US Trends in Refractive Surgery: The 2009 ISRS Survey

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Refractive Subspecialty Day
San Francisco - October 24, 2009
The authors have no financial interests in this survey study.
First year of ONLINE*** survey opened by 700 ISRS members of the over 1000 emailed
134 responses analyzed by October 1st for 19% of the U.S. ISRS membership who opened the survey.
Thirteenth year of refractive data collection.
Alphabet soup of refractive surgery including corneal and lens-based surgeries.
Total LVC Volume within ISRS

PRK/Surface: 75 '08, 76 '09
LASIK: 433 '08, 415 '09
Total LVC: 507 '08, 492 '09

DUFFEY 2009
I Am Currently Doing This Surgery

DUFFEY 2009
> 5 Cases / Month

DUFFEY 2009
> 25 Cases / Month

DUFFEY 2009
> 75 Cases / Month

DUFFEY 2009
Preferred Surgery For 30 yo -10.00 Diopter Myope

DUFFEY 2009
Preferred Surgery For 45 yo +3.00 D Hyperope

DUFFEY 2009
Preferred Surgery For 45 yo +5.00 D Hyperope

DUFFEY 2009
Surgery Done Bilateral At Same O.R. Visit

DUFFEY 2009
Procedure Future Index (Doing Now and/or Plan in Future)

DUFFEY 2009
Had Refractive Surgery Performed on Yourself

DUFFEY 2009
Family LVC Index: (LASIK or PRK Performed on Our Own Family Member)

DUFFEY 2009
Excimer Laser Most Commonly Used

DUFFEY 2009
Microkeratome Most Commonly Used

DUFFEY 2009
Topography Unit Most Commonly Used

Zeiss-Hum 39
Orbscan 30
EyeSys 7
Tomey 15
Nidek 9
Pentacam 23
Others 13

DUFFEY 2009
Epi-Keratome Use

![Bar chart showing the use of different types of Epi-Keratome (NO, Moria EK, Amad Opus 2, Visijet, Cent SES) with '09 indicating the year 2009.]

DUFFEY 2009
Pupil Gauge Instrument Use

DUFFEY 2009
preferred surgery for presbyopia

DUFFEY 2009
Wavefront-Guided Custom Ablations in Your Practice

DUFFEY 2009
When comanaged, who does day 1 postop exam?
Do You Routinely Measure Flap Thickness *Intra-operatively*?

![Bar chart showing the percentage of respondents who measure flap thickness intra-operatively. The chart includes data from 2004 to 2009.](chart.png)

DUFFEY 2009
Preferred Flap Thickness (when no other constraints)

DUFFEY 2009
Minimum Residual Stromal Bed Thickness Requirement for LASIK

DUFFEY 2009
Total Cases of Post LASIK Ectasia as the Primary Surgeon in Career

* Not growing

DUFFEY 2009
Minimum Cent. Corneal Pachymetry for LASIK (all other parameters normal)

DUFFEY 2009
Mitomycin-C Use (MMC)

DUFFEY 2009
Will You Perform Refractive Surgery on One-Eyed Patients

DUFFEY 2009
Post-Op Nonsteroidals

DUFFEY 2009
Location of Phakic-IOL Surgery

DUFFEY 2009
First ONLINE ISRS Survey was a success
LVC Volume down 3.3% within ISRS membership in 2009
PRK/Surface rose from 14.7% to 15.6% of all LVC volume
LASIK dominates between -8D and +3D.
P-IOL (43%) for -10D myopes (28% choose LASIK here).
RLE for high hyperopes (66%).

DUFFEY 2009
Conclusions continued...

- VisX > 2:1 over Wavelight.
- Intralase dominates market share (46%).
- Over 90% perform custom ablations...and 56% of refractive surgeons whenever possible.
- Trend is toward thinner flaps (mechanical or laser) in LASIK (49% for 100 microns or less).

DUFFEY 2009
Conclusions continued...

- Comanagement stable at 60%; only 17% comanage more than half their patients.
- About one-quarter of us (24%) have had modern refractive surgery done on our own eyes.
- Families of refractive surgeons are having refractive surgery on their own eyes (36% of spouses, 19% of children, and 57% of siblings) at a rate significantly out-pacing the general population.

DUFFEY 2009
Conclusions continued...

- 43% of refractive surgeons now measuring true flap thickness in the OR.
- Nearly two-thirds of surgeons surveyed (61%) have had a documented case of post-LASIK ectasia in his/her surgical patients over a career, but the number of new cases appears to not be growing.
- Now only 44% think 250 microns is adequate for RSBT after LASIK. An increasing 54% recommend 275 microns or more.
- 53% prefer 100 micron flaps or thinner.

DUFFEY 2009
Conclusions continued...

- 92% use MMC for prophylaxis and/or haze (continues to increase).
- 59% not OK with refractive surgery on one-eyed patients.
- Bilateral extraocular sx at same O.R. visit is SOC.
- 18% of respondents OK with bilateral P-IOL at the same surgical setting (8% with RLE).
- ASC OR is preferred location for P-IOL surgery (78%). 14% OK with “In Office” modified OR.

DUFFEY 2009
First ONLINE ISRS Survey was a success with 19.4% response rate

LVC Volume down 3.3% within ISRS membership in 2009

PRK/Surface rose from 14.7% to 15.6% of all LVC volume

DUFFEY 2009
2009 ISRS SUMMARY

- P-IOL (43%) and LASIK (28%) in high myopes.
- VisX 2:1 (58%) over Wavelight which is on the rise (29%)
- Wavefront custom ablations are stable with >90% of surgeons performing them (56% whenever possible).
- About 25% penetration of modern refractive surgery amongst refractive surgeons; 3-4 times the general population. Even greater Family Index rates.

DUFFEY 2009
MMC use continues to rise (92%).
18% of respondents are OK with bilateral P-IOL and 8% with bilateral RLE at the same surgical setting.
ReStor (9%) and Crystalens IOL (6%) outpaced the new TMF (4%) IOL’s for preferred lens-based presbyopia option.
Femtosecond laser use on the rise (52%).
2009 ISRS SUMMARY

- **Thinner flaps on the rise;** 100 micron or less flap thickness is favored by 49% of surgeons (up from 12% in ‘04).

- **RSB Thickness on the rise;** 46% still think 250 microns is adequate, but 54% recommend 275 microns or more.

- **New post-LASIK ectasia cases are on the decline.**
Thanks to the ISRS leadership for their support and for your participation in the 2009 Survey.

We look forward to your response to our second ONLINE survey next fall.

***Complete 13 years of survey results found at www.duffeylaser.com***