

# Use of therapeutic contact lenses in Epidermolysis Bullosa Dystrophica

**Dr. Michael Baertschi**

PhD (Biomedicine), M.Sc.Optom. et M.med.Educ., FAAO

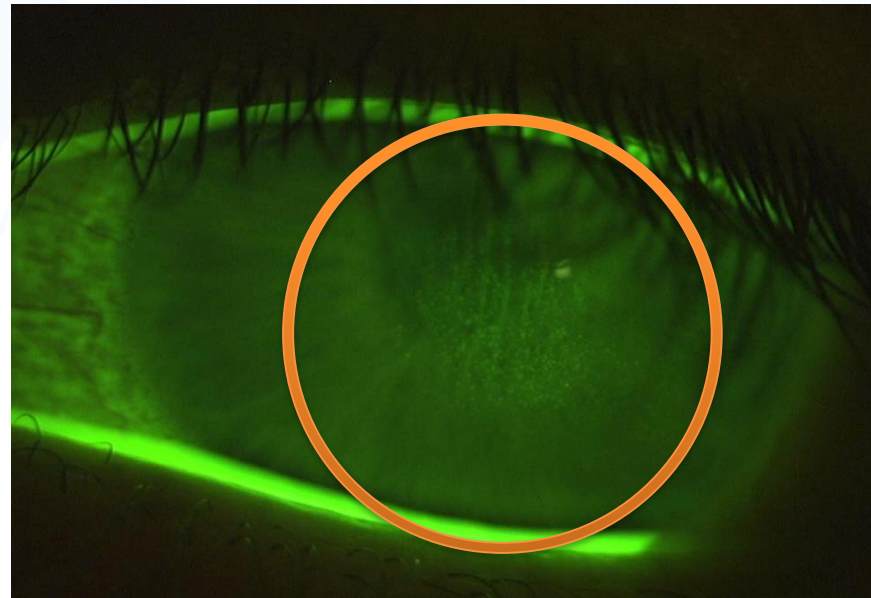
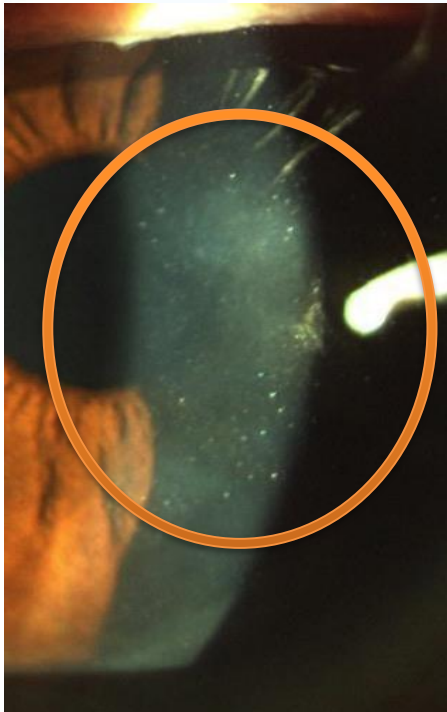
Eyeness AG, Bern / Switzerland

[mbaertschi@eyeness.ch](mailto:mbaertschi@eyeness.ch)



