



Geisinger Health Plan Policies and Procedure Manual

Policy: MP261

Section: Medical Benefit Policy

Subject: Aqueous Drainage Shunt

Applicable line of business:

Commercial	x	Medicaid	x
Medicare	x	ACA	x
CHIP	x		

I. Policy: Aqueous Drainage Shunt

II. Purpose/Objective:

To provide a policy of coverage regarding Aqueous Drainage Shunt

III. Responsibility:

- A. Medical Directors
- B. Medical Management

IV. Required Definitions

1. Attachment – a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
2. Exhibit – a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
3. Devised – the date the policy was implemented.
4. Revised – the date of every revision to the policy, including typographical and grammatical changes.
5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

Commercial

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Medicare

Geisinger Gold Medicare Advantage HMO, PPO, and HMO D-SNP plans are offered by Geisinger Health Plan/Geisinger Indemnity Insurance Company, health plans with a Medicare contract. Continued enrollment in Geisinger Gold depends on contract renewal. Geisinger Health Plan/Geisinger Indemnity Insurance Company are part of Geisinger, an integrated health care delivery and coverage organization.

CHIP

Geisinger Health Plan Kids (GHP Kids) is a Children’s Health Insurance Program (CHIP) offered by Geisinger Health Plan in conjunction with the Pennsylvania Department of Human Services (DHS). Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Medicaid

Geisinger Health Plan Family (GHP Family) is a Medical Assistance (Medicaid) insurance program offered by Geisinger Health Plan in conjunction with the Pennsylvania Department of Human Services (DHS). Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization

V. Additional Definitions

Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

- a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
- b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
- c. in accordance with current standards of good medical treatment practiced by the general medical community;
- d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and
- e. the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

Medicaid Business Segment

Medical Necessity shall mean a service or benefit that is compensable under the Medical Assistance Program and if it meets any one of the following standards:

- (i) the service or benefit will, or is reasonably expected to, prevent the onset of an illness, condition or disability.
- (ii) the service or benefit will, or is reasonably expected to, reduce or ameliorate the physical, mental or development effects of an illness, condition, injury or disability.
- (iii) the service or benefit will assist the Member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for members of the same age.

DESCRIPTION:

Aqueous drainage shunts are implantable devices that are intended to reduce intra-ocular pressure (IOP) in the anterior chamber of the eye in individuals with neovascular glaucoma or with glaucoma that has not responded to medical and conventional surgical treatments. Tube-shunt surgery is also frequently used to treat glaucoma when a person has:

- Failure of previous trabeculectomy.
- Neovascular glaucoma
- Corneal transplant

There are several devices that have been approved by the US Food and Drug Administration to facilitate the inflow/outflow balance of aqueous humor in the eye. Examples of devices that are FDA-approved for insertion by an external approach are Ex-PRESS™ Mini Glaucoma Shunt, Baerveldt glaucoma drainage devices, Krupin eye valves, Molteno implants, Schocket shunt Ahmed Glaucoma Valve and AquaFlow collagen shunt. The basic design of these devices is similar -- a silicone tube shunts aqueous humor from the anterior chamber to a fibrous capsule surrounding a synthetic plate or band positioned at the equatorial region of the globe. The capsule serves as a reservoir for aqueous drainage.

Minimally invasive glaucoma surgery (MIGS) devices, or micro-stents, such as iStent, iStent inject, Hydras are FDA-approved for use in the treatment of mild to moderate open-angle glaucoma in conjunction with cataract surgery where optimal intraocular pressure has not been achieved with medication. XEN micro stent is FDA-approved for use in the treatment of mild to moderate open-angle glaucoma either with or without cataract surgery when optimal intraocular pressure has not been achieved with medication.

INDICATIONS:

FDA-approved ab externo or ab interno aqueous drainage/shunt implants are considered to be medically necessary for the treatment of refractory primary open-angle glaucoma when first and second - line pharmacologic therapies such as, but not limited to latanoprost, timolol, brimonidine or dorzolamide have failed to control intra-ocular pressure. Aqueous drainage/shunt implants may be utilized as an alternative to laser trabeculectomy or as an alternative to a failed previous trabeculectomy.

