

# Automatic analysis of tear film quality

## Randy Kojima

FAAO FLSL FIAO  
Research Scientist and Clinical  
Instructor, Pacific University College  
of Optometry  
Clinical Consultant to Medmont  
International

## Product

Tear film surface quality analysis  
software  
Medmont E300

## Supplier

Medmont



smoothness. Ideal tear film quality appears blue in the analysis window while areas of tear film break-up appear yellow, orange or red—depending on the severity of the break-up. Figure 3 illustrates good tear film quality immediately after the blink but note the change over time as the tear film begins to break up at 5 and 10 seconds after the blink (Figures 4 and 5, respectively).

The TFSQ has applications in following dry eye treatment over time and over specific contact lenses to assess their wettability. The TFSQ algorithm provides practitioners with a quantitative value of the tear film quality in specific regions of the cornea as well as providing a global value of the surface as a whole.

MEDMONT International has launched an upgraded software platform which includes some unique features. One of them is particularly interesting to anyone involved in dry eye management and the wettability of specific contact lenses.

Practitioners with a Medmont E300 can turn their corneal topography device into a tear film assessment tool. Placido reflection technology offers a non-invasive method of analysing the wettability of the corneal surface.<sup>1,2,3,4,5</sup>

The company included this new imaging option, called the 'tear film surface quality' (TFSQ) analysis, in Version 6 of its Medmont Studio software.

A benefit that many practitioners will appreciate is they have access to this analysis no matter how old their Medmont topographer is. By updating to Version 6 software, the standard Medmont E300 can also add dry eye assessment to its imaging capabilities.

Figure 1 shows the placido reflection over a patient with good tear film quality. Note the parallel ring reflection and sharpness of each mire. However, in Figure 2, a lack of continuity of the rings is observable. There are areas that distort, disappear altogether and lack a

crisp differentiation of each area.

The image capture process is identical to that of a standard Medmont topography acquisition, but practitioners have the ability to take not only a single image but also a video sequence. Taking a series of photos immediately after the blink provides for an assessment of the changes in tear film quality over time. The practitioner can determine both the number of images per second as well as the duration in time (seconds).

The new TFSQ software automatically analyses each image for its relative

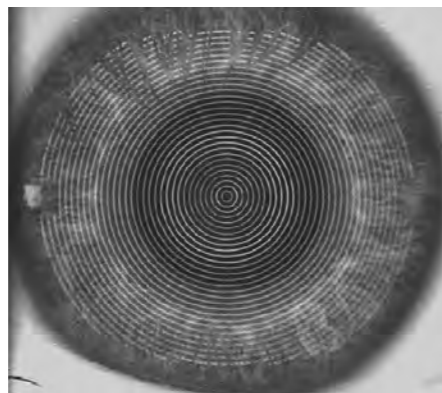
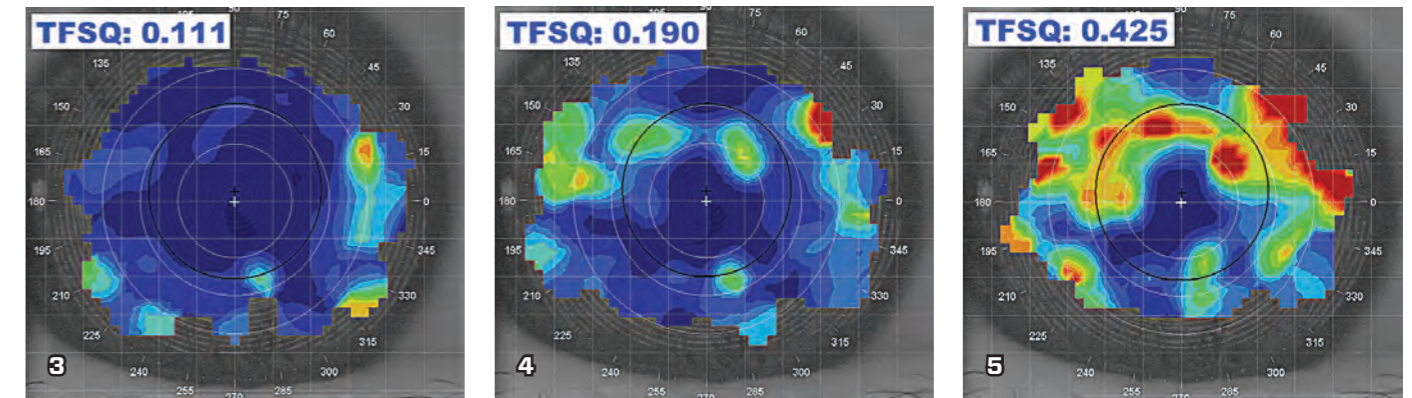


Figure 1. Patient with good tear film quality



Figure 2. Patient with compromised tear film quality



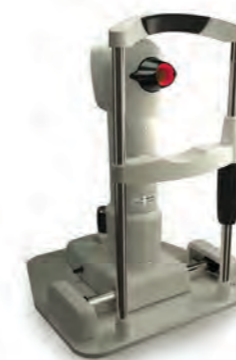
Figures 3, 4 and 5. Tear film surface quality analysis reveals the change in tear film quality after the blink

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Jason Anderson: New Business Development Manager Australia & Asia

Email: [jason@medmont.com](mailto:jason@medmont.com)

Mobile: +61 419 889 086

[www.medmont.com](http://www.medmont.com)