



# The revolution in Dry Eye analysis.

The new solution for  
smart Dry Eye analysis.

# Dear Eye Care specialist,

Taking care of vision comfort is an exciting mission, knowing that more and more people are noticing a change in their visual comfort. The habits of modern life, with the intensive use of digital devices is only one of the reasons why eyes can feel dry and tired. The condition of Dry Eyes is affecting all generations, with a rapid increase in the younger generation. Dry Eye Disease became the second most common eye disease worldwide and has a strong impact on people's lives and visual comfort.

The earlier Dry Eye cases are evaluated, the better Dry Eyes can be managed. The easier Dry Eye analysis can be done, the more frequently patients' eyes can be checked. The simpler it is to show patients the changes to their visual

comfort, the easier it will be to provide working and lasting solutions to finally improve people's quality of life.

The concept of tearcheck® was driven by the idea of creating a new standard for smart, reliable and efficient Dry Eye analysis, which allows to evaluate patients' visual comfort fast, easily and fully automatically. tearcheck® has been designed based on the latest technology.

**Be inspired by our innovation and discover the difference in daily Dry Eye Management.**

Yours,  
Petra BRUCKMUELLER  
CEO ESW vision

On behalf of the entire R&D team, who made this break-through innovation come true

## Designed to create a new standard for smart Dry Eye analysis.



# Visionary technology

tearcheck® allows **quick and easy examinations**, as in total **9 exams** can be done, which provide **break-through Dry Eye analysis** in less than 10 minutes, report included. **Two high-resolution cameras** inside provide perfect capture of images and videos. White, blue and infrared light are used to perform the different exams within a self-explaining process, guiding you through.

A patented new way to **evaluate tearfilm stability** on the whole cornea, by using a line mask, is provided by two exams, which are done within one recording (TFSE®/NIBUT).

Also patented is the exam **to evaluate the degree of inflammation** on the ocular surface (OSIE®).



OSDI  
Ocular Surface  
Disease Index



TFSE®/NIBUT  
Tear Film Stability  
Evaluation



Meibography IR  
Meibomian Gland  
Anatomy



Tear Meniscus



Demodex  
Lash base  
alteration

## 9 exams for smart analysis



OSIE®  
Ocular Surface  
Inflammatory  
Evaluation



Eye Redness



D-BUT  
Dynamic  
Breakup Time



Abortive Blinking  
Eyelid Tonicity

**break-through  
Dry Eye analysis  
in less than 10 minutes**



# A revolution is born.

**Taking care of Dry Eye patients and their visual comfort requires educating them about risks, causes, signs and impact.**

The modern way of life, different climates, air pollution, frequent use of digital screens and aging are well-known reasons for more and more people claiming to have less visual comfort.

**tearcheck® is a stand-alone device with an integrated display.** This screen allows the user to view all the acquisitions and examinations in real time. The user can also wirelessly connect an additional device of his choice (tablet, smartphone, PC, etc.) in order to duplicate the tearcheck® screen.

**tearcheck® comes with a patient management system inside:** every exam can be stored and shown to the patient at any time to follow up the progress or changes in patients' eyes.

**tearcheck® supports multi-user management.** Every user has their own profile, with their own patient database.

**tearcheck® is delivered completely installed.** Just mount it on the table, connect the tablet and start.

**tearcheck® provides fully automatic analysis** for time-efficient ease-of-use. It simply makes it fun to get things started.

**tearcheck® can be used wherever it fits your workplace.** No dark room required, no computer connection required, no external cable connection needed.

And last but not least: **tearcheck® results are presented in a final report** which can be shown directly on the screen by selecting concerned dates and types of exams, exported via USB in pdf-format, or printed wirelessly. As you prefer ...

