

## LCD - Cataract Extraction (L39716)

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### Contractor Information

| CONTRACTOR NAME                                    | CONTRACT TYPE | CONTRACT NUMBER | JURISDICTION | STATES                                                                                                                                                                                         |
|----------------------------------------------------|---------------|-----------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wisconsin Physicians Service Insurance Corporation | MAC - Part A  | 05101 - MAC A   | J - 05       | Iowa                                                                                                                                                                                           |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part B  | 05102 - MAC B   | J - 05       | Iowa                                                                                                                                                                                           |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part A  | 05201 - MAC A   | J - 05       | Kansas                                                                                                                                                                                         |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part B  | 05202 - MAC B   | J - 05       | Kansas                                                                                                                                                                                         |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part A  | 05301 - MAC A   | J - 05       | Missouri - Entire State                                                                                                                                                                        |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part B  | 05302 - MAC B   | J - 05       | Missouri - Entire State                                                                                                                                                                        |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part A  | 05401 - MAC A   | J - 05       | Nebraska                                                                                                                                                                                       |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part B  | 05402 - MAC B   | J - 05       | Nebraska                                                                                                                                                                                       |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part A  | 05901 - MAC A   | J - 05       | Alabama<br>Alaska<br>Arizona<br>Arkansas<br>California - Entire State<br>Colorado<br>Connecticut<br>Delaware<br>Florida<br>Georgia<br>Hawaii<br>Idaho<br>Illinois<br>Indiana<br>Iowa<br>Kansas |

| CONTRACTOR NAME                                    | CONTRACT TYPE | CONTRACT NUMBER | JURISDICTION | STATES                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------|---------------|-----------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                    |               |                 |              | Kentucky<br>Louisiana<br>Maine<br>Maryland<br>Massachusetts<br>Michigan<br>Mississippi<br>Missouri - Entire State<br>Montana<br>Nebraska<br>Nevada<br>New Hampshire<br>New Jersey<br>New Mexico<br>North Carolina<br>North Dakota<br>Ohio<br>Oklahoma<br>Oregon<br>Pennsylvania<br>Rhode Island<br>South Carolina<br>South Dakota<br>Tennessee<br>Texas<br>Utah<br>Vermont<br>Virginia<br>Washington<br>West Virginia<br>Wisconsin<br>Wyoming |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part A  | 08101 - MAC A   | J - 08       | Indiana                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part B  | 08102 - MAC B   | J - 08       | Indiana                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part A  | 08201 - MAC A   | J - 08       | Michigan                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Wisconsin Physicians Service Insurance Corporation | MAC - Part B  | 08202 - MAC B   | J - 08       | Michigan                                                                                                                                                                                                                                                                                                                                                                                                                                      |

# LCD Information

## Document Information

**LCD ID**

L39716

**LCD Title**

Cataract Extraction

**Proposed LCD in Comment Period**

N/A

**Source Proposed LCD**

[DL39716](#)

**Original Effective Date**

For services performed on or after 02/11/2024

**Revision Effective Date**

N/A

**Revision Ending Date**

N/A

**Retirement Date**

N/A

**Notice Period Start Date**

12/28/2023

**Notice Period End Date**

02/10/2024

## Issue

**Issue Description**

Limited coverage of cataract extraction procedures as described in the coverage indications of the policy.

**Issue - Explanation of Change Between Proposed LCD and Final LCD**

Changes were made under Coverage Indications to remove the Snelling visual acuity requirement of 20/50 and also to remove the requirement that cataract be the primary reason for visual loss in the presence of other disease. Added that cataract is believed to be significantly contributing to the patient's visual impairment in the presence of other ocular disease that affect vision. Additional coverage was added for narrow angle glaucoma to the summary of evidence section based on a comment received during the open comment period. Additional literature sources were

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added to bibliography

## **CMS National Coverage Policy**

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Title XVIII of the Social Security Act (SSA):

Section 1862(a)(1)(A) excludes expenses incurred for items or services which are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member.

Section 1833(e) prohibits Medicare payment for any claim which lacks the necessary information to process the claim.

