iris. Ultrahigh resolution OCT can achieve a spatial resolution of 1.3  $\mu\text{m}$ , allowing imaging and measurement of corneal layers.

An early application of OCT technology was the evaluation of the cornea before and after refractive surgery. Because this is a noninvasive procedure that can be conducted by a technician, it has been proposed that this device may provide a rapid diagnostic and screening tool for the detection of angle closure glaucoma. The classification of glaucoma (primary open angle or angle closure) relies heavily on knowledge of the anterior segment anatomy, particularly that of the AC angle. Angle closure glaucoma is characterized by obstruction of aqueous fluid drainage through the trabecular meshwork (the primary fluid egress site) from the eye's AC. The width of the angle is a factor affecting the drainage of aqueous humor. A wide unobstructed iridocorneal angle allows sufficient drainage of aqueous humor, whereas a narrow angle may impede the drainage system and leave the patient susceptible to angle closure glaucoma. The treatment for this condition is a peripheral iridotomy (laser) or peripheral iridectomy (surgery).

Slit lamp biomicroscopy is typically used to evaluate the AC; however, the chamber angle can only be examined with specialized lenses, the most common of these being the gonioscopic mirror. In this procedure, a gonio lens is applied to the surface of the cornea, which may result in distortion of the globe. Ultrasonography may also be used for imaging the anterior eye segment. Ultrasonography uses high-frequency mechanical pulses (10-20 MHz) to build a picture of the front of the eye. An ultrasound scan along the optical axis assesses corneal thickness, AC depth, lens thickness, and axial length. Ultrasound scanning across the eye creates a 2-dimensional image of the ocular structures. It has a resolution of 100 µm but only moderately high intraobserver and low interobserver reproducibility. Ultrasound biomicroscopy (50 MHz) has a resolution of 30 to 50 µm. As with gonioscopy, this technique requires placement of a probe under topical anesthesia.

Based on the evaluation of the clinical utility of Anterior Segment Optical Coherence Tomography, the current evidence is insufficient to determine the effects of the technology on health outcomes. Therefore, the service is considered not medically necessary.

## **CODING**

### **Commercial Products**

The following code is considered not medically necessary:

**92132**

## **RELATED POLICIES**

BlueCHIP for Medicare National and Local Coverage Determinations Policy  
Ophthalmologic Techniques for Evaluating Glaucoma

## **PUBLISHED**

Provider Update, January 2017  
Provider Update, July 2015  
Provider Update, June 2014  
Provider Update, August 2013  
Provider Update, April 2012  
Provider Update, May 2011  
Provider Update, May 2010

## **REFERENCES**

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