# Be inspired by the innovation



“ ... to create a disruptive product fully dedicated to Dry Eye syndrome and capable of constantly evolving, that was my intention behind developing tearcheck®. ”

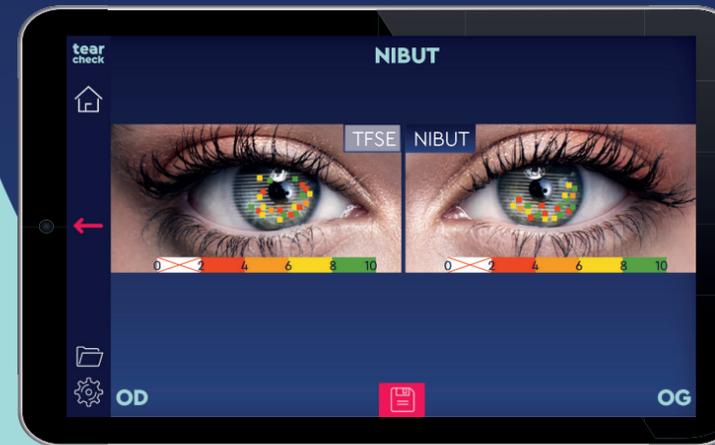
Dr. Yves Vincent **BROTTIER**  
Creator of tearcheck®

## TFSE® / NIBUT

A new kind of exam to evaluate the **surface of the tear film** three times per second. Specifically designed optimised horizontal lines replace the traditional circular pattern.



tearcheck® line mask



## NIBUT

### Non-Invasive Breakup-Time

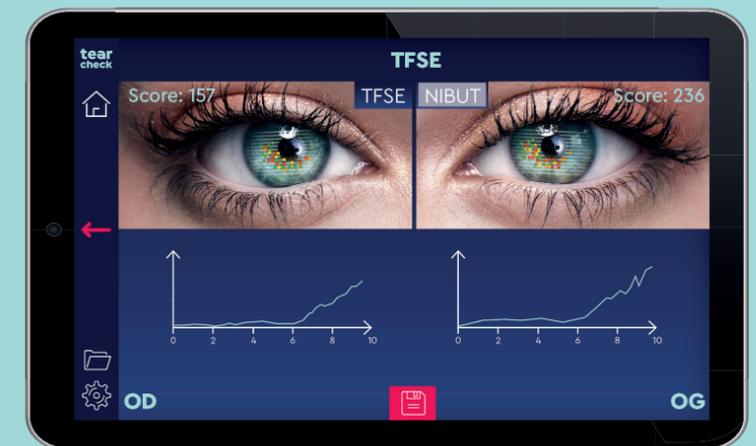
Shows the **ruptures in the tear film** already from two seconds on, based on highly sensitive detection. Recorded within TFSE® exam.



## TFSE®

### Tear Film Stability Evaluation

Makes it possible to assess the micro-deformations appearing on the surface of the tear film. These **micro-deformations** reflect instability of the tear film. They are presented in number and in intensity (score and diagram). And recorded within 10 seconds.



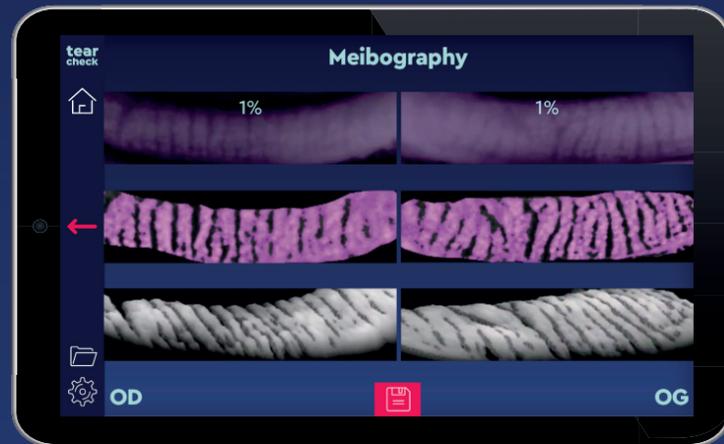


# Meibography

2D imaging / 3D rendering

Makes it possible to visualize the Meibomian glands in 2D imaging and 3D rendering. The results help to evaluate the **rate of gland loss** (in %) and the **morphology** of the glands present.

