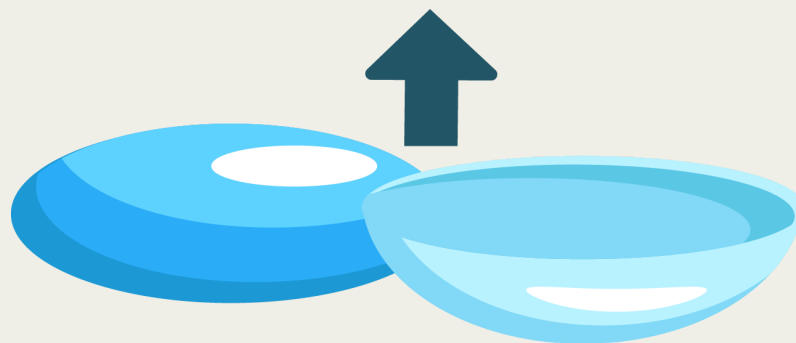
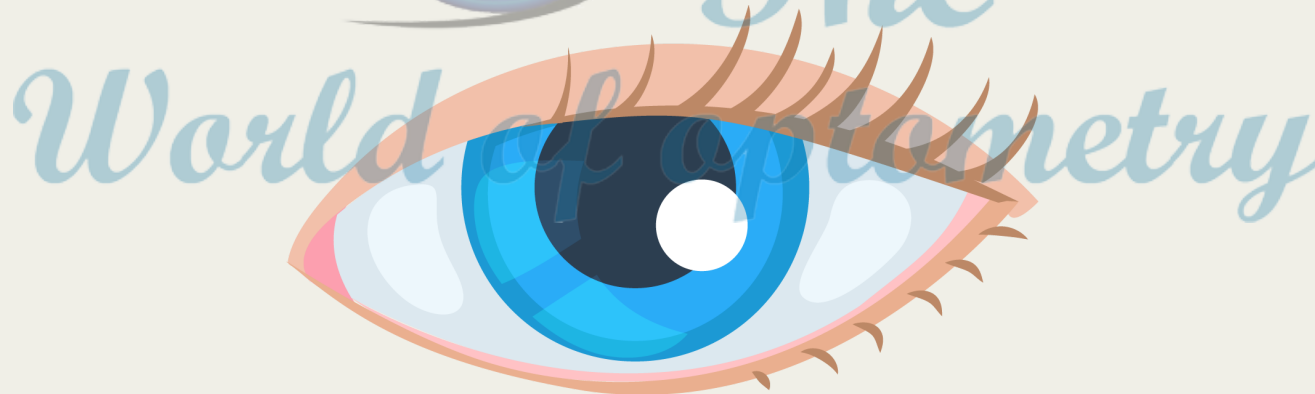




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of Optometry*

Twop Case Study

ORTHOKERATOLOGY FOR HYPERMETROPIA AND PRESBYOPIA



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#TwoCaseStudy

Patient History



CHIEF COMPLAINTS: 50 year old, female, subject, wearing multifocal glasses.

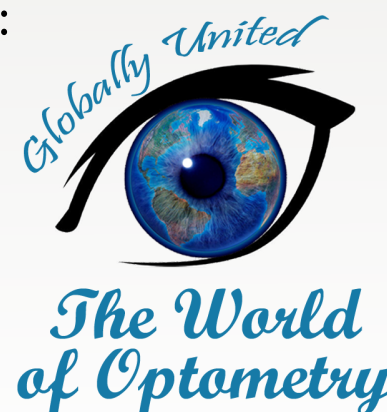
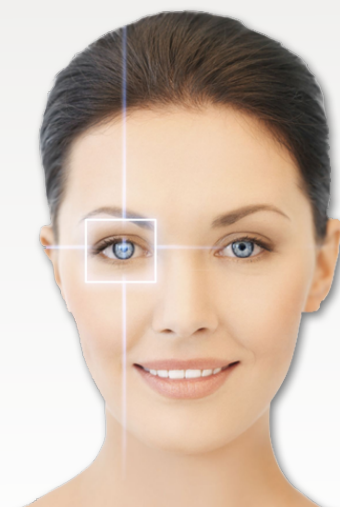
OCULAR HISTORY: The patient suffer from hyperopia and presbiopia.

