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## PATIENT 1

### BASELINE

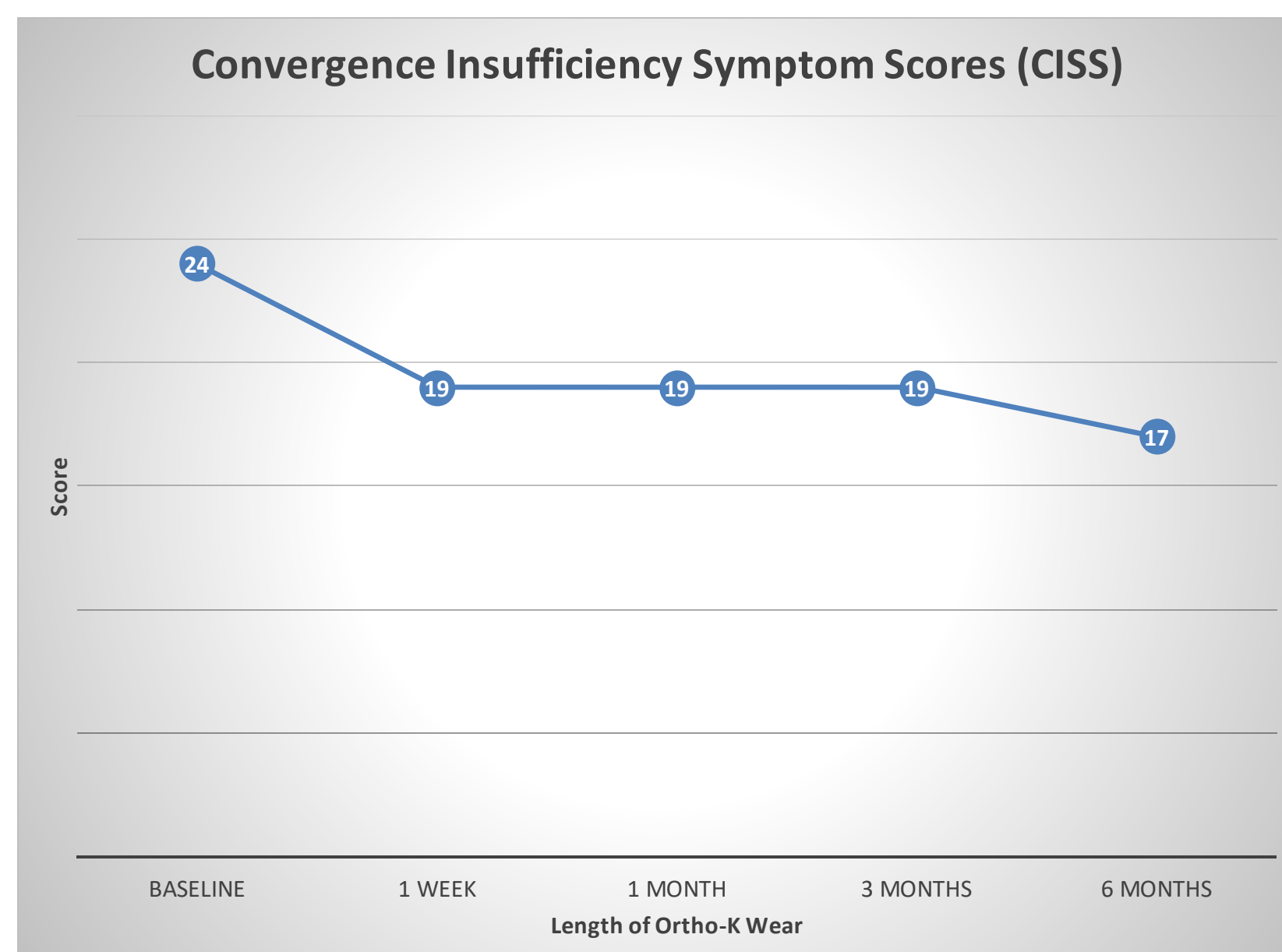
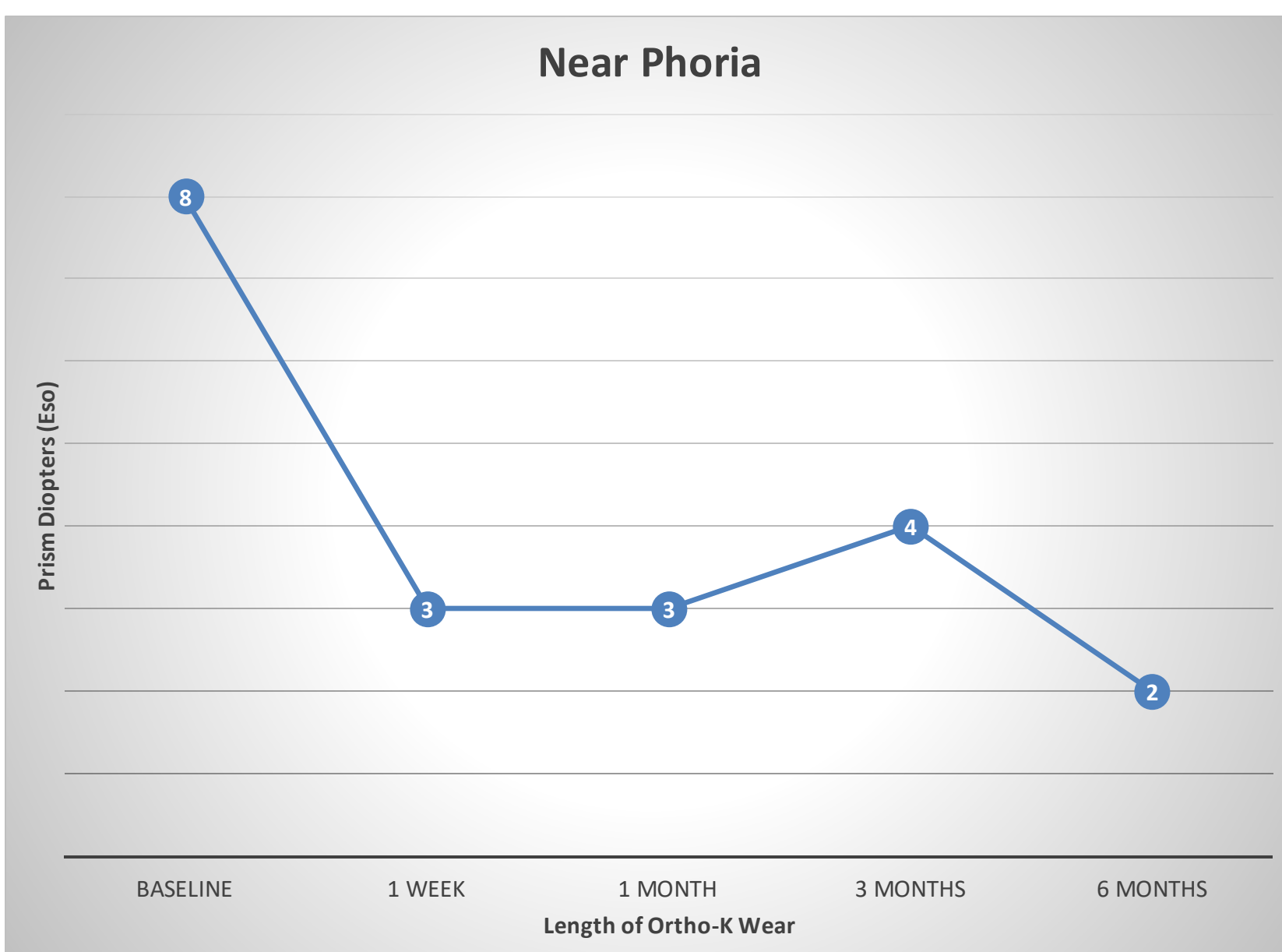
- 26-year-old female
  - Habitual daily disposable SiHy soft contact lens power with +1.25D readers
    - OD: -2.25sph
    - OS: -2.00sph
  - Refraction:
    - OD: -2.25sph (20/15)
    - OS: -2.00sph (20/15)
  - Slit lamp findings: unremarkable, (-) NaFl staining OU

