

Glaucoma Surgery

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Definitions

Aqueous Humor	Clear aqueous fluid, which fills the space between the lens and retina in the anterior chamber of the eye where it flows continuously in and out of the chamber nourishing nearby tissues. The fluid exits the chamber at the open angle, where the cornea and iris meet, and flows through a spongy meshwork drain.
Schlemm's Canal	Circular canal in the eye that drains aqueous humor from the anterior chamber of the eye into the anterior ciliary veins.
Intraocular pressure (IOP)	The pressure within the eye, which is maintained by a balance between aqueous fluid secretion and fluid outflow; in glaucoma, defects that interfere with aqueous humor outflow lead to a rise in intraocular pressure resulting in degenerative compromise of optic nerve function known as progressive optic nerve atrophy and vision loss.
Glaucoma	<p>A group of eye diseases characterized by increased IOP), which causes pathological changes in the optic disk and defects in the field of vision.</p> <ul style="list-style-type: none"> • Open-angle glaucoma (OAG) — progressive form of glaucoma in which the drainage channel for the aqueous humor, composed of the attachment at the edge of the iris and the junction of the sclera and cornea, remains open, and in which serious vision-reduction occurs (advanced stages of the disease) due to tissue changes along the drainage channel. • Primary open-angle glaucoma (POAG; aka chronic glaucoma) — most common type of glaucoma, which is associated with a build-up of aqueous fluid pressure within the eye that can lead to visual field loss and optic nerve damage (usually without any associated pain or discomfort). There is no abnormality in the anterior chamber angle; however, the aqueous fluid is unable to flow correctly. • Secondary open-angle glaucoma (SOAG) —open angle glaucoma resulting from other medical conditions (e.g. pseudoexfoliative glaucoma, pigmentary glaucoma) or trauma. <p>The severity of glaucoma damage can be estimated using the following:</p> <ul style="list-style-type: none"> • Mild — optic nerve abnormalities consistent with glaucoma and a normal visual field as tested with standard automated perimetry

Hypotony	<ul style="list-style-type: none"> • Moderate — optic nerve abnormalities consistent with glaucoma and visual field abnormalities in one hemifield that are not within 5 degrees of fixation as tested with standard automated perimetry • Severe — optic nerve abnormalities consistent with glaucoma and visual field abnormalities in both hemifields and/or loss within 5 degrees of fixation in at least one hemifield as tested with standard automated perimetry
Aqueous shunts (Aka aqueous drainage devices or glaucoma drainage devices, setons, tube implants and tube shunts)	<p>Abnormally low IOP of intraocular fluid; typically occurs as a complication of an underlying ocular disorder (such as uveitis or following a glaucoma surgery).</p> <p>Devices implanted into the eye to create an alternate pathway for aqueous humor drainage from the anterior or posterior eye-chamber to a space between the conjunctiva and the sclera where it is absorbed into the blood, thereby lowering IOP. These devices differ depending on explant surface areas, shape, plate thickness, the presence or absence of a valve and details of surgical installation. Generally, the risk of hypotony is reduced with aqueous shunts in comparison with trabeculectomy, but IOP outcomes are higher than after standard guarded filtration surgery.</p> <p>Other aqueous stents (e.g., microstents) are being developed as minimally penetrating methods to drain aqueous humor from the anterior chamber into Schlemm’s canal or the suprachoroidal space. These include the iStent® (Glaukos), which is a 1-mm long stent inserted into the end of Schlemm’s canal by an internal approach through the cornea and anterior chamber; the third generation iStent supra®, which is designed for ab interno implantation into the suprachoroidal space; and the CyPass® (Transcend Medical) suprachoroidal stent. An advantage of ab interno shunts is that they may be inserted into the same incision and at the same time as cataract surgery. In addition, most devices do not preclude subsequent trabeculectomy if needed. It may also be possible to insert more than one shunt to achieve the desired IOP. (See Limitations/Exclusions)</p>
Trabeculectomy	<p>A surgical filtration procedure in which a portion of the trabecular meshwork is surgically removed through a superficial flap of sclera to lower the IOP by creating an alternate pathway for the aqueous fluid to flow from the anterior chamber to a bleb created in the subconjunctival space; this is currently considered the gold standard treatment for glaucoma that is refractory to medical management.</p>