PAST MEDICAL HISTORY: The lady in the past and in the present state doesn't suffer from other eye problems besides her hyperopia, she had a sudden drop in presbyopia.

FAMILY HISTORY: No one suffers from severe eye problems.

VISUAL ACUITY: (without CL or glasses):

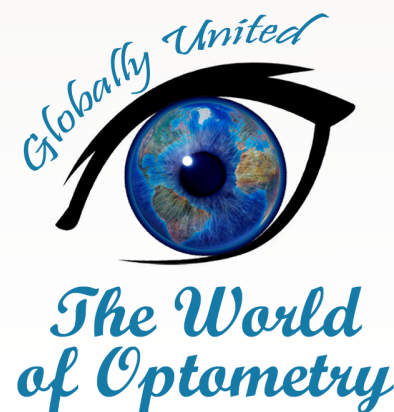
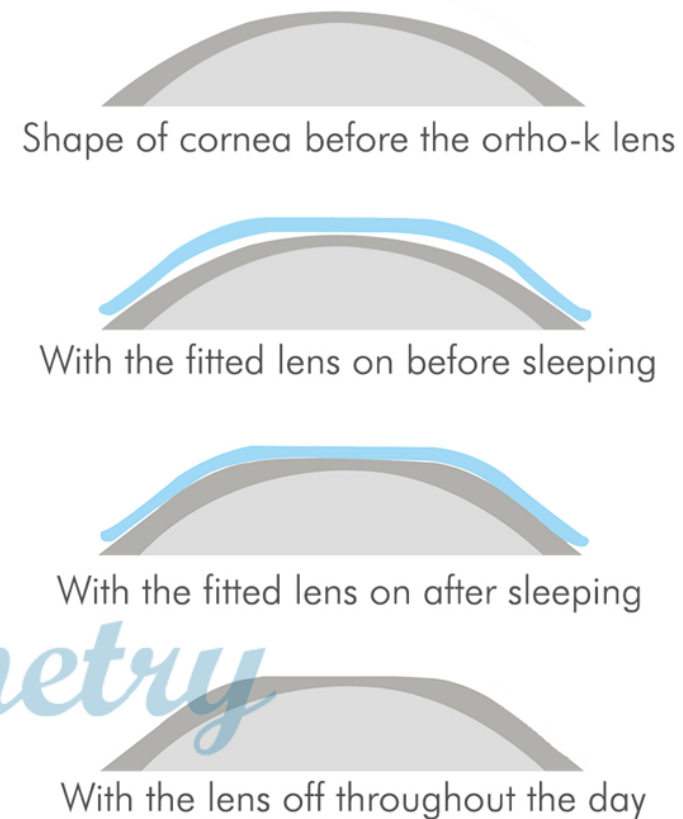
- RE: + 1,00 ADD: +2,25 Dominant eye (important for monovision)
- LE: + 1,00 ADD: +2,25



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Situation Before Coming to the Clinic

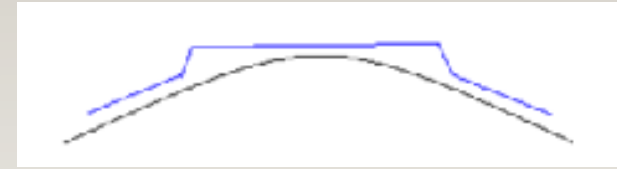
- The lady hasn't gone through contact lenses, but only uses multifocal glasses that she no longer wants to wear due to the resulting discomfort and due to the continuous fogging due to the mask.
- The lady works as a representative, so she needs a good vision at all distances: from driving in the car to the near vision for reading the iPad.
- Ortho-k lenses for the correction of hyperopia and presbyopia, would ensure good vision at all distances without the need to use glasses or contact lenses during the day.