### MONTH 1

- Refraction:
  - OD: +0.25sph (20/15)
  - OS: + 0.50sph (20/15)
- Slit lamp findings: trace papillae upper and lower lid OU, trace inferior SPK OU

### MONTH 6+

- Refraction:
  - OD: +0.25sph (20/15)
  - OS: + 0.25sph (20/15)
- Slit lamp findings: trace papillae upper and lower lid OU, (-) NaFl staining OU



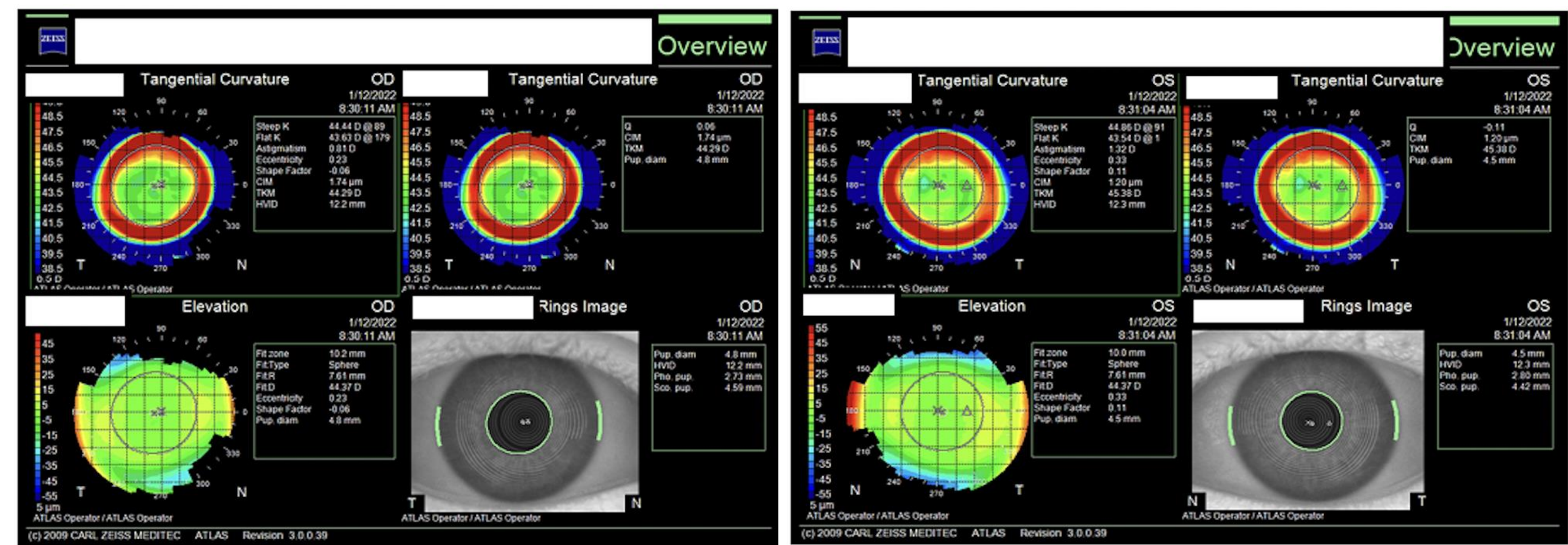
	Baseline	Week 1	Month 1	Month 3	Month 6+
CISS	24	19	19	19	17
NPC	TTN				
NRA	+2.50D	+2.25	+2.75D	+2.75	+2.75
PRA	-2.25D	-1.75	-2.00	-2.25	-2.50
AA (OD/OS)	8.25D/8D	8.25D/7.75D	8.25D/8D	7.00D/8.25D	7.50D/8.00D
Near Posture	8 EP	4 EP	3 EP	4 EP	2 EP
Near Ranges	BI: x/14/8 BO: x/30/28	BI: 12/22/8 BO: x/22/18	BI: x/18/10 BO: x/16/12	BI: x/20/12 BO: x/24/22	BI: x/18/14 BO: x/20/18
Distance Posture	4 EP	4 EP	1 EP	3 EP	Ortho
Distance Ranges	BI: x/8/6 BO: x/18/16	BI: x/8/2 BO: x/20/14	BI: x/10/6 BO: x/16/14	BI: x/8/6 BO: x/16/14	BI: x/10/8 BO: x/14/12