The use of FDA-approved ab interno stents in conjunction with cataract surgery is considered to be medically necessary in members diagnosed with mild to moderate open angle glaucoma being treated with ocular hypotensive medication.

MEDICARE BUSINESS SEGMENT: See also Novitas Local Carrier Determination L38223 and A56633

LIMITATIONS:

This service is covered only for services using FDA-approved devices.

EXCLUSIONS:

The Plan does **NOT** provide coverage for any aqueous drainage/shunt implants device not currently FDA- approved. These devices are considered **experimental or investigational**. The Geisinger Technology Assessment Committee determined there is insufficient evidence in the peer-reviewed published medical literature to establish the effectiveness of these devices on health outcomes when compared to established treatments or technologies.

Novartis International AG / Alcon has withdrawn the CyPass Micro-Stent from the global market, effective August 29, 2018. Based on this recall, Novartis considers this procedure/device to be unsafe and therefore **NOT COVERED**.

Note: A complete description of the process by which a given technology or service is evaluated and determined to be experimental, investigational or unproven experimental, investigational, and unproven services is outlined in **MP 15 - Experimental Investigational or Unproven Services or Treatment**

CODING ASSOCIATED WITH: Aqueous Drainage Shunt

The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

0191T Insertion of anterior segment aqueous drainage device, without extraocular reservoir, internal approach, into the trabecular meshwork; initial insertion

0253T Insertion of anterior segment aqueous drainage device, without extraocular reservoir, internal approach, into the suprachoroidal space.

0376T Insertion of anterior segment aqueous drainage device, without extraocular reservoir, internal approach, into the trabecular meshwork; each additional device insertion (list separately in addition to code for primary procedure)

0449T Insertion of aqueous drainage device, without extraocular reservoir, internal approach, into the subconjunctival space; initial device

0450T Insertion of aqueous drainage device, without extraocular reservoir, internal approach, into the subconjunctival space; initial device each additional device (list separately in addition to code for primary procedure)

0474T Insertion of anterior segment aqueous drainage device, with creation of intraocular reservoir, internal approach, into the supraciliary space

0730T Trabeculotomy by laser, including optical coherence tomography (OCT) guidance

66179 Aqueous shunt to extraocular equatorial plate reservoir, external approach; without graft

66180 Aqueous shunt to extraocular equatorial plate reservoir, external approach; with graft

66183 Insertion of anterior segment aqueous drainage device, without extraocular reservoir, external approach

66184 Revision of aqueous shunt to extraocular equatorial plate reservoir; without graft

66185 Revision of aqueous shunt to extraocular equatorial plate reservoir; with graft

66989 Extracapsular cataract removal with insertion of intraocular lens prosthesis (1-stage procedure), manual or mechanical technique (eg, irrigation and aspiration or phacoemulsification), complex, requiring devices or techniques not generally used in routine cataract surgery (eg, iris expansion device, suture support for intraocular lens, or primary posterior capsulorrhexis) or performed on patients in the amblyogenic developmental stage; with insertion of intraocular (eg, trabecular meshwork, supraciliary, suprachoroidal) anterior segment aqueous drainage device, without extraocular reservoir, internal approach, one or more

66991 Extracapsular cataract removal with insertion of intraocular lens prosthesis (1 stage procedure), manual or mechanical technique (eg, irrigation and aspiration or phacoemulsification); with insertion of intraocular (eg, trabecular

meshwork, supraciliary, suprachoroidal) anterior segment aqueous drainage device, without extraocular reservoir, internal approach, one or more

C1783 ocular implant, aqueous drainage assist device

L8612 aqueous shunt

Current Procedural Terminology (CPT®) © American Medical Association: Chicago, IL

LINE OF BUSINESS:

Eligibility and contract specific benefits, limitations and/or exclusions will apply. Coverage statements found in the line of business specific benefit document will supersede this policy. For Medicare, applicable LCD's and NCD's will supercede this policy. For PA Medicaid Business segment, this policy applies as written.