A special **eyelid flipping tool** is used to allow touch-free examination.

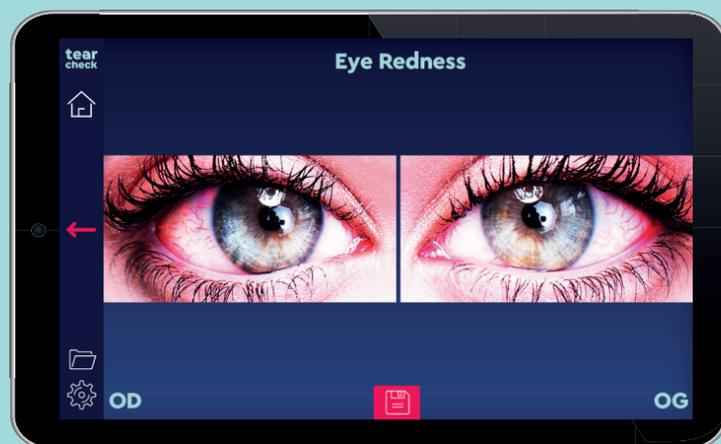


tearcheck® eyelid flipping tool



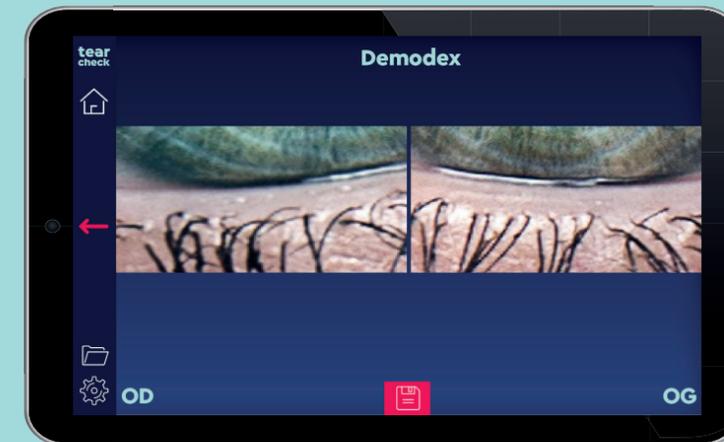
# Eye Redness

This examination captures images of the bulbar and palpebral conjunctivae. It makes it possible to **assess hyperemia** induced by the inflammatory phenomena consecutive to Dry Eye syndrome and to monitor its progress over the treatments delivered to the patient.



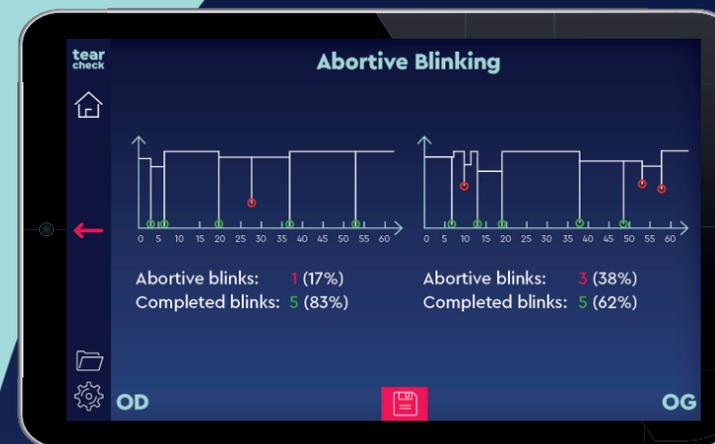
# Demodex

The Demodex exam consists of an **enlarged image capture** of the base of the eyelashes. The magnification factor of the image makes it possible to find and visualize the signs of the presence of the parasite.



# Abortive Blinking

Within 60 seconds, all blinks are recorded for automatic **detection of incomplete blinking**.