Related Medical Guidelines

[Canaloplasty and Viscoanalostomy](#)

Guideline

- A. Laser trabeculoplasty or FDA-approved aqueous drainage/shunt implants* are considered medically necessary for the treatment of refractory open-angle glaucoma when there is intolerance, contraindication or failure of topical/oral medication** to control IOP.

* First line examples include latanoprost or timolol; second line, brimonidine or dorzolamide, etc.

** Currently available FDA-approved implants include: Ahmed glaucoma implant, Baerveldt seton, Ex-PRESS mini glaucoma shunt, Glaucoma pressure regulator, Krupin-Denver valve implant, Molteno implant, Schocket shunt

- B. One iStent® or Hydrus® Microstent per eye is considered medically necessary when used in combination with cataract surgery for mild to moderate open-angle glaucoma, and a cataract, in adult members being treated with ocular hypotensive medication.
- C. One XEN45 device per eye is covered for the management of refractory glaucoma, defined as prior failure of filtering/cilioablative procedure and/or uncontrolled IOP (progressive damage and mean diurnal medicated IOP ≥ 20 mm Hg) on maximally tolerated medical therapy (i.e., ≥ 4

classes of topical IOP-lowering medications, or fewer in the case of tolerability or efficacy issues). XEN45 insertion must be performed by an ophthalmologist with experience with trabeculectomy and bleb management.

- D. Adjunctive use of anti-fibrotic agents (e.g., mitomycin C) is considered medically necessary for use with the Ex-PRESS mini glaucoma shunt

Limitations/Exclusions

The following treatments/procedures are not considered medically necessary due to insufficient evidence of therapeutic value:

1. Transciliary filtration for glaucoma or other indications (e.g., Fugo Blade transciliary filtration, Singh filtration)
2. Ab interno trabeculectomy (trabectome)
3. Beta radiation.
4. Glaucoma drainage devices without FDA approval (e.g., Eyepass, DeepLight SOLX[®] Gold Shunt, which are inserted internally)
5. Adjunctive use of anti-fibrotic agents (e.g., mitomycin C) or systemic corticosteroids with shunt implants other than the Ex-Press mini
6. Drug-eluting implants inserted into the lacrimal canaliculus (including punctal dilation and implant removal when performed) for glaucoma or ocular hypertension

Revision History

Dec. 14, 2018	Added coverage for Hydrus
Sept. 14, 2018	Removed CyPass as a covered device due to Alcon recall Aug. 8, 2018
Mar. 9, 2018	Added coverage for CyPass and XEN45 devices

Applicable Procedure Codes (Click [here](#) for CyPass [device recall Aug. 8, 2018] Hydrus and iStent)

65855	Trabeculectomy by laser surgery
66150	Fistulization of sclera for glaucoma; trephination with iridectomy
66155	Fistulization of sclera for glaucoma; thermocauterization with iridectomy
66160	Fistulization of sclera for glaucoma; sclerectomy with punch or scissors, with iridectomy
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
66710	Ciliary body destruction; cyclophotocoagulation, transscleral
66720	Ciliary body destruction; cryotherapy
66761	Iridotomy/iridectomy by laser surgery (eg, for glaucoma) (per session)
J0171	Injection, Adrenalin, epinephrine, 0.1 mg
J1120	Injection, acetazolamide sodium, up to 500 mg
J7315	Mitomycin, ophthalmic, 0.2 mg
J9190	Injection, fluorouracil, 500 mg
L8612	Aqueous shunt

