

US Trends in Refractive Surgery: The 2009 ISRS Survey

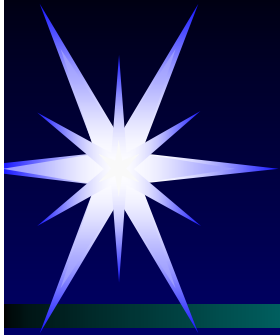
Richard J. Duffey, MD

David Leaming, MD

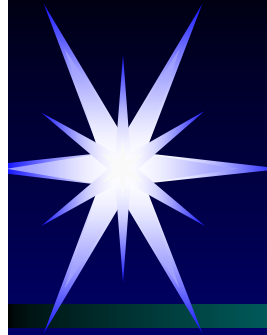
Refractive Subspecialty Day

San Francisco - October 24, 2009



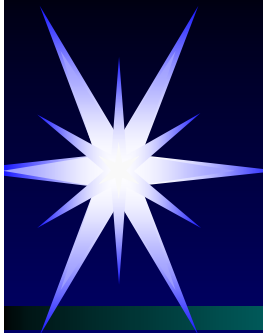


The authors have no financial interests in this survey study.

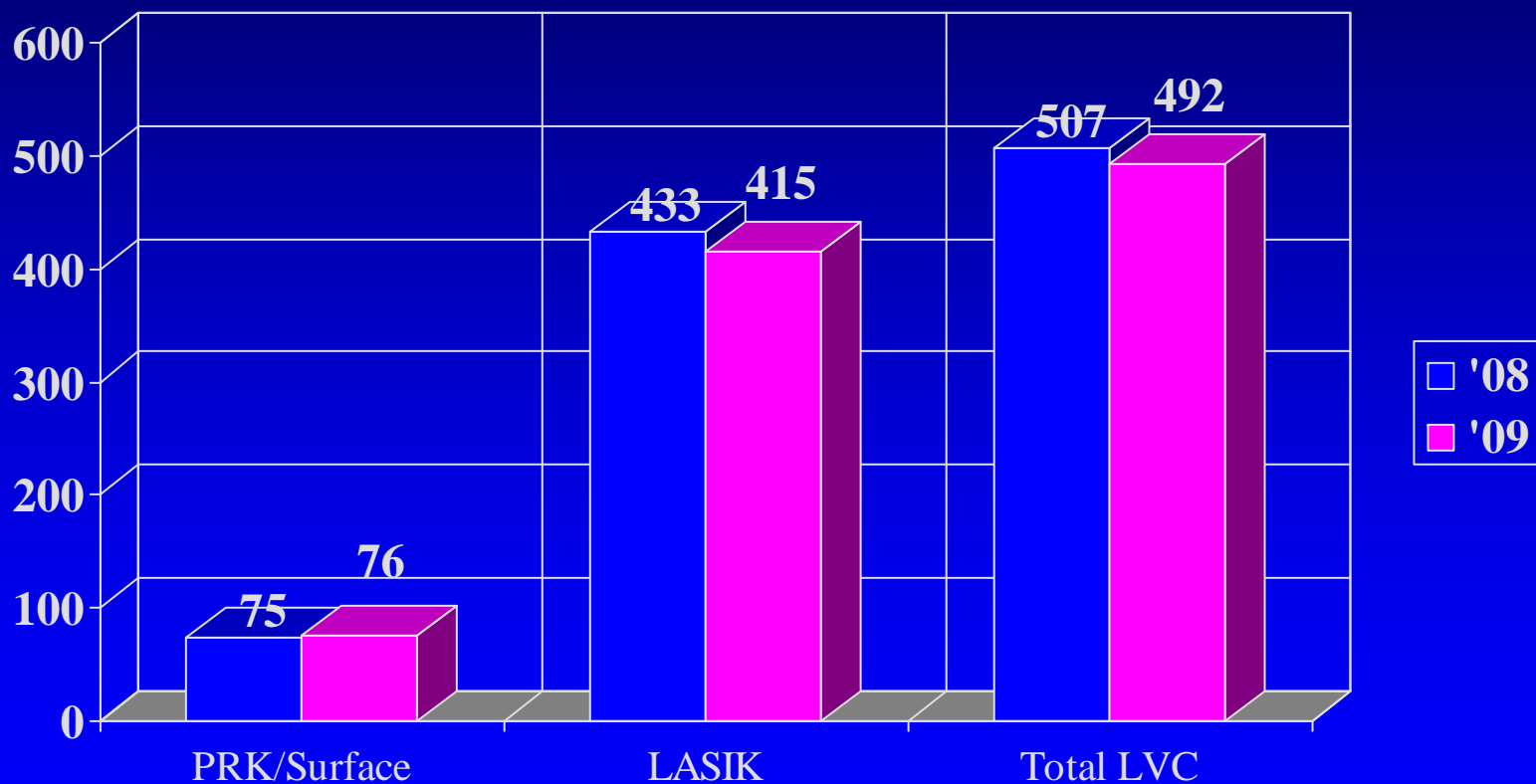


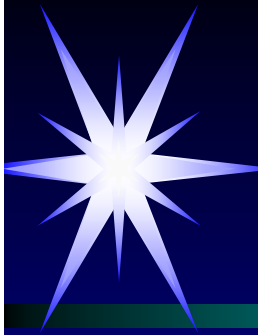
2009 Survey

- 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.

