

ASCRS completes second annual Clinical Survey; develops educational gaps to address in 2015

More than 1,500 members provided information on clinical opinions and practice patterns to drive the future of ASCRS education

Survey overview

The second annual ASCRS Clinical Survey was performed both at the ASCRS•ASOA Symposium & Congress in Boston and via electronic follow-up surveys to the ASCRS membership. More than 1,500 physicians responded to this survey, which included 134 questions that created 267 unique measurable data elements. Survey questions were developed and reviewed with the ASCRS Clinical Committees and validated by a social science statistician. 50.2% of the respondents were from the United States, while 49.8% were from outside the United States. Additionally, 17% of respondents were young ophthalmologists, either a resident, fellow, or within 5 years of practice, who were asked another set of questions on their experiences to date.

The survey asked ASCRS members key questions relating to current issues they face on a regular basis. With more than 1,500 responses, a significant percentage of the membership was represented and the results were reviewed and interpreted by the ASCRS Clinical Committees. Proficiencies and deficiencies were assessed to develop educational objectives and gaps for future ASCRS programming.

While many surveys provide important data for our profession, most are not used to drive specific educational efforts aimed at improving the practice of medicine and assessing key clinical opinions. This is the objective behind the annual ASCRS Clinical Survey.

In addition to this exclusive overview supplement, please watch for articles in upcoming issues of *EyeWorld* and *JCRS* that will feature important detailed analysis of this data and commentary on key trends and gaps highlighted in the coming pages.

Cataract & LVC Surgery: Overall Procedures

- Average cataract annual volume: **490**
 - Toric IOLs: **8.4%**
 - Presbyopia-correcting IOL: **7.2%**
- Average LVC annual volume: **290**

Cataract & LVC Surgery: Overall Procedures

- **83.7%** of U.S. respondents are **very or extremely concerned** about the future of Medicare in their practice
- **63%**: overall practice revenue split, between Medicare/Insurance reimbursement vs. Elective (private pay) revenue

Respondent Demographics: Gender

Practicing	Male	Female
Resident/Fellow	59.5%	40.5%
0–5 years	60.1%	39.9%
6–10 years	69.2%	30.8%
11–20 years	79.6%	20.4%
21–30 years	82.6%	17.4%
More than 30 years	92.3%	7.7%

Presbyopia Correction

Many physicians are implanting presbyopia-correcting IOLs, however, often patients have increased expectations for a full range of vision post cataract surgery. Several clinical and practice barriers must be overcome for successful implementation and optimal patient outcomes.

44% of ASCRS members believe that 0.75 D or more of residual cylinder does not have a significant impact on visual quality. However, 42% of ASCRS members responded that they do not use LVC to correct this error.

ASCRS members demonstrated that, on average, presbyopia-correcting IOL patients were less satisfied with intermediate vision versus near and distance vision.

Although cost to the patient was stated as the biggest barrier to converting more patients to presbyopia-correcting IOLs, 40% of members believe that more than 5% of these patients have significant dysphotopsia.

Education Gap

Presbyopia Correction

Reduce residual refractive error and address visual quality barriers in Presbyopia-correcting IOL patients

- Pseudophakic refractive error levels in presby-IOL patient
- Monovision and its place in the presbyopia correction armamentarium
- Visual quality concerns in current presbyopia correction patients

Data Supporting Gap

Presbyopia Correction

- Average acceptable level of refractive error before this significantly impacts visual quality:
 - Cylinder: 0.63 D
 - Sphere: 0.59 D

Most likely method to correct significant amount of residual cylinder

Laser vision correction	58.0%
LRI/AK	22.3%
Glasses or contact lenses	18.4%
Other	1.4%

Data Supporting Gap

Presbyopia Correction

- Overall, how satisfied are your presbyopia-correcting IOL patients with their outcomes at the following distances at 1 year postop? (0 = Least satisfied, 10= Most satisfied)

Visual distance	Average
Near vision	7.4
Intermediate vision	6.1
Distance vision	8.3

Data Supporting Gap

Presbyopia Correction

- If a multifocal IOL patient has no residual refractive error and a healthy ocular surface, what do you believe will be the chances of them having functionally significant visual aberrations at night?