Applicable ICD-10 Diagnosis Codes (Click [here](#) for CyPass [device recall Aug. 8, 2018] Hydrus and iStent)

H26.231	Glaucomatous flecks (subcapsular), right eye
H26.232	Glaucomatous flecks (subcapsular), left eye
H26.233	Glaucomatous flecks (subcapsular), bilateral
H26.239	Glaucomatous flecks (subcapsular), unspecified eye
H26.411	Soemmering's ring, right eye
H26.412	Soemmering's ring, left eye
H26.413	Soemmering's ring, bilateral
H26.419	Soemmering's ring, unspecified eye
H40.10X0	Unspecified open-angle glaucoma, stage unspecified
H40.10X1	Unspecified open-angle glaucoma, mild stage
H40.10X2	Unspecified open-angle glaucoma, moderate stage
H40.10X3	Unspecified open-angle glaucoma, severe stage
H40.10X4	Unspecified open-angle glaucoma, indeterminate stage
H40.11	Primary open-angle glaucoma
H40.1110	Primary open-angle glaucoma, right eye, stage unspecified
H40.1111	Primary open-angle glaucoma, right eye, mild stage
H40.1112	Primary open-angle glaucoma, right eye, moderate stage
H40.1113	Primary open-angle glaucoma, right eye, severe stage
H40.1114	Primary open-angle glaucoma, right eye, indeterminate stage
H40.1120	Primary open-angle glaucoma, left eye, stage unspecified
H40.1121	Primary open-angle glaucoma, left eye, mild stage
H40.1122	Primary open-angle glaucoma, left eye, moderate stage
H40.1123	Primary open-angle glaucoma, left eye, severe stage
H40.1124	Primary open-angle glaucoma, left eye, indeterminate stage
H40.1130	Primary open-angle glaucoma, bilateral, stage unspecified
H40.1131	Primary open-angle glaucoma, bilateral, mild stage
H40.1132	Primary open-angle glaucoma, bilateral, moderate stage
H40.1133	Primary open-angle glaucoma, bilateral, severe stage
H40.1134	Primary open-angle glaucoma, bilateral, indeterminate stage
H40.1190	Primary open-angle glaucoma, unspecified eye, stage unspecified
H40.1191	Primary open-angle glaucoma, unspecified eye, mild stage
H40.1192	Primary open-angle glaucoma, unspecified eye, moderate stage
H40.1193	Primary open-angle glaucoma, unspecified eye, severe stage
H40.1194	Primary open-angle glaucoma, unspecified eye, indeterminate stage
H40.1210	Low-tension glaucoma, right eye, stage unspecified
H40.1211	Low-tension glaucoma, right eye, mild stage
H40.1212	Low-tension glaucoma, right eye, moderate stage
H40.1213	Low-tension glaucoma, right eye, severe stage
H40.1214	Low-tension glaucoma, right eye, indeterminate stage
H40.1220	Low-tension glaucoma, left eye, stage unspecified
H40.1221	Low-tension glaucoma, left eye, mild stage
H40.1222	Low-tension glaucoma, left eye, moderate stage