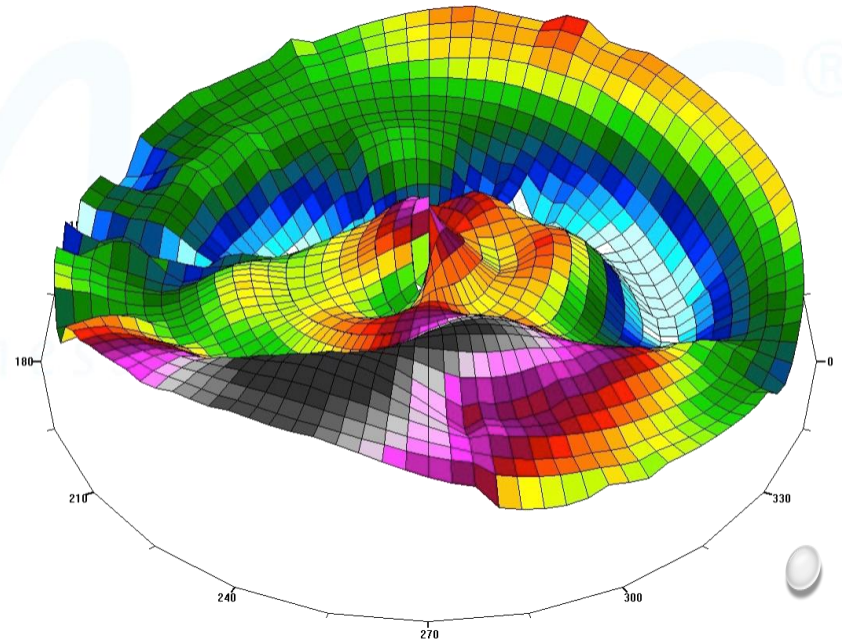
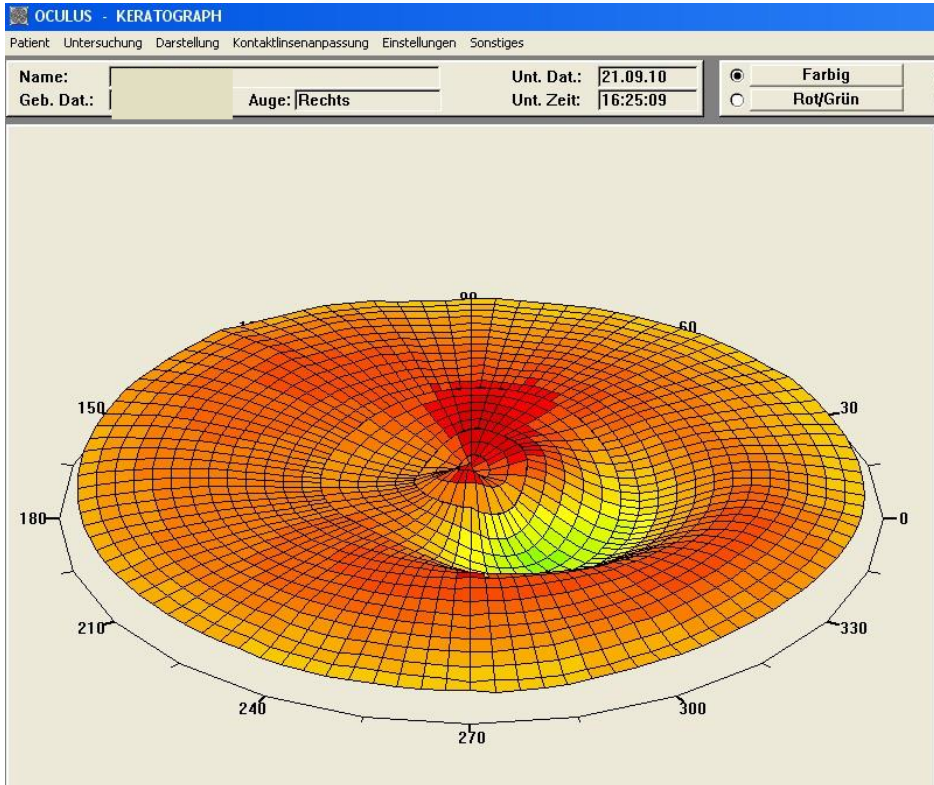
# Introduction

Due to a mutation on the collagen VII-Gen, which is part of the adhesion-complex of the corneal epithelial cells, between **14-35%** *(Tong et al. 1999; Gans 1988)* of all eyes in EB patients are affected with painful corneal blisters, corneal irregularities and reduced vision.