–40% of ASCRS members believe more than 5% of their otherwise healthy presby-correcting patients have significant dysphotopsia

Education Gap

Toric IOLs / Astigmatism

Reduce residual refractive error in toric IOL patients

- Impact of rotational error from intended axis
- Diagnostic tools to most accurately assess power and axis levels
- Alignment of preoperative measured axis with intraoperative intended axis
- Calculation of SIA and posterior astigmatism levels

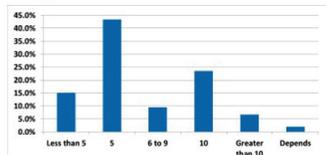
Toric IOLs/Astigmatism

ASCRS leadership has identified several educational gaps pertaining to pre-, intra-, and postoperative management of toric IOL patients.

Data Supporting Gap

Toric IOLs / Astigmatism

- After implanting a toric IOL, how many degrees of postoperative rotational error is acceptable before visual quality and visual acuity are significantly affected?
 - 10 degrees or more: 30.2%



More than 30% of respondents to the 2014 ASCRS Clinical Survey reported that 10 degrees or more of postoperative rotational error is acceptable with a toric IOL before visual quality and acuity are significantly affected.

Data Supporting Gap

Toric IOLs / Astigmatism

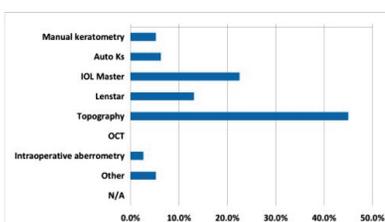
- How are you aligning the preoperative axis assessed with your diagnostic tools with your intraoperative axis where you are placing the toric IOL during surgery?
 - Anatomical landmarks w/o preoperative marking: 6.1%
 - Ink marking at the slit lamp w/no additional instruments: 30.8%
 - Ink marking w/the aid of manual axial instruments: 47.5%
 - Digital image registration: 5.3%
 - Intraoperative wavefront aberrometry: 5.1%
 - Other: 5.3%

More than 37% of respondents are using anatomical landmarks or ink marking without the aid of axial instruments.

Data Supporting Gap

Toric IOLs / Astigmatism

- What is the primary preoperative measurement that drives your astigmatism AXIS decisions when implanting a toric IOL?



Although topography is the most common measurement that drives astigmatism axis decisions when implanting a toric IOL, there is otherwise little consistency on diagnostic devices.

The Refractive Ocular Surface

While the newest diagnostics and devices are most common to focus on for improved visual outcomes, the impact of a healthy ocular surface is often underestimated. There is a need to focus on the impact of the ocular surface, pertaining to its impact on cataract and refractive outcomes and patient satisfaction.

ASCRS members see an average of 34 patients per month that are on dry eye therapies or have punctal occlusion. However, when asked about the Delphi/DEWS guidelines for treating aqueous deficient dry eye and MGD, more than 1/3 of respondents were unaware of the recommended protocols.

Approximately 1/5 of all cataract and refractive patients present to ASCRS members with sufficient ocular surface dysfunction to require advanced therapies.

Even with the launch of advanced tear film diagnostics, more than 60% of ASCRS members still strongly agree or agree that Schirmer's testing reliably increases diagnostic accuracy, while only 13% currently believe that advanced tear diagnostics should be implemented at the point of care.

Education Gap

The Refractive Ocular Surface

Improve the level of information known about the diagnostics and treatment of the ocular surface and its impact on refractive cataract outcomes

- Confidence in tear film information, dx & tx protocols and patient compliance
- Level that mild/moderate OSD impacts outcomes

Data Supporting Gap

The Refractive Ocular Surface

Average number of patients seen per month that have dry eye or punctal occlusion:

- 34
- Do you follow the Delphi/DEWS guidelines for treating aqueous deficient dry eye and MGD?
 - I don't know what the guidelines say: 35%
 - I know what they are, use my own protocols: 25%

Data Supporting Gap

The Refractive Ocular Surface

- % of **Cataract** patients present with sufficient ocular surface dysfunction to require some treatment beyond artificial tears?
 - 20%
- % of **LVC** patients present with sufficient ocular surface dysfunction to require some treatment beyond artificial tears?
 - 19%