Code of Federal Regulations:

42 CFR, § 410.32 indicates that diagnostic tests may only be ordered by the treating physician (or other treating practitioner acting within the scope of his or her license and Medicare requirements.

CMS Publications:

CMS Publication 100-02, *Medicare Benefit Policy Manual*, Chapter 15, Part 1:

10.1 Use of Visual Tests Prior to and General Anesthesia during Cataract Surgery 260 Ambulatory Surgical Center Services

CMS Publication 100-03, *Medicare National Coverage Determinations Manual*, Chapter 1, Part 1:

10.1 Use of Visual Tests Prior to and General Anesthesia during Cataract Surgery

80.10 Phaco-Emulsification Procedure - Cataract Extraction

80.12 Intraocular Lenses

80.8 Endothelial Cell Photography

## **Coverage Guidance**

### **Coverage Indications, Limitations, and/or Medical Necessity**

A cataract is a degradation of the optical quality of the crystalline lens that affects vision. Cataracts cause an opacity or cloudiness in the lens of the eye(s) which blocks the passage of light through the lens.<sup>6</sup>

Cataracts occur frequently as a progressive age-related disease and is the leading cause of blindness worldwide of all ethnic and racial backgrounds.<sup>6</sup> More than half of all Americans age 80 or older either have cataracts or have had surgical treatment of cataracts.<sup>2</sup> Cataract is the leading cause of visual impairment among Americans of all studied ethnic and racial backgrounds.<sup>3</sup> The number of people in the United States with cataracts is expected to double from 24.4 million to approximately 50 million in the next 30 years.<sup>2,6</sup> Most cataract development is related to aging, and it can occur in one or both eyes. As part of the aging process, the lens increases in thickness and weight causing hardening and compression on the nucleus eventually developing a yellow-brown color that changes the transparency of the lens. Cataracts have several different types that have their own anatomical location, pathology, and risk factors which increases with each decade of life starting around age 40.<sup>6</sup> Risk factors that can increase

cataract development may include smoking, ultraviolet  $\beta$  radiation exposure, complications of diabetes, and drug and/or alcohol use.<sup>2</sup>

Medicare coverage for cataract extraction, and cataract extraction with intraocular lens implant, is based on services that are reasonable and medically necessary for the treatment of beneficiaries with cataract(s). This policy defines coverage and describes criteria necessary to justify the performance of cataract extraction(s).

## Coverage Indications

Cataract extraction is considered medically necessary when one (or more) of the following conditions or circumstances exists, and are clearly documented in the medical record:

- The patient's visual function is not correctable with a tolerable change in glasses or contact lenses; and
- When 1 or more concomitant ocular diseases are present that potentially affect visual function (e.g., macular degeneration or diabetic retinopathy), the medical record should indicate that cataract is believed to be significantly contributing to the patient's visual impairment; and
- The cataract is determined to have a significant negative impact to the patient's visual function in the presence of other eye disease(s) including, but not limited to macular degeneration or diabetic retinopathy, and
- The patient is not able to carry out activities of daily living including but not limited to reading, viewing television, driving, or meeting occupational or recreational needs; or
- An unimpeded view of the fundus is mandatory for proper monitoring or treatment of patients with concomitant intraocular diseases including, but not limited to diabetic retinopathy, open angle glaucoma or intraocular tumor; or
- The cataract interferes with the performance of vitreoretinal surgery, as in the case of proliferative vitreoretinopathy, complicated retinal detachments, and severe proliferative diabetic retinopathy; or
- There is a high probability of accelerating cataract progression resulting from concomitant or subsequent procedure (e.g., pars plana vitrectomy, iridocyclectomy, procedure for ocular trauma) and treatments such as external beam irradiation; or
- Intolerable anisometropia or aniseikonia uncorrectable with glasses or contact lenses that exists because of lens extraction in the first eye (despite satisfactorily corrected monocular visual acuity).