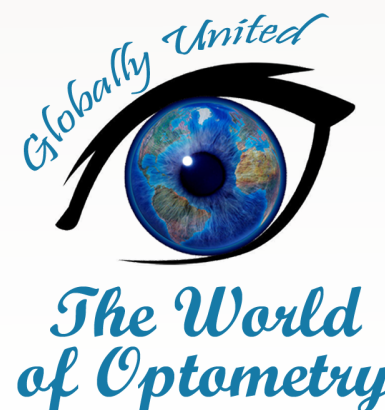
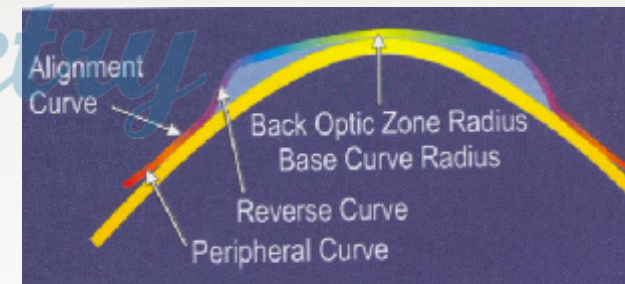
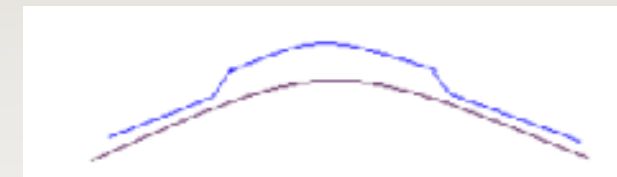
How does the Lenses Work?

- In the case of hyperopia or presbyopia, we have to think in a completely opposite way to that of myopia.
- We need to "curve" the corneal surface, instead of flattening it.
- To achieve this, the lens must have a narrower base curve than the corneal curvature one.
- If in the case of myopia the lens formed a negative meniscus, in the case of hyperopia it will be necessary to form a positive one.

CASE OF MYOPIA



CASE OF HYPERMETROPIA



Clinical Findings

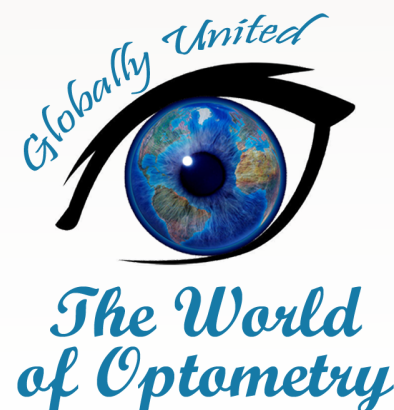
TRIAL SET LENSES APPLIED:

- **RECL:** CONTEX OK Ortho-Plus 44.00/+3.00 (.5E) DIAMETER: 10.60, Boston XO
- **LECL:** CONTEX OK Ortho-Plus 44.50/+3.00 (.5E) DIAMETER: 10.60, Boston XO

OVER REFRACTION:

- **RE:** -1.75 (vision achieved with lens applied 20/20)
- **LE:** -1.75 (vision achieved with lens applied 20/20)

NOTE: we must not forget about presbyopia, so to compensate for this too, we use the monovision technique. Monovision consists in the perfect correction of the dominant eye from afar, while the non-dominant eye for afar is intentionally left myopic; is basically a compromise between the needs for far and those for the near.



Clinical Findings

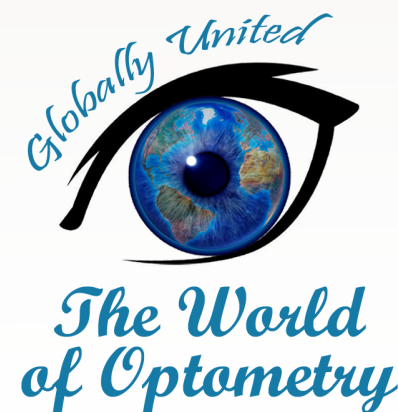
SLIT LAMP EXAMINATION OF CL: after instilling the fluorescein, we wait a couple of minutes and observe the lenses:

- **RECL:** perfect support on the cornea
- **LECL:** perfect support on the cornea

The lenses are well centered on both eyes.

After teaching the lady how to handle contact lenses, we also tried them for one night.

