CATARACT/ANTERIOR SEGMENT SUMMARY BENCHMARKS FOR PREFERRED PRACTICE PATTERN® GUIDELINES

Introduction

These are summary benchmarks for the Academy's Preferred Practice Pattern® (PPP) guidelines. The Preferred Practice Pattern series of guidelines has been written on the basis of three principles.

- Each Preferred Practice Pattern should be clinically relevant and specific enough to provide useful information to practitioners.
- Each recommendation that is made should be given an explicit rating that shows its importance to the care process.
- Each recommendation should also be given an explicit rating that shows the strength of evidence that supports the recommendation and reflects the best evidence available.

Preferred Practice Patterns provide guidance for the pattern of practice, not for the care of a particular individual. While they should generally meet the needs of most patients, they cannot possibly best meet the needs of all patients. Adherence to these Preferred Practice Patterns will not ensure a successful outcome in every situation. These practice patterns should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonably directed at obtaining the best results. It may be necessary to approach different patients' needs in different ways. The physician must make the ultimate judgment about the propriety of the care of a particular patient in light of all of the circumstances presented by that patient. The American Academy of Ophthalmology is available to assist members in resolving ethical dilemmas that arise in the course of ophthalmic practice.

The Preferred Practice Pattern® guidelines are not medical standards to be adhered to in all individual situations. The Academy specifically disclaims any and all liability for injury or other damages of any kind, from negligence or otherwise, for any and all claims that may arise out of the use of any recommendations or other information contained herein.

For each major disease condition, recommendations for the process of care, including the history, physical exam and ancillary tests, are summarized, along with major recommendations for the care management, follow-up, and education of the patient. For each PPP, a detailed literature search of PubMed and the Cochrane Library for articles in the English language is conducted. The results are reviewed by an expert panel and used to prepare the recommendations, which are then given a rating that shows the strength of evidence when sufficient evidence exists.

To rate individual studies, a scale based on the Scottish Intercollegiate Guideline Network (SIGN) is used. The definitions and levels of evidence to rate individual studies are as follows:

- I++: High-quality meta-analyses, systematic reviews of randomized controlled trials (RCTs), or RCTs with a very low risk of bias
- I+: Well-conducted meta-analyses, systematic reviews of RCTs, or RCTs with a low risk of bias
- I–: Meta-analyses, systematic reviews of RCTs, or RCTs with a high risk of bias
- II++: High-quality systematic reviews of case-control or cohort studies; high-quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relationship is causal
- II+: Well-conducted case-control or cohort studies with a low risk of confounding or bias and a moderate probability that the relationship is causal
- II–: Case-control or cohort studies with a high risk of confounding or bias and a significant risk that the relationship is not causal
- III: Nonanalytic studies (e.g., case reports, case series)

Recommendations for care are formed based on the body of the evidence. The body of evidence quality ratings are defined by Grading of Recommendations Assessment, Development and Evaluation (GRADE) as follows:

- Good quality (GQ): Further research is very unlikely to change our confidence in the estimate of effect
- Moderate quality (MQ): Further research is likely to have an important impact on our confidence in the estimate of effect and may change the estimate
- Insufficient quality (IQ): Further research is very likely to have an important impact on our confidence in the estimate of effect and is likely to change the estimate; any estimate of effect is very uncertain

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Key recommendations for care are defined by GRADE as follows:

- Strong recommendation (SR): Used when the desirable effects of an intervention clearly outweigh the undesirable effects or clearly do not
- Discretionary recommendation (DR): Used when the trade-offs are less certain—either because of low-quality evidence or because evidence suggests that desirable and undesirable effects are closely balanced

In PPPs prior to 2011, the panel rated recommendations according to its importance to the care process. This "importance to the care process" rating represents care that the panel thought would improve the quality of the patient's care in a meaningful way. The ratings of importance are divided into three levels.

- Level A, defined as most important
- Level B, defined as moderately important
- Level C, defined as relevant but not critical

The panel also rated each recommendation on the strength of evidence in the available literature to support the recommendation made. The "ratings of strength of evidence" also are divided into three levels.