## Coverage Limitations

### Second Eye Surgery

Should a significant cataract also be present in the second eye, surgery is generally not performed in both eyes at the same time because of the potential for bilateral visual loss. In the more common situation where surgery is performed sequentially in the other eye on separate days for bilateral visually symptomatic cataracts, the appropriate interval between the first-eye surgery and second-eye surgery is influenced by several factors:

- The patient's visual needs,
- The patient's preferences,
- Visual function in the second eye,
- The medical and refractive stability of the first eye,
- The need to restore binocular vision and resolve anisometropia,
- Allow an adequate interval of time to elapse to evaluate and treat early postoperative complications in first eye, such as endophthalmitis; and/or
- Logistical and travel considerations of the patient.

The patient and the ophthalmologist should discuss the benefits, risks, need, and timing of second-eye surgery when

they have had the opportunity to evaluate the results of surgery on the first eye, considering the above factors.

If the decision to perform cataract extraction in both eyes is made prior to the first (sequential) cataract extraction, the documentation must support the medical necessity for each procedure to be performed.

If bilateral cataract extraction is performed on both eyes, on the same date of service, known as Immediate Sequential Bilateral Cataract Surgery, the medical record must document the rationale, and that the patient has been apprised of the risks and benefits of the procedure and available alternatives.

### Complex Cataract Surgery

The billing of Complex Cataract Surgery is intended to differentiate the extra work performed during the intraoperative or postoperative periods in a subset of cataract operations. It is not related to the surgeon's perception of the surgical difficulty. The use of this code is governed by the need to employ devices or techniques not generally required/utilized in routine cataract surgery.

For example:

- A miotic pupil which will not dilate sufficiently to allow adequate visualization of the lens in the posterior chamber of the eye and requires the insertion of 4 iris retractors through 4 additional incisions, Beehler pupil dilator or similar expansion device, a sector iridectomy with subsequent suture repair of iris sphincter, synechiolysis using papillary stretch maneuvers, or sphincterotomies created with scissors.
- The presence of a disease state that produces lens support structures that are abnormally weak or absent. This requires the need to support the lens implant with permanent intraocular sutures and/or a capsular support ring (approved by the FDA) to allow placement of an intraocular lens.
- Pediatric cataract surgery may be more difficult intraoperatively because of an anterior capsule which is more difficult to tear, cortex which is more difficult to remove, and the need for a primary posterior capsulotomy (capsulorhexis).
- Extraordinary work may occur during the postoperative period. This is the case with pediatric cases mentioned above and very rarely when there is extreme postoperative inflammation and pain.

### **Visual Acuity**

The Snellen visual acuity chart is an excellent way of measuring distance refractive error (e.g. myopia, hyperopia, astigmatism) in healthy eyes, and is in wide clinical use. However, testing only with high contrast letters viewed in dark room conditions will underestimate the functional impairments caused by some cataracts in common real life situations such as day or nighttime glare conditions, poor contrast environments or reading, halos and starbursts at night, and impaired optical quality causing monocular diplopia and ghosting.

While a single arbitrary objective measure might be desirable a specific Snellen visual acuity alone can neither rule in, nor rule out the need for surgery. It should be recorded and considered in the context of the patient's visual impairment and other ocular findings.<sup>6</sup>

### **Summary of Evidence**

According to the American Academy of Ophthalmology (AAO) 2021 et al,<sup>6</sup> cataract surgery is primarily recommended for visual function that no longer meets the patient's needs and should be considered based on visual acuity, visual impairment, and potential for functional benefits. The preoperative evaluation should not be solely based on a visual Snellen exam, but to include an ophthalmic evaluation, patient-centered visual function exams and questionnaires, and patient education about treatment options prior to consent. The AAO has set characterizations to