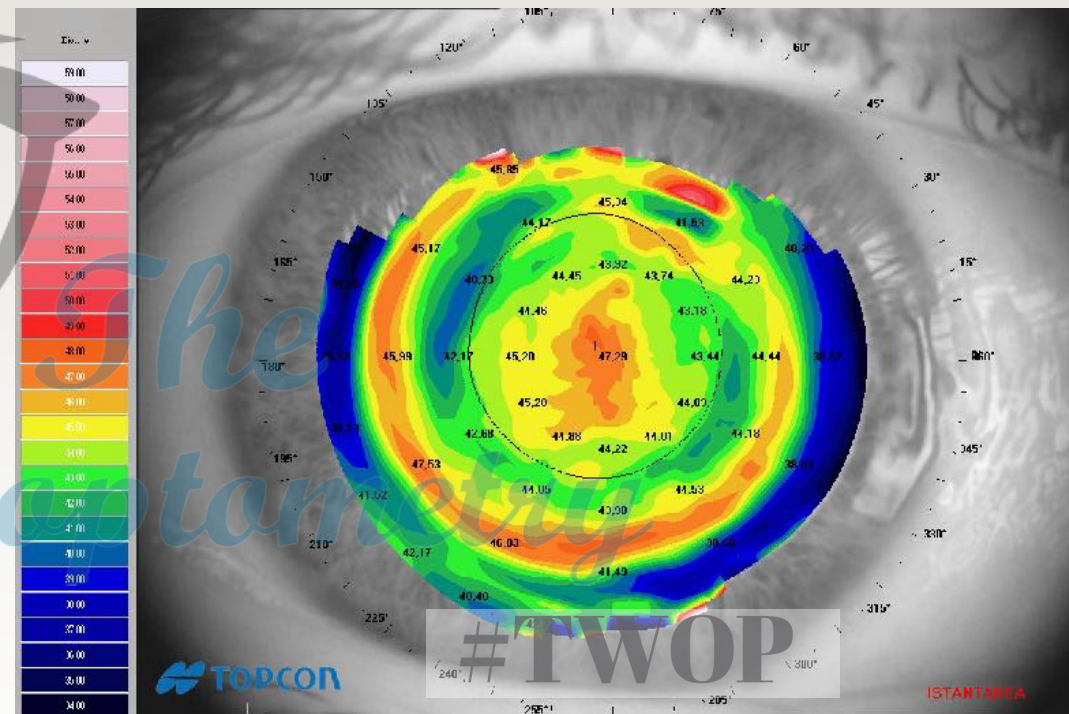
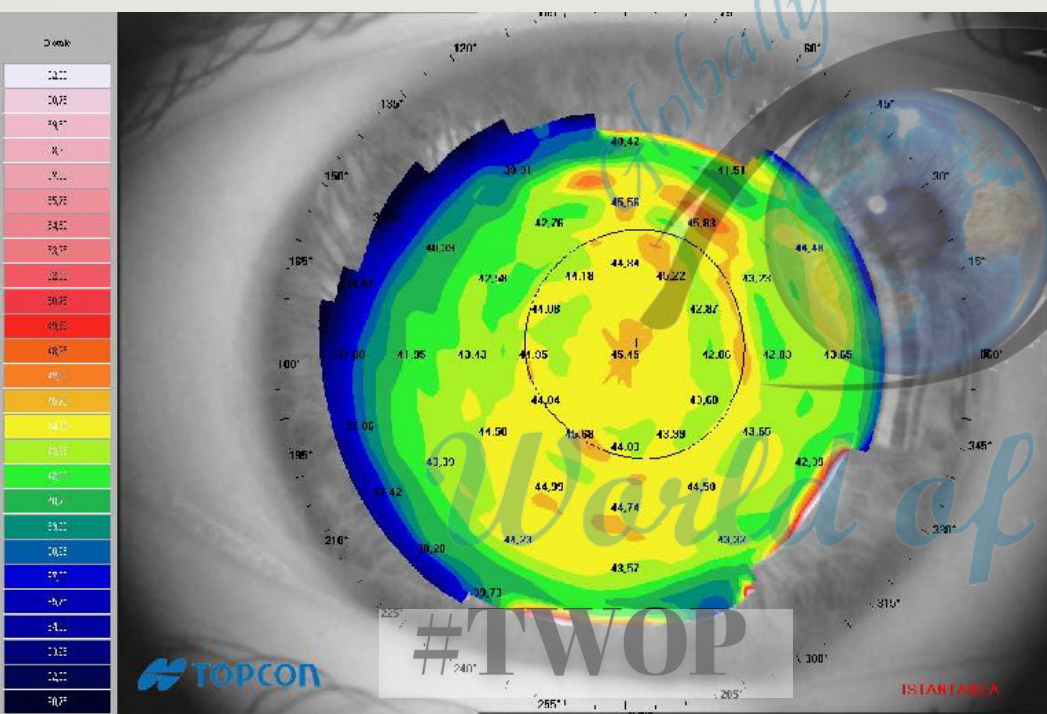
Photo Of One Of The Orthok Lenses Applied



