**DATA REVIEW (In Excel) and NOTES**

1. Even though it’s good to have data de-identified, we should still place a numerical ID for each eye. I added them myself to a first column called “Eye\_ID” in ascending order as rows appeared on initial spreadsheet, from top to bottom. However, these numbers will not have any relevance to master database with true patient names and IDs, so we won’t have a way to back track/look up an eye if needed…

* **STARTED WITH 849 ENTRIES (Eyes)**

1. Deleted entries with missing pentacam K magnitude values (n=2) and 1 with pentacam K =12 (n=1)
2. Deleted entries with negative IOLM K and TK values (n=53)
3. Inputted “NaN” for values that were out of range/outliers. Example, Eye IDs 696 and 93 had IOLM K magnitudes of 54 (changed to 0.54 which makes sense) and 43 (deleted).
   1. Sometimes, replaced outlier values with what I thought correct number was: For example: For Eye\_ID 768, Pentacam astigmatism magnitude was 1.8 but IOLMaster astig was 0.13 and no arcuates were done 🡪 changed to .18. Also look at Pentcam astigmatism magnitude for Eye\_ID 444 🡪 pentacam magnitude changed to 0.17. Finally, entry 819 deleted (pentacam values and otehres didn’t make sense)
4. Excluded high TK values > 0.50 in which “Single/Paired” = 0 (because this states that no arcuates performed) 🡪 Either Torics were likely placed here or I am uncertain if arcuates were actually performed (n = 80)
   1. Then, removed another set of rows in which IOLM anterior K > 0.5 and no arcuates performed (n =6)
   2. Then removed another 2 entries which had missing arcuate data and in with ‘Single/Paired” = 0
5. Some entries listed as “Single” (Single/Paired = 1) actually had 2 LRIs inputted. This code was changed to “Paired” (Single/Paired = 2). Examples: Eye\_ID 750, Eye\_ID 62.
6. If LRI magnitude is 0, corresponding LRI axis was written as “NaN” (to not confuse machine learning model into thinking axis of some actual magnitude was at 180 aka 0)
7. Some entries it was questionable if single arcuate was actually performed. For example, Eye\_ID 680 showed K agnitude ot 0.94 ATR and TK 1.09 ATR, but only a single 27 degree acruate was created at 137. This entry was changed to “Paired” because likely this was a typo.
8. Some Single/Paired were listed as 1 (single), but then no arcaues were listed.
9. Some duplicate entries removed (e.g. Eye\_ID 834 and 240)
10. Entries deleted for 2 entries that were “Single” in which only 1st LRI was listed and second LRI info was blank (Eye\_ID 181, 136)
11. For entries in which 2 arcuates were listed, by labeled as “Single”, then this was changed to “Paired” (Single/Paired =2). Example: Eye\_ID 750 and 62)
12. Entry 21 deleted (were paired 30 degree incisions really made in this case wihth low values of astigmatism across the board? Typo?)
13. In cases like this, was a single arcuate really be made? Eye\_ID 152: Pentacam mag 1.2 axis 66.1, IOLM mag 1.09 axis 76, TK 0.28 axis 69 🡪 single 45 degree arcuate made at 57. For what thresholds of astigmatism, TK or otherwise, do you pair versus do single arcuates?
14. In general, do you consider a single 40 degree arcuate to create an effect equal to paired 20 degee arcuates?
15. Eye\_ID 57 removed because had arcuate that didn’t make sense (arcuate sweep was 2 degrees?)
16. Do you ever use different arcuate lengths for paired arcuates? (examples: Eye\_ID 745 or 593)
17. Posterior asgitmasm magnitude for Eye\_ID 36 written as 0.99, this was likely a typo. Changed to “NaN” (for missing data).
18. Entry Eye\_ID 152 exlcuded for now – please check if arcuates (magnitude and axes) are written correctly
19. Check Eye\_ID 153, 796, 828, 233, 67, 818, 224, 350, 202: are we sure this wasn’t paired incisions? possible typo 🡪 changed to PAIRED for now.
20. Eye\_ID 233 was likely a duplicate of 818 , so 233 was excluded
21. Entry Eye ID\_390 🡪 posterior astigmatism value seems off, does not make sense to me when looking at IOLM TK value and K value
22. Entry 69 , typo with AL (>40) and likely typo with IOLMr K axis so excluded
23. ALs > 40 were types and were changed to “NaN” (entries444, 188)
24. Entry 143 excluded (IOLM astigmatism is 0.92. single 20 deg arcuate placed off axis?)
25. Entry 188: single arcuate placed at 110?
26. Entry 804: post astigmatism axis is 199 (greater than 180), likely typo, changed cell to “NaN”.
27. Please verify that all asgitmatism and arcuate values Eye\_ID 350, 499, and 737 are correct.
28. Excluded entry 327 because IOLM K value the same as IOLM TK values despite posterior K effect – likely typo.
29. Entry 50 : TK IOLM axis written as 185 🡪 switch to “NaN”
30. Entry 616: WTW written as 0 🡪 switch to “NaN”
31. Entry 827: the arcuate locations are not 180 deg apart. Attempt to fix by changing arcaute 2 location from 343 to 342 (so arcuate 1 and 2 are 180 deg apart).
32. Entry ID 62: EXCLUDED for now (arcuate incision locations don’t make sense)

* **654 ENTRIES remaining**