REFERENCES:

Geisinger Technology Assessment Committee Triage Group. October 2011.

de Jong, LA. The Ex-PRESS glaucoma shunt versus trabeculectomy in open-angle glaucoma: a prospective randomized study. *Adv Ther.* 2009;26(3):336-345.

de Jong, L, Lafuma, A, Aguade, AS, Berdeaux, G. Five-year extension of a clinical trial comparing the EX-PRESS glaucoma filtration device and trabeculectomy in primary open-angle glaucoma. *Clin Ophthalmol.* 2011;5:527-33.

Gallego-Pinazo, R, Lopez-Sanchez, E, and Marin-Montiel, J. [Postoperative outcomes after combined glaucoma surgery. Comparison of ex-press miniature implant with standard trabeculectomy]. *Arch Soc Esp Oftalmol.* 2009;84(6):293-297.

Minckler, DS, Vedula, SS, Li, TJ, Mathew, MC, Ayyala, RS, Francis, BA. Aqueous shunts for glaucoma. *Cochrane Database Syst Rev.* 2006(2):CD004918.

Maris P, Ishida K, Natland P. Comparison of trabeculectomy with Ex-PRESS miniature glaucomadevice implanted under sclera. *J Glaucoma.* 2007; 16(1):14-19.

Maris P, Ishida K, Natland P. Comparison of trabeculectomy with Ex-PRESS miniature glaucoma device implanted under sclera. *J Glaucoma.* 2007; 16(1):14-19.

Up To Date. Open angle glaucoma – treatment. v19.2 May 2011 http://www.uptodate.com/contents/open-angle-glaucoma-treatment?source=search_result&search=glaucoma+surgery&selectedTitle=1%7E11

Gedde SJ, et al. Three-year follow-up of the tube versus trabeculectomy study. *Am J Ophthal*,2009;148(5):670-84.

Novitas Solutions, Inc. Local Carrier Determination (LCD) for Glaucoma Treatment with Aqueous Drainage Shunt (L34355). Accessed 2/11/14.

Arriola-Villalobos P, Martínez-de-la-Casa JM, Díaz-Valle D, et al. Mid-term evaluation of the new Glaukos iStent with phacoemulsification in coexistent open-angle glaucoma or ocular hypertension and cataract. *Br J Ophthalmol.* 2013; 97(10):1250-1255

Fea AM, Belda JI, Rekas M, et al. Prospective unmasked randomized evaluation of the iStent inject® versus two ocular hypotensive agents in patients with primary open-angle glaucoma. *Clin Ophthalmol.* 2014; 8:875-882

Voskanyan L1, García-Feijó J, Belda JI, et al. Prospective, unmasked evaluation of the iStent® inject system for open-angle glaucoma: synergy trial. *Adv Ther.* 2014; 31(2):189-201

Wang, S., Gao, X., & Qian, N. The Ahmed shunt versus the Baerveldt shunt for refractory glaucoma: a meta-analysis. *BMC Ophthalmology*, 2016;16 (83).

Christakis, P. G., Kalenak, J. W., Tsai, J. C., Zurakowski, D., Kammer, J. A., Harasymowycz, P. J., et al. The Ahmed versus Baerveldt study: Five-year treatment outcomes. *Ophthalmology*, 2016;123 (10), 2093-2102

Fea AM, Rekas M, Au L. Evaluation of a Schlemm canal scaffold microstent combined with phacoemulsification in routine clinical practice: Two-year multicenter study. *J Cataract Refract Surg.* 2017b;43(7):886-891.

Fea AM, Ahmed II, Lavia C, et al. Hydrus microstent compared to selective laser trabeculoplasty in primary open angle glaucoma: One year results. *Clin Exp Ophthalmol.* 2017c;45(2):120-127.

Lavia C, Dallorto L, Maule M, et al. Minimally-invasive glaucoma surgeries (MIGS) for open angle glaucoma: A systematic review and meta-analysis. *PLoS One*. 2017;12(8):e0183142.