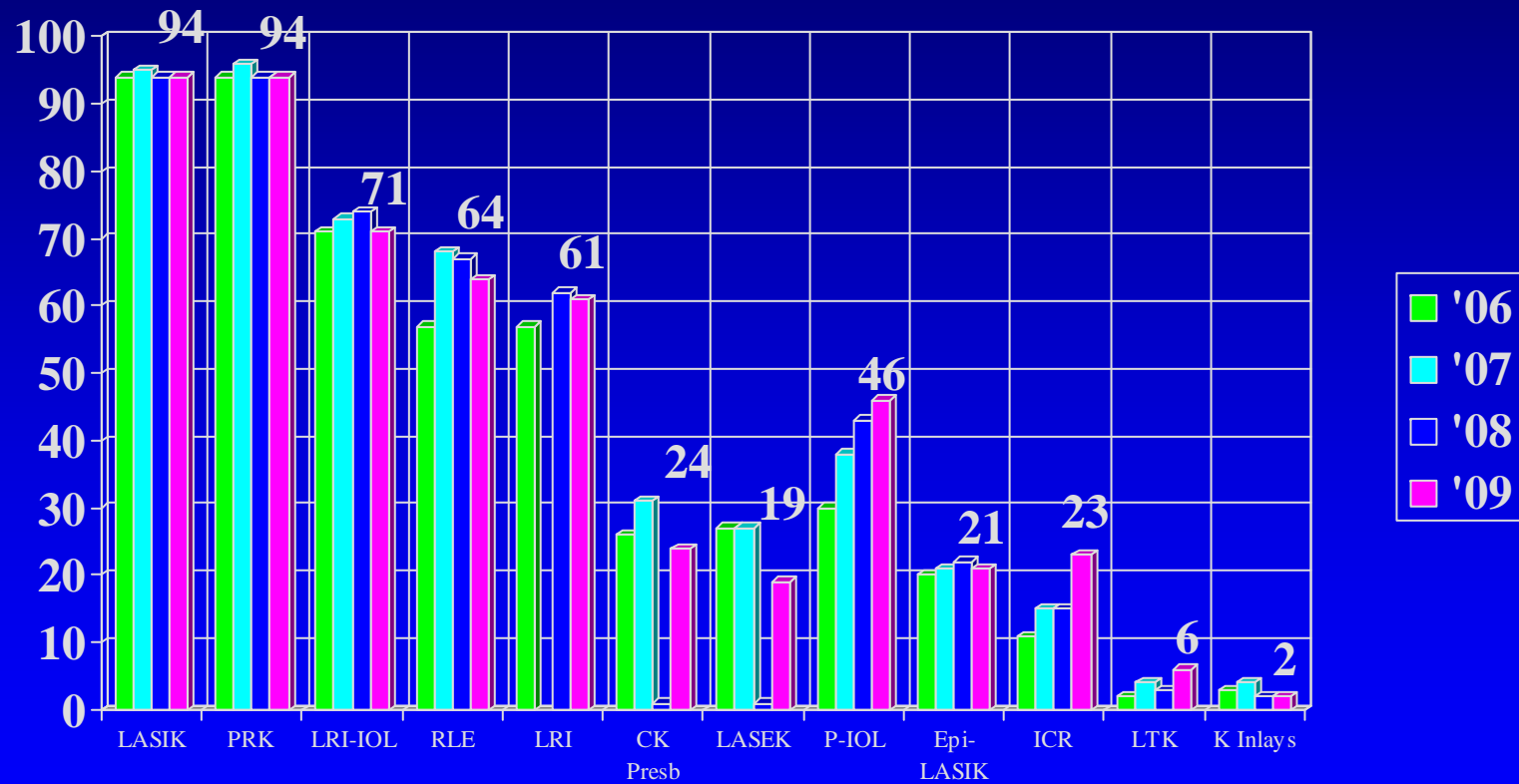


Total LVC Volume within ISRS



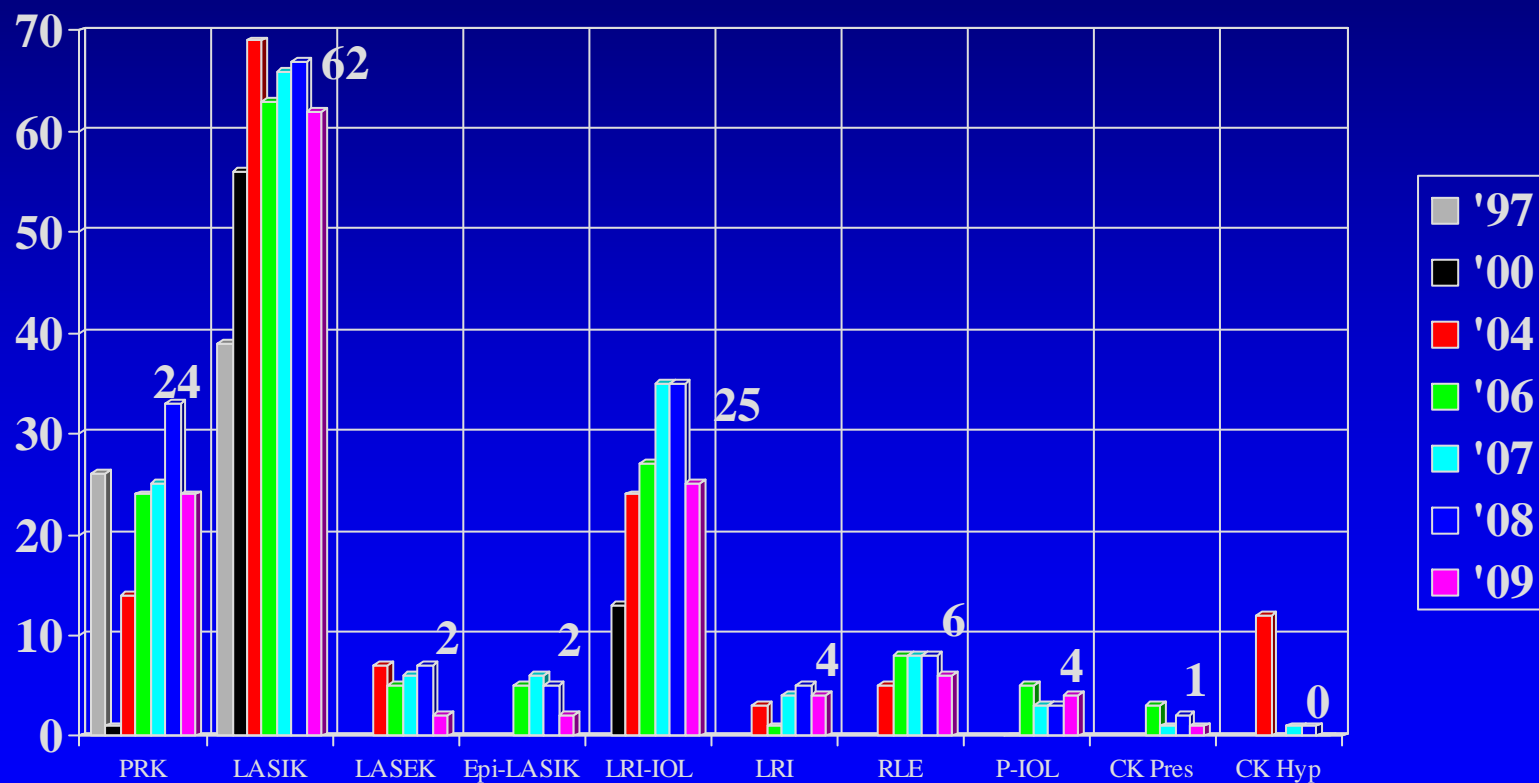


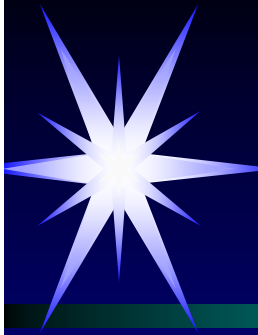
I Am Currently Doing This Surgery



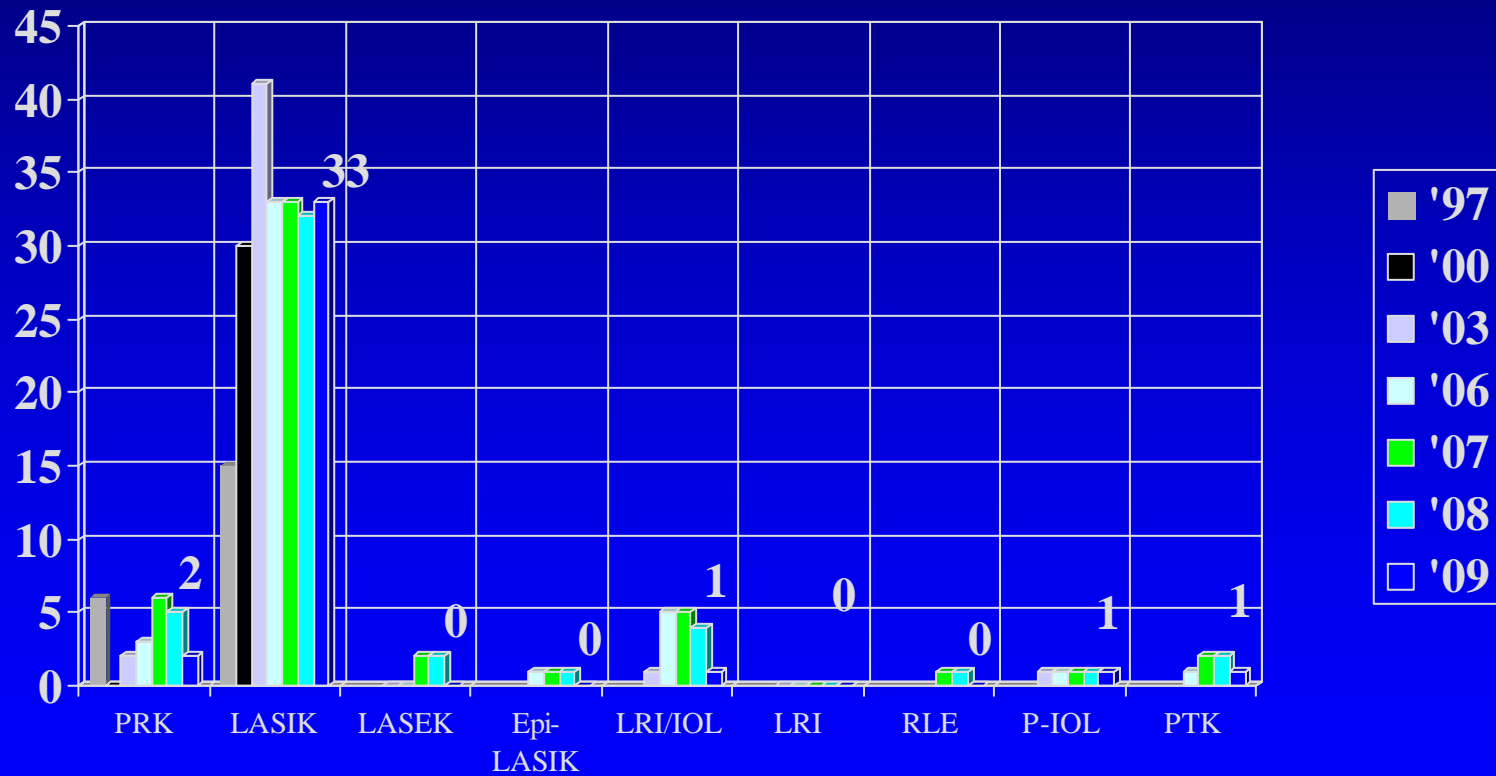


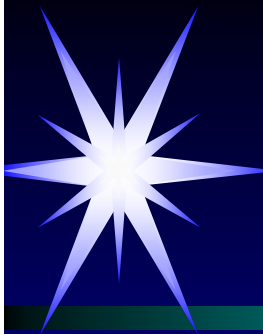
> 5 Cases / Month



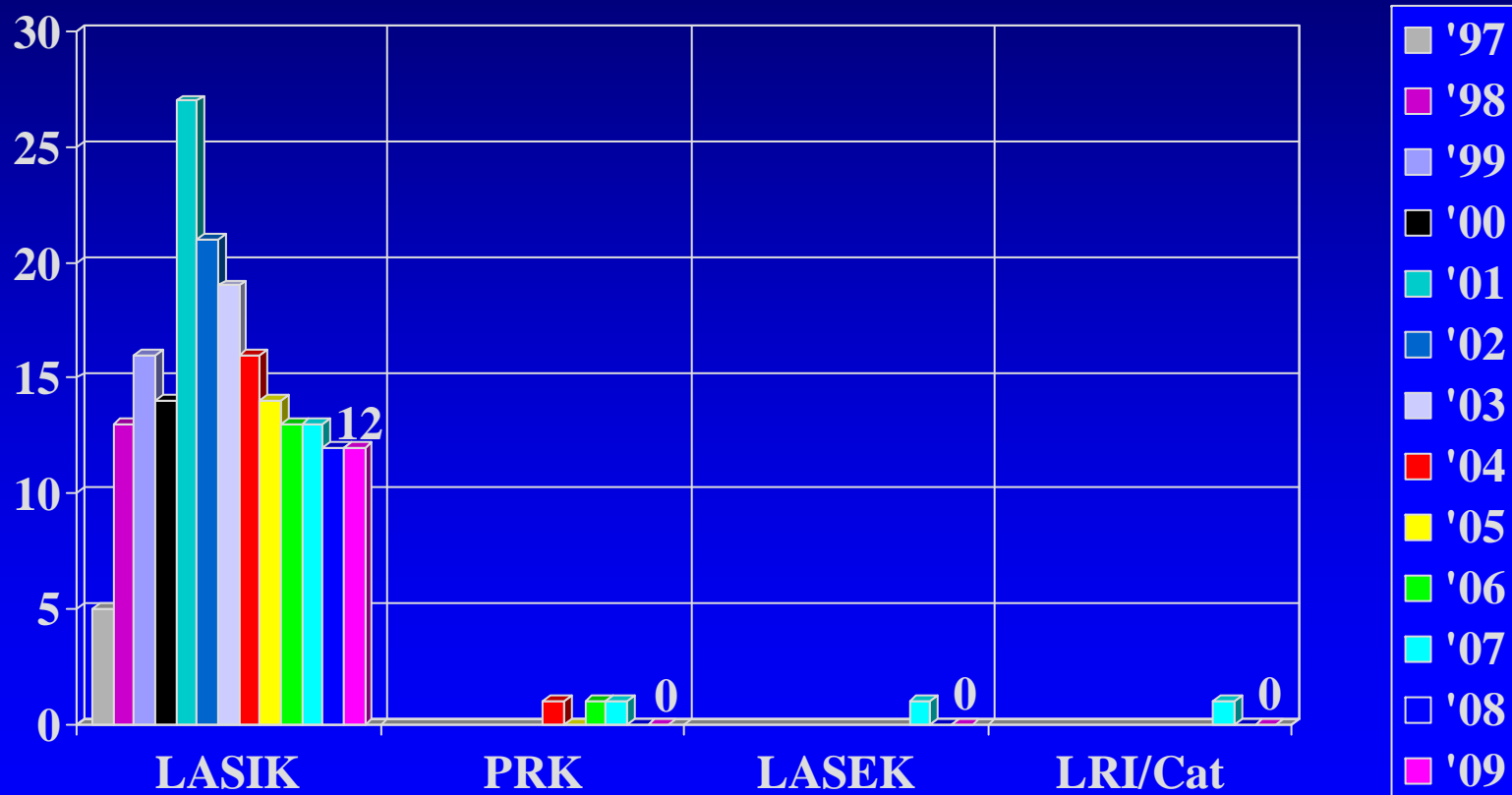


> 25 Cases / Month



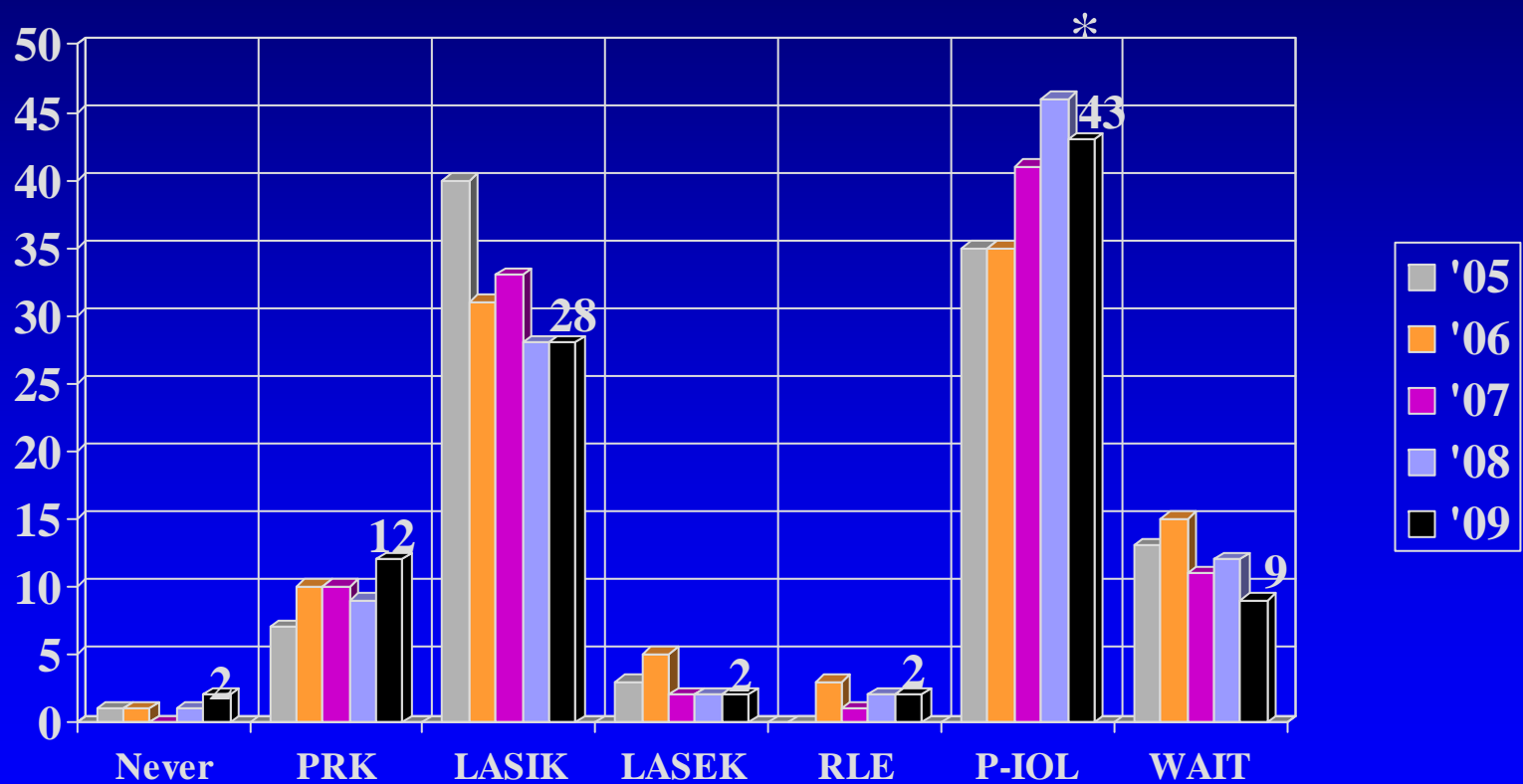


> 75 Cases / Month



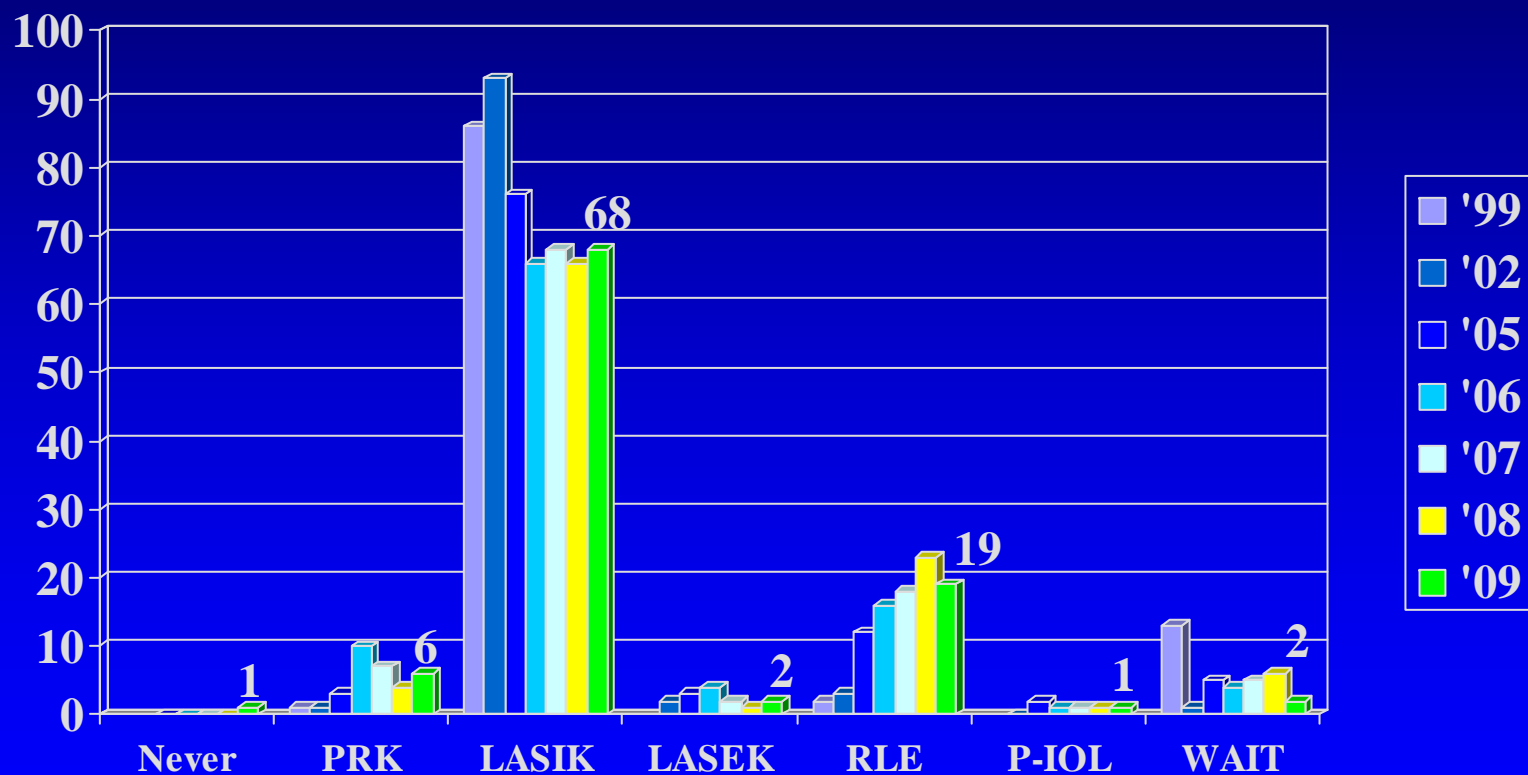


Preferred Surgery For 30 yo -10.00 Diopter Myope



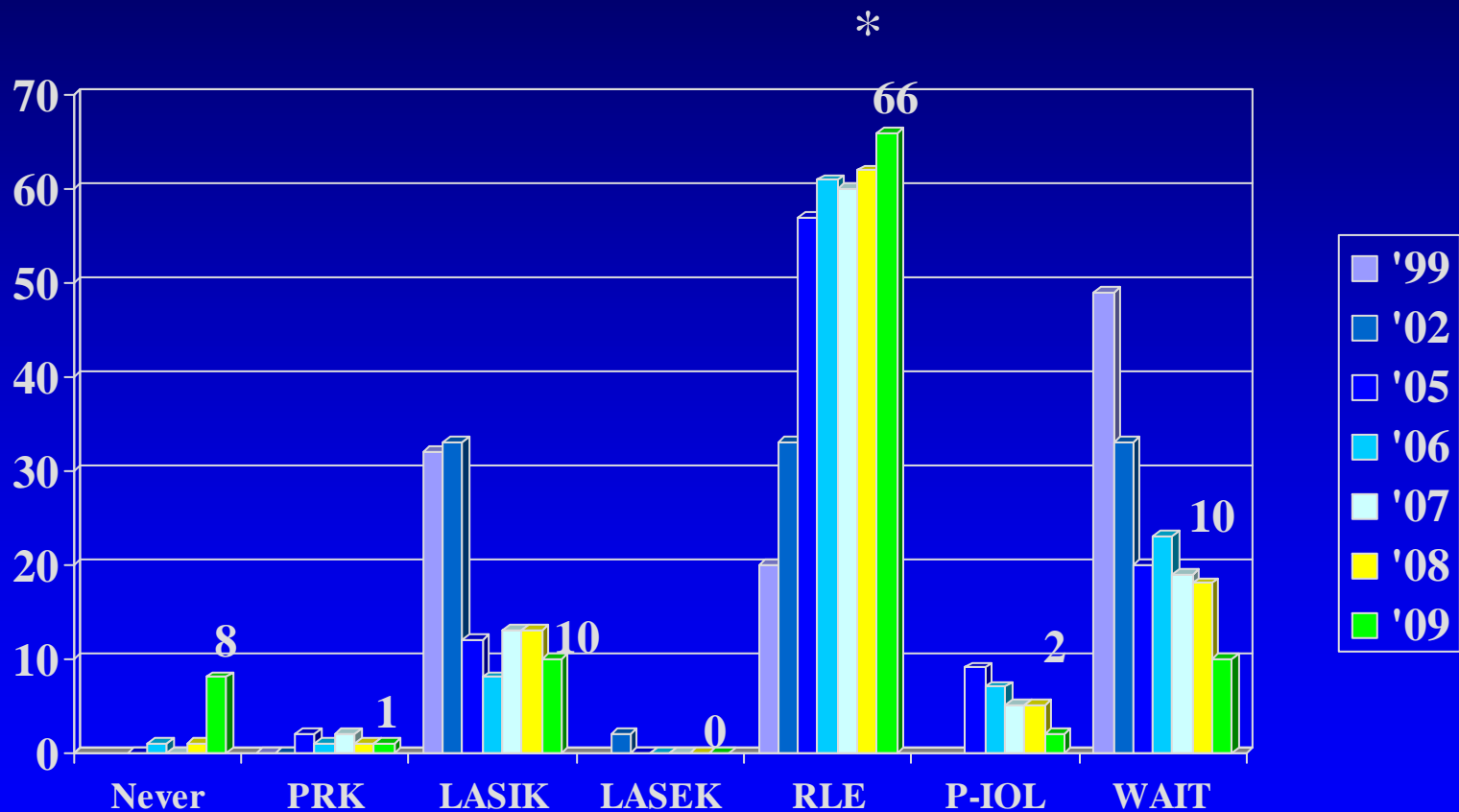


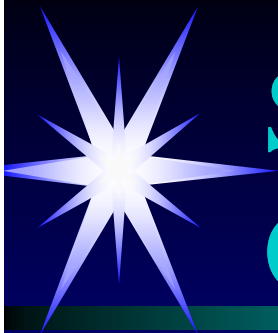
Preferred Surgery For 45 yo +3.00 D Hyperope