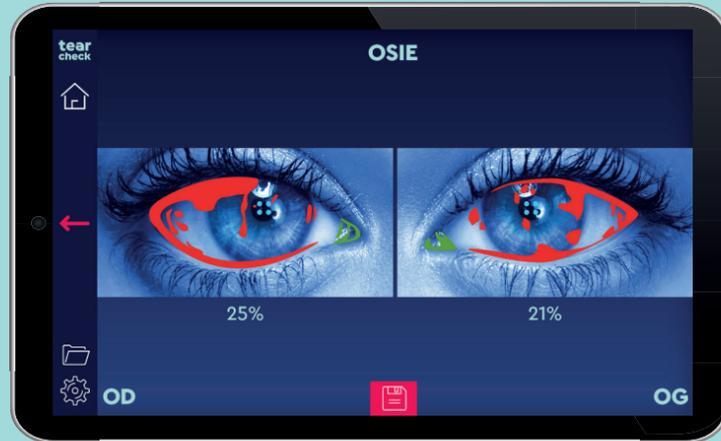




## OSIE®

### Ocular Surface Inflammatory Evaluation

The principle behind this examination resides in the fact that fluorescein will remain „attached“ to areas of the eyeball exhibiting surface alteration in connection with an **inflammatory process** in the case of Dry Eye syndrome.



## D-BUT

### Dynamic Breakup Time

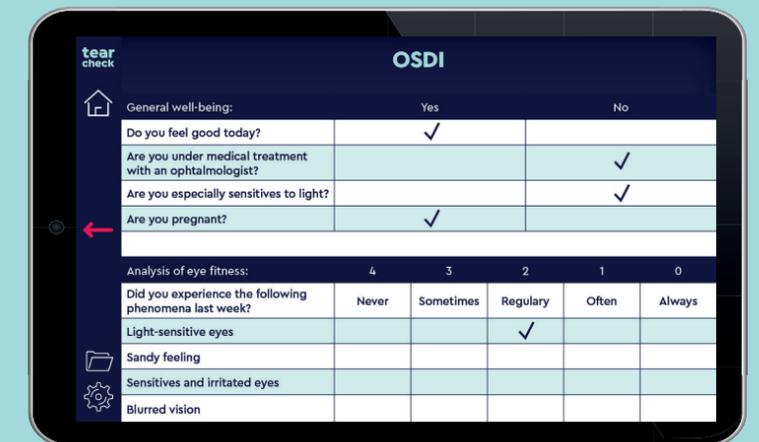
Additional exam to measure **tear film breakup time** with a drop of fluorescein.



## OSDI

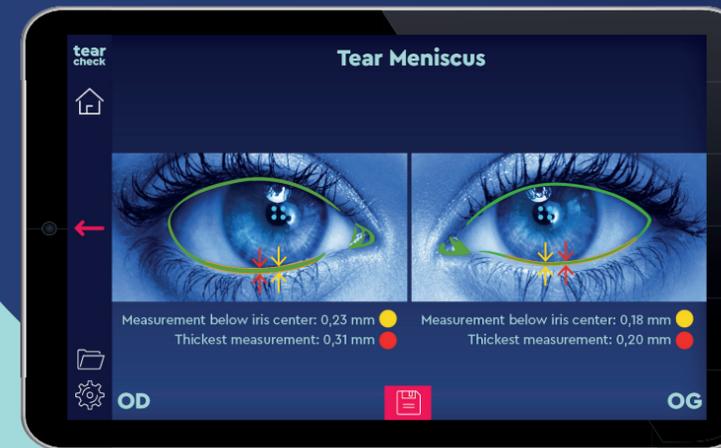
### Ocular Surface Disease Index

A questionnaire intended to be filled out by the patient, reflecting their subjective feeling and opinion on their **visual comfort** in their daily life.



## Tear Meniscus

Is evaluated in the lower eye lid and is showing, if there is sufficient **tear production** before the next eye blinking.