Topographic MAP

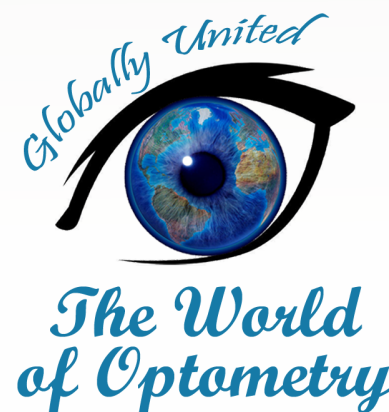
Topographic of The Left Eye Before Treatment

Topographic of The Left Eye After Treatment



NOTE: **Examination after the night**

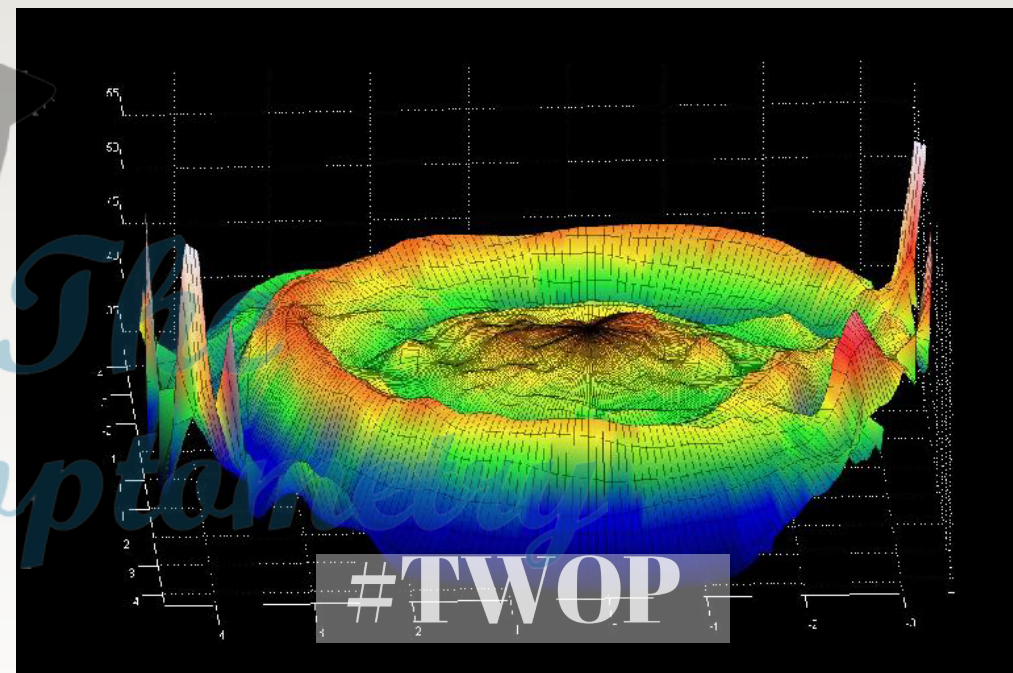
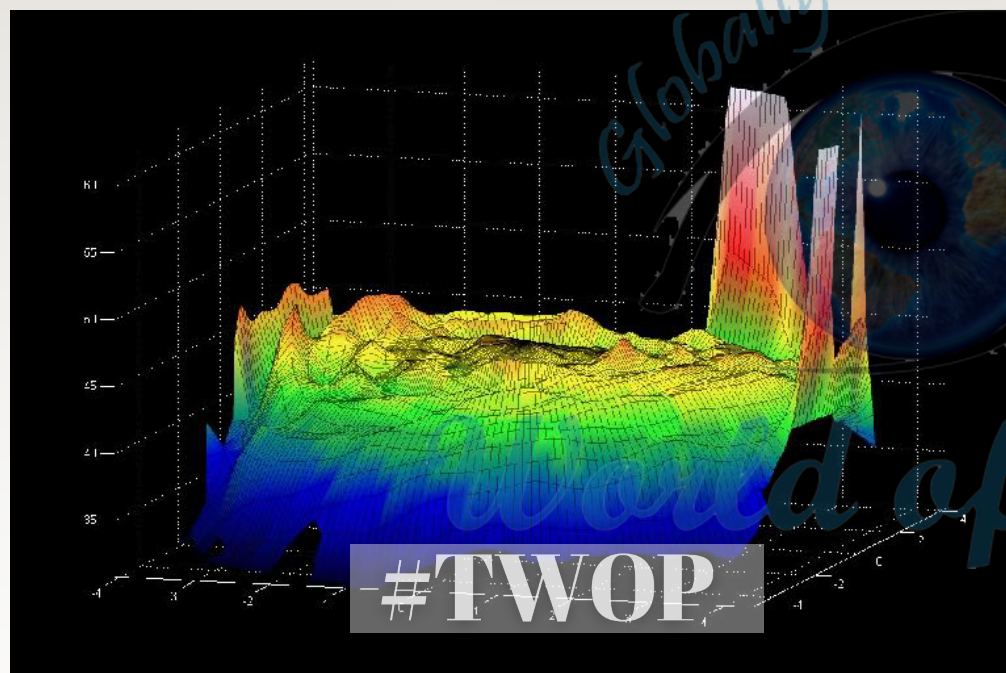
- As we can see from the topographies (exposed there are only those relating to the left eye, the situation of the right eye are very similar). The two situations were: The hypermetropic eye was initially more flattened, in fact after the night, the lens left an imprint that curved the corneal surface.