Reitsamer H, Sng C, Vera V, et al; Apex Study Group. Two-year results of a multicenter study of the ab interno gelatin implant in medically uncontrolled primary open-angle glaucoma. *Graefes Arch Clin Exp Ophthalmol*. 2019;257(5):983-996.

Mansouri K, Guidotti J, Rao HL, et al. Prospective evaluation of stand-alone XEN gel implant and combined phacoemulsification-XEN gel implant surgery: 1-year results. *J Glaucoma* 2018;27(2):140-147

De Gregorio A, Pedrotti E, Russo L, Morselli S. Minimally invasive combined glaucoma and cataract surgery: Clinical results of the smallest ab interno gel stent. *Int Ophthalmol*. 2018;38(3):1129-1134.

Samuelson TW, Chang DF, Marquis R, et al; HORIZON Investigators. A Schlemm canal microstent for intraocular pressure reduction in primary open-angle glaucoma and cataract: The HORIZON study. *Ophthalmology*. 2019;126(1):29-37.

Samuelson TW, Sarkisian SR, Jr., Lubeck DM, et al; iStent inject Study Group. Prospective, randomized, controlled pivotal trial of iStent inject trabecular micro-bypass in primary open-angle glaucoma and cataract: Two-year results. *Ophthalmology*. 2019 Mar 14

Ramdas WD, Pals J, Rothova A, Wolfs RCW. Efficacy of glaucoma drainage devices in uveitic glaucoma and a meta-analysis of the literature. *Graefes Arch Clin Exp Ophthalmol*. 2019;257(1):143-151.

Otarola F, Virgili G, Shah A, et al. Ab interno trabecular bypass surgery with Schlemm's canal microstent (Hydrus) for open angle glaucoma. *Cochrane Database Syst Rev*. 2020 Mar 9;3(3):CD012740

Healey PR, Clement CI, Kerr NM, et al. Standalone iStent trabecular micro-bypass glaucoma surgery: A systematic review and meta-analysis. *J Glaucoma*. 2021 Feb 15

Gallardo MJ, Sarkisian SR Jr, Vold SD, et al. Canaloplasty and trabeculotomy combined with phacoemulsification in open-angle glaucoma: Interim results from the GEMINI study. *Clin Ophthalmol*. 2021;15:481-489.

Vold SD, Williamson BK, Hirsch L, et al. Canaloplasty and trabeculotomy with the OMNI System in Pseudophakic Patients with Open-Angle Glaucoma: The ROMEO Study. *Ophthalmol Glaucoma*. 2021 Mar-Apr;4(2):173-181.

Lim SY, Betzler BK, Yip LWL, et al. Standalone XEN45 Gel Stent implantation in the treatment of open-angle glaucoma: A systematic review and meta-analysis. *Surv Ophthalmol*. Jul-Aug 2022; 67(4): 1048-1061. PMID 35081414

Yang X, Zhao Y, Zhong Y, et al. The efficacy of XEN gel stent implantation in glaucoma: a systematic review and meta-analysis. *BMC Ophthalmol*. Jul 15 2022; 22(1): 305.

This policy will be revised as necessary and reviewed no less than annually.

Devised: 11/21/2011

Revised: 2/14 (Limitation added), 2/18; 10/18 (Added CyPass Micro-Stent exclusion); 10/19 (add approved devices); 10/24 (clarify Indication)

Reviewed: 11/12, 11/13, 2/15, 2/16, 2/17, 10/20, 10/21, 10/22, 10/23

CMS UM Oversight Committee Approval: 12/23, 12/24

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member's contract specific benefit document. Prior authorization requirements can be found at <https://www.geisinger.org/health-plan/providers/ghp-clinical-policies>

Please be advised that the use of the logos, service marks or names of Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company on a marketing, press releases or any communication piece regarding the contents of this medical policy is strictly prohibited without the prior written consent of Geisinger Health Plan. Additionally, the above medical policy does not confer any endorsement by Geisinger Health Plan, Geisinger Quality Options, Inc. and Geisinger Indemnity Insurance Company regarding the medical service, medical device or medical lab test described under this medical policy.