



MASSACHUSETTS

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Medical Policy

Aqueous Shunts and Stents for Glaucoma

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Policy Number: 223

BCBSA Reference Number: 9.03.21

Related Policies

- Ophthalmologic Techniques for Evaluating Glaucoma, #[053](#)
- Visco canalostomy and Canaloplasty, #[372](#)

Policy

Commercial Members: Managed Care (HMO and POS), PPO, and Indemnity Medicare HMO BlueSM and Medicare PPO BlueSM Members

The insertion of aqueous shunts is approved by the U.S. Food and Drug Administration (FDA) as a method to reduce intraocular pressure in patients with glaucoma where medical therapy has failed to adequately control intraocular pressure may be [MEDICALLY NECESSARY](#).

Use of an aqueous shunt for all other conditions, including in patients with glaucoma when intraocular pressure is adequately controlled by medications, is [INVESTIGATIONAL](#).

Implantation of a single FDA-approved micro-stent in conjunction with cataract surgery may be considered [MEDICALLY NECESSARY](#) in patients with mild to moderate open-angle glaucoma currently treated with ocular hypotensive medication.

Use of a micro-stent for all other conditions is [INVESTIGATIONAL](#).

Prior Authorization Information

Commercial Members: Managed Care (HMO and POS)

Prior authorization is **NOT** required.

Commercial Members: PPO, and Indemnity

Prior authorization is **NOT** required.

Medicare Members: HMO BlueSM

Prior authorization is **NOT** required.

Medicare Members: PPO BlueSM

Prior authorization is **NOT** required.

CPT Codes / HCPCS Codes / ICD-9 Codes

The following codes are included below for informational purposes. Inclusion or exclusion of a code does not constitute or imply member coverage or provider reimbursement. Please refer to the member's contract benefits in effect at the time of service to determine coverage or non-coverage as it applies to an individual member. A draft of future ICD-10 Coding related to this document, as it might look today, is included below for your reference.

Providers should report all services using the most up-to-date industry-standard procedure, revenue, and diagnosis codes, including modifiers where applicable.

CPT Codes

CPT codes:	Code Description
66180	Aqueous shunt to extraocular reservoir (eg, Molteno, Schocket, Denver-Krupin)
66183	Insertion of anterior segment aqueous drainage device, without extraocular reservoir, external approach
0191T	Insertion of anterior segment aqueous drainage device, without extraocular reservoir; internal approach, into the trabecular meshwork
0253T	Insertion of anterior segment aqueous drainage device, without extraocular reservoir; internal approach, into the subarachnoid space

HCPCS Codes

HCPCS codes:	Code Description
C1783	Ocular implant, aqueous drainage assist device
L8612	Aqueous shunt

ICD-9 Diagnosis Codes

ICD-9-CM diagnosis codes:	Code Description
365.00	Preglaucoma, unspecified
365.01	Open angle with borderline findings, low risk
365.02	Anatomical narrow angle borderline glaucoma
365.03	Steroid responders borderline glaucoma
365.04	Ocular hypertension
365.05	Open angle with borderline findings, high risk
365.06	Primary angle closure without glaucoma damage
365.10	Open-angle glaucoma, unspecified
365.11	Primary open angle glaucoma
365.12	Low tension open-angle glaucoma
365.13	Pigmentary open-angle glaucoma
365.14	Glaucoma of childhood
365.15	Residual stage of open angle glaucoma
365.20	Primary angle-closure glaucoma, unspecified
365.21	Intermittent angle-closure glaucoma
365.22	Acute angle-closure glaucoma
365.23	Chronic angle-closure glaucoma
365.24	Residual stage of angle-closure glaucoma