## INTRODUCTION

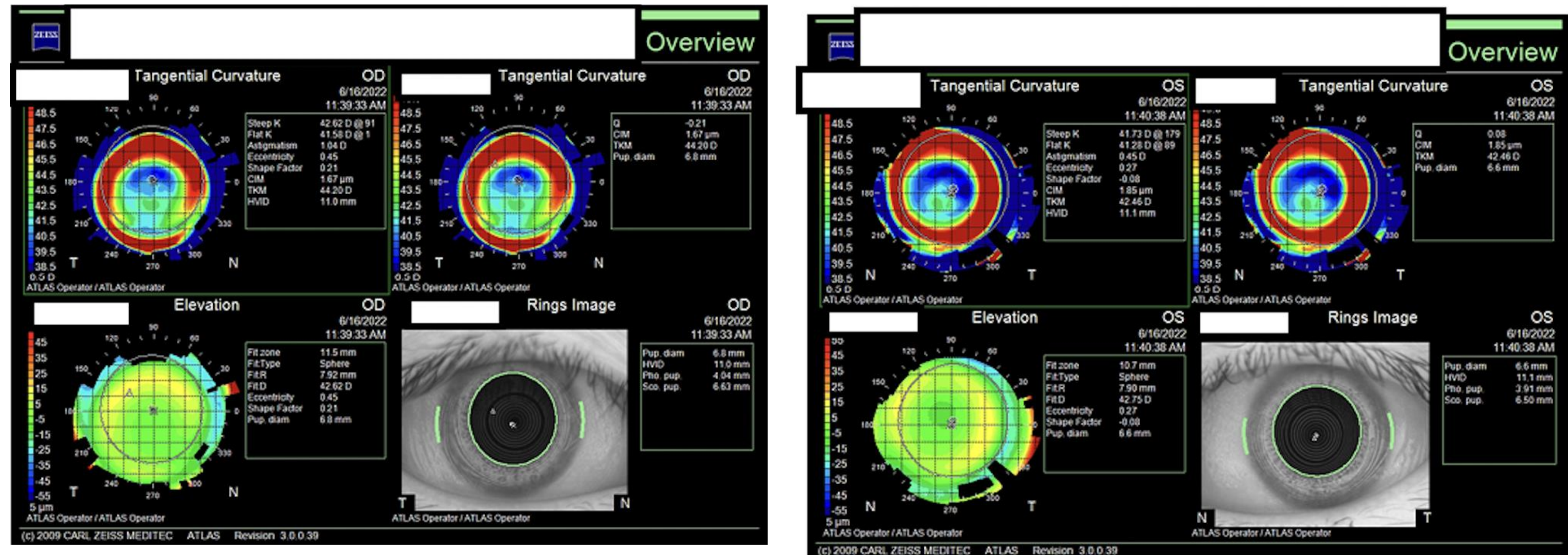
Studies have found orthokeratology wearers exhibit a more exophoric posture compared to soft contact lens wearers, specifically 2 prism diopters (PD) more exophoria (XP) in orthokeratology versus orthophoria in spherical contact lens wearers<sup>1</sup>. Studies demonstrate an average shift of 1.36 PD and 4.06 PD in the distance and near horizontal phoria, respectively<sup>2</sup>. This case series explores the use of orthokeratology to induce an exophoric shift as a management method in two young adults with symptomatic binocular vision dysfunction secondary to esophoria (EP).