Data Supporting Gap

The Refractive Ocular Surface

40.5% of members strongly agree that mild/moderate OSD impacts outcomes

62% of ASCRS members still strongly agree or agree that Schirmer's testing reliably increases their diagnostic accuracy

Education Gap

Laser-Assisted Cataract Surgery

Improve awareness of published clinical data and viable reimbursement stream practice models with LACS

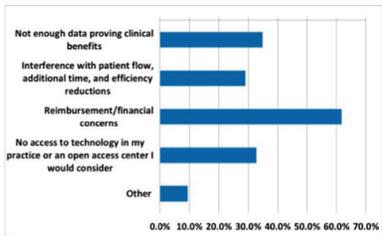
- Clinical data demonstrating improvements in effective phaco time/energy and refractive accuracy
- Practices implementing viable LACS reimbursement models in their practices

Laser-Assisted Cataract Surgery

Laser-assisted cataract surgery (LACS) is a rapidly evolving category, with new technology iterations launching and frequent clinical data updates.

Data Supporting Gap

Laser-Assisted Cataract Surgery



- 62% of members have reimbursement/financial concerns
- Other significant barriers include practice flow, technology access and awareness of data proving clinical benefits

Reimbursement strategies and access to LACS technology is still a significant hurdle for many ASCRS members, with almost 1/3 of respondents not yet able to gain access.

Data Supporting Gap

Laser-Assisted Cataract Surgery

- Percentage who DO NOT believe LACS provides any improvement vs. conventional for the following indications:
 - Capsulorhexis: 58.8%
 - Lens fragmentation: 52.1%
 - Arcuate incisions: 59.3%

More than 50% of respondents reported seeing no clinical benefits vs. conventional cataract surgery for capsulorhexis creation, lens fragmentation, and arcuate incisions.

Data Supporting Gap

Laser-Assisted Cataract Surgery

- 10 years from now what do you believe will be your mix of laser vs. current hand-performed mechanical methods for creating incisions rhexis and phaco for cataract patients?
 - 92% some laser, but only 38% majority or all

Respondents to the 2014 ASCRS Clinical Survey are optimistic about the future of LACS, with almost 92% stating they will be performing LACS at some level in 10 years.

Young Physicians: Premium Technology

Residents, fellows, and ophthalmologists within 5 years of practice were 17% of the overall respondents to the 2014 ASCRS Clinical Survey. This group showed a strong desire to have greater education with advanced cataract and refractive technologies.

In addition to low toric and presbyopia-correction IOL implantation, a significant percentage of young ophthalmologists stated they had inadequate experience with these technologies during residency.

Almost 2/3 of all young ophthalmologist ASCRS members had no formal refractive curriculum training in residency.

Similar to advanced-technology IOL experience, 68.8% of young ophthalmologist respondents believed they had inadequate exposure to laser vision correction technology in residency.

Education Gap

Young Physicians: Premium Technology Exposure

Increase understanding and exposure of young physicians to advanced refractive cataract and laser vision correction technology

- Exposure to advanced technology IOLs, laser cataract surgery and corneal refractive technology

Data Supporting Gap

Young Physicians: Premium Technology Exposure

43% of young physician respondents had implanted 5 or less toric IOLs

66% had implanted 5 or less presbyopia-correcting IOLs

63% had performed 5 or less corneal relaxing incisions for astigmatism management

- Majority of respondents believe these levels are inadequate

Data Supporting Gap

Young Physicians: Premium Technology Exposure

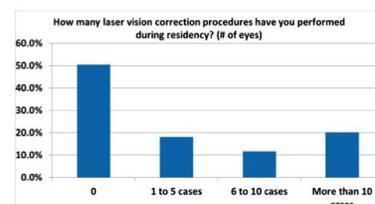
63.1% had no formal refractive curriculum training

- Majority believe residency is the appropriate time to start training of these technologies

Data Supporting Gap

Young Physicians: Premium Technology Exposure

68.3% had performed 5 or less laser vision correction procedures



Education Gap

Post-Cataract Surgery Inflammation

Progress toward the elimination of postop inflammation after cataract surgery

- Average levels of day 3–7 post cataract cell and flare inflammation
- Usage of anti-inflammatory therapies after cataract surgery
- Safety with NSAIDs
- Understanding of the impact of post-cataract inflammation on patient outcomes

Post-Cataract Surgery Inflammation

Inflammation plays an integral role in patient satisfaction, outcomes, and overall surgical success. Modern therapies and patient expectations help doctors progress toward the minimization, and eventual elimination, of post-cataract surgery inflammation.