365.31	Corticosteroid-induced glaucoma, glaucomatous stage
365.32	Corticosteroid-induced glaucoma, residual stage
365.41	Glaucoma associated with chamber angle anomalies
365.42	Glaucoma associated with anomalies of iris
365.43	Glaucoma associated with other anterior segment anomalies
365.44	Glaucoma associated with systemic syndromes
365.51	Phacolytic glaucoma
365.52	Pseudoexfoliation glaucoma
365.59	Glaucoma associated with other lens disorders
365.60	Glaucoma associated with unspecified ocular disorder
365.61	Glaucoma associated with pupillary block
365.62	Glaucoma associated with ocular inflammations
365.63	Glaucoma associated with vascular disorders
365.64	Glaucoma associated with tumors or cysts
365.65	Glaucoma associated with ocular trauma
365.81	Hypersecretion glaucoma
365.82	Glaucoma with increased episcleral venous pressure
365.83	Aqueous misdirection
365.89	Other specified glaucoma
365.9	Unspecified glaucoma

ICD-10 Diagnosis Codes

ICD-10-CM Diagnosis codes:	Code Description
H40.001	Preglaucoma, unspecified, right eye
H40.002	Preglaucoma, unspecified, left eye
H40.003	Preglaucoma, unspecified, bilateral
H40.009	Preglaucoma, unspecified, unspecified eye
H40.011	Open angle with borderline findings, low risk, right eye
H40.012	Open angle with borderline findings, low risk, left eye
H40.013	Open angle with borderline findings, low risk, bilateral
H40.019	Open angle with borderline findings, low risk, unspecified eye
H40.021	Open angle with borderline findings, high risk, right eye
H40.022	Open angle with borderline findings, high risk, left eye
H40.023	Open angle with borderline findings, high risk, bilateral
H40.029	Open angle with borderline findings, high risk, unspecified eye
H40.031	Anatomical narrow angle, right eye
H40.032	Anatomical narrow angle, left eye
H40.033	Anatomical narrow angle, bilateral
H40.039	Anatomical narrow angle, unspecified eye
H40.041	Steroid responder, right eye
H40.042	Steroid responder, left eye
H40.043	Steroid responder, bilateral
H40.049	Steroid responder, unspecified eye
H40.051	Ocular hypertension, right eye
H40.052	Ocular hypertension, left eye
H40.053	Ocular hypertension, bilateral
H40.059	Ocular hypertension, unspecified eye
H40.061	Primary angle closure without glaucoma damage, right eye
H40.062	Primary angle closure without glaucoma damage, left eye

H40.063	Primary angle closure without glaucoma damage, bilateral
H40.069	Primary angle closure without glaucoma damage, 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
H40.11x0	Primary open-angle glaucoma, stage unspecified
H40.11x1	Primary open-angle glaucoma, mild stage
H40.11x2	Primary open-angle glaucoma, moderate stage
H40.11x3	Primary open-angle glaucoma, severe stage
H40.11x4	Primary open-angle glaucoma, 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
H40.20x0	Unspecified primary angle-closure glaucoma, stage unspecified
H40.20x1	Unspecified primary angle-closure glaucoma, mild stage
H40.20x2	Unspecified primary angle-closure glaucoma, moderate stage
H40.20x3	Unspecified primary angle-closure glaucoma, severe stage
H40.20x4	Unspecified primary angle-closure glaucoma, indeterminate stage
H40.211	Acute angle-closure glaucoma, right eye
H40.212	Acute angle-closure glaucoma, left eye
H40.213	Acute angle-closure glaucoma, bilateral
H40.219	Acute angle-closure glaucoma, unspecified eye
H40.2210	Chronic angle-closure glaucoma, right eye, stage unspecified
H40.2211	Chronic angle-closure glaucoma, right eye, mild stage
H40.2212	Chronic angle-closure glaucoma, right eye, moderate stage
H40.2213	Chronic angle-closure glaucoma, right eye, severe stage
H40.2214	Chronic angle-closure glaucoma, right eye, indeterminate stage
H40.2220	Chronic angle-closure glaucoma, left eye, stage unspecified
H40.2221	Chronic angle-closure glaucoma, left eye, mild stage
H40.2222	Chronic angle-closure glaucoma, left eye, moderate stage
H40.2223	Chronic angle-closure glaucoma, left eye, severe stage
H40.2224	Chronic angle-closure glaucoma, left eye, indeterminate stage
H40.2230	Chronic angle-closure glaucoma, bilateral, stage unspecified
H40.2231	Chronic angle-closure glaucoma, bilateral, mild stage
H40.2232	Chronic angle-closure glaucoma, bilateral, moderate stage
H40.2233	Chronic angle-closure glaucoma, bilateral, severe stage
H40.2234	Chronic angle-closure glaucoma, bilateral, indeterminate stage
H40.2290	Chronic angle-closure glaucoma, unspecified eye, stage unspecified

