Description:

Glaucoma is a disease characterized by degeneration of the optic nerve (optic disc). A comprehensive ophthalmologic exam is required for the diagnosis of glaucoma but no single test is adequate for establishing the diagnosis. A comprehensive ophthalmologic examination includes an examination of the optic nerve by fundoscopy, evaluation of the visual fields and measurement of intraocular pressure. Additional evaluation tools may be utilized as adjuncts for diagnosis and evaluation of glaucoma.
OPHTHALMOLOGIC TECHNIQUES THAT EVALUATE THE POSTERIOR SEGMENT FOR GLAUCOMA (cont.)

Description: (cont.)

Retinal Nerve Fiber Layer Analysis (RNFLA):
Measurement of the thickness of the retinal nerve fiber layer using one of the following techniques:

- **Confocal Scanning Laser Ophthalmoscopy (CSLO):**
  A laser is scanned across the retina illuminating a single spot at a time resulting in a high-contrast reproducible image used to estimate RNFL thickness. May also be called scanning laser ophthalmoscopy (SLO). Devices include TopSS™ (Topographic Scanning System) and Heidelberg Retina Tomography (HRT).

- **Scanning Laser Polarimetry (SLP):**
  A laser is used to directly illuminate the optic nerve and the polarization state of light coming from the eye is evaluated and correlated with RNFL thickness. Devices include the GDx®.

- **Optical Coherence Tomography (OCT) of the Posterior Eye Segment:**
  Near-infrared light is used to provide direct cross-sectional measurement of the RNFL. Devices include Humphrey OCT® Scanner and the RTVue®XR OCT Avanti™. The RTVue XR OCT Avanti with Normative Database is a quantitative tool for comparison of retina, retinal nerve fiber layer and optic disk measurements in the human eye to a database of known normal subjects. OCT has been investigated in the imaging and measurement of the anterior segment of the eye, such as corneal and LASIK flap thickness.

Techniques to Measure Ocular Blood Flow:

**Pulsatile Ocular Blood Flow:**
Pulsatile variations in ocular pressure are detected by continuous monitoring of intraocular pressure. The detected pressure pulse can then be converted into a volume measurement using the known relationship between ocular pressure and ocular volume to assess blood flow supplied by the choroidal vessels to the optic nerve.

**Doppler Ultrasonography:**
Color Doppler imaging measures the blood velocity in the retinal and choroidal arteries.

**Other Techniques:**

**Corneal Hysteresis:**
Measurement of the cornea’s biomechanical response and lag time to rapid indentation by an air jet, to analyze corneal elasticity/rigidity for the purpose of aiding in the diagnosis and monitoring of glaucoma.
OPHTHALMOLOGIC TECHNIQUES THAT EVALUATE THE POSTERIOR SEGMENT FOR GLAUCOMA (cont.)

Description: (cont.)

Other Techniques: (cont.)

Continuous Intraocular Pressure (IOP) Monitoring:
Continuous IOP monitoring has been investigated as a method for evaluation of IOP fluctuations in glaucoma. The Triggerfish® Sensor is a soft hydrophilic contact lens (single use for use up to 24 hours) with embedded gauges to monitor variations in the corneoscleral junction diameter. An output signal directly correlated to IOP fluctuations is transmitted wirelessly to the Triggerfish antenna. The adhesive antenna, worn around the eye is connected to a portable recorder through a thin flexible data cable. Data collected by the recorder may be transmitted wirelessly for computer analysis.

Criteria:

For optical coherence tomography (OCT) of the anterior eye segment criteria, see BCBSAZ Medical Coverage Guideline #O707, “Optical Coherence Tomography (OCT) of the Anterior Eye Segment”.

Retinal Nerve Fiber Layer Analysis (RNFLA):

- Analysis of the optic nerve (retinal nerve fiber layer) is considered medically necessary using scanning laser ophthalmoscopy, scanning laser polarimetry and optical coherence tomography for the diagnosis and evaluation of ANY of the following:
  - Glaucoma
  - Glaucoma suspect
  - Retinopathy

- Analysis of the optic nerve (retinal nerve fiber layer) for the diagnosis and evaluation of refractive errors is a benefit plan exclusion and not eligible for coverage.

- Analysis of the optic nerve (retinal nerve fiber layer) for all other indications not previously listed is considered screening, not medically necessary and not eligible for coverage.
OPHTHALMOLOGIC TECHNIQUES THAT EVALUATE THE POSTERIOR SEGMENT FOR GLAUCOMA (cont.)