# Cornea Topography

Corneal surface and refractive irregularities



# Introduction

*“The condition and severity varies between individuals and over time.”*

*“Calming and pain management are essential.”*

## AUGEN

### 1. Einleitung

Probleme mit den Augen können in unterschiedlicher Häufigkeit bei den meisten Formen von EB auftreten. Betroffen sein können die Augenlider, die Bindehaut und die Hornhaut. Probleme in diesem Bereich sind besonders unangenehm und oft recht schmerzhaft. Dieser Abschnitt zeigt Ihnen Wege, wie die Häufigkeit von Augenproblemen reduziert werden kann und was zu tun ist, wenn sie auftreten. Darüber hinaus bekommen Sie hier einige Hinweise, die beim Anfertigen einer Brille zu beachten sind.



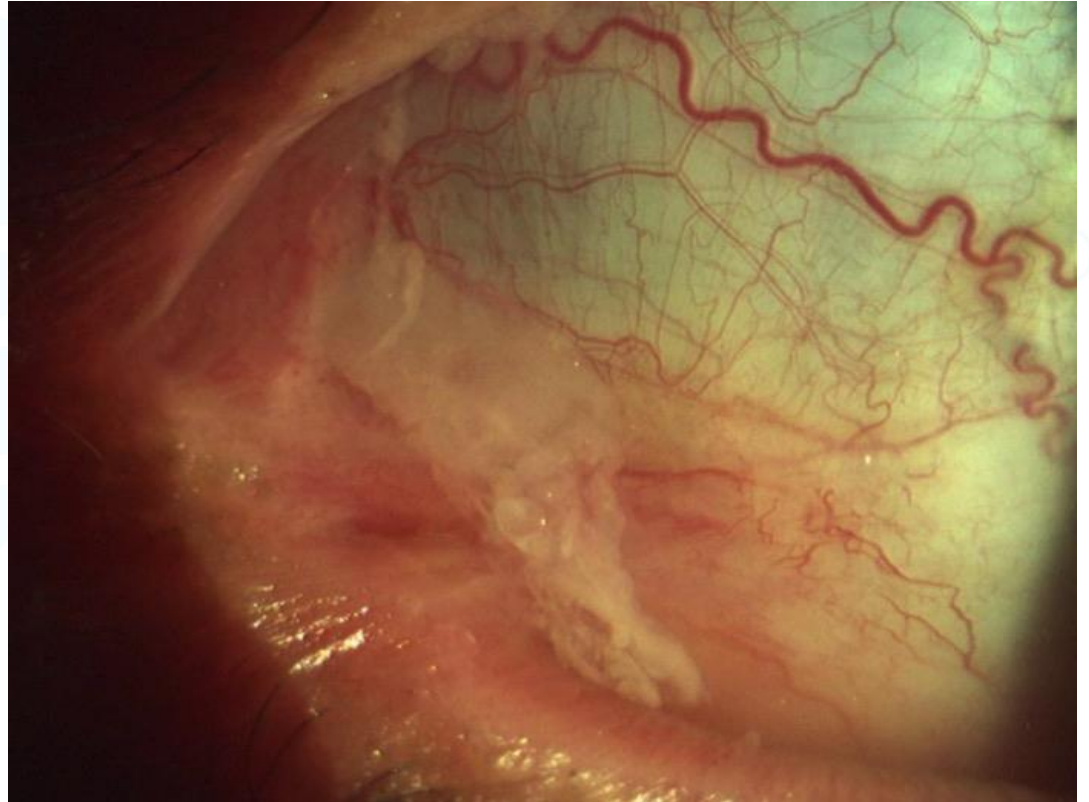
### Das Wichtigste in Kürze

- Blasen und Verletzungen im Augenbereich können an Augenlidern, Bindehaut und Hornhaut auftreten.
- Häufig bei RDEB, immer wieder bei DDEB, regelmäßig bei JEB.
- **Ruhigstellung und Schmerzlinderung sind die wichtigsten Erstmaßnahmen.**
- Vorbeugung durch regelmäßige Anwendung von Tränenersatzmitteln sowie Augensalben reduziert die Häufigkeit von Problemen.
- Alle Maßnahmen sind durch Kontrollen beim Augenarzt zu begleiten!