H40.2291	Chronic angle-closure glaucoma, unspecified eye, mild stage
H40.2292	Chronic angle-closure glaucoma, unspecified eye, moderate stage
H40.2293	Chronic angle-closure glaucoma, unspecified eye, severe stage
H40.2294	Chronic angle-closure glaucoma, unspecified eye, indeterminate stage
H40.231	Intermittent angle-closure glaucoma, right eye
H40.232	Intermittent angle-closure glaucoma, left eye
H40.233	Intermittent angle-closure glaucoma, bilateral
H40.239	Intermittent angle-closure glaucoma, unspecified eye
H40.241	Residual stage of angle-closure glaucoma, right eye
H40.242	Residual stage of angle-closure glaucoma, left eye
H40.243	Residual stage of angle-closure glaucoma, bilateral
H40.249	Residual stage of angle-closure glaucoma, unspecified eye
H40.30x0	Glaucoma secondary to eye trauma, unspecified eye, stage unspecified
H40.30x1	Glaucoma secondary to eye trauma, unspecified eye, mild stage
H40.30x2	Glaucoma secondary to eye trauma, unspecified eye, moderate stage
H40.30x3	Glaucoma secondary to eye trauma, unspecified eye, severe stage
H40.30x4	Glaucoma secondary to eye trauma, unspecified eye, indeterminate stage
H40.31x0	Glaucoma secondary to eye trauma, right eye, stage unspecified
H40.31x1	Glaucoma secondary to eye trauma, right eye, mild stage
H40.31x2	Glaucoma secondary to eye trauma, right eye, moderate stage
H40.31x3	Glaucoma secondary to eye trauma, right eye, severe stage
H40.31x4	Glaucoma secondary to eye trauma, right eye, indeterminate stage
H40.32x0	Glaucoma secondary to eye trauma, left eye, stage unspecified
H40.32x1	Glaucoma secondary to eye trauma, left eye, mild stage
H40.32x2	Glaucoma secondary to eye trauma, left eye, moderate stage
H40.32x3	Glaucoma secondary to eye trauma, left eye, severe stage
H40.32x4	Glaucoma secondary to eye trauma, left eye, indeterminate stage
H40.33x0	Glaucoma secondary to eye trauma, bilateral, stage unspecified
H40.33x1	Glaucoma secondary to eye trauma, bilateral, mild stage
H40.33x2	Glaucoma secondary to eye trauma, bilateral, moderate stage
H40.33x3	Glaucoma secondary to eye trauma, bilateral, severe stage
H40.33x4	Glaucoma secondary to eye trauma, bilateral, indeterminate stage
H40.40x0	Glaucoma secondary to eye inflammation, unspecified eye, stage unspecified
H40.40x1	Glaucoma secondary to eye inflammation, unspecified eye, mild stage
H40.40x2	Glaucoma secondary to eye inflammation, unspecified eye, moderate stage
H40.40x3	Glaucoma secondary to eye inflammation, unspecified eye, severe stage
H40.40x4	Glaucoma secondary to eye inflammation, unspecified eye, indeterminate stage
H40.41x0	Glaucoma secondary to eye inflammation, right eye, stage unspecified
H40.41x1	Glaucoma secondary to eye inflammation, right eye, mild stage
H40.41x2	Glaucoma secondary to eye inflammation, right eye, moderate stage
H40.41x3	Glaucoma secondary to eye inflammation, right eye, severe stage
H40.41x4	Glaucoma secondary to eye inflammation, right eye, indeterminate stage
H40.42x0	Glaucoma secondary to eye inflammation, left eye, stage unspecified
H40.42x1	Glaucoma secondary to eye inflammation, left eye, mild stage
H40.42x2	Glaucoma secondary to eye inflammation, left eye, moderate stage
H40.42x3	Glaucoma secondary to eye inflammation, left eye, severe stage
H40.42x4	Glaucoma secondary to eye inflammation, left eye, indeterminate stage
H40.43x0	Glaucoma secondary to eye inflammation, bilateral, stage unspecified
H40.43x1	Glaucoma secondary to eye inflammation, bilateral, mild stage
H40.43x2	Glaucoma secondary to eye inflammation, bilateral, moderate stage
H40.43x3	Glaucoma secondary to eye inflammation, bilateral, severe stage