H40.1223	Low-tension glaucoma, left eye, severe stage
H40.1224	Low-tension glaucoma, left eye, indeterminate stage
H40.1230	Low-tension glaucoma, bilateral, stage unspecified
H40.1231	Low-tension glaucoma, bilateral, mild stage
H40.1232	Low-tension glaucoma, bilateral, moderate stage
H40.1233	Low-tension glaucoma, bilateral, severe stage
H40.1234	Low-tension glaucoma, bilateral, indeterminate stage
H40.1290	Low-tension glaucoma, unspecified eye, stage unspecified
H40.1291	Low-tension glaucoma, unspecified eye, mild stage
H40.1292	Low-tension glaucoma, unspecified eye, moderate stage
H40.1293	Low-tension glaucoma, unspecified eye, severe stage
H40.1294	Low-tension glaucoma, unspecified eye, indeterminate stage
H40.1310	Pigmentary glaucoma, right eye, stage unspecified
H40.1311	Pigmentary glaucoma, right eye, mild stage
H40.1312	Pigmentary glaucoma, right eye, moderate stage
H40.1313	Pigmentary glaucoma, right eye, severe stage
H40.1314	Pigmentary glaucoma, right eye, indeterminate stage
H40.1320	Pigmentary glaucoma, left eye, stage unspecified
H40.1321	Pigmentary glaucoma, left eye, mild stage
H40.1322	Pigmentary glaucoma, left eye, moderate stage
H40.1323	Pigmentary glaucoma, left eye, severe stage
H40.1324	Pigmentary glaucoma, left eye, indeterminate stage
H40.1330	Pigmentary glaucoma, bilateral, stage unspecified
H40.1331	Pigmentary glaucoma, bilateral, mild stage
H40.1332	Pigmentary glaucoma, bilateral, moderate stage
H40.1333	Pigmentary glaucoma, bilateral, severe stage
H40.1334	Pigmentary glaucoma, bilateral, indeterminate stage
H40.1390	Pigmentary glaucoma, unspecified eye, stage unspecified
H40.1391	Pigmentary glaucoma, unspecified eye, mild stage
H40.1392	Pigmentary glaucoma, unspecified eye, moderate stage
H40.1393	Pigmentary glaucoma, unspecified eye, severe stage
H40.1394	Pigmentary glaucoma, unspecified eye, indeterminate stage
H40.1410	Capsular glaucoma with pseudoexfoliation of lens, right eye, stage unspecified
H40.1411	Capsular glaucoma with pseudoexfoliation of lens, right eye, mild stage
H40.1412	Capsular glaucoma with pseudoexfoliation of lens, right eye, moderate stage
H40.1413	Capsular glaucoma with pseudoexfoliation of lens, right eye, severe stage
H40.1414	Capsular glaucoma with pseudoexfoliation of lens, right eye, indeterminate stage
H40.1420	Capsular glaucoma with pseudoexfoliation of lens, left eye, stage unspecified
H40.1421	Capsular glaucoma with pseudoexfoliation of lens, left eye, mild stage
H40.1422	Capsular glaucoma with pseudoexfoliation of lens, left eye, moderate stage
H40.1423	Capsular glaucoma with pseudoexfoliation of lens, left eye, severe stage
H40.1424	Capsular glaucoma with pseudoexfoliation of lens, left eye, indeterminate stage
H40.1430	Capsular glaucoma with pseudoexfoliation of lens, bilateral, stage unspecified

H40.1431	Capsular glaucoma with pseudoexfoliation of lens, bilateral, mild stage
H40.1432	Capsular glaucoma with pseudoexfoliation of lens, bilateral, moderate stage
H40.1433	Capsular glaucoma with pseudoexfoliation of lens, bilateral, severe stage
H40.1434	Capsular glaucoma with pseudoexfoliation of lens, bilateral, indeterminate stage
H40.1490	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, stage unspecified
H40.1491	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, mild stage
H40.1492	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, moderate stage
H40.1493	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, severe stage
H40.1494	Capsular glaucoma with pseudoexfoliation of lens, unspecified eye, indeterminate stage
H40.151	Residual stage of open-angle glaucoma, right eye
H40.152	Residual stage of open-angle glaucoma, left eye
H40.153	Residual stage of open-angle glaucoma, bilateral
H40.159	Residual stage of open-angle glaucoma, unspecified eye
Q12.1	Congenital displaced lens
Q12.2	Coloboma of lens
Q12.3	Congenital aphakia
Q12.4	Spherophakia
Q12.8	Other congenital lens malformations
Q12.9	Congenital lens malformation, unspecified

Applicable Procedure Codes for CyPass (device recall Aug. 8, 2018) Hydrus and iStent