# Individual Variations



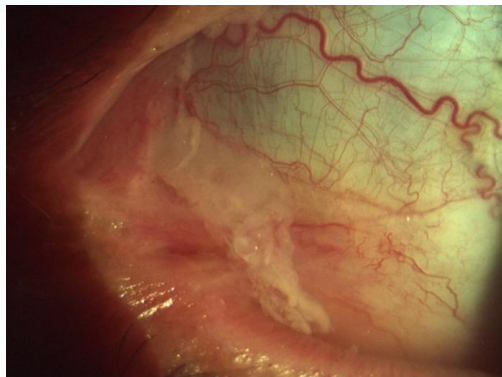
# Symptoms regularly occurring

- Chronic eye pain
- Inflamed cornea and conjunctiva
- Red eyes
- Light sensitivity “Photophobia”
- Tearing “Epiphora”
- Reduced, distorted and fluctuating vision



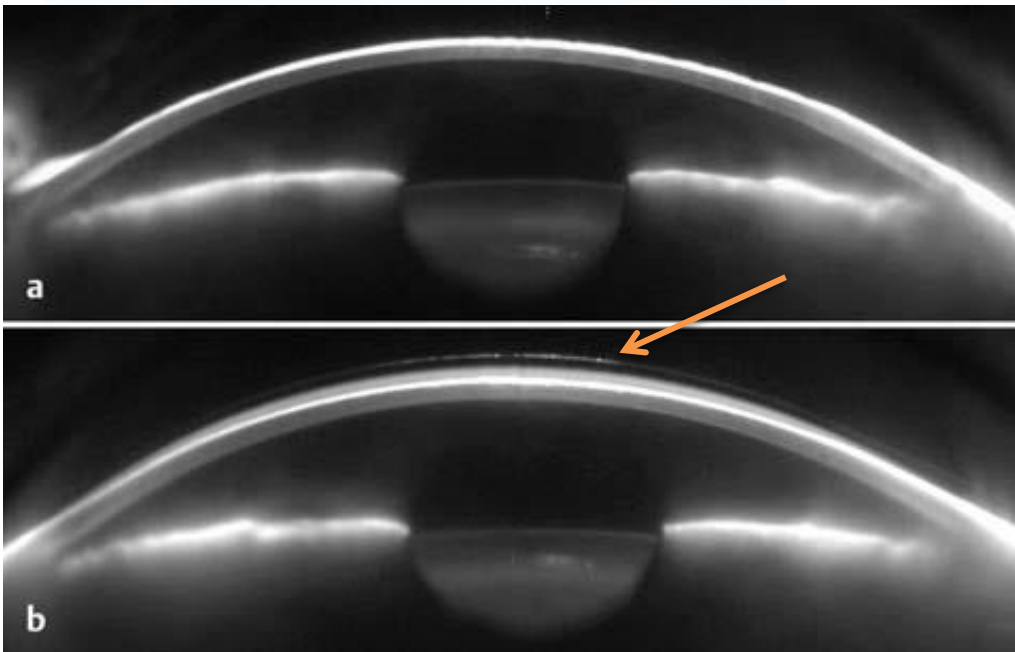
# Long term complications

- Permanent corneal and/or conjunctival scars (“Symblepharon”) due to healing process
- Frequent medical/surgical interventions needed
- Isolation from society or working place
- Chronic visual impairment
- Eye drops, gel or ointment only for less severe cases applicable



# Method

Fitting of therapeutic and refractive effective soft or hard contact lenses as ocular surface protection layer since 2006.