H40.43x4	Glaucoma secondary to eye inflammation, bilateral, indeterminate stage
H40.50x0	Glaucoma secondary to other eye disorders, unspecified eye, stage unspecified
H40.50x1	Glaucoma secondary to other eye disorders, unspecified eye, mild stage
H40.50x2	Glaucoma secondary to other eye disorders, unspecified eye, moderate stage
H40.50x3	Glaucoma secondary to other eye disorders, unspecified eye, severe stage
H40.50x4	Glaucoma secondary to other eye disorders, unspecified eye, indeterminate stage
H40.51x0	Glaucoma secondary to other eye disorders, right eye, stage unspecified
H40.51x1	Glaucoma secondary to other eye disorders, right eye, mild stage
H40.51x2	Glaucoma secondary to other eye disorders, right eye, moderate stage
H40.51x3	Glaucoma secondary to other eye disorders, right eye, severe stage
H40.51x4	Glaucoma secondary to other eye disorders, right eye, indeterminate stage
H40.52x0	Glaucoma secondary to other eye disorders, left eye, stage unspecified
H40.52x1	Glaucoma secondary to other eye disorders, left eye, mild stage
H40.52x2	Glaucoma secondary to other eye disorders, left eye, moderate stage
H40.52x3	Glaucoma secondary to other eye disorders, left eye, severe stage
H40.52x4	Glaucoma secondary to other eye disorders, left eye, indeterminate stage
H40.53x0	Glaucoma secondary to other eye disorders, bilateral, stage unspecified
H40.53x1	Glaucoma secondary to other eye disorders, bilateral, mild stage
H40.53x2	Glaucoma secondary to other eye disorders, bilateral, moderate stage
H40.53x3	Glaucoma secondary to other eye disorders, bilateral, severe stage
H40.53x4	Glaucoma secondary to other eye disorders, bilateral, indeterminate stage
H40.60x0	Glaucoma secondary to drugs, unspecified eye, stage unspecified
H40.60x1	Glaucoma secondary to drugs, unspecified eye, mild stage
H40.60x2	Glaucoma secondary to drugs, unspecified eye, moderate stage
H40.60x3	Glaucoma secondary to drugs, unspecified eye, severe stage
H40.60x4	Glaucoma secondary to drugs, unspecified eye, indeterminate stage
H40.61x0	Glaucoma secondary to drugs, right eye, stage unspecified
H40.61x1	Glaucoma secondary to drugs, right eye, mild stage
H40.61x2	Glaucoma secondary to drugs, right eye, moderate stage
H40.61x3	Glaucoma secondary to drugs, right eye, severe stage
H40.61x4	Glaucoma secondary to drugs, right eye, indeterminate stage
H40.62x0	Glaucoma secondary to drugs, left eye, stage unspecified
H40.62x1	Glaucoma secondary to drugs, left eye, mild stage
H40.62x2	Glaucoma secondary to drugs, left eye, moderate stage
H40.62x3	Glaucoma secondary to drugs, left eye, severe stage
H40.62x4	Glaucoma secondary to drugs, left eye, indeterminate stage
H40.63x0	Glaucoma secondary to drugs, bilateral, stage unspecified
H40.63x1	Glaucoma secondary to drugs, bilateral, mild stage
H40.63x2	Glaucoma secondary to drugs, bilateral, moderate stage
H40.63x3	Glaucoma secondary to drugs, bilateral, severe stage
H40.63x4	Glaucoma secondary to drugs, bilateral, indeterminate stage
H40.811	Glaucoma with increased episcleral venous pressure, right eye
H40.812	Glaucoma with increased episcleral venous pressure, left eye
H40.813	Glaucoma with increased episcleral venous pressure, bilateral
H40.819	Glaucoma with increased episcleral venous pressure, unspecified eye
H40.821	Hypersecretion glaucoma, right eye
H40.822	Hypersecretion glaucoma, left eye
H40.823	Hypersecretion glaucoma, bilateral
H40.829	Hypersecretion glaucoma, unspecified eye
H40.831	Aqueous misdirection, right eye
H40.832	Aqueous misdirection, left eye