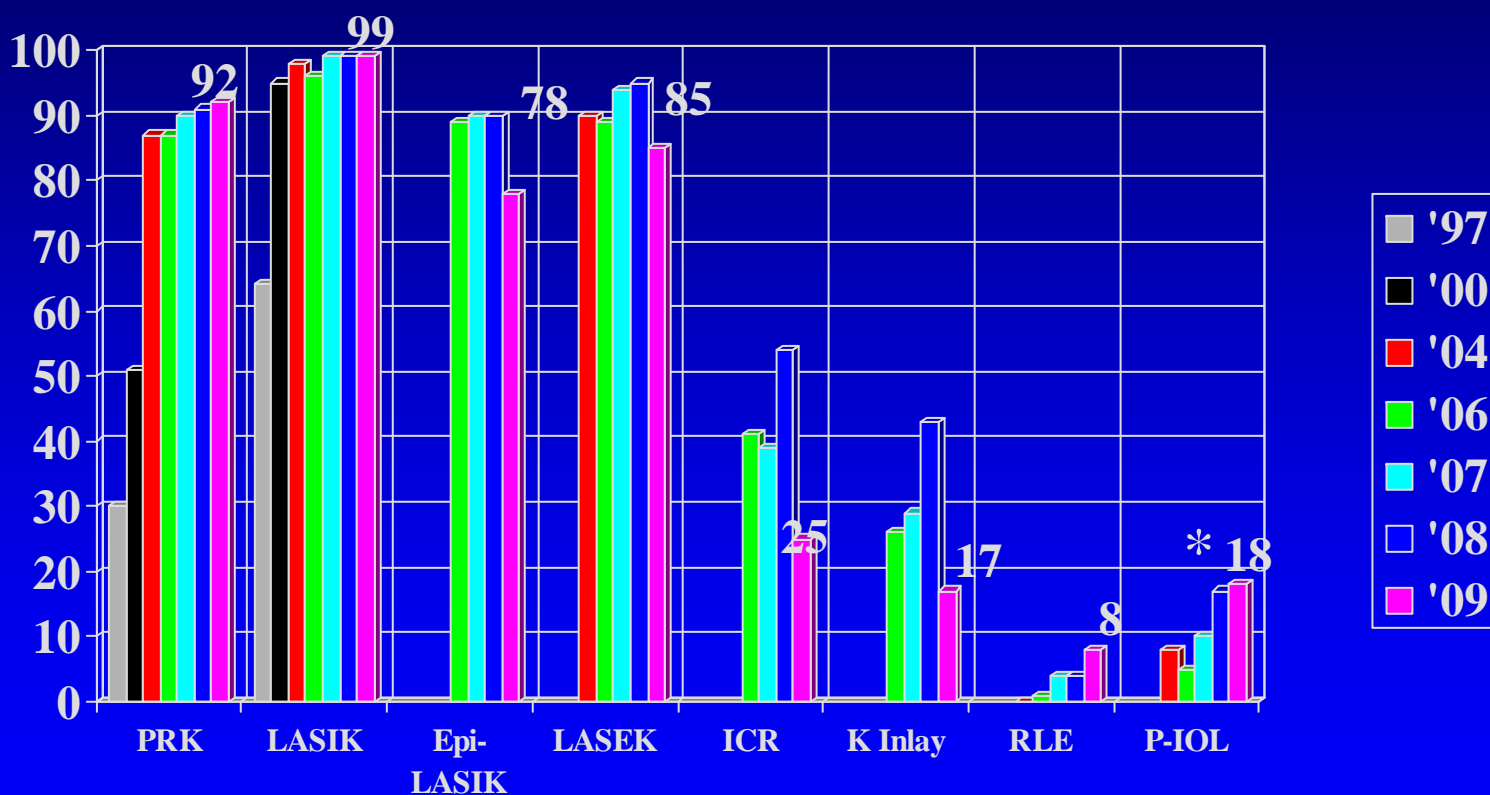


Preferred Surgery For 45 yo +5.00 D Hyperope



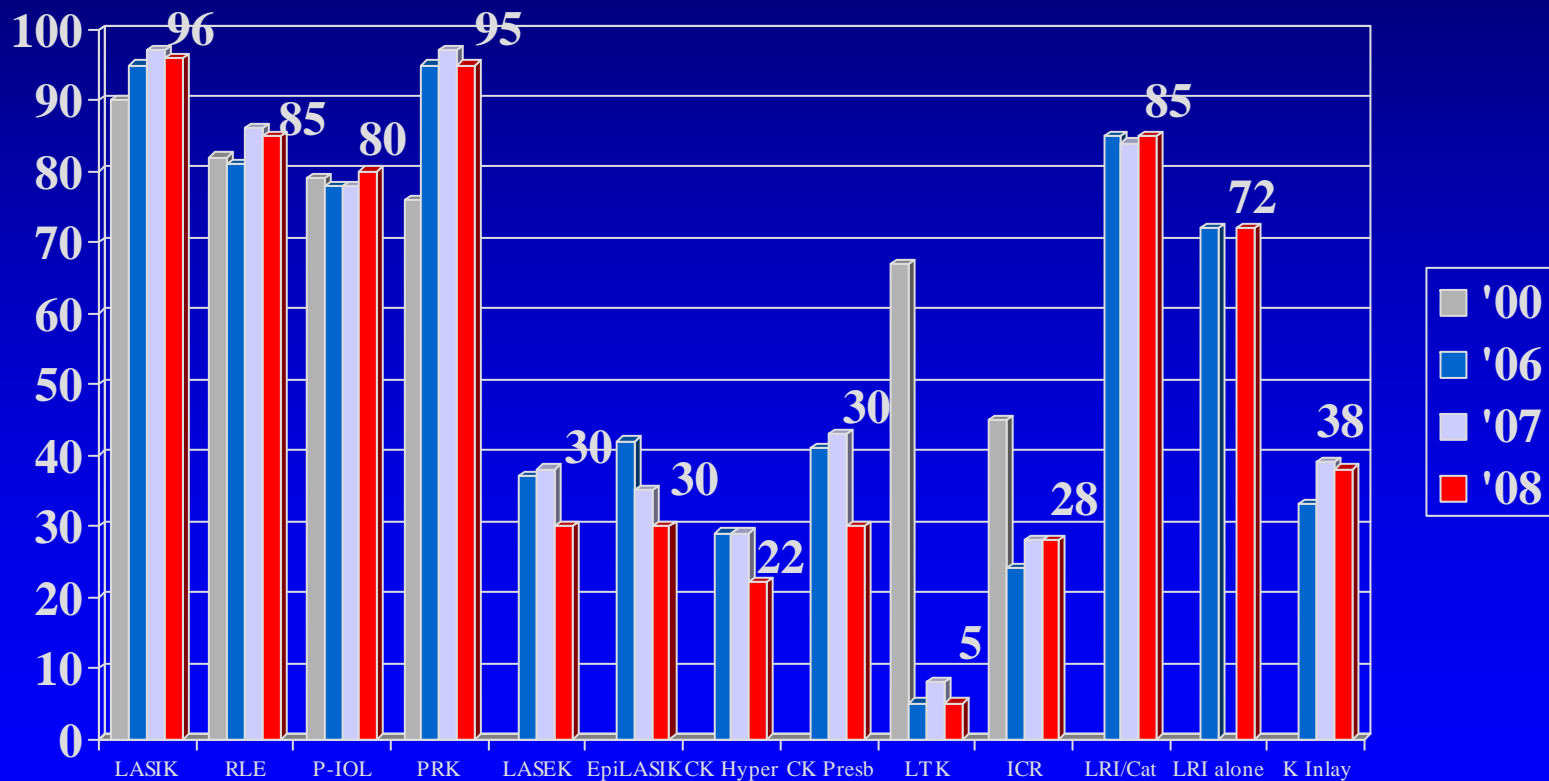


Surgery Done Bilateral At Same O.R. Visit



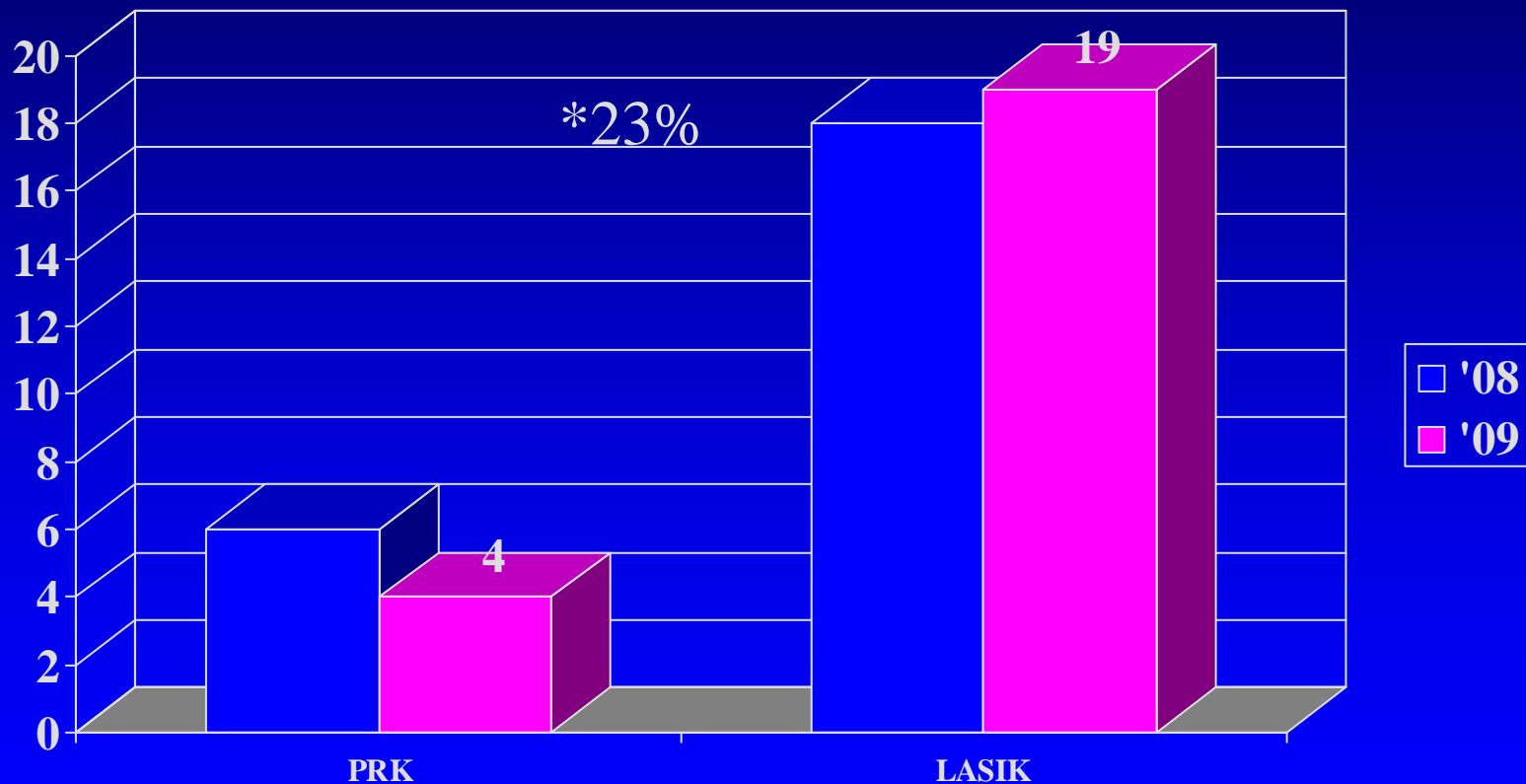


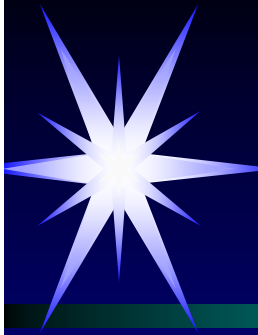
Procedure Future Index (Doing Now and/or Plan in Future)