Without contact lens

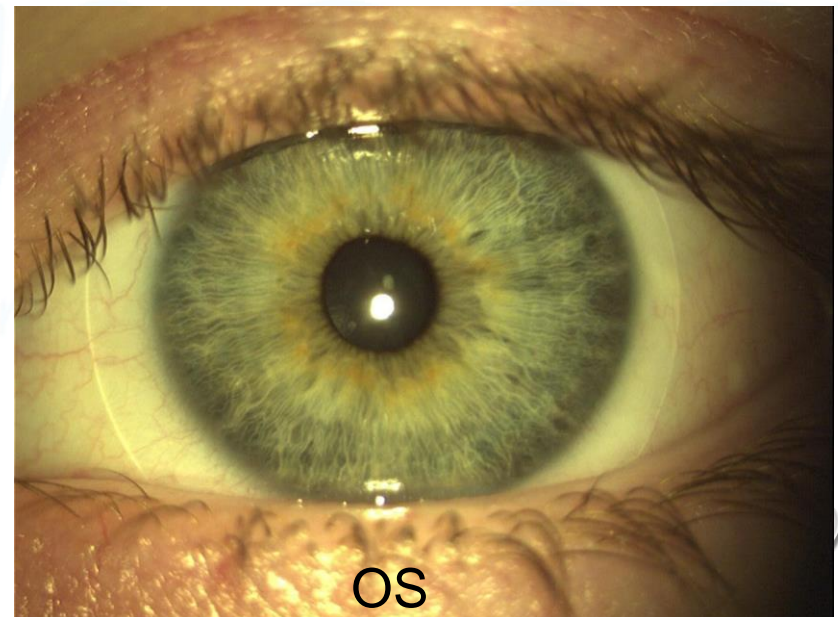
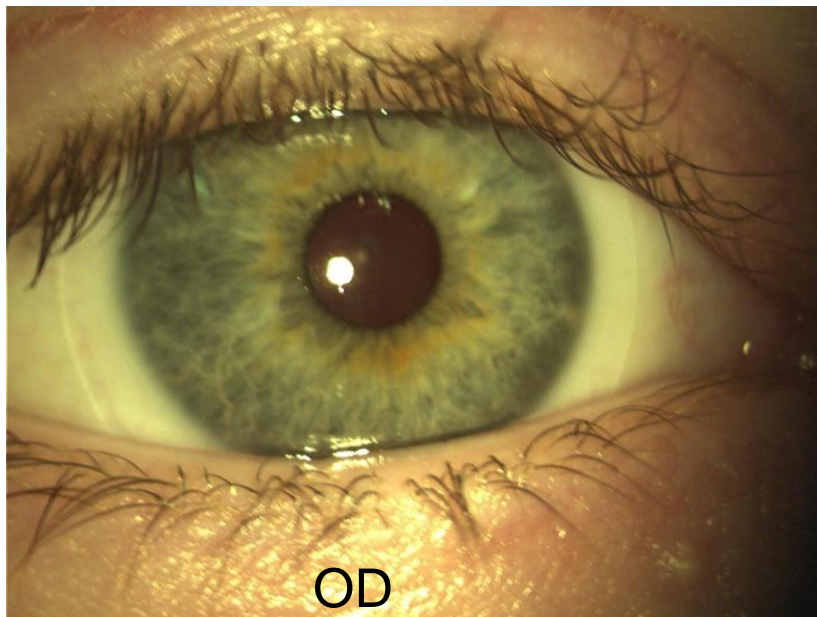
With protecting contact lens