H40.833	Aqueous misdirection, bilateral
H40.839	Aqueous misdirection, unspecified eye
H40.89	Other specified glaucoma
H40.9	Unspecified glaucoma
H42	Glaucoma in diseases classified elsewhere
Q15.0	Congenital glaucoma

Description

Glaucoma surgery is intended to reduce intraocular pressure (IOP) when the target IOP cannot be reached with medications. Due to complications with established surgical approaches such as trabeculectomy, a variety of devices, including aqueous shunts, are being evaluated as alternative surgical treatments for patients with inadequately controlled glaucoma. Micro-stents are also being evaluated in patients with mild to moderate open-angle glaucoma currently treated with ocular hypotensive medication.

Background

Surgical procedures for glaucoma aim to reduce intraocular pressure (IOP) resulting from impaired aqueous humor drainage in the trabecular meshwork and/or Schlemm's canal. In the primary (conventional) outflow pathway from the eye, aqueous humor passes through the trabecular meshwork, enters a space lined with endothelial cells (Schlemm's canal), drains into collector channels, and then into the aqueous veins. Increases in resistance in the trabecular meshwork and/or the inner wall of Schlemm's canal can disrupt the balance of aqueous humor inflow and outflow, resulting in an increase in IOP and glaucoma risk.

Surgical intervention may be indicated in patients with glaucoma when the target IOP cannot be reached pharmacologically. Trabeculectomy (guarded filtration surgery) is the most established surgical procedure for glaucoma, allowing aqueous humor to directly enter the subconjunctival space. This procedure creates a subconjunctival reservoir, which can effectively reduce IOP, but commonly results in filtering "blebs" on the eye, and is associated with numerous complications (e.g., leaks or bleb-related endophthalmitis) and long-term failure. Other surgical procedures (not addressed in this policy) include trabecular laser ablation, deep sclerectomy, which removes the outer wall of Schlemm's canal and excises deep sclera and peripheral cornea, and viscocanalostomy, which unroofs and dilates Schlemm's canal without penetrating the trabecular meshwork or anterior chamber (see policy 9.03.26).

More recently the Trabectome™, an electrocautery device with irrigation and aspiration, has been used to selectively ablate the trabecular meshwork and inner wall of Schlemm's canal without external access or creation of a subconjunctival bleb. IOP with this ab interno procedure is typically higher than the pressure achieved with standard filtering trabeculectomy. Canaloplasty involves dilation and tension of Schlemm's canal with a suture loop between the inner wall of the canal and the trabecular meshwork. This ab externo procedure uses the iTrack™ illuminated microcatheter (iScience Interventional) to access and dilate the entire length of Schlemm's canal and to pass the suture loop through the canal.