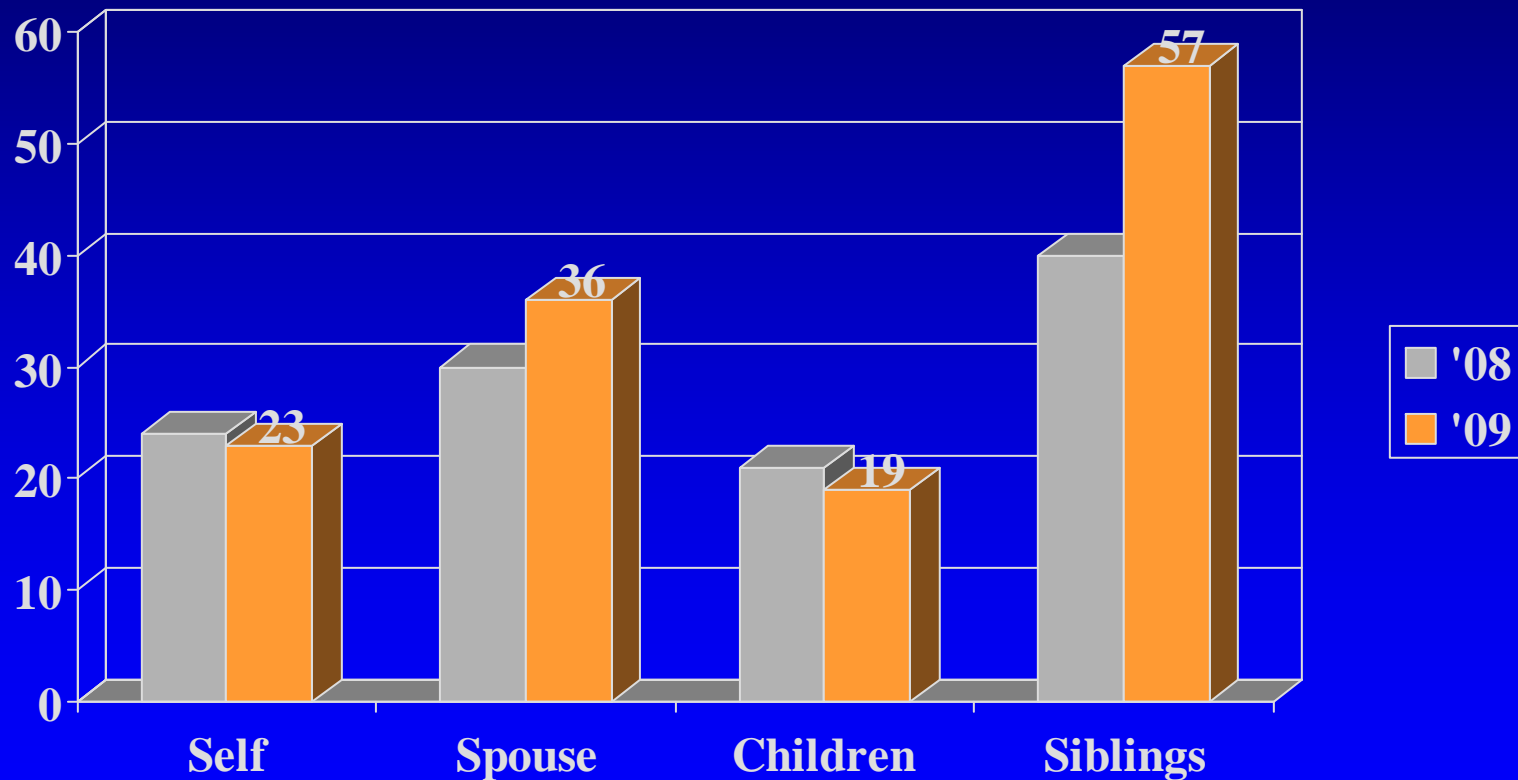


Had Refractive Surgery Performed on Yourself



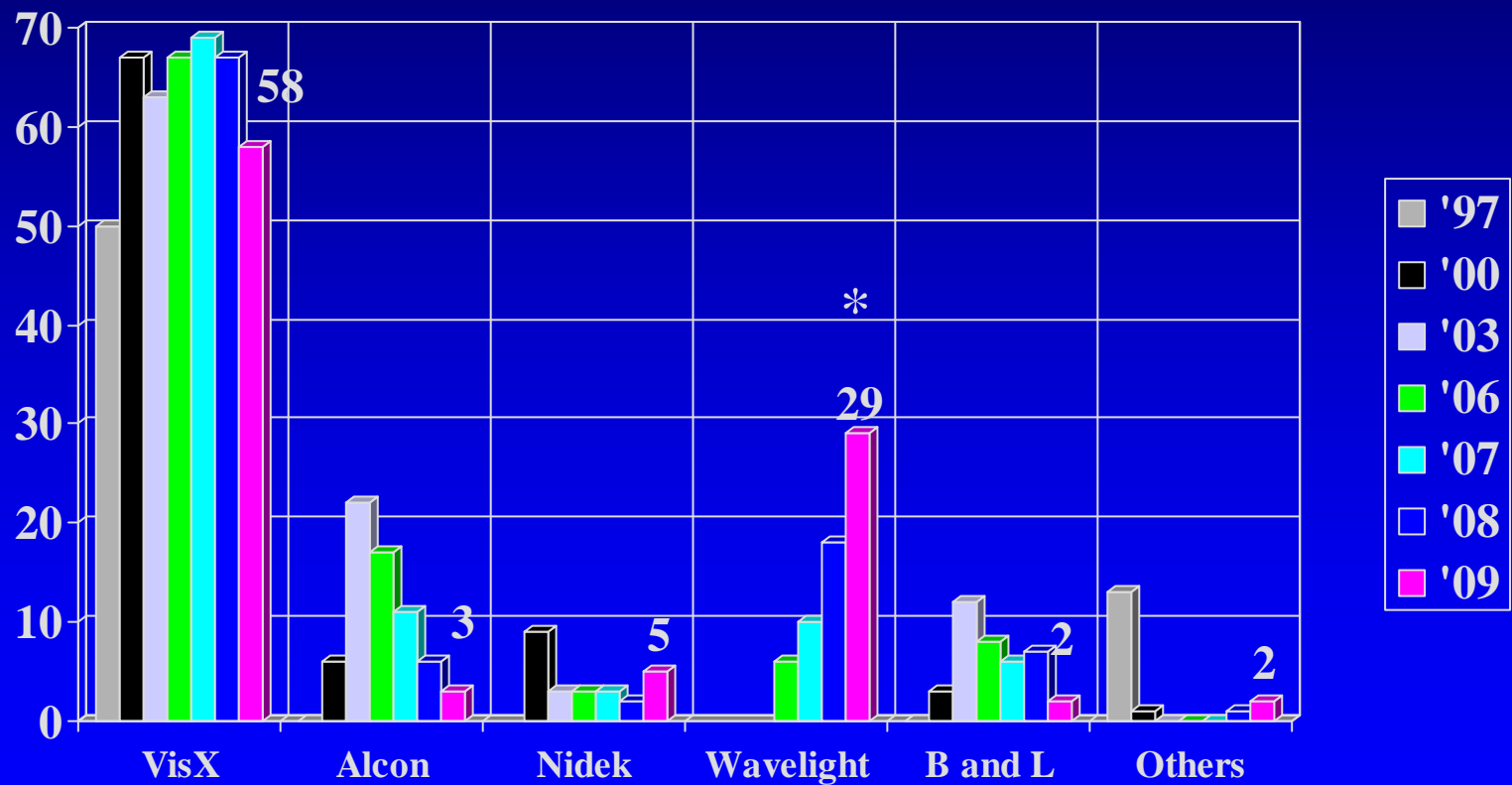


Family LVC Index: (LASIK or PRK Performed on Our Own Family Member)