OCT image of anterior ocular segment



# Results

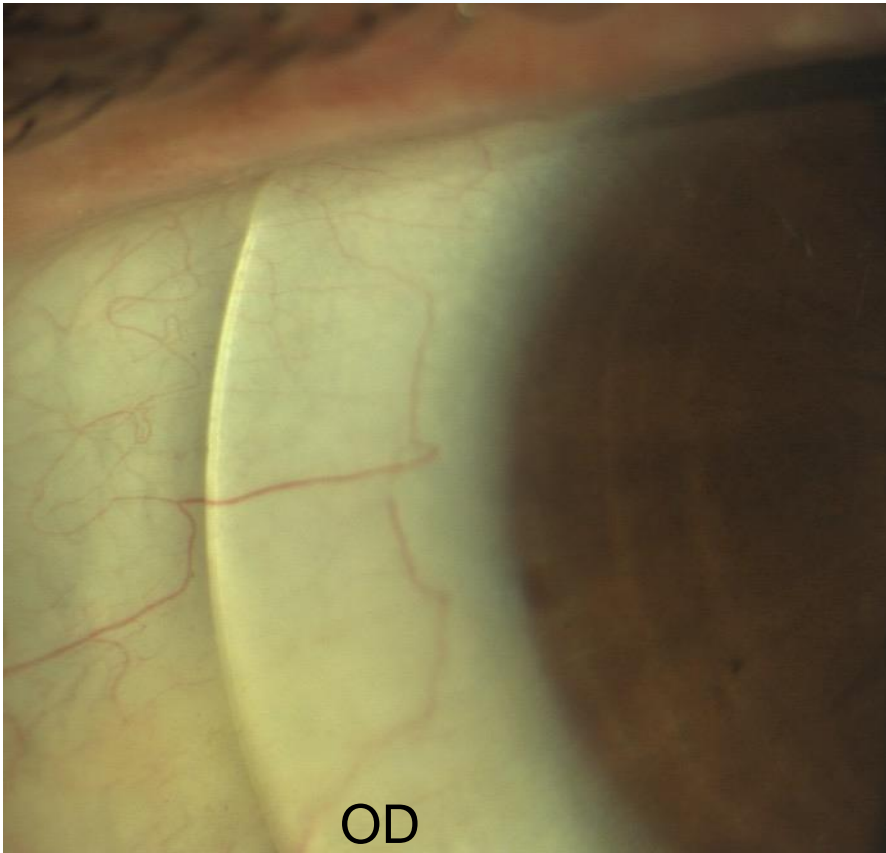
“Immediate” elimination of (eye) pain sensation in minutes or hours and “whitening” of the eyes in days due to permanent reduction of ocular inflammation.



„Soft“ lens example :  
Silicone-Hydrogel Contact Lenses

# Results

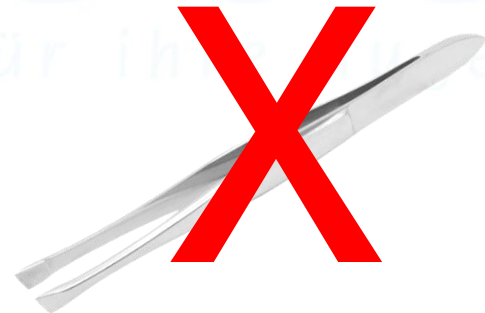
Status after 9 years of contact lens wear



„Hard“ lens example:  
Scleral Contact Lenses

# Results

- Around 6-12x / year removal of nasal “Symblepharon” by ophthalmologist.  
Now reduced to 1x /year !
- Eyelashes epilation could be stopped
- No more photophobia or pain
- Vacc 1.00-2 ou ( equals 95% vision)





# Results

Rehabilitation of permanent and stable vision and continuous support of the healing process of the corneal epithelium in few weeks or months.

„Permanent“  
restoration of the  
irregular corneal  
surface.

Comparison:

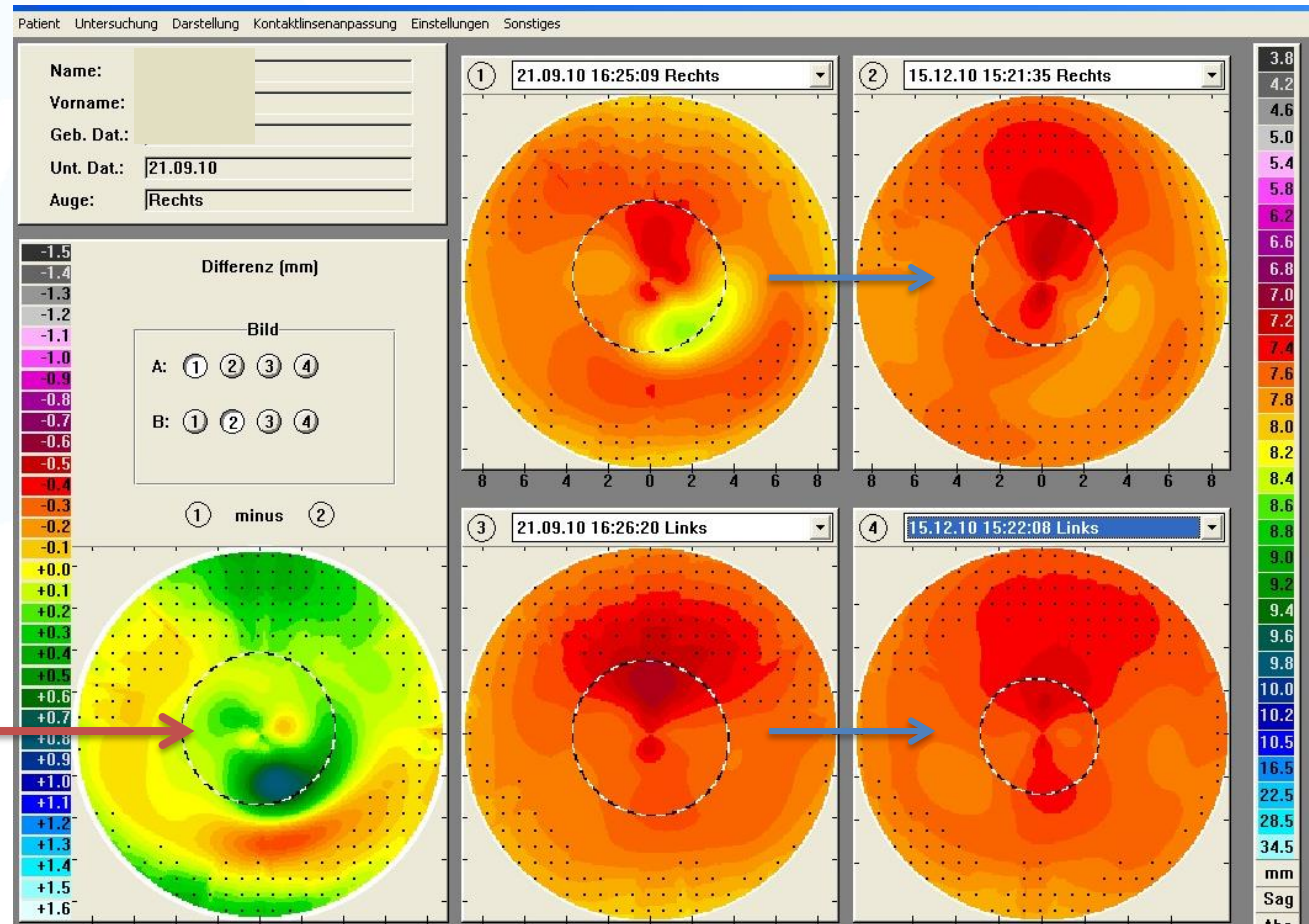
OD 1 -> 2

OS 3 -> 4

Differential map:

OD 1 -> 2

before and after  
treatment





# Conclusion

Deutsch:

Therapeutische und optische Kontaktlinsen sind eine einfache, rasche und effektive Methode um Schmerzen zu eliminieren, zur Wiederherstellung einer guten Sicht und zur "permanenten" Behebung von Unregelmässigkeiten der Augenoberfläche.

English:

Therapeutic and refractive Contact Lenses are an easy, quick, effective method to eliminate pain sensation, restore vision and ocular surface regularity on a "permanent" base. Increase in quality of life guaranteed !

# Take-Home

- Protecting contact lenses increases the quality of life of EB patients significantly, quick, permanent and effective.
- Schützende Kontaktlinsen heben die Lebensqualität von EB PatientenInnen markant, rasch, permanent und effektiv.
- Lentille de contact protective améliorer la qualité de vie des patients EB marqué, vite, permanent et effective.



# Thank to contributing colleagues

- Michael Wyss, M.Sc., Eyeness AG
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