0191T	Insertion of anterior segment aqueous drainage device, without extraocular reservoir, internal approach, into the trabecular meshwork; initial insertion
0474T	Insertion of anterior segment aqueous drainage device, with creation of intraocular reservoir, internal approach, into the supraciliary space
0449T	Insertion of aqueous drainage device, without extraocular reservoir, internal approach, into the subconjunctival space; initial device

Applicable Diagnosis Codes for CyPass (device recall Aug. 8, 2018) Hydrus and iStent

H25.10	Age-related nuclear cataract, unspecified eye
H25.11	Age-related nuclear cataract, right eye
H25.12	Age-related nuclear cataract, left eye
H25.13	Age-related nuclear cataract, bilateral
H25.20	Age-related cataract, morgagnian type, unspecified eye
H25.21	Age-related cataract, morgagnian type, right eye
H25.22	Age-related cataract, morgagnian type, left eye
H25.23	Age-related cataract, morgagnian type, bilateral
H25.811	Combined forms of age-related cataract, right eye
H25.812	Combined forms of age-related cataract, left eye
H25.813	Combined forms of age-related cataract, bilateral

H25.819	Combined forms of age-related cataract, unspecified eye
H25.89	Other age-related cataract
H25.9	Unspecified age-related cataract
H26.001	Unspecified infantile and juvenile cataract, right eye
H26.002	Unspecified infantile and juvenile cataract, left eye
H26.003	Unspecified infantile and juvenile cataract, bilateral
H26.009	Unspecified infantile and juvenile cataract, unspecified eye
H26.011	Infantile and juvenile cortical, lamellar, or zonular cataract, right eye
H26.012	Infantile and juvenile cortical, lamellar, or zonular cataract, left eye
H26.013	Infantile and juvenile cortical, lamellar, or zonular cataract, bilateral
H26.019	Infantile and juvenile cortical, lamellar, or zonular cataract, unspecified eye
H26.031	Infantile and juvenile nuclear cataract, right eye
H26.032	Infantile and juvenile nuclear cataract, left eye
H26.033	Infantile and juvenile nuclear cataract, bilateral
H26.039	Infantile and juvenile nuclear cataract, unspecified eye
H26.041	Anterior subcapsular polar infantile and juvenile cataract, right eye
H26.042	Anterior subcapsular polar infantile and juvenile cataract, left eye
H26.043	Anterior subcapsular polar infantile and juvenile cataract, bilateral
H26.049	Anterior subcapsular polar infantile and juvenile cataract, unspecified eye
H26.051	Posterior subcapsular polar infantile and juvenile cataract, right eye
H26.052	Posterior subcapsular polar infantile and juvenile cataract, left eye
H26.053	Posterior subcapsular polar infantile and juvenile cataract, bilateral
H26.059	Posterior subcapsular polar infantile and juvenile cataract, unspecified eye
H26.061	Combined forms of infantile and juvenile cataract, right eye
H26.062	Combined forms of infantile and juvenile cataract, left eye
H26.063	Combined forms of infantile and juvenile cataract, bilateral
H26.069	Combined forms of infantile and juvenile cataract, unspecified eye
H26.09	Other infantile and juvenile cataract
H26.101	Unspecified traumatic cataract, right eye
H26.102	Unspecified traumatic cataract, left eye
H26.103	Unspecified traumatic cataract, bilateral
H26.109	Unspecified traumatic cataract, unspecified eye
H26.111	Localized traumatic opacities, right eye
H26.112	Localized traumatic opacities, left eye
H26.113	Localized traumatic opacities, bilateral
H26.119	Localized traumatic opacities, unspecified eye
H26.121	Partially resolved traumatic cataract, right eye
H26.122	Partially resolved traumatic cataract, left eye
H26.123	Partially resolved traumatic cataract, bilateral
H26.129	Partially resolved traumatic cataract, unspecified eye
H26.131	Total traumatic cataract, right eye
H26.132	Total traumatic cataract, left eye
H26.133	Total traumatic cataract, bilateral