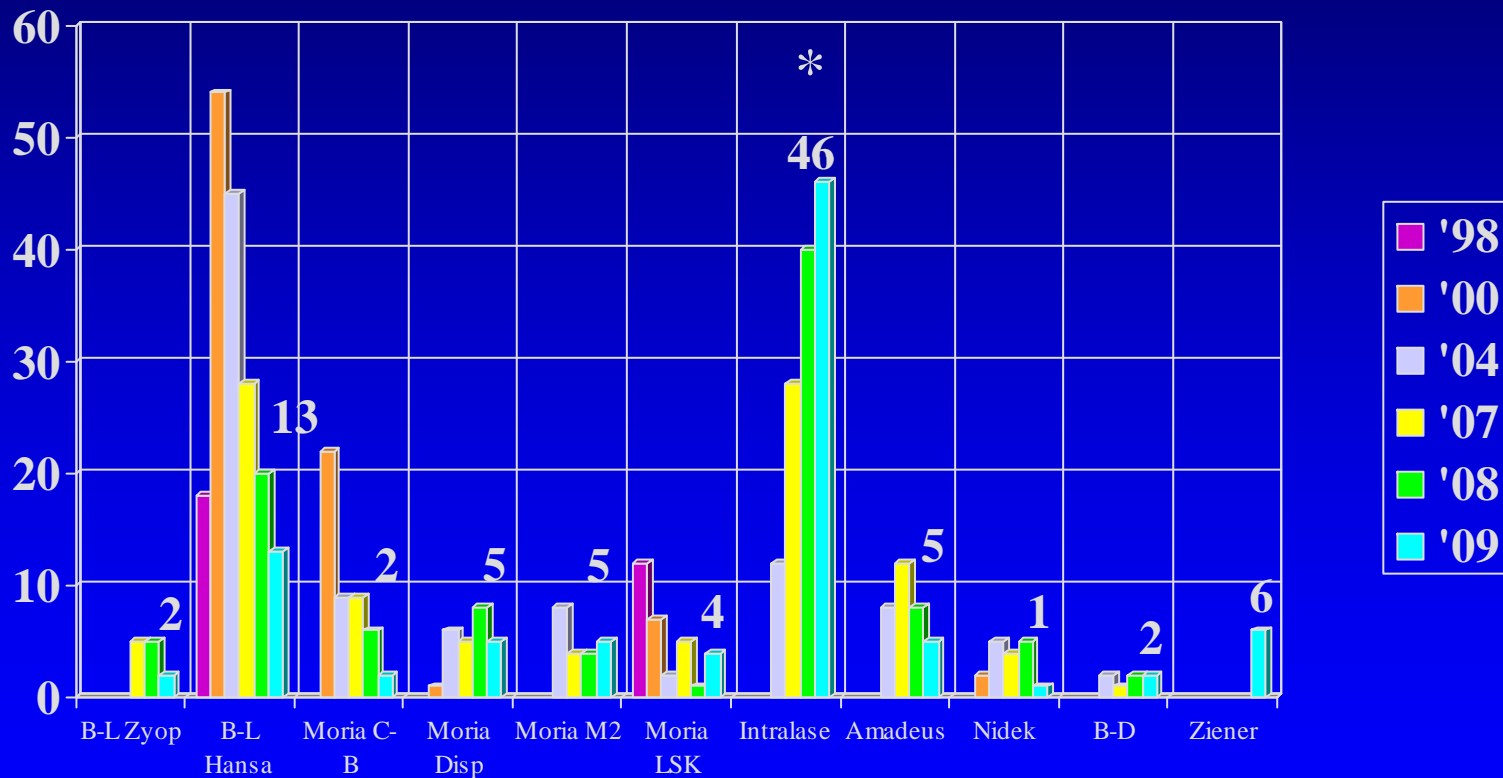


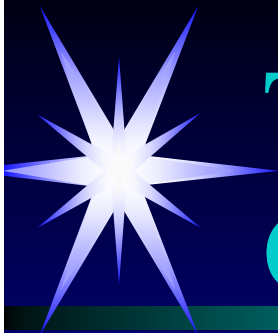
Excimer Laser Most Commonly Used



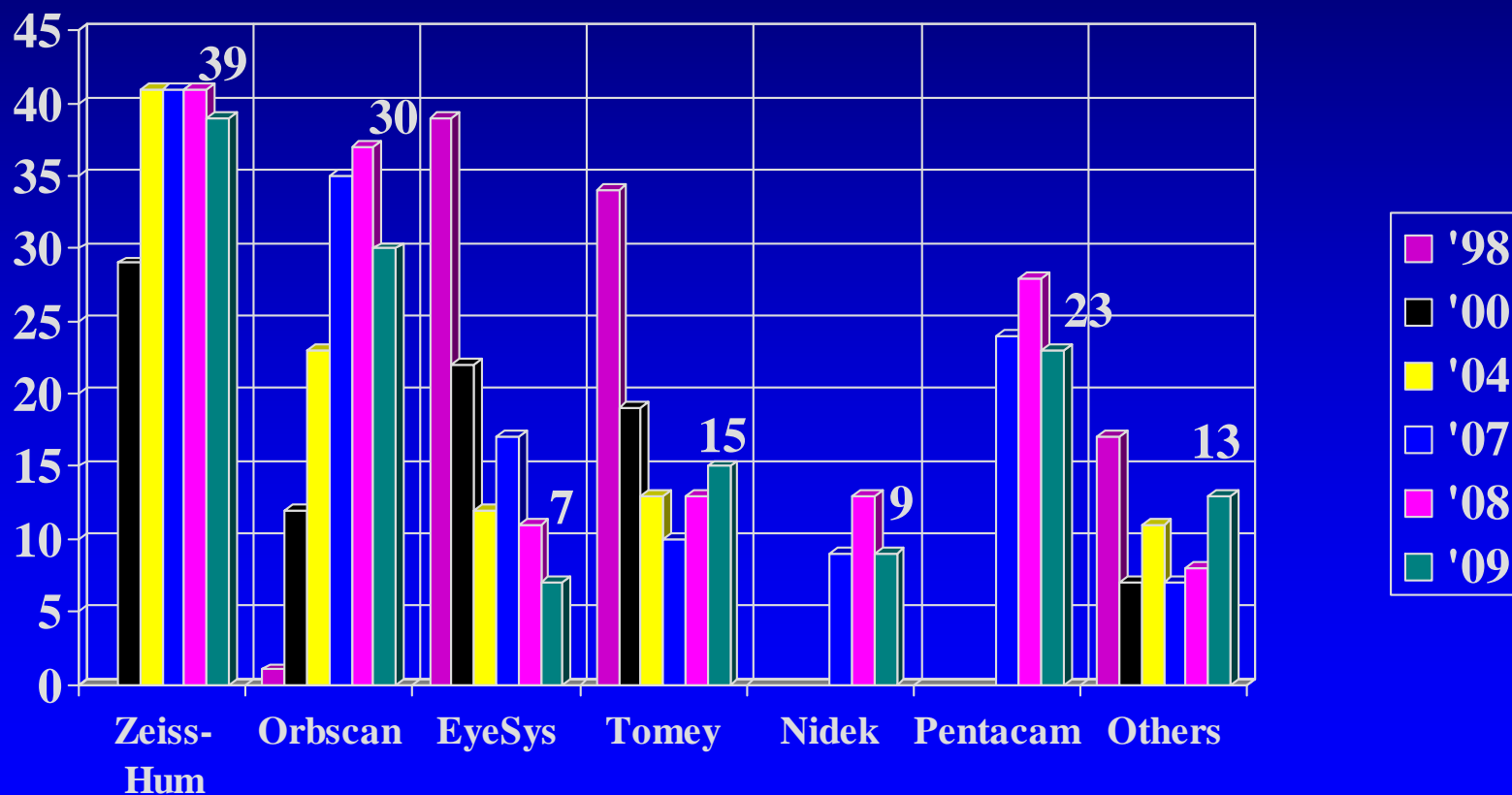


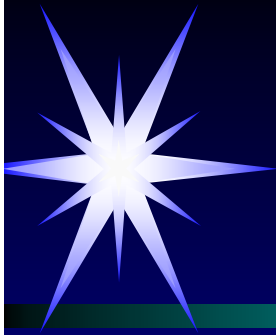
Microkeratome Most Commonly Used



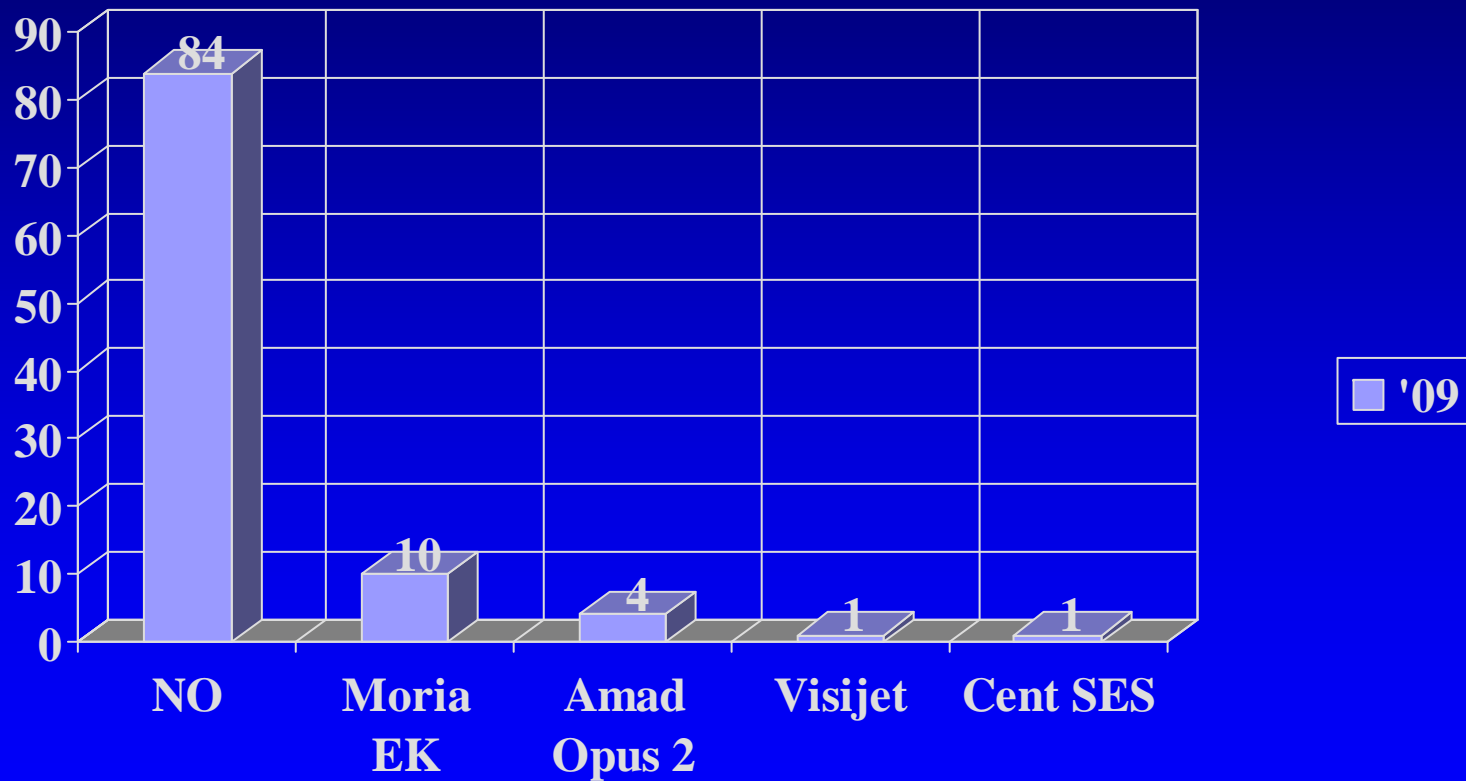


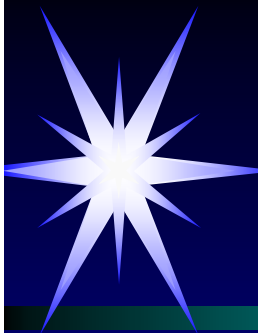
Topography Unit Most Commonly Used



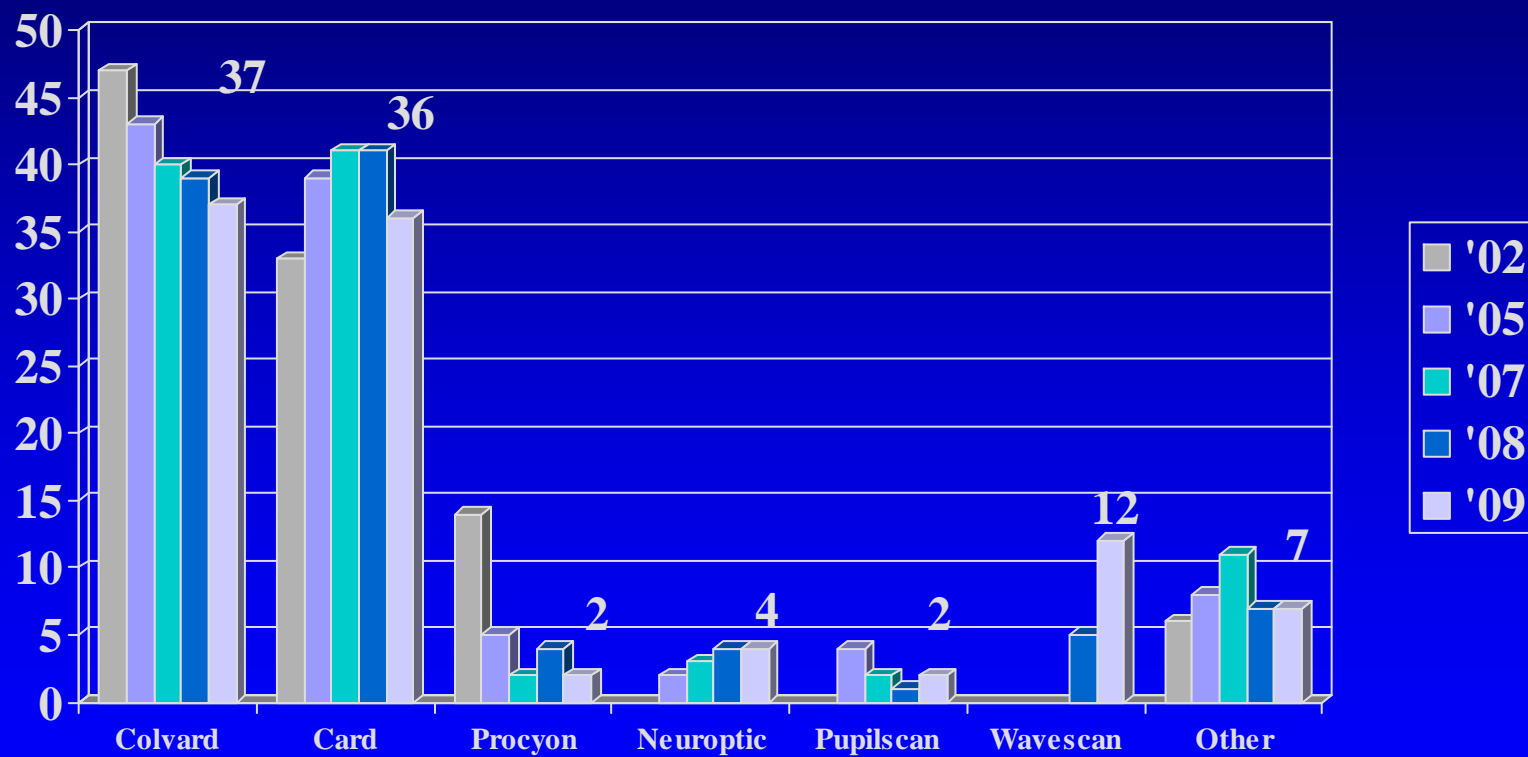


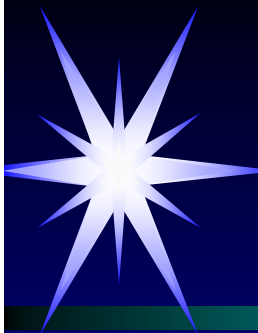
Epi-Keratome Use



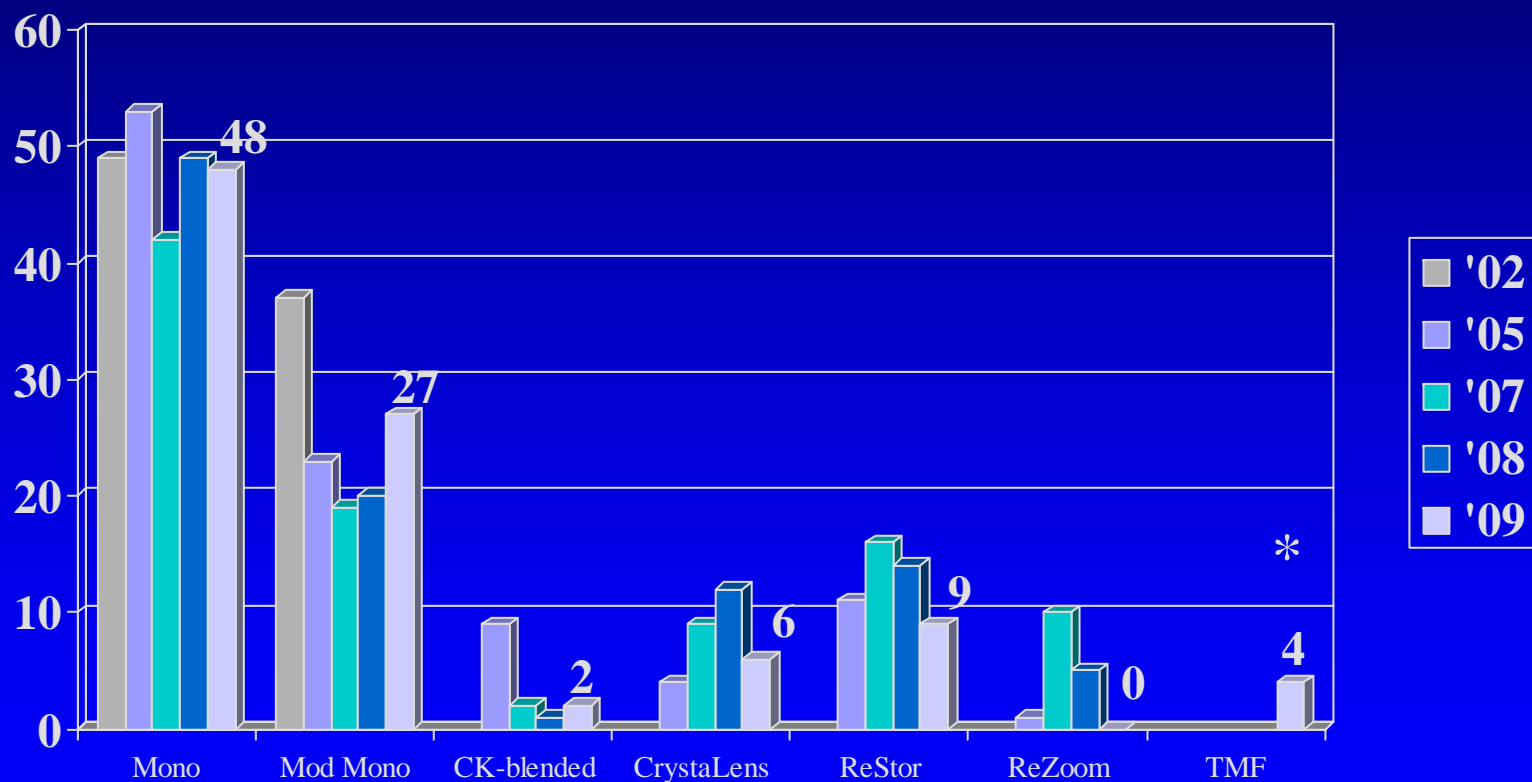


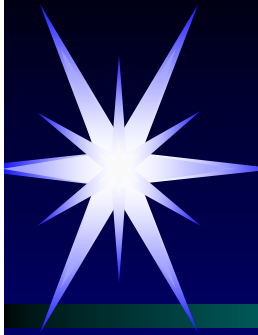
Pupil Gauge Instrument Use



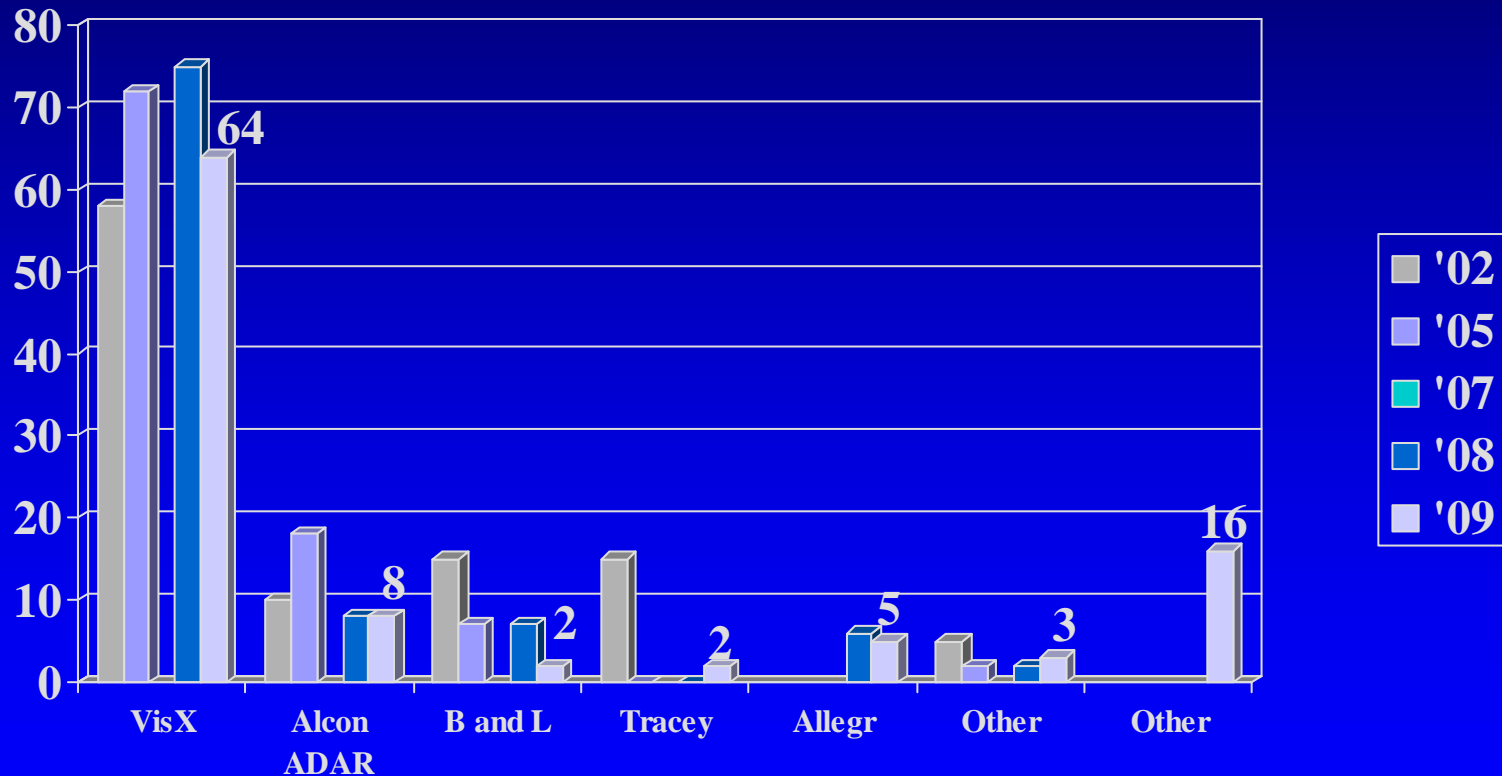