ensure that improved visual function, physical function, and mental health is restored after cataract surgery. Cataract surgery is also known to decrease intraocular pressure (IOP) after phacoemulsification cataract surgery in patients with or without glaucoma. Alternatives to cataract surgery and management of cataract are very few. Miller, et al<sup>6</sup> display outcomes from studies that prove cataract surgery to be effective when considered in the AAO's practice patterns for cataract surgery guidelines. Across the studies mentioned, patients have improved corrected distance visual acuity (CDVA) scores, increased visual acuity, and were overall satisfied with the results of their surgery and improvement in quality of life. The only major potentially eye-threatening complications of cataract surgery are infectious endophthalmitis, toxic anterior segment syndrome (TASS), toxic posterior segment syndrome (TPSS), suprachoroidal hemorrhage, cystoid macular edema (CME), persistent corneal edema, IOL dislocation, secondary glaucoma, diplopia, and blindness those these complications are rare. Comparing studies have shown that patients who receive cataract surgery in both eyes have greater functional improvement than those that had surgery in one eye. Although bilateral cataract surgery is beneficial, if both eyes show significant indications for it, determining the appropriate time interval between the first eye surgery and the second eye surgery is complex and influenced by several factors.

According to the AAO 2021 et al,<sup>6</sup> symptomatic cataract is a surgical disease and the standard of care in cataract surgery in the U.S. is a small-incision phacoemulsification with foldable IOL implantation. Cataracts are the leading cause of treatable blindness among all races worldwide. The risk of developing cataracts increases beginning at age 40. As part of the aging process, the lens increases in thickness and weight causing hardening and compression on the nucleus. The lens eventually develops a yellow-brown color that changes the transparency. To confirm that a cataract is causing the visual impairment rather than another ocular or systemic condition, a comprehensive evaluation should be conducted. Cataract surgery is the primary management of significant visual impairment. The complexity of cataract surgery requires special training, clinical experience, and judgment that are necessary to evaluate the medical, ocular, and psychosocial factors used to determine the appropriateness and timing of surgery. There are no pharmacologic treatments to eliminate cataracts. Visual function plays a major role in physical performance, mental and emotional well-being, and mobility for the elderly. Visual impairment increases the risk for falls and hip fractures in the elderly. Improved vision can reduce the fear of falling, which is one of the listed outcomes for characterized improvement in mental health and emotional well-being in the elderly. The indications, contraindications, and complications for cataract surgery are the same. Multiple studies that were used for the AAO's preferred practice pattern show that CDVA scores improved, over 90% of patients, postoperatively, had improved visual acuity and improvement in VF-14 scores, and that the strongest preoperative indicator for visual function improvement is the glare disability test at low and medium spatial frequencies. Overall, cataract surgery is safe and effective for young adults and the elderly population. It reaches its goal of improving visual function and enhancing quality of life. The preferred practice patterns set by AAO, have clear guidelines that are suited to promote optimal health and a clear path of treating adult cataract patients. While studies in Canada, Europe and other parts of the world have recently emerged supporting the safety and efficacy of same-day bilateral cataract surgery, more studies are needed in the US with attention to the serious risk of bilateral blindness due to endophthalmitis or TASS.

Vazquez-Ferreiro<sup>5</sup> and colleagues conducted a systematic review and meta-analysis to evaluate the association pseudoexfoliation syndrome has on IOL after having phacoemulsification cataract surgery. The aim was to identify pseudoexfoliation as a risk factor for IOL dislocation and explore other related factors from the surgery. Two reviewers performed a systematic search of several cohort studies, case-control studies and clinical trials. Included in this analysis were PubMed MEDLINE, Embase, Web of Science, Cochrane, and Lilacs database. All resources were used for searches specific to IOL dislocation in patients with and without pseudoexfoliation syndrome who had undergone phacoemulsification. The meta-analysis of this review included 2 questions of interest: 1.) Do patients with pseudoexfoliation syndrome have a clinically relevant increased risk of late IOL dislocation compared with patients without this syndrome? and 2.) Can the risk of late lens IOL dislocation in patients with pseudoexfoliation be reduced using hooks, retractors, rings, or other devices to reduce incision size? Inclusion criteria focused on articles that provided enough data with which to calculate odds ratios (ORs) and corresponding confidence intervals (CIs) for IOL dislocation. A few specific data that were extracted for this analysis to mention are sample size, study setting, study population, use of hooks or retractors, type of cataract, study design, etc. A total of 859 articles were retrieved