Topographic MAP

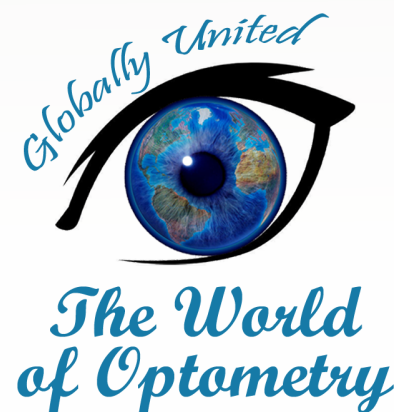
Topographic MAP 3D of The
Left Eye Before Treatment

Topographic MAP 3D of The
Left Eye After Treatment



NOTE: Examination after the night

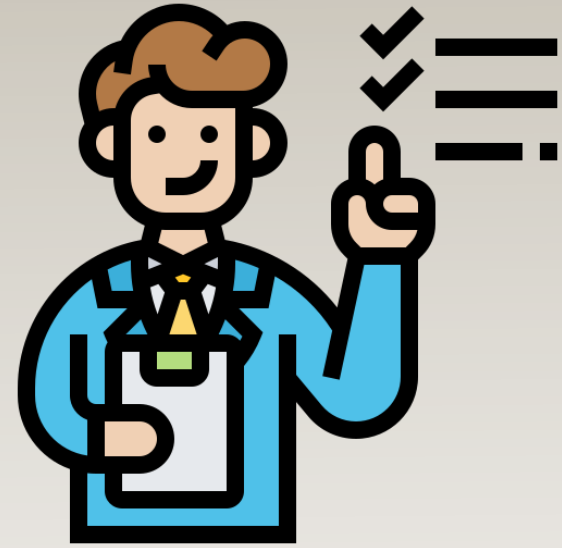
- Already after the first night of testing, as can be seen from the topographies, the center has curved, the middle periphery flattened and the periphery curved. The result is a more curved surface than the initial one. The treatment is observed very well also in the 3D maps; after the night in fact, we see the imprint released by the lens on the corneal surface on the cornea at 360 °.