Data Supporting Gap

Post-Cataract Surgery Inflammation

- Expectation for a normal level of inflammation 3–7 days after cataract surgery:
 - **1+ cell/flare: 35%**
- **41.2%** “strongly agree” that low-to-moderate inflammation can significantly impact variability in visual acuity and quality results.

More than 1/3 of ASCRS members expect 1+ cell/flare as a normal level of inflammation 3–7 days after cataract surgery. Additionally, 40.2% are using BOTH NSAIDs and steroids at 1 day postop.

Education Gap

Laser Vision Correction

Expand the means for achieving premium visual quality and patient satisfaction after laser vision correction

- Assessment criteria for a successful LVC outcome
- Today’s incidence of dry eye and ectasia with LASIK
- Understanding of customized correction capabilities

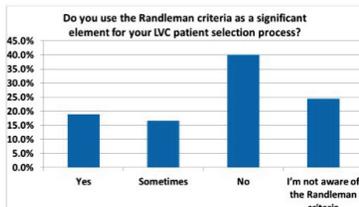
Laser Vision Correction

Advanced diagnostics and newer ablation profiles have routinely driven outcomes to exceed 20/20 UCVA once used as a successful measurement. New data has also demonstrated there may be a gap in the perceived and true incidence of dry eye and ectasia rates with LASIK.

Data Supporting Gap

Laser Vision Correction

- **84.7%** of respondents don’t require anything beyond 20/20 UCVA or have no standardized way to assess a successful LVC outcome



The large majority of respondents use 20/20 UCVA or have no standardized way of assessing a successful laser vision correction procedure. Additionally, respondents believe that LASIK has increased dry eye in 32% of patients, and 1/3 routinely use the Randleman criteria to determine LASIK vs. PRK candidacy.

Managing the Diabetic Cataract Patient

The 2014 ASCRS Clinical Survey set out to determine the educational needs for anterior segment surgeons pertaining to managing the diabetic cataract patient. The data demonstrates a high patient base among members, as well as an educational gap on treatments.

In addition to intravitreal injections, 9.4% of patients are simultaneously actively managed for AMD, and 8.1% of patients are simultaneously actively managed for DME. However, 35.8% of ASCRS members do not believe they have an in-depth understanding of these therapies and their impact.

Advanced Glaucoma Treatments

ASCRS members see an average of 470 glaucoma patients annually. U.S. physicians see more glaucoma patients on average versus O-U.S. physicians. Overall, 53% of cataract patients are getting a PGA for long-term IOP management.

Overall, ASCRS members reported that 8.6% of their cataract patients are also candidates for microincision glaucoma surgery (MIGS). While 16.2% of members currently offer MIGS, more than ¼ will be offering the procedure within 12 months.

Education Gap

Managing the Diabetic Cataract Patient

Improve confidence in intravitreal injection management decisions

- Quantify the impact and involvement of anterior segment surgeons on anti-VEGF injections
- Confidence in today's anti-VEGF therapies and their impact on cataract patients

Data Supporting Gap

Managing the Diabetic Cataract Patient

- **39%** of ASCRS members perform intravitreal injections at some level
 - 9.4% of cataract patients are simultaneously actively managed for AMD
 - 8.1% of cataract patients are simultaneously actively managed for DME
- Yet **35.8%** do not believe they have an in-depth understanding of these therapies and their impact

Education Gap

Advanced Glaucoma Treatments

Increase patient compliance and physician confidence in their approaches to early stage glaucoma

- Identify the percentage of patients regularly compliant with their glaucoma therapies
- Education on MIGS and advanced pharmaceutical therapies to manage the low-to-moderate glaucoma patient and impact compliance rates

Data Supporting Gap

Advanced Glaucoma Treatments

- Respondents believe less than **30%** of their patients are regularly compliant with their glaucoma therapies
- **8.6%** of cataract patients are MIGS candidates, and **43%** are using or plan to offer MIGS within 12 months