Criteria: (cont.)

Pulsatile Ocular Blood Flow, Doppler Ultrasonography:

- Pulsatile ocular blood flow and/or Doppler ultrasonography for the diagnosis and evaluation of retinopathy are considered **medically necessary**.

- Ocular blood flow, pulsatile ocular blood flow and/or blood flow velocity for the diagnosis and evaluation of glaucoma or any glaucoma related condition or consequence (e.g. glaucomatous atrophy, cupping, flecks) are considered **experimental or investigational** based upon:
  1. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes, and
  2. Insufficient evidence to support improvement of the net health outcome, and
  3. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives, and
  4. Insufficient evidence to support improvement outside the investigational setting.

- Ocular blood flow, pulsatile ocular blood flow and/or blood flow velocity with Doppler ultrasonography for the diagnosis and evaluation of refractive errors are a **benefit plan exclusion** and **not eligible for coverage**.

- Ocular blood flow, pulsatile ocular blood flow and/or blood flow velocity with Doppler ultrasonography for all other indications not previously listed is considered **screening, not medically necessary** and **not eligible for coverage**.

Corneal Hysteresis:

- Corneal hysteresis is considered **experimental or investigational** based upon:
  1. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes, and
  2. Insufficient evidence to support improvement of the net health outcome, and
  3. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives.
OPHTHALMOLOGIC TECHNIQUES THAT EVALUATE THE POSTERIOR SEGMENT FOR GLAUCOMA (cont.)

Criteria: (cont.)

Continuous Intraocular Pressure (IOP) Monitoring:

- Continuous IOP monitoring is considered experimental or investigational based upon:

  1. Insufficient scientific evidence to permit conclusions concerning the effect on health outcomes, and
  2. Insufficient evidence to support improvement of the net health outcome, and
  3. Insufficient evidence to support improvement of the net health outcome as much as, or more than, established alternatives, and
  4. Insufficient evidence to support improvement outside the investigational setting.

Devices include, but are not limited to:

- Triggerfish Sensor

Resources:

Literature reviewed 04/03/18. We do not include marketing materials, poster boards and non-published literature in our review.

The BCBS Association Medical Policy Reference Manual (MPRM) policy is included in our guideline review. References cited in the MPRM policy are not duplicated on this guideline.

Resources prior to 09/27/16 may be requested from the BCBSAZ Medical Policy and Technology Research Department.


OPHTHALMOLOGIC TECHNIQUES THAT EVALUATE THE POSTERIOR SEGMENT FOR GLAUCOMA (cont.)

Resources: (cont.)


Resources: (cont.)


Non-Discrimination Statement:

Blue Cross Blue Shield of Arizona (BCBSAZ) complies with applicable Federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex. BCBSAZ provides appropriate free aids and services, such as qualified interpreters and written information in other formats, to people with disabilities to communicate effectively with us. BCBSAZ also provides free language services to people whose primary language is not English, such as qualified interpreters and information written in other languages. If you need these services, call (602) 864-4884 for Spanish and (877) 475-4799 for all other languages and other aids and services.

If you believe that BCBSAZ has failed to provide these services or discriminated in another way on the basis of race, color, national origin, age, disability or sex, you can file a grievance with: BCBSAZ’s Civil Rights Coordinator, Attn: Civil Rights Coordinator, Blue Cross Blue Shield of Arizona, P.O. Box 13466, Phoenix, AZ 85002-3466, (602) 864-2288, TTY/TDD (602) 864-4823, crc@azblue.com. You can file a grievance in person or by mail or email. If you need help filing a grievance BCBSAZ’s Civil Rights Coordinator is available to help you. You can also file a civil rights complaint with the U.S. Department of Health and Human Services, Office for Civil Rights electronically through the Office for Civil Rights Complaint Portal, available at https://ocrportal.hhs.gov/ocr/portal/lobby.jsf, or by mail or phone at: U.S. Department of Health and Human Services, 200 Independence Avenue SW., Room 509F, HHH Building, Washington, DC 20201, 1–800–368–1019, 800–537–7697 (TDD). Complaint forms are available at http://www.hhs.gov/ocr/office/file/index.html

Multi-Language Interpreter Services:

Spanish: Si usted, o alguien a quien usted está ayudando, tiene preguntas acerca de Blue Cross Blue Shield of Arizona, tiene derecho a obtener ayuda e información en su idioma sin costo alguno. Para hablar con un intérprete, llame al 602-864-4884.