and only 14 articles met the inclusion criteria. All were cohort studies, excluding one that was a case-control study. Only 2 studies were from the United States. The overall OR for IOL dislocation was 6.02 (95% CI: 3.70; 9.79), with a  $p < 0.0001$  suggest that patients with pseudoexfoliation are very prone to IOL dislocation. A reduction in IOL dislocation in patients with pseudoexfoliation syndrome was not noticeable, however there was no significant increase in the ORs throughout the different quarters. The odds of IOL dislocation in patients with pseudoexfoliation was slightly increased using hooks or retractors. It was also suggested that a mild effect for time on overall risk, improvements in techniques, and reduction of incision sizes have reduced the risk of IOL dislocation. The findings suggest that there is a high risk for late IOL dislocation in patients with pseudoexfoliation syndrome after phacoemulsification cataract surgery. Suggestions point to larger incision sizes and the use of hooks and retractors during surgery as a contributing factor to the increased high risk of IOL dislocation. More studies are suggested to assess the long-term effects and if improvements to techniques will change the variables.

Flaxman, et al conducted a systematic review and meta-analysis of published and unpublished population-based data from 1980 to 2014 to determine causes of vision impairment and blindness.<sup>1</sup> They searched online data bases (MEDLINE from Jan 1, 1946, and Embase from Jan 1, 1974, and the WHO Library Database) identifying population-based distance vision impairment data studies published prior to July 8, 2014. Using the 21 Global Burden of Disease regions they estimated causes of visual impairment over time by age and geographical area. Using a Bayesian hierarchical modelling approach, and the Stan Modelling approach, they fitted 6 separate mixed-effects models for cataract, glaucoma, age-related macular degeneration, diabetic retinopathy, corneal opacity, and other. A total of 288 studies of nearly 4 million participants were identified contributing data from 98 countries. The authors determined in 2015 the leading causes of moderate to severe vision impairment was uncorrected refractive error and cataract and among the global population the leading cause of blindness was cataract. They noted that by 2020 the number of people affected by cataract causing vision impairment would increase from 52.6 million to 57.1 million and blindness caused by cataract would increase from 12.6 million to 13.4 million. The findings of the study support that cataract and uncorrected refractive error combined contributed to more than half of blindness and over 75% of vision impairment in adults 50 years or older with women being affected more than men. While there are several limitations to this study and determining causation, they reported that a large scale-up of eye care provision to cope with the increasing numbers of people affected by vision loss and blindness is needed to address avoidable vision loss.

Michalska-Malecka, et al<sup>4</sup> conducted a study at University Hospital No. 5 of the Medical University of Silesia between 2008-2009. In this retrospective study, the authors set out to investigate the effectiveness and safety of cataract surgery and IOL implantation for patients aged 90 years or older (43 men and 79 women). Patients considered for the study had significant bilateral cataracts causing visual impairment not correctable by glasses, best corrected visual acuity (BCVA) score worse than 0.7, an unacceptable glare, polyopia, or overall reduced vision quality due to cataracts. As this study focuses on the very elderly population, Michalska-Malecka noted that coexisting systemic disorders, patient cooperation during surgery, higher incidence of hard nucleus, smaller pupil size and high rate of pseudoexfoliation syndrome make it difficult to perform cataract surgery. Individuals that were excluded from the study were those that were under the age of 90, had a BCVA score of 0.7 or greater, a baseline endothelial cell density of less than 1,500 cells/mm, uncontrolled glaucoma, and physical or mental disability that would make it difficult to perform the surgery. According to Michalska-Malecka, cataracts are one of the most frequent reasons for visual impairment around the world. As cataracts and its visual impairment reduces quality of life, phacoemulsification surgery and extracapsular cataract extraction have proven to be effective with increasing visual acuity. In this study, phacoemulsification was performed on 113 of 122 eyes and extracapsular cataract extraction (ECCE) was performed on 9 of 122 eyes. Visual acuity was increased after the first postoperative day, 3 months, and 6 months after surgery. The BCVA scores improved in 100 out of the 122 patients (82%) with senile cataracts from this study. Visual acuity results remained the same in 20 of the patients and decreased in 2 of the patients because of co-existing age-related macular degeneration (AMD). The IOP in patients with or without glaucoma were shown to have little to no postoperative differences than preoperatively. Patients with glaucoma had a significant difference in IOP, postoperatively, while the patients without glaucoma had no difference. These results show that cataract surgery is safe and effective in the treatment of senile cataracts in the very elderly population.