# Reports

All reports per patient will be stored. This makes it possible to compare different results from same examination or regard all selected exams. **Report history** can be filtered by date or exam.

tear check		Report History		
Date	Exam			
2000-03-03 01:29	NIBUT	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2000-03-03 00:46	NIBUT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2000-03-03 01:29	TFSE	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2000-03-03 00:46	TFSE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2000-03-03 01:17	OSIE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2000-03-03 01:15	OSIE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2000-03-03 01:34	Demodex	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2000-03-03 01:35	Eye Redness	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



USB export



wireless print



view on the screen



# Ease of use

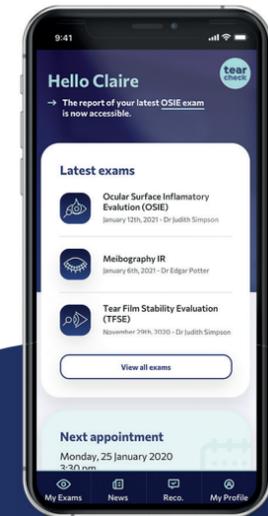
Discover the comfortable, self-explanatory operation of tearcheck®. Review the results directly with the patient on the wirelessly connected tearcheck® tablet.

# Discover the difference

tearcheck® was designed to create a new standard for smart, efficient and reliable Dry Eye analysis. The ease-of-use combined with highly innovative technology inside to provide accurate, brilliant and representative images, will bring a new comfort of examination in daily Dry Eye Management.

tearcheck® software is set up to allow ongoing development, providing innovative opportunities of use during its whole lifetime period.

Smart connectivity will open new possibilities of interaction between Dry Eye specialists and patients.



# Marketing support

With tearcheck®, benefit from exciting marketing support direct from supplier for your practice. tearcheck® comes with a marketing package available on demand to make the best out of your Dry Eye Management education and advertising. Marketing support in the form of manuals, bro-