- Level I includes evidence obtained from at least one properly conducted, well-designed randomized controlled trial. It could include meta-analyses of randomized controlled trials.
- Level II includes evidence obtained from the following:
  - Well-designed controlled trials without randomization
  - Well-designed cohort or case-control analytic studies, preferably from more than one center
  - Multiple-time series with or without the intervention
- Level III includes evidence obtained from one of the following:
  - Descriptive studies
  - Case reports
  - Reports of expert committees/organizations (e.g., PPP panel consensus with external peer review)

This former approach, however, will eventually be phased out as the AAO adopted the SIGN and GRADE rating and grading systems.

The PPPs are intended to serve as guides in patient care, with greatest emphasis on technical aspects. In applying this knowledge, it is essential to recognize that true medical excellence is achieved only when skills are applied in a such a manner that the patients' needs are the foremost consideration. The AAO is available to assist members in resolving ethical dilemmas that arise in the course of practice. (AAO Code of Ethics)

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Cataract (Initial and Follow-up Evaluation)

Initial Exam History (Key elements)

- Symptoms
- Ocular history
- Systemic history
- Assessment of visual function status
- Medications currently used

Initial Physical Exam (Key elements)

- Visual acuity with current correction
- Measurement of BCVA (with refraction when indicated)
- External examination
- Ocular alignment and motility
- Glare testing when indicated
- Pupil reactivity and function
- Measurement of IOP
- Slit-lamp biomicroscopy, including gonioscopy
- Dilated examination of the lens, macula, peripheral retina, optic nerve, and vitreous through a dilated pupil
- Assessment of relevant aspects of the patient's medical and physical status

Care Management

- Treatment is indicated when visual function no longer meets the patient's needs and cataract surgery provides a reasonable likelihood of quality-of-life improvement
- Cataract removal is also indicated when there is evidence of lens-induced disease or when it is necessary to visualize the fundus in an eye that has the potential for sight
- Surgery should not be performed under the following circumstances:
  - Tolerable refractive correction provides vision that meets the patient's needs and desires; surgery is not expected to improve visual function, and no other indication for lens removal exists
  - The patient cannot safely undergo surgery because of coexisting medical or ocular conditions
  - Appropriate postoperative care cannot be arranged
  - Patient or patient's surrogate decision maker is unable to give informed consent for nonemergent surgery
- Indications for second eye surgery are the same as for the first eye (with considerations given to needs for binocular function)
- The standard of care in the United States is a small-incision phacoemulsification with foldable IOL implantation with either biaxial or coaxial approach *(I+, GQ, SR)*

Preoperative Care

The ophthalmologist who is to perform the surgery has the following responsibilities:

- Examine the patient preoperatively
- Ensure that the evaluation accurately documents symptoms, findings, and indications for treatment
- Inform the patient about the risks, benefits, and expected outcomes of surgery, including the anticipated refractive outcome or surgical experience
- Formulate surgical plan, including selection of IOL and anesthesia
- Review results of presurgical and diagnostic evaluations with the patient
- Inform the patient about the possibility of visual impairment continuing after cataract surgery, and the potential for rehabilitation *(III, GQ, SR)*
- Formulate postoperative plans and inform patient of arrangements
- Answer patient's questions regarding surgery, care, and cost
- Routine preoperative laboratory testing in association with the history and physical examination is not indicated *(I+, GQ, SR)*

Follow-up Evaluation

- High-risk patients should be seen within 24 hours of surgery
- Routine patients should be seen within 48 hours of surgery
- Frequency and timing of subsequent visits depend on refraction, visual function, and medical condition of the eye
- More frequent follow-up usually necessary for high risk patients
- Components of each postoperative exam should include:
  - Interval history, including new symptoms and use of postoperative medications
  - Patient's assessment of visual function status
  - Measurement of IOP
  - Slit-lamp biomicroscopy
  - Operating ophthalmologist should provide postoperative care that is within the unique competence of the ophthalmologist *(III, GQ, SR)*

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Cataract (Initial and Follow-up Evaluation) *(continued)*

Nd:YAG Laser Capsulotomy

- Treatment is indicated when vision impaired by posterior capsular opacification does not meet the patient's functional needs or when it critically interferes with visualization of the fundus
- Educate about the symptoms of posterior vitreous detachment, retinal tears, and detachment and the need for immediate examination if these symptoms are noticed
- The decision to perform capsulotomy should take into account the benefits and risks of the laser surgery. Laser posterior capsulotomy should not be performed prophylactically (i.e., when the capsule remains clear). The should be inflammatory-free and the IOL stable prior to performing Nd:YAG laser capsulotomy. *(III, GQ, SR)*

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