Aqueous shunts may also be placed in the anterior or posterior chamber to facilitate drainage of aqueous humor. Established shunts include the Ahmed™ (New World Medical), Baerveldt® (Advanced Medical Optics), Molteno® (IOP), ExPress® mini-shunt (Alco); and the SOLX® DeepLight® Gold Micro-Shunt (SOLX), which shunts aqueous humor between the anterior chamber and the suprachoroidal space. 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 (low pressure) is reduced with aqueous shunts in comparison with trabeculectomy, but IOP outcomes are higher than after standard guarded filtration surgery. Complications of anterior chamber shunts include corneal endothelial failure and erosion of the overlying conjunctiva. The risk of postoperative infection is less than after trabeculectomy, and failure rates are similar, with about 10% of devices failing each year. The primary indication for aqueous shunts is when prior medical or surgical therapy has failed, although some ophthalmologists have advocated their use as a primary surgical intervention, particularly for selected conditions such as congenital glaucoma, trauma, chemical burn, or pemphigoid.

Other aqueous stents 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.

Since aqueous humor outflow is pressure-dependent, the pressure in the reservoir and venous system are critical for reaching the target IOP. Therefore, some devices may be unable to reduce IOP below the pressure of the distal outflow system used, e.g., below 15 mm Hg, and are not indicated for patients for whom very low IOP is desired (e.g., those with advanced glaucoma). It has been proposed that stents such as the iStent, Cypass, and Hydrus Microstent may be useful to lower IOP in patients with early stage glaucoma to reduce the burden of medications and problems with compliance. One area of investigation is for patients with glaucoma who require cataract surgery. 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. Therefore, health outcomes of interest are the IOP achieved, reduction in medications, ability to convert to trabeculectomy, complications, and durability of the device.

Summary

Randomized controlled trials have shown that the use of large externally placed shunts with extraocular reservoirs results in success rates as good as standard filtering surgery (trabeculectomy). Shunts have a different side effect profile and avoid some of the most problematic complications of trabeculectomy. Therefore, use of FDA-approved shunts may be considered medically necessary as a method to reduce intraocular pressure in patients with moderate to severe glaucoma in whom medical treatments have failed to adequately control intraocular pressure. Aqueous shunts that are not FDA-approved/cleared, as well as all conditions for the approved devices aside from reducing IOP in patients with glaucoma in whom medical therapy has failed, are considered investigational.

Use of micro-stents has been studied in patients with both cataracts and less advanced glaucoma, where the intraocular pressure (IOP) is at least partially controlled with medication. Results from these studies indicate that IOP may be lowered below baseline with decreased need for medication although the benefit appears to diminish after the first year. A micro-stent has received FDA approval for use in conjunction with cataract surgery for the reduction of IOP in adult patients with mild to moderate open-angle glaucoma currently treated with ocular hypotensive medication. Based on the documented reduction in the need for medications and the clinical input received on this policy, use of a single FDA-approved micro-stent may be considered medically necessary when implanted concurrently with cataract surgery in patients who are unable to tolerate medication.

Policy History

Date	Action
5/2014	Updated Coding section with ICD10 procedure and diagnosis codes, effective 10/2015.
3/2014	BCBSA National medical policy review. New medically necessary indications described. Effective 3/1/2014.
1/2014	Updated to add new CPT code 66183 and remove deleted code 0192T.
11/2013	Added CPT code 66180 as it meets the intent of the policy.
6/2013	BCBSA National medical policy review. New investigational indications described. Effective 6/1/2013.
11/2011- 4/2012	Medical policy ICD 10 remediation: Formatting, editing and coding updates. No changes to policy statements.
3/2011	Updated to add new CPT Code 66175.
2/2011	Reviewed - Medical Policy Group – Psychiatry and Ophthalmology.

	No changes to policy statements.
8/1/2010	Medical Policy #223 effective 8/1/2010 created.

Information Pertaining to All Blue Cross Blue Shield Medical Policies

Click on any of the following terms to access the relevant information:

[Medical Policy Terms of Use](#)

[Managed Care Guidelines](#)

[Indemnity/PPO Guidelines](#)

[Clinical Exception Process](#)

[Medical Technology Assessment Guidelines](#)

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