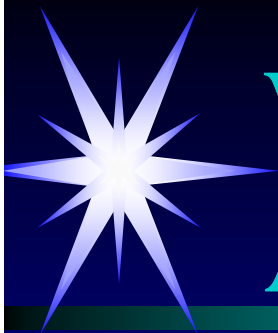
Preferred Surgery for Presbyopia



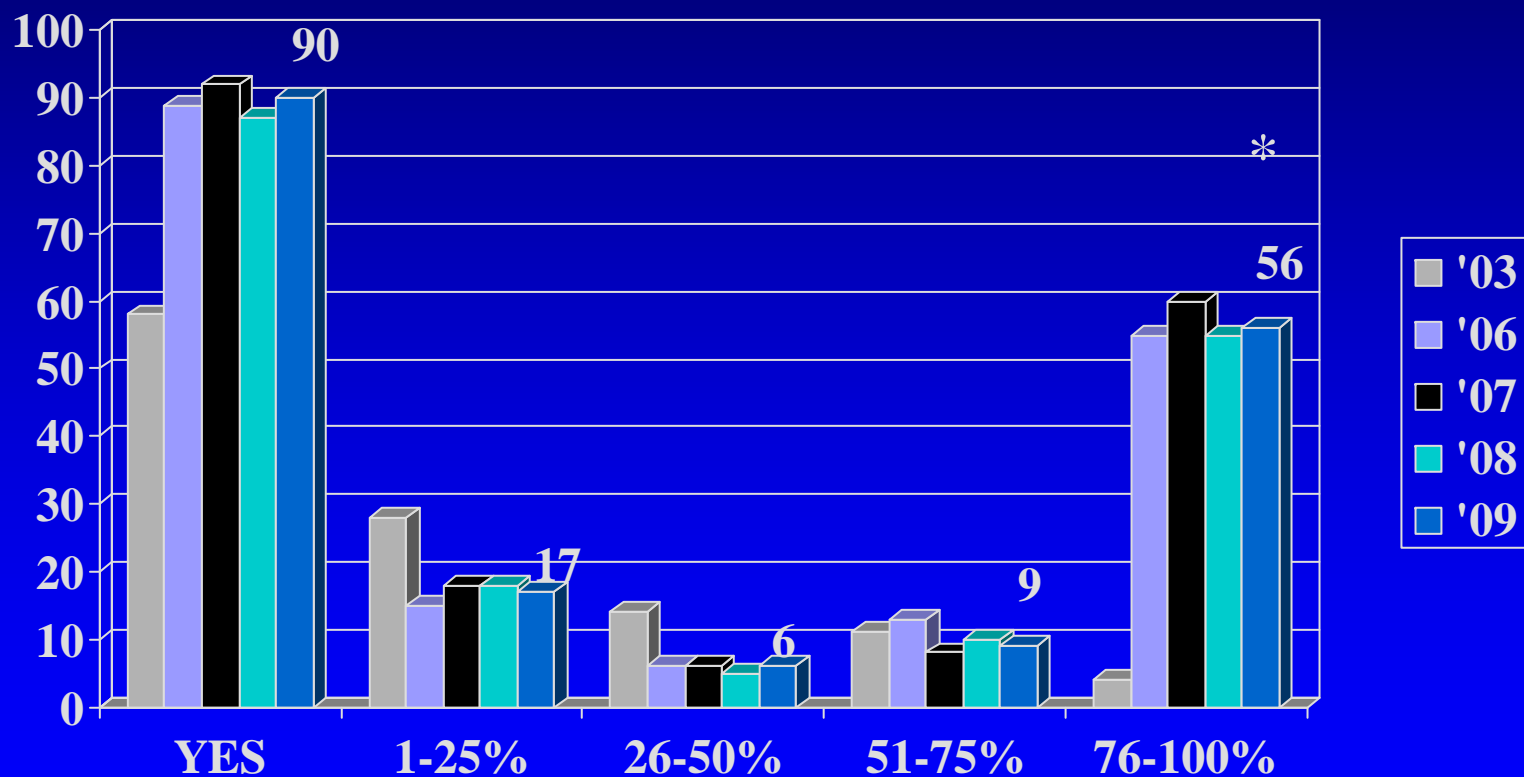


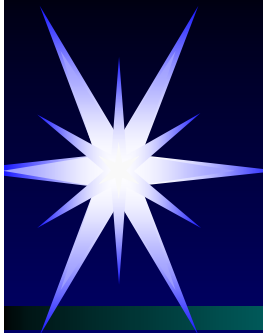
Wavefront Analyzer



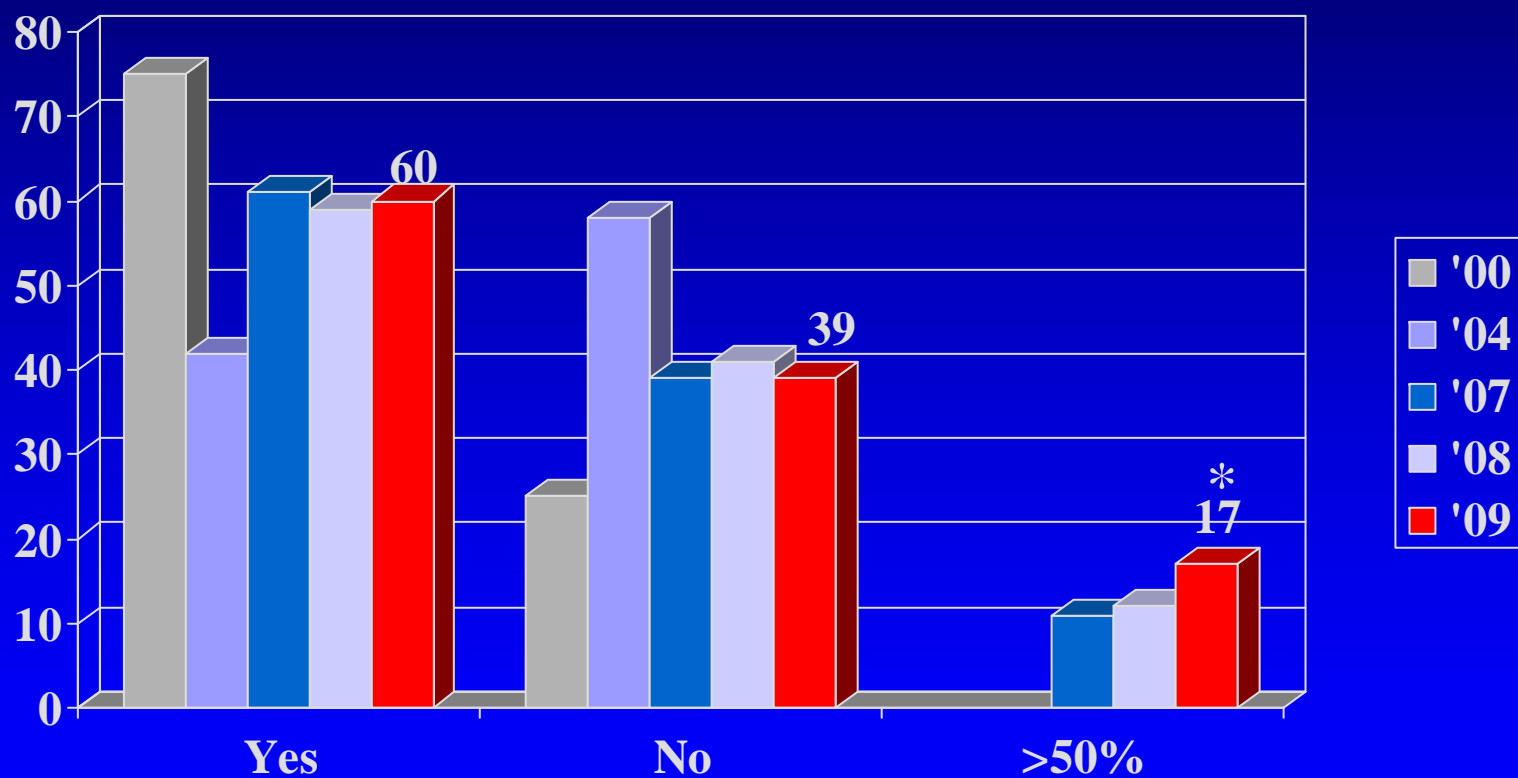


Wavefront-Guided Custom Ablations in Your Practice



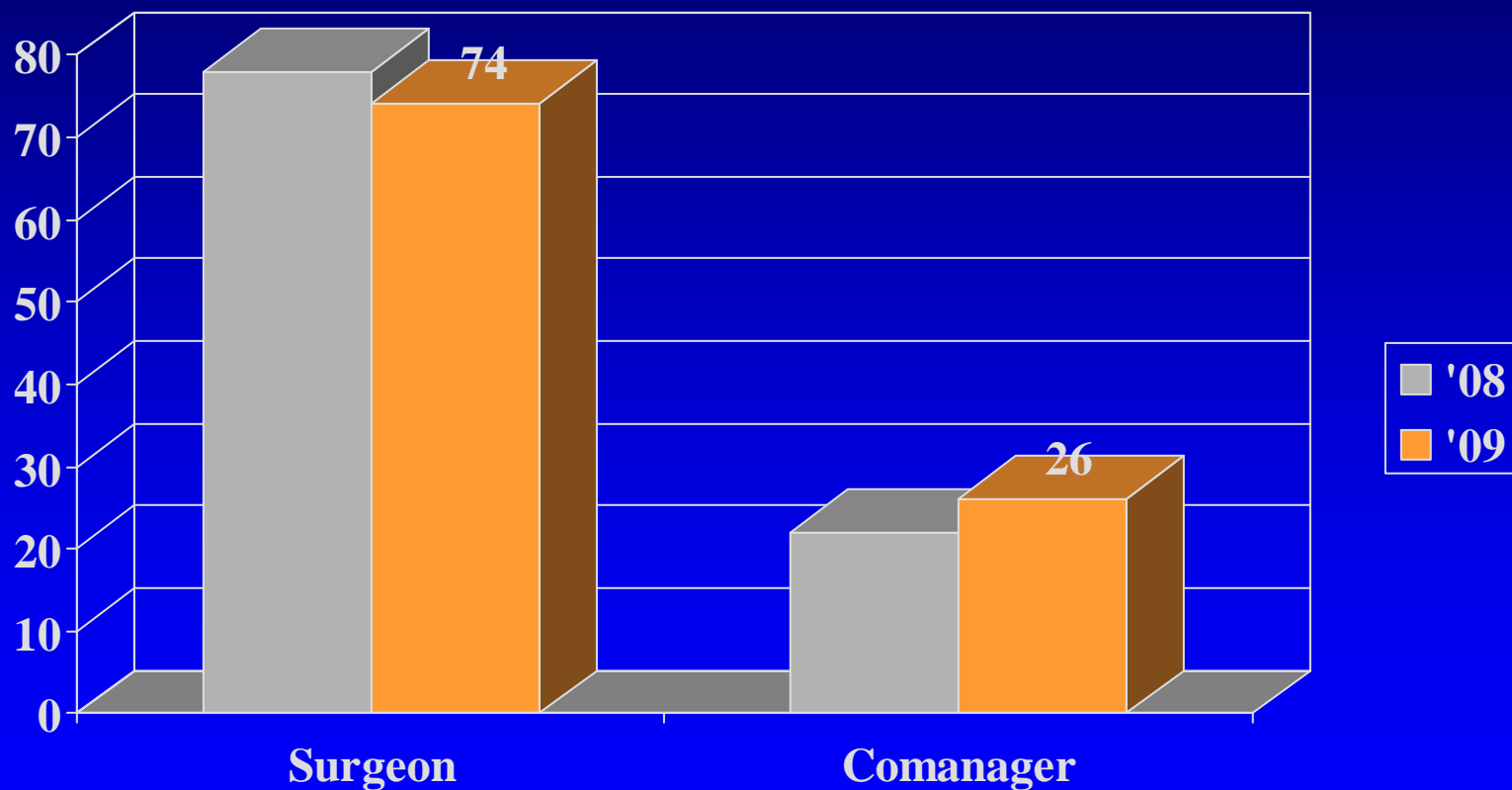


Comanagement



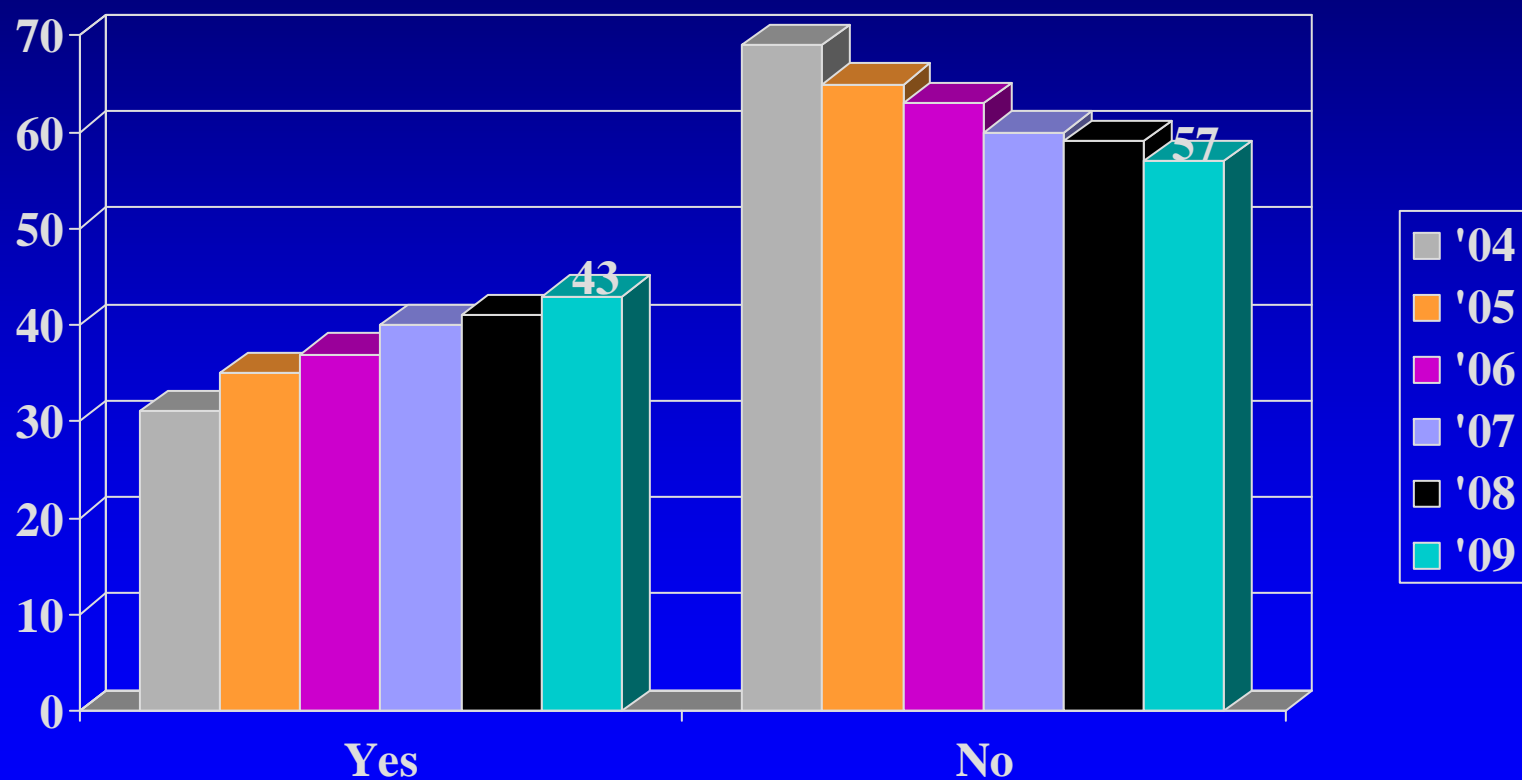


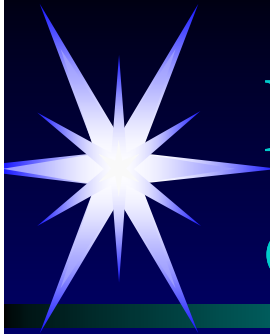
When comanaged, who does day 1 postop exam?



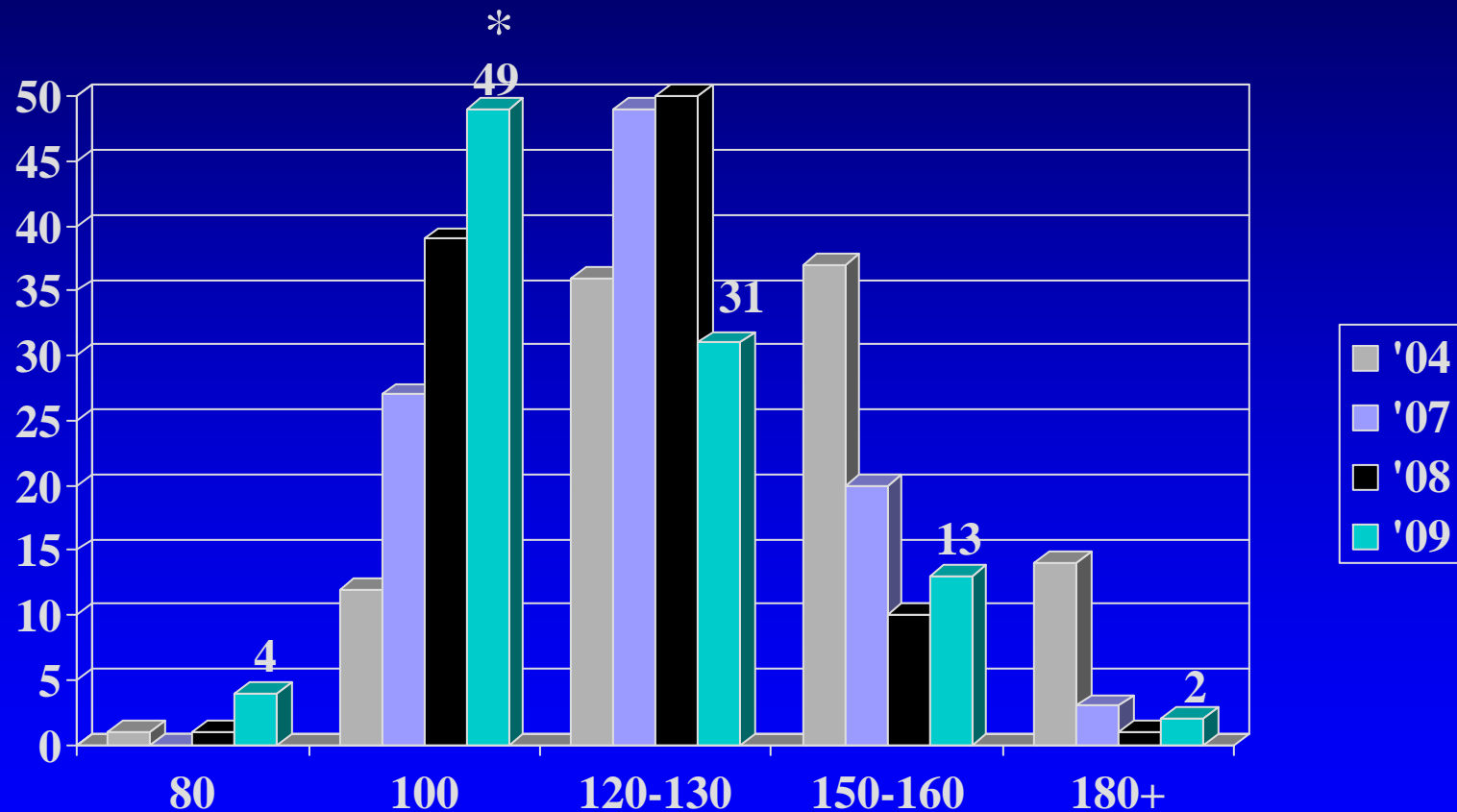


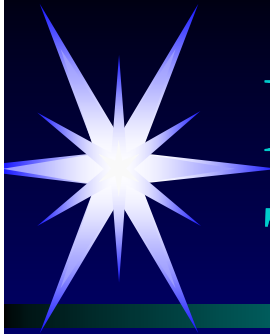
Do You Routinely Measure Flap Thickness *Intra-operatively* ?