Congden, et al conducted an analysis of data collected from major population-based studies in the United States (US), and, where appropriate, Australia, Barbados, and Western Europe.<sup>3</sup> The goal was to take data since 1990 of those age 40 and older affected by cataract, pseudophakia/aphakia, and prior cataract surgery applied to US Census data in 2000, to determine an estimate of pervasiveness of cataract on the US population in 2020. They separately prepared data on black, white, and Hispanic people beginning at age 40. They estimated prevalence in 5-year intervals based on cataract, prior cataract surgery, blindness, and low vision due to cataract. They estimated that 20.5 million Americans over 40 years of age have cataract in either eye, and over 6 million have pseudophakia/aphakia with women have a notably higher rate of cataract over men. Inclusion criteria focused on studies that provided enough data with which to calculate odds ratios (ORs) and corresponding confidence intervals (CIs) Results of this study show a significant prevalence in both white and black persons for cataract development ( $P < .001$  for both,  $\chi^2$  test). Woman had a higher rate of cataract in both black and white populations with an overall OR among blacks of 1.75 (95% CI, 1.18-2.56) and whites of 1.35 (95%CI 1.23-1.49). White males had a significantly higher rate of cataract (OR=1.09, 95% CI 1.02-1.16) than black males. They also noted that pseudophakia/aphakia was more significantly more prevalent in Hispanic persons. They concluded that the rate of prevalence of cataract and pseudophakia/aphakia in Americans would dramatically rise by 2020 to over 39 million combined.

Primary angle-closure glaucoma is a leading cause of irreversible blindness around the world. In the early stages of disease, the intraocular pressure (IOP) is raised without visual loss. In patients with glaucoma, cataract is also common due to changes that occur as the eye ages. A cataract that is growing in the anterior-posterior dimension narrows the anatomical gap between the iris and the cornea. Cataract extraction opens this angle and can alleviate intraocular pressure.

Cheng et al conducted a retrospective review on 26 eyes of 19 patients over a 17-year period with angle closure glaucoma (AGC) who received regular visual field (VF) examination and uncomplicated phacoemulsification with intraocular lens (IOL) implantation.<sup>9</sup> VF tests using the Humphrey Field Analyzer were completed every 6 months. The mean follow up period was  $5.14 \pm 3.31$  years and  $5.97 \pm 2.35$  years, respectively. The VF rate of progression, visual acuity (VA), IOP, and number of patients needing glaucoma medication before and after cataract surgery were compared. While this retrospective study and small sample size are a limitation, they concluded that after cataract surgery, there was significant improvement in IOP, VA, and a decrease in the number of glaucoma medications used.

Sakai et al set out to investigate the long-term outcomes of cataract surgery in patients with primary angle closure disease (PACD).<sup>10</sup> This retrospective case series reviewed the medical records of 87 patients with PACD. They included only patients with a minimum follow up period of 10 years. They were broken into 3 categories, patient with primary angle closure glaucoma (PACG), primary angle closure (PAC), and primary angle closure suspect (PACS). All eyes included in the study had experienced standard phacoemulsification and IOL implantation. They compared IOP, number of glaucoma eye drops being used, additional need for glaucoma treatment, VF progression, and progression to glaucoma. Among the 87 patients, 39 had PACG, 26 had PAC, and 22 had PACS. Almost half of the PACG group required additional glaucoma treatment, and 6 required surgery. Only 3 patients in the PAC group required additional glaucoma medication. There was no difference in mean IOP at 10 years among the 3 groups and all had significantly decreased from baseline. They concluded that cataract surgery has a long-term effect on reducing IOP in patients with PACD.