## DAY 1 ORTHO K WEAR CORNEAL TOPOGRAPHIES

### Patient 1



### Patient 2



## CONCLUSION

In both patients, a sustained exophoric shift was observed after three weeks of nightly orthokeratology wear at distance and near. Further, both subjects showed a reduction in symptoms via the CISS. Scores 21 or higher, as per the CISS, is suggestive of symptomatic binocular dysfunction, therefore both patient's score reductions are significant. Notably, both patient's complaints of diplopia while using a slit lamp microscope and BIO headset decreased, no longer requiring OTC readers. Further exophoric shift was observed and CISS scores were sustained at 6+ months of nightly orthokeratology wear for both patients.

## PATIENT 2

### BASELINE

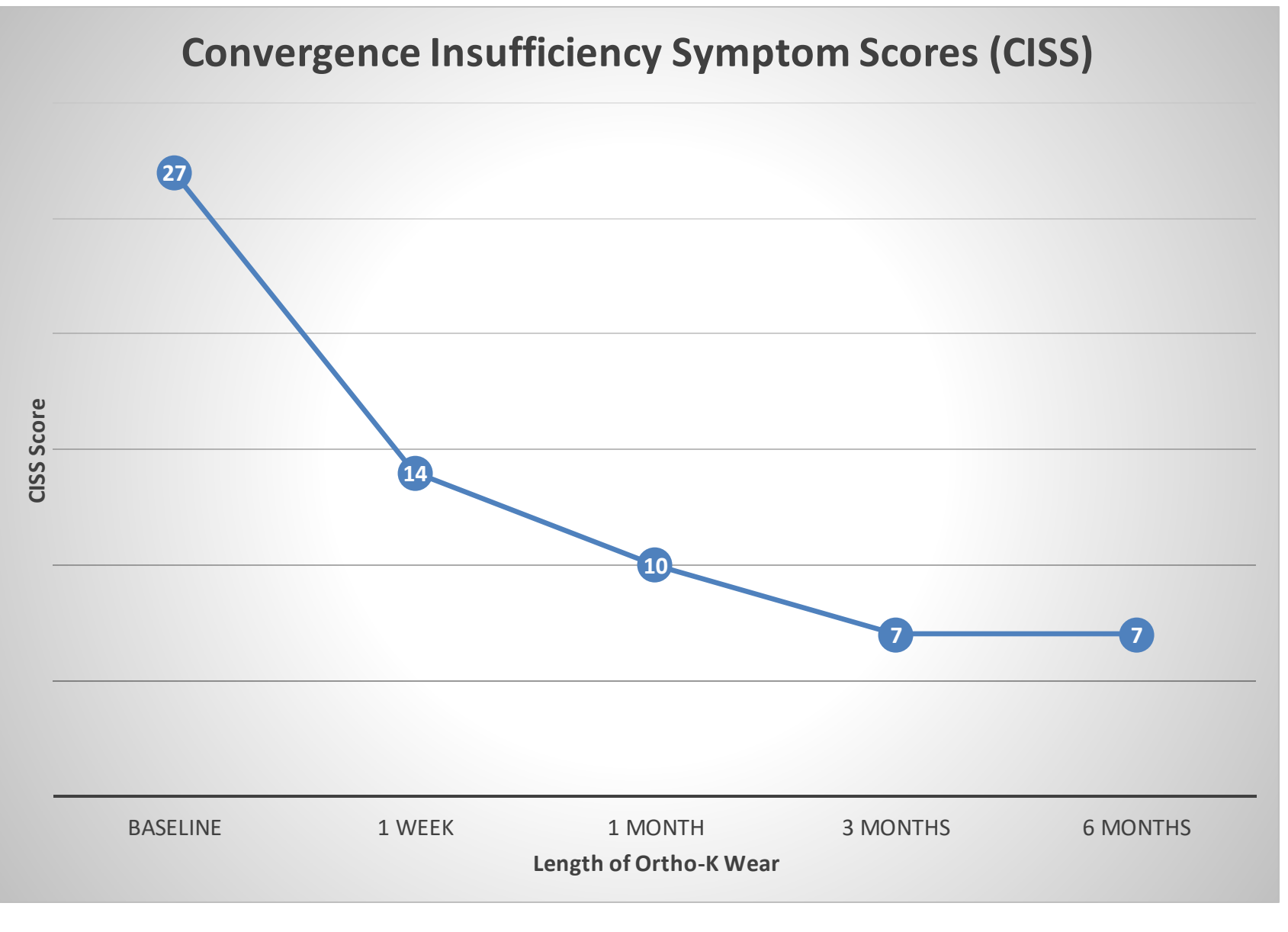
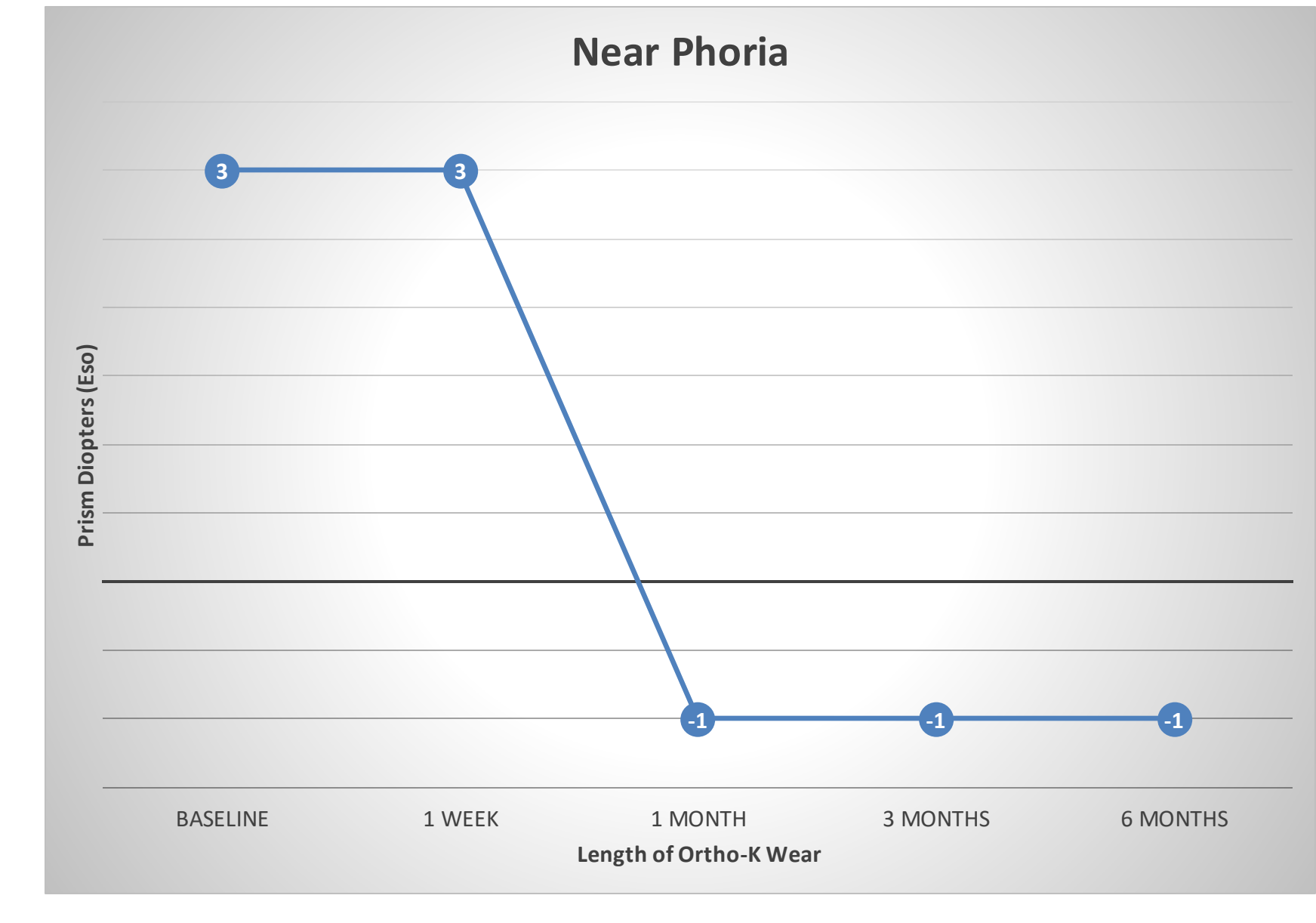
- 26-year-old female
  - Habitual daily disposable SiHy soft contact lens power with +1.25D readers
    - OD: -2.25sph
    - OS: -4.50sph
  - Refractive findings:
    - OD: -3.00sph (20/20-)
    - OS: -5.00-0.50x140 (20/20-)
  - Slit lamp findings: unremarkable, (-) NaFl staining OU