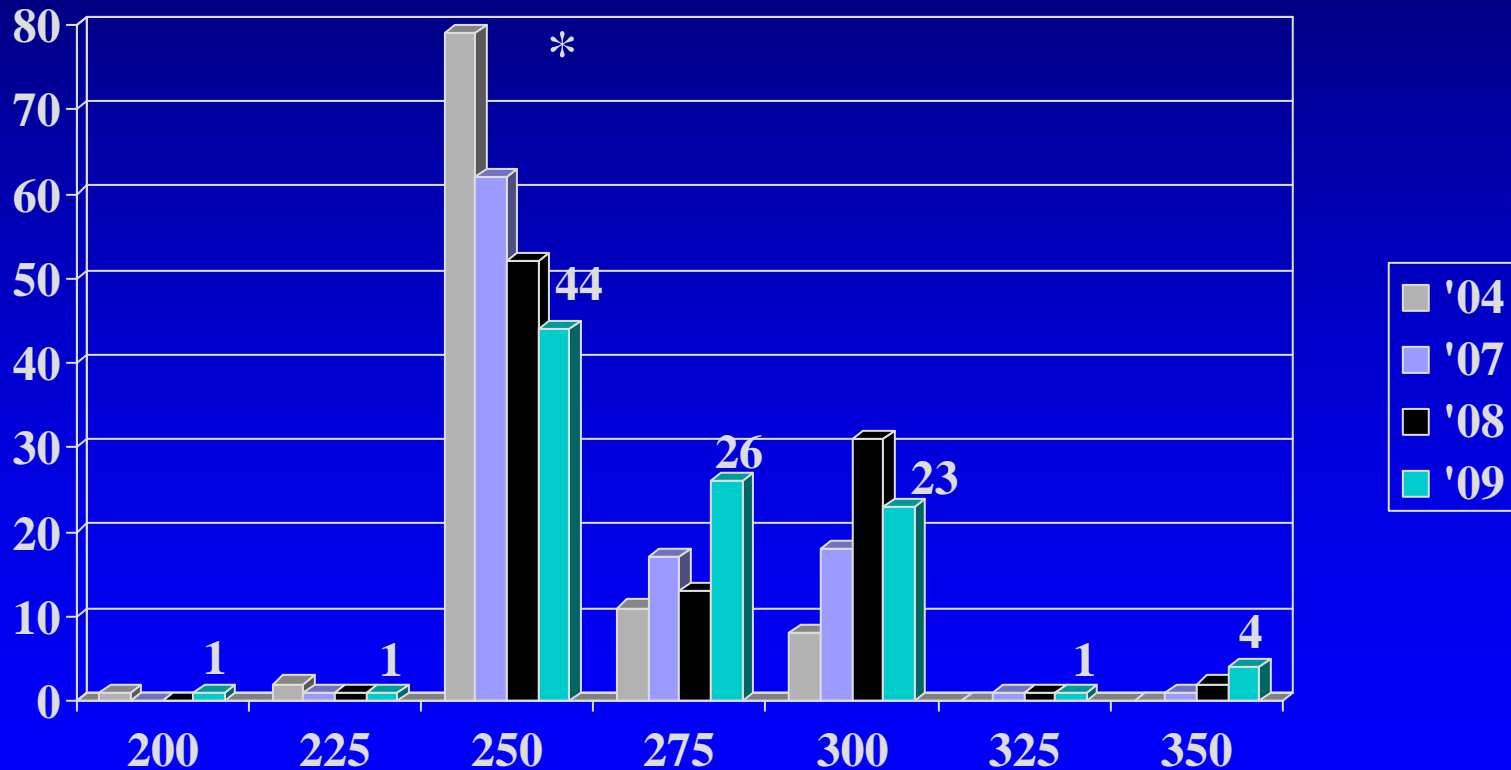


Preferred Flap Thickness (when no other constraints)



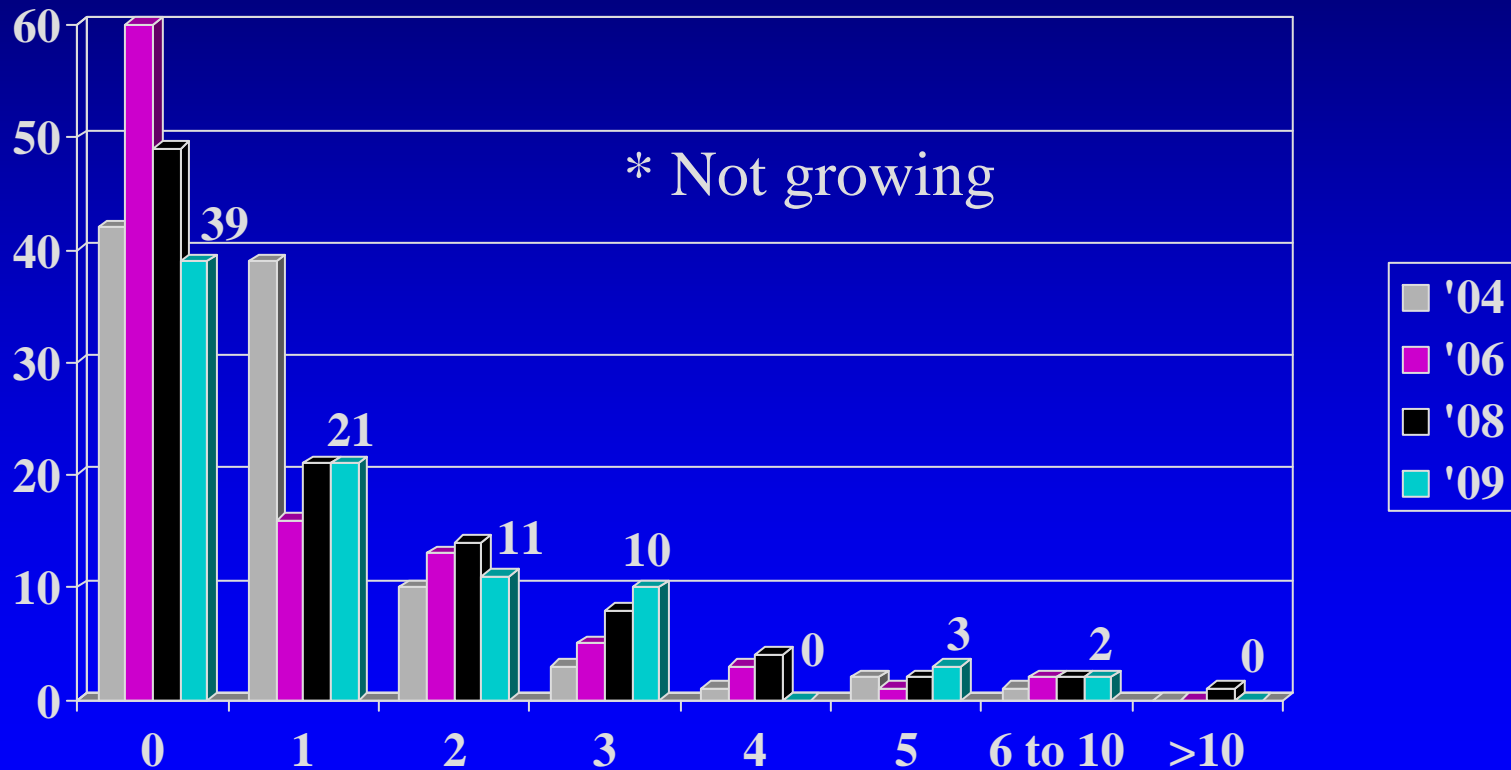


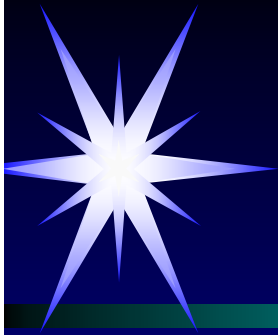
Minimum Residual Stromal Bed Thickness Requirement for LASIK



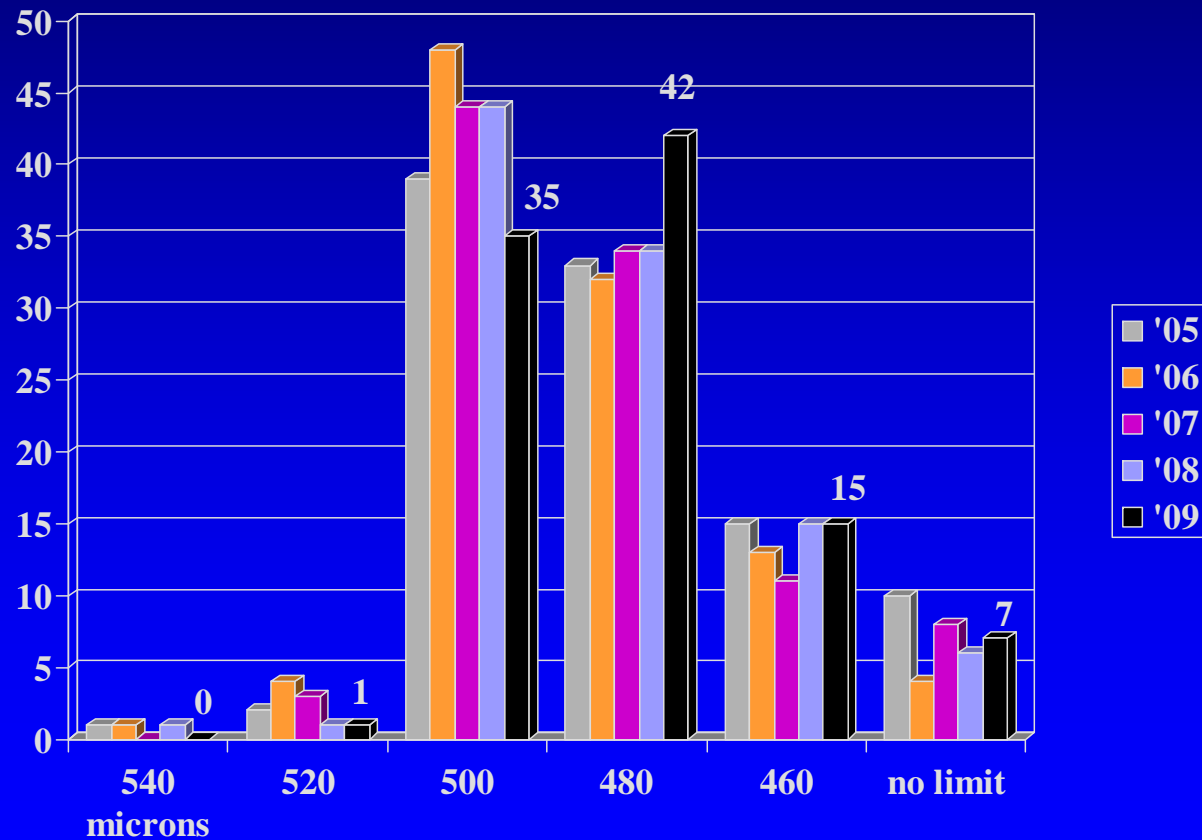


Total Cases of Post LASIK Ectasia as the Primary Surgeon in Career

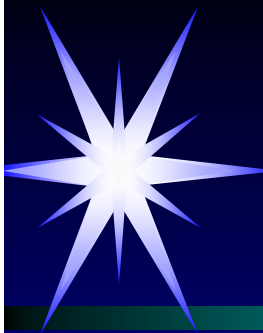




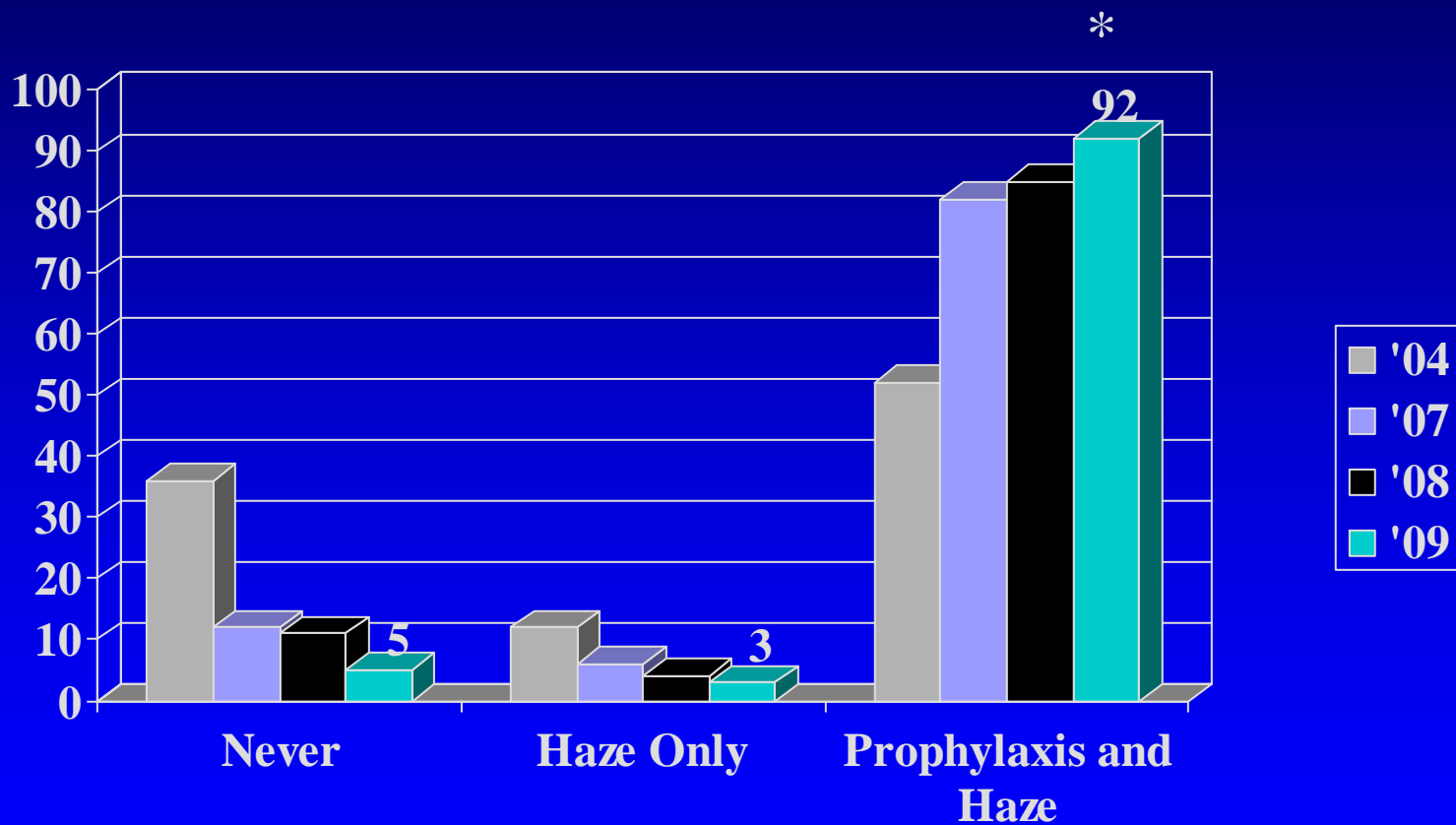
Minimum Cent. Corneal Pachymetry for LASIK (all other parameters normal)



DUFFEY 2009

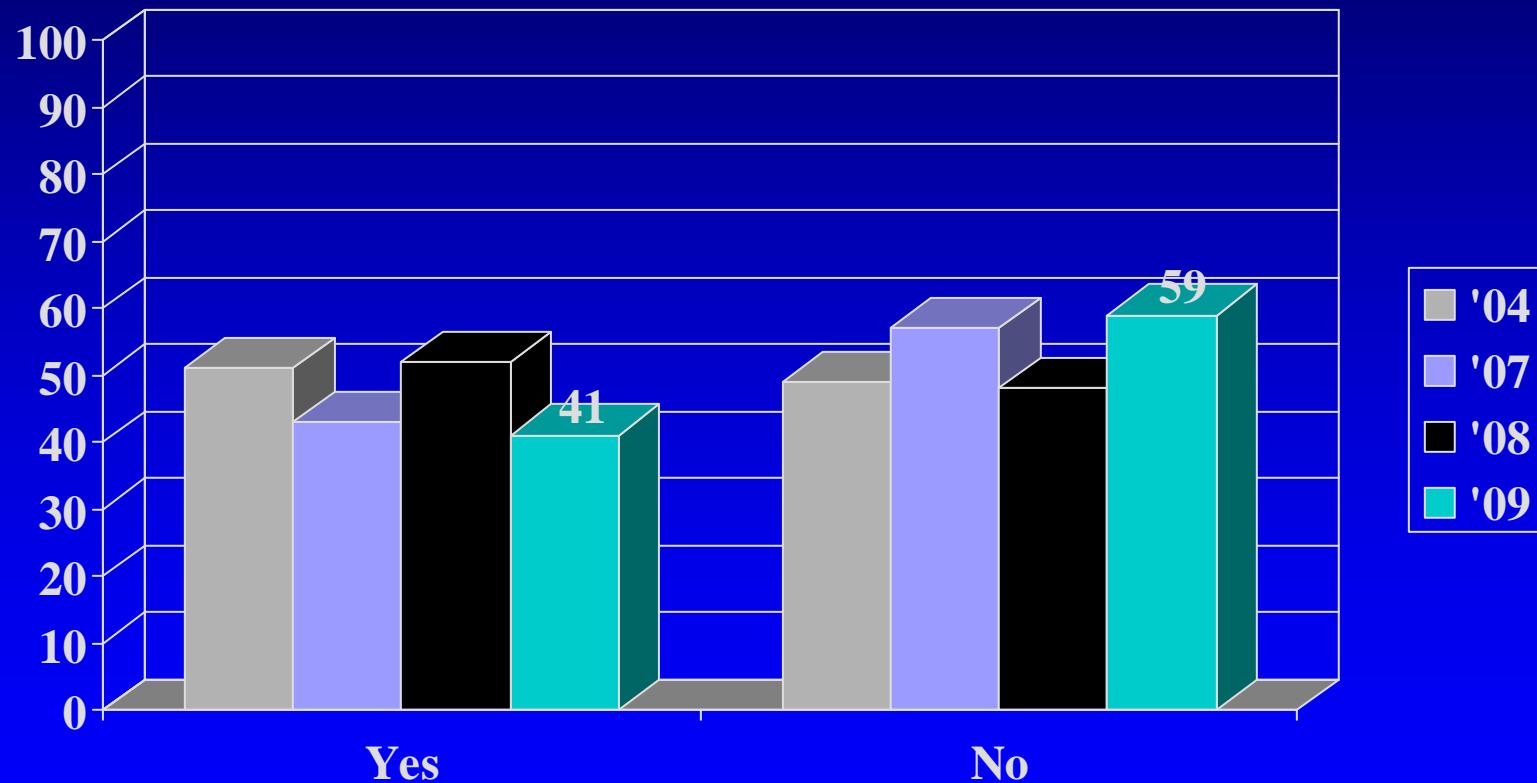


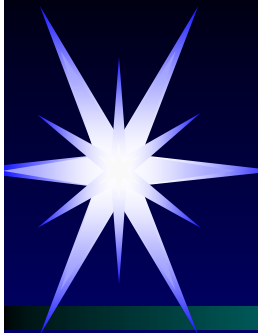
Mitomycin-C Use (MMC)