H26.139	Total traumatic cataract, unspecified eye
H26.20	Unspecified complicated cataract
H26.211	Cataract with neovascularization, right eye
H26.212	Cataract with neovascularization, left eye
H26.213	Cataract with neovascularization, bilateral
H26.219	Cataract with neovascularization, unspecified eye
H26.221	Cataract secondary to ocular disorders (degenerative) (inflammatory), right eye
H26.222	Cataract secondary to ocular disorders (degenerative) (inflammatory), left eye
H26.223	Cataract secondary to ocular disorders (degenerative) (inflammatory), bilateral
H26.229	Cataract secondary to ocular disorders (degenerative) (inflammatory), unspecified eye
H26.231	Glaucomatous flecks (subcapsular), right eye
H26.232	Glaucomatous flecks (subcapsular), left eye
H26.233	Glaucomatous flecks (subcapsular), bilateral
H26.239	Glaucomatous flecks (subcapsular), unspecified eye
H26.30	Drug-induced cataract, unspecified eye
H26.31	Drug-induced cataract, right eye
H26.32	Drug-induced cataract, left eye
H26.33	Drug-induced cataract, bilateral
H26.40	Unspecified secondary cataract
H26.411	Soemmering's ring, right eye
H26.412	Soemmering's ring, left eye
H26.413	Soemmering's ring, bilateral
H26.419	Soemmering's ring, unspecified eye
H26.491	Other secondary cataract, right eye
H26.492	Other secondary cataract, left eye
H26.493	Other secondary cataract, bilateral
H26.499	Other secondary cataract, unspecified eye
H26.8	Other specified cataract
H26.9	Unspecified cataract
H40.10X1	Unspecified open-angle glaucoma, mild stage
H40.10X2	Unspecified open-angle glaucoma, moderate stage
H40.1111	Primary open-angle glaucoma, right eye, mild stage
H40.1112	Primary open-angle glaucoma, right eye, moderate stage
H40.1121	Primary open-angle glaucoma, left eye, mild stage
H40.1122	Primary open-angle glaucoma, left eye, moderate stage
H40.1131	Primary open-angle glaucoma, bilateral, mild stage
H40.1132	Primary open-angle glaucoma, bilateral, moderate stage
H40.1191	Primary open-angle glaucoma, unspecified eye, mild stage
H40.1192	Primary open-angle glaucoma, unspecified eye, moderate stage
H40.1211	Low-tension glaucoma, right eye, mild stage
H40.1212	Low-tension glaucoma, right eye, moderate stage
H40.1221	Low-tension glaucoma, left eye, mild stage
H40.1222	Low-tension glaucoma, left eye, moderate stage

H40.1231	Low-tension glaucoma, bilateral, mild stage
H40.1232	Low-tension glaucoma, bilateral, moderate stage
H40.1311	Pigmentary glaucoma, right eye, mild stage
H40.1312	Pigmentary glaucoma, right eye, moderate stage
H40.1321	Pigmentary glaucoma, left eye, mild stage
H40.1322	Pigmentary glaucoma, left eye, moderate stage
H40.1331	Pigmentary glaucoma, left eye, mild stage
H40.1332	Pigmentary glaucoma, bilateral, moderate stage
H40.1411	Capsular glaucoma with pseudoexfoliation of lens, right eye, mild stage
H40.1412	Capsular glaucoma with pseudoexfoliation of lens, right eye, moderate stage
H40.1421	Capsular glaucoma with pseudoexfoliation of lens, left eye, mild stage
H40.1422	Capsular glaucoma with pseudoexfoliation of lens, left eye, moderate stage
H40.1431	Capsular glaucoma with pseudoexfoliation of lens, bilateral, moderate stage
H40.1432	Capsular glaucoma with pseudoexfoliation of lens, bilateral, moderate stage
Q12.0	Congenital cataract

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