### MONTH 1

- Refraction:
  - OD: -0.25sph (20/25)
  - OS: -0.25-0.50x180 (20/30+)
- Slit lamp findings: trace papillae upper and lower lid OU, trace inferior SPK OU

### PATIENT 2: MONTH 6+

- Refraction:
  - OD: -0.25sph (20/20)
  - OS: plano-0.50x180 (20/20)
- Slit lamp findings: trace papillae upper and lower lid OU, (-) NaFl staining OU



	Baseline	Week 1	Month 1	Month 3	Month 6+
CISS	27	14	10	7	7
NPC	4"/5"	TTN	TTN	1"/3"	TTN
NRA	+2.00D	+2.25	+1.75D	+1.75D	+2.00D
PRA	-1.50D	-2.25	-1.50D	-1.25D	-0.75D
AA (OD/OS)	4.50D/4.25D	4.75D/4.25D	5.75D/5D	5.50D/5.74D	6D/6D
Near Posture	3 EP	3 EP	1 XP	1 XP	1 XP
Near Ranges	BI: 8/20/10 BO: x/22/10	BI: 10/20/6 BO: x/22/16	BI: 10/22/8 BO: x/18/10	BI: x/18/12 BO: x/20/14	BI: x/9/6 BO: x/22/14
Distance Posture	5 EP	1 EP	1 EP	1 EP	1 EP
Distance Ranges	BI: x/8/4 BO: x/18/10	BI: x/8/6 BO: x/18/16	BI: x/10/4 BO: 8/16/8	BI: x/8/6 BO: x/20/12	BI: 10/20/12 BO: x/22/12

## REFERENCES

- Song Y, Zhu S, Yang B, et al. Accommodation and binocular vision changes after wearing orthokeratology lens in 8- to 14-year-old myopic children. Graefes Arch Clin Exp Ophthalmol. 2021;259(7):2035-2045. doi:10.1007/s00417-021-05106-2
- Gifford K, Gifford P, Hendicott PL, Schmid KL. Near binocular visual function in young adult orthokeratology versus soft contact lens wearers. Cont Lens Anterior Eye. 2017;40(3):184-189. doi:10.1016/j.clae.2017.01.003