DRAG TO THE SIDE
DRAG TO THE SIDE

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Diagnosis



Orthokeratology For Hypermetropia and Presbiopia



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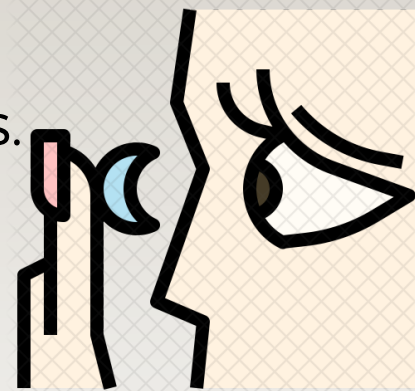
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Management & Treatment

SLIT LAMP EXAMINATION: Examination after the night

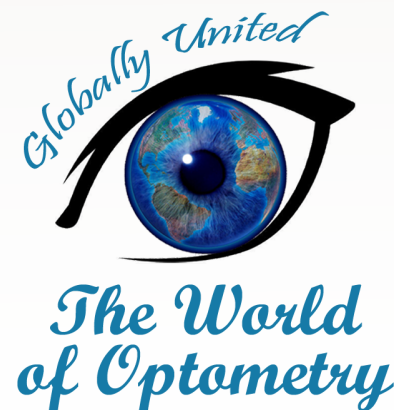
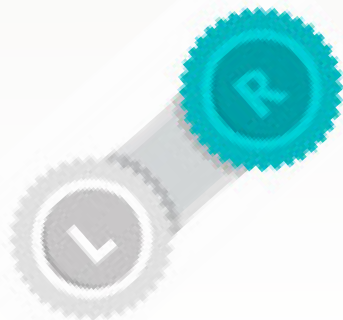
- Both eyes were clear, with no signs of epithelial distress.

The vision after the first night trial contact lenses is 20/20!



FINAL LENS PARAMETERS:

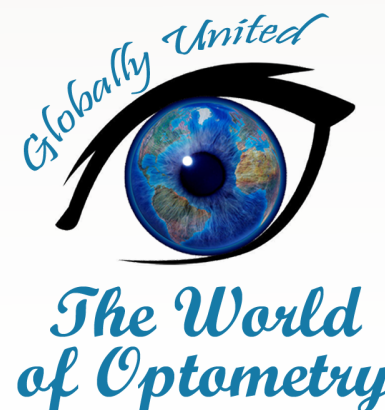
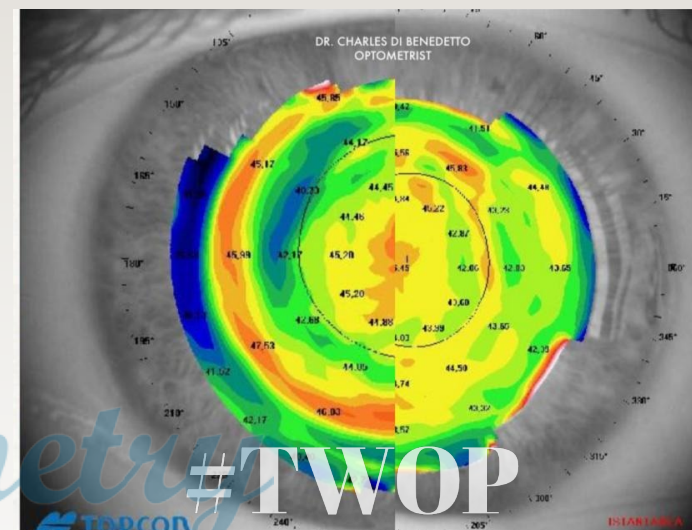
- RECL: CONTEX OK Ortho-Plus 44.00/+1.50 (.5E) DIAMETER: 10.60, Boston XO
- LECL: CONTEX OK Ortho-Plus 44.50/+2,25 (.5E) DIAMETER: 10.60, Boston XO



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Management & Treatment

- After 1 year of treatment, the lady is satisfied. The visus during the day is ideal: 20/20!
- Periodic checks are carried out regularly every 3 months. Lens maintenance is well managed and the eye is healthy;
- In case of prolonged evening reading, i advised the lady to use a pair of glasses in addition to the treatment of about +1.00 d on both eyes;
- Orthokeratology is an excellent alternative to classic glasses and contact lenses in case of mild hyperopia and presbiopia also; in this case it represents an alternative;
- To surgery or multifocal glasses.



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