Senthil et al conducted a randomized controlled trial of a total of 70 patients with PACG.<sup>11</sup> Out of those 70 patients, 33 patients had phacoemulsification (Phaco) and 37 patients had phacotrabeculectomy (PT). They defined PACG as non-visible posterior trabecular meshwork in at least 180 degrees of the angle on an indentation gonioscopy, raised IOP of  $>21$  mm Hg, or requiring eye drops or systemic medication that lowers the IOP  $<21$  mm Hg with glaucomatous optic disk damage, and corresponding defect in the VF. They excluded patients with previous trabeculectomy surgery or documented progression in the last year, and those where glaucoma was not a primary diagnosis. Primary outcome measure was achieving an IOP of  $\geq 6$  mmHg and  $\leq 21$  mmHg without antiglaucoma medications in both the groups after 1 year and at last follow up. Secondary outcome measure was the speed of

regaining VA, number of antiglaucoma medications, mean IOP and obstacles in the 2 groups.

The overall success probability of the primary outcome measure between the 2 groups was 67.5% in the PT group and 66.6% in the Phaco group. This improved even more to 78% at 1 year in the PT group, and 80% in the Phaco group with the numbers decreasing slightly in both groups over 2 to 5 years. Postoperative VA greatly improved in both groups but were significantly better in the Phaco group initially, however similar in both groups at final follow up. The authors concluded that there was faster visual recovery, with comparable IOP control and VF stability in patients with phacoemulsification vs. trabeculectomy in medically controlled PACG eyes with cataract.

### **Analysis of Evidence (Rationale for Determination)**

The evidence of literature supports that cataract surgery is a safe and effective procedure in adults and the elderly population. Cataract surgery improved visual acuity, improves driving safety, and quality of life in the elderly population with few intraoperative and postoperative complications.<sup>6</sup> The most frequent complication following cataract surgery in the very elderly population is posterior capsule tear without vitreous loss and corneal decompression.<sup>4</sup>

Across the studies, patients have shown postoperative improvements in visual acuity, intraocular pressure, and function abilities. In a small prospective study conducted by Dunman et al<sup>7</sup> Berg Balance Scale scores, Tinetti Gait test scores, and Tinetti Balance test scores, for functional balance all increased postoperatively after 1 month. In a retrospective study conducted by Michalska-Malecka,<sup>4</sup> the BCVA scores improved in 100 out of the 122 patients (82%) with senile cataracts postoperative and at follow up.

Societies such as the AAO, Ophthalmology Variation Analysis Committee: Optimum Physician Alliance, the American Society of Cataract and Refractive Surgery, and the European Society of Cataract & Refractive Surgeons are all in support of cataract surgery, including complex cataract surgery for its safe and effective methods of treatment for cataract and other ocular diseases.

More studies are needed to determine the safety between simultaneous or sequential bilateral cataract surgery.<sup>8</sup> Based on the literature; limited coverage will be provided for cataract surgery as outlined in the LCD.

While phacoemulsification is not a first line treatment for PACD, literature supports that cataract extraction can offer moderate, although temporary improvement in IOP and VA. We received additional documentation from a provider for clear lens extraction for treatment of PACD, but that literature was not included as it was out of the scope of this LCD.

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## **General Information**

### **Associated Information**

N/A

### **Sources of Information**

Other Contractor's Policies

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## Revision History Information

| REVISION HISTORY DATE | REVISION HISTORY NUMBER | REVISION HISTORY EXPLANATION | REASONS FOR CHANGE |
|-----------------------|-------------------------|------------------------------|--------------------|
|                       |                         |                              |                    |

## Associated Documents

### Attachments

N/A

### Related Local Coverage Documents

### Articles

[A59556 - Billing and Coding: Cataract Extraction](#)

[A59621 - Response to Comments: Cataract Extraction](#)

### LCDs

[DL39716 - Cataract Extraction](#)

## Related National Coverage Documents

N/A

## Public Versions

| UPDATED ON | EFFECTIVE DATES  | STATUS                             |
|------------|------------------|------------------------------------|
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