Navajo: Díí kwe’é atah nílinígíí Blue Cross Blue Shield of Arizona haada yit’éego bíná’ildílíkdgo éí doodago Háída biýa aniyeedígíí tá’áldoo le’é yína’ildílíkdgo beehaaz’aáníí hóló díí t’áa hazaadk’éей háka a’doowolgó bée haza’ doo báqaría ilínígóó. Atá’hálne’ilígíí kojí bichí’í’ hodííníhí 877-475-4799.

Chinese: 如果您，或是您正在協助的對象，有關於插入項目的名稱 Blue Cross Blue Shield of Arizona 方面的問題，您有權利免費以您的母語得到幫助和訊息。洽詢一位翻譯員，請撥電話 在此插入數字 877-475-4799。

Vietnamese: Nếu quý vị, hay người mà quý vị đang giúp đỡ, có câu hỏi về Blue Cross Blue Shield of Arizona quý vị sẽ có quyền được giúp và có thêm thông tin bằng ngôn ngữ của mình miễn phí. Để nói chuyện với một thống dịch viên, xin gọi 877-475-4799.

Arabic: إن كان لديك أو أدى شخص تساعده أسئلة بخصوص Blue Cross Blue Shield of Arizona الضرورية بلغتك من دون أي تكلفة. للتحدث مع مترجم اتصل ب: 877-475-4799.
OPHTHALMOLOGIC TECHNIQUES THAT EVALUATE THE POSTERIOR SEGMENT FOR GLAUCOMA (cont.)

Multi-Language Interpreter Services: (cont.)

Tagalog: Kung ikaw, o ang iyong tinutulungan, ay maa'y mga katarungan tungkol sa Blue Cross Blue Shield of Arizona, may karapatan ka na makakuya ng tulong at impormasyon sa iyong wika ng walang gastos. Upang makausap ang isang tagasalin, tumawag sa 877-475-4799.

Korean: 만약 귀하 또는 귀하가 돕고 있는 어떤 사람이 Blue Cross Blue Shield of Arizona에 관해서 질문이 있다면 귀하는 그러한 도움과 정보를 귀하의 언어로 비용 부담없이 얻을 수 있는 권리가 있습니다. 그렇게 통역사와 얘기하기 위해서는 877-475-4799로 전화하세요.

French: Si vous, ou quelqu'un que vous êtes en train d'aider, a des questions à propos de Blue Cross Blue Shield of Arizona, vous avez le droit d'obtenir de l'aide et l'information dans votre langue à aucun coût. Pour parler à un interprète, appelez 877-475-4799.

German: Falls Sie oder jemand, dem Sie helfen, Fragen zum Blue Cross Blue Shield of Arizona haben, haben Sie das Recht, kostenlose Hilfe und Informationen in Ihrer Sprache zu erhalten. Um mit einem Dolmetscher zu sprechen, rufen Sie bitte die Nummer 877-475-4799 an.

Russian: Если у вас или лица, которому вы помогаете, имеются вопросы по поводу Blue Cross Blue Shield of Arizona, то вы имеете право на бесплатное получение помощи и информации на вашем языке. Для разговора с переводчиком позвоните по телефону 877-475-4799.

Japanese: ご本人様、またはお客様の身の回りの方でも、Blue Cross Blue Shield of Arizonaについてご質問がございましたら、ご希望の言語でサポートを受けたり、情報を入手したりすることができます。料金はかかりません。通訳とお話される場合、877-475-4799までお電話ください。

Farsi: اگر شما یا کسی که شما به آن کمک می‌کنید، سوال‌هایی در مورد اطلاعاتی به نوبت خود را به طور رایگان دریافت نمی‌کنید، 877-475-4799 تماس حاصل نمایید.

Assyrian: Blue Cross Blue Shield of Arizona ئەگەر شەوەیە بۆبەکی نەشترەکە، سەرەتارەیەکەیەوەیە وەکو بەبەنە 877-475-4799.

Serbo-Croatian: UkolikoVi ili neko kome Vi pomažete ima pitanje o Blue Cross Blue Shield of Arizona, imate pravo da besplatno dobijete pomoć i informacije na Vašem jeziku. Da biste razgovarali sa prevodiocem, nazovite 877-475-4799.

Thai: หากคุณหรือผู้ที่คุณช่วยให้เขาถามเกี่ยวกับ Blue Cross Blue Shield of Arizona คุณมีสิทธิ์ขอความช่วยเหลือและข้อมูลภาษาของคนในโดยไม่เกี่ยวข้อง ติดต่อตาม โทร 877-475-4799.