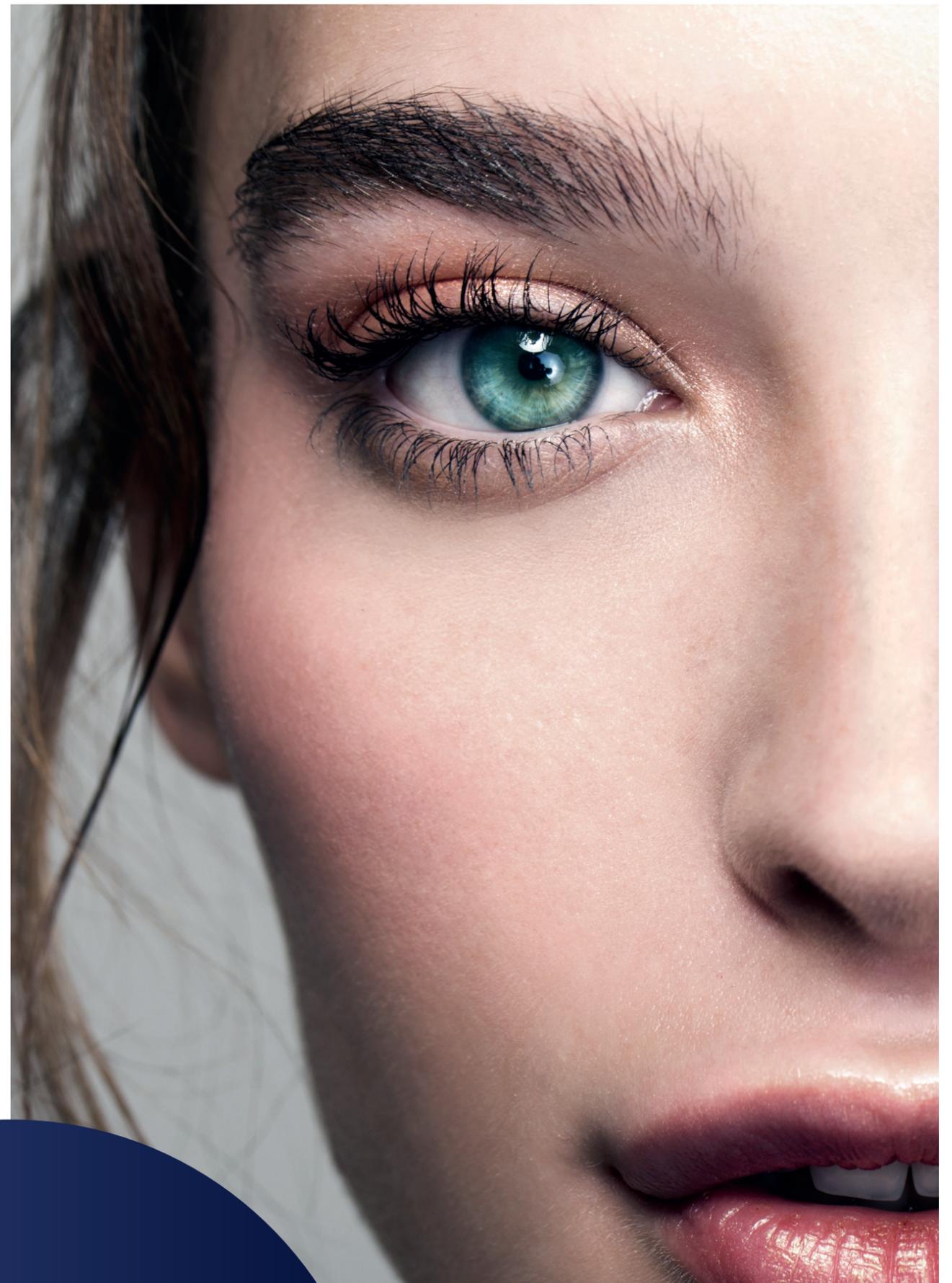
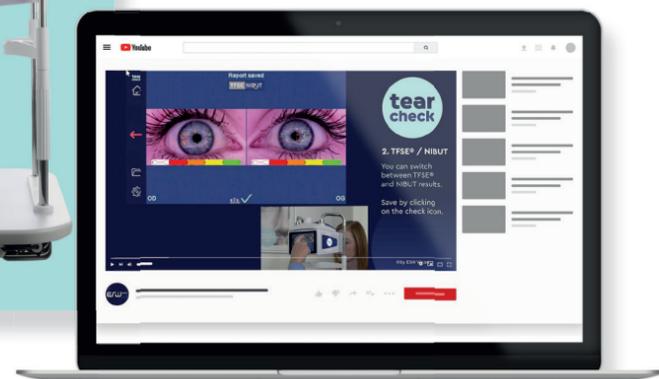
chures, POS-collateral, social media posts, press and online media are there to add value to your practice and enhance your user experience.

Visit [www.esw-vision.com](http://www.esw-vision.com), or contact our marketing team ([marketing@esw-vision.com](mailto:marketing@esw-vision.com)) for more information!

## Quick Start Guide



## Training Videos



# tearcheck® smart & complete

## Technical Data

Camera	2 high-resolution cameras
Storage space	200 GB
Light sources	white light / blue light (465nm) / near infrared light (850nm)
Certification	CE class I / ISO 13485
Conformity	93/42/EEC, directive Annex II, article 3
Light emission	no risk group, according IEC60601-2-57
RF emission	2.5 GHz
Contra-indications	-
Shipping dimensions (LxWxH)	815x520x355 mm
Shipping weight	12.5 kg
Energy Source	100-240V / 50-60Hz external power supply
Dimensions (LxWxH)	240x195x190mm (active part only)

# Designed for innovative Dry Eye analysis

Easy | smart | unique

Discover the complete solution  
for analysis and treatment.

**Dry Eye Management.**  
One step ahead.

[www.esw-vision.com](http://www.esw-vision.com)





# Tune in for more insights.

[www.esw-vision.com](http://www.esw-vision.com)