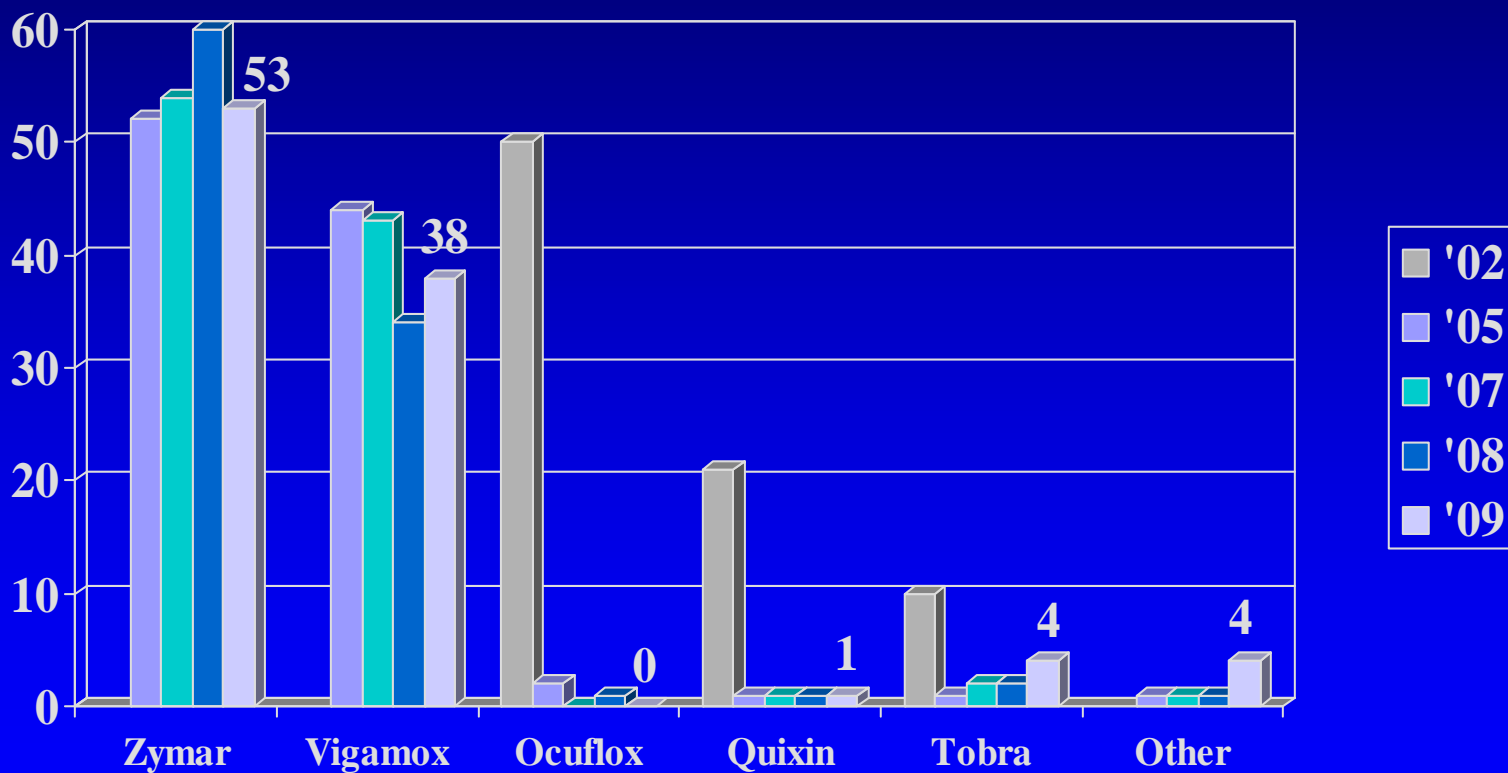


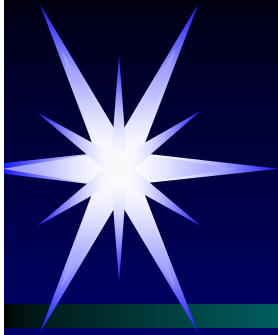
Will You Perform Refractive Surgery on One-Eyed Patients



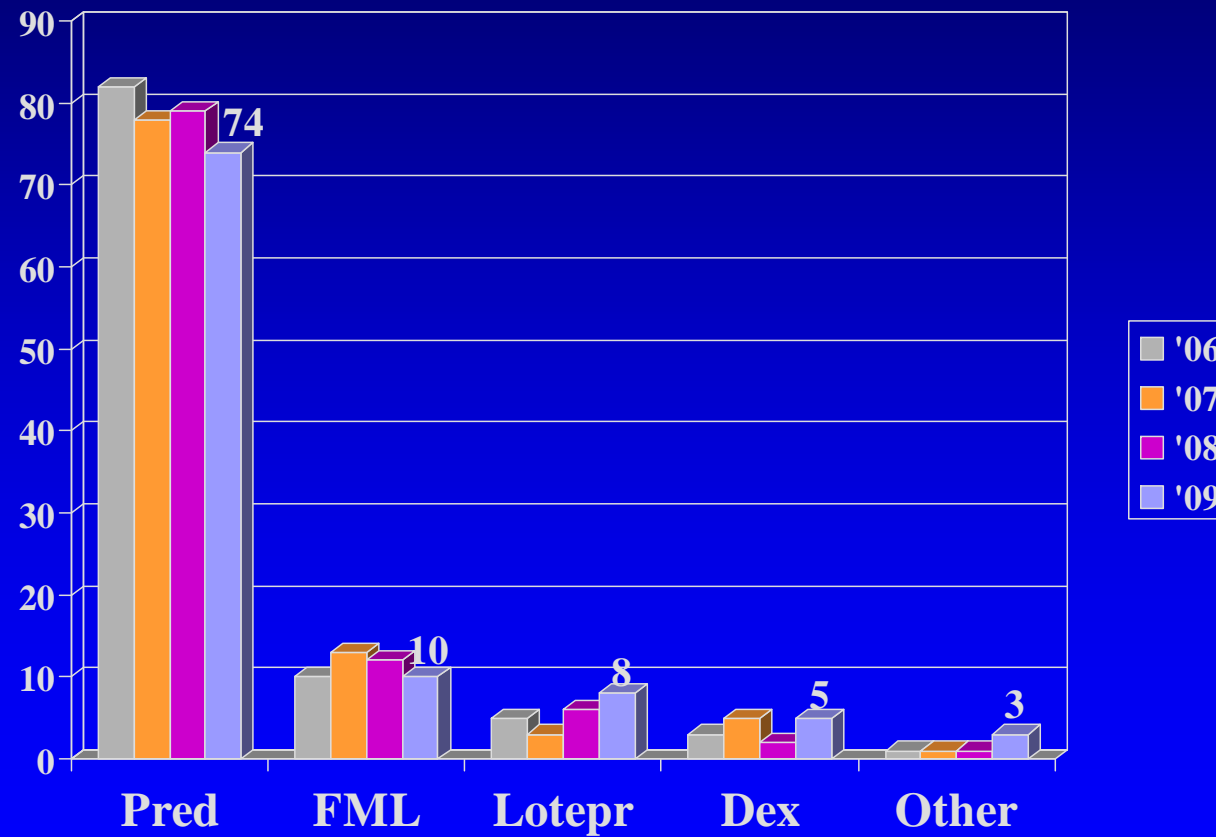


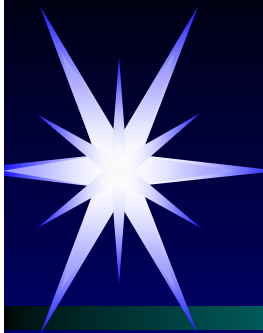
Post-Op Antibiotic



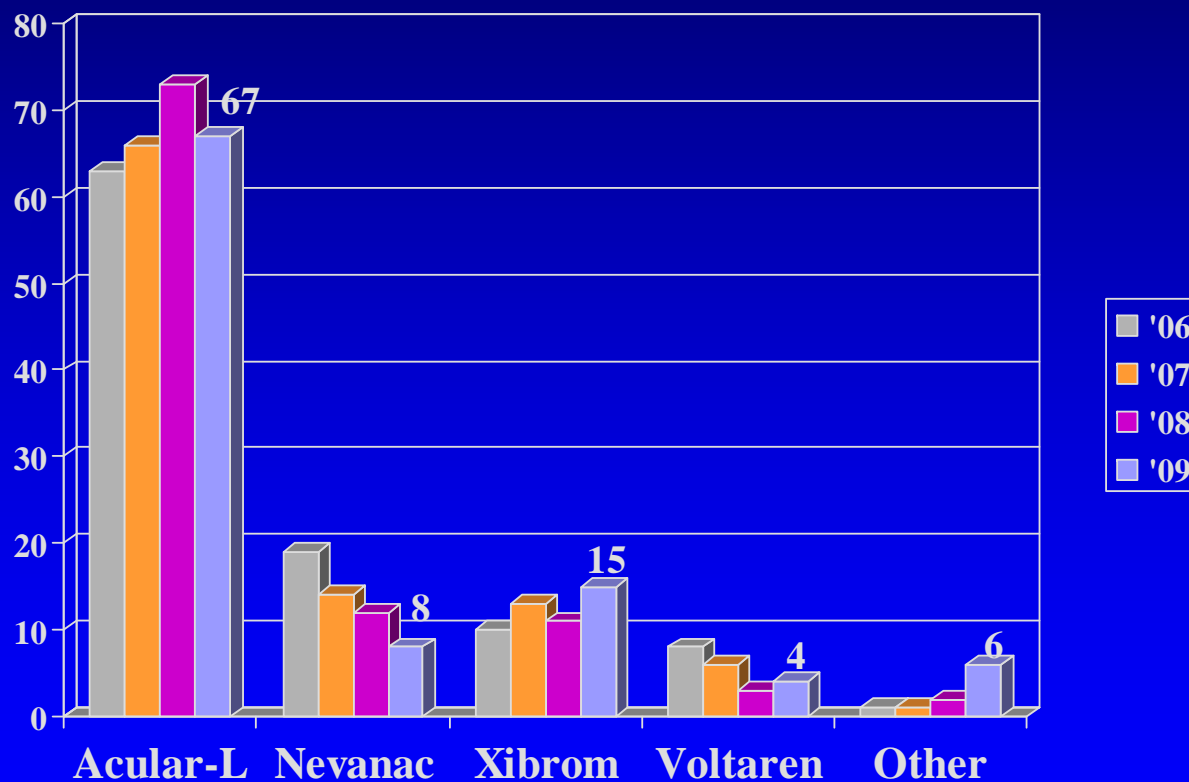


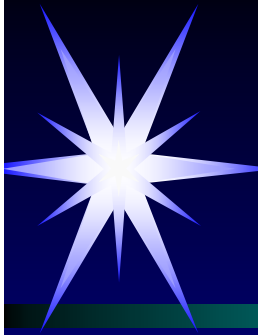
Post-Op Steroid



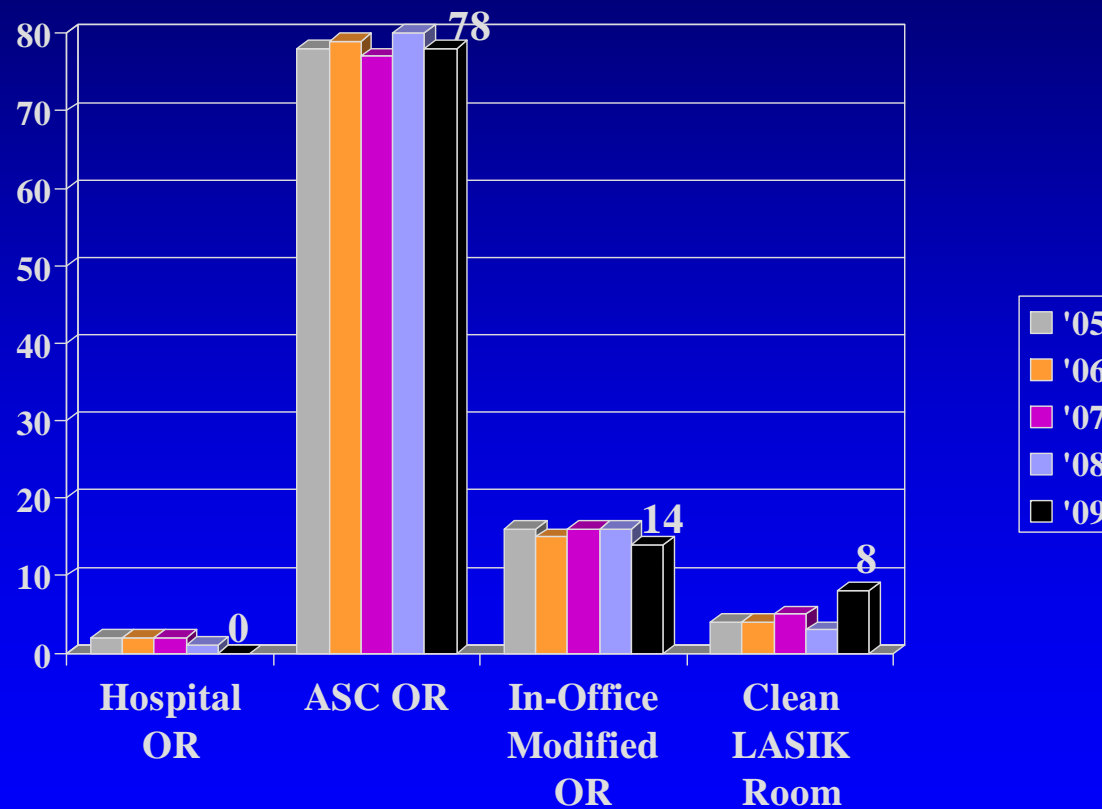


Post-Op Nonsteroidals





Location of Phakic-IOL Surgery





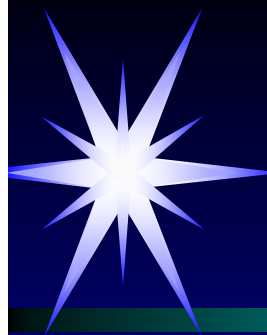
2009 ISRS/AAO Survey Conclusions

- 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%).



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).



Conclusions continued...

- Comanagement stable at 60% ; only 17% comanage more their 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.



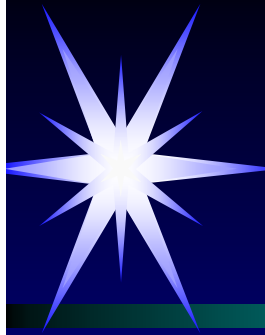
Conclusions continued...

- 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.



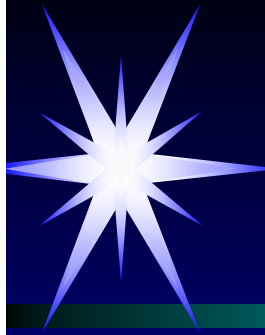
Conclusions continued...

- 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.



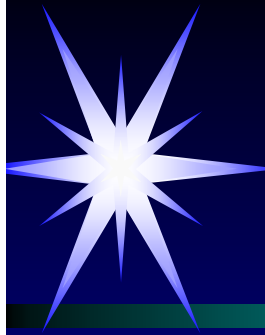
2009 ISRS SUMMARY

- 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



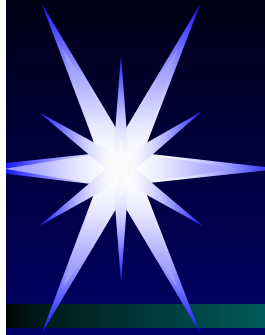
2009 ISRS SUMMARY

- **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.**



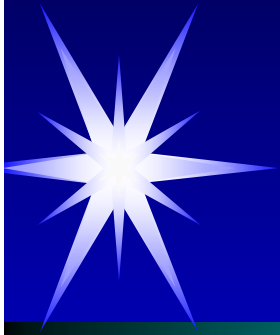
2009 ISRS SUMMARY

- **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