Dynamic Ophthalmic Software for today’s market

Automated Grading System
AOS Anterior is a new device agnostic software designed to analyse digital images of the eye and automate the grading scale for (1) Bulbar Redness (2) Lid Redness and (3) Fluorescein.

Following years of research and development, AOS is bringing to market the first automated grading scale for anterior segment. AOS Anterior removes any subjectivity to facilitate clinicians during their diagnoses and patients monitoring.

Each feature allows clinicians to evaluate a variety of conditions very easily, and effortlessly record the results which can be used during follow-ups.

AOS Anterior is a powerful diagnostic tool developed to work in any practice. AOS Anterior has been designed to fit seamlessly into the busy workflow of an every day’s practice and to add value and accuracy during slit lamp examinations.

AOS Anterior comes with all the features that a clinician will need to improve their patients’ evaluations. Furthermore, AOS provides its users with regular updates and the support which is all part of the one off cost.

What The Experts Say...

“AOS Anterior has allowed us to standardise the grading of red eyes, staining patterns and monitor progression regardless of which practitioner a patient sees. Being extremely simple and quick to use, we have easily incorporated it in our routine. AOS Anterior is now an invaluable and integrated part of our eye care for our patients.”

Dr Milan Patel BSc (Hons) MSc MCOptom

“AOS Anterior is a unique piece of software that gives clinicians an important tool in assessing ocular surface conditions with consistency and accuracy that eliminates any inter-clinician variability.”

Dr Sandip Doshi PhD BSc MCOptom
AOS Anterior is a unique piece of software that gives clinicians an important tool in assessing ocular surface conditions with consistency and accuracy that eliminates any inter-clinician variability. It provides a unique tool for patient education that allows the patient to take ownership of their condition by giving it a "score" which they can work towards improving via the treatment regiment recommended by the clinician.

Medical Benefits:
The software is essential for any clinician working with:
1. Contact lenses
2. Dry eye
3. Red eye
4. Blepharitis

In general any condition/pathology which affects the bulbar redness, ocular surface, staining, and lid roughness (e.g. allergy)

It eliminates subjectivity, the software provides a consistent, objective grading. Current grading systems are affected by the clinician’s subjectivity and experience; therefore, the assessment could be very different between practitioners (for example, optometrist (A) may grade a patient Level 2; while optometrist (B) could grade the same patient Level 3 - The difference may result in pathology being misdiagnosed or being under or over-treated.

Provides the clinician with an objective test to demonstrate to the patient the effectiveness of any treatment being applied.

Helps determine which patients we should observe VS manage VS treat.

Commercial Benefits:
AOS Anterior aids in patient education improving compliance with treatment. It simplifies explaining why the treatment options have been recommended by giving an objective scoring system which the patient can relate to easily (the 0-4 grading scale).

The AOS anterior platform has a massive impact on clinical research and clinical practice. The platform introduces accuracy, consistency and reproducibility, eliminating variability between practitioners. This becomes especially important in multi-center trials and single center studies with multiple investigators.

Conclusion:
AOS Anterior gives repeatable, objective readings of ocular surface grading, allowing practitioners to feel comfortable when diagnosing and treating a condition whilst providing a useful tool with which to educate their patients.
Here are some examples of AOS Anterior showing the original image against AOS enhancements in various modes. Using the additional features such as “Redness Map,” “Digital Wratten filter” and “Vessel Enhancement” the clinician can instantly produce visually striking diagnostic maps which highlight certain conditions as well as display conditions that are not as easily visible to the human eye.
Stand-alone Software:
• Windows 7+ compatible
• 1 Year Full technical support
• Works with any digital image
• Reporting for
  • Objective follow ups
  • Customer review
  • Patient records
• Ease of use
  • Intuitive adaptive UI
  • Touch screen compatible
  • Data location lock
  • Crop direct into software

Applicable in Multiple market segments:
• Dry Eye
• Contact Lens - CLARE
• Specialist Contact Lens - monitoring
• Optometrists - Eye examinations
• Clinical - Research tool
• Ophthalmologists - diagnostic tool
• Device manufacturer (OE) - software upgrade
• USP
  • Eye Drops - Monitoring bulbar redness reduction
  • Triage tool for quick objective results

Features Include:
• Bulbar Redness Mode
  • 0-4 CCLRU/Efron grading
  • Grid feature
  • Redness map
  • Comparison
• Fluorescein Mode
  • Punctate counter
  • Punctate grid
  • Fluorescein mapping 2D
  • Fluorescein mapping 3D
• Lid Redness Mode
  • On-lid grid scale
  • Meibomian Analysis (May’18)
• In-built .pdf - patient report (fig.1)
• Vessel Extraction
• Digital Written Filter
• Digital ruler
• Green free filter
• Image Crop
• *Transfer

* Transfer feature is only applicable if you are connect to a corresponding service or device
The first case is iatrogenic dry eye post lasik. The original image (fig. 1) is difficult to view the SPK, by using the AOS Digital Wratten filter (fig. 2) the image is enhanced and the SPK can be clearly viewed, the exact number of punctate stains are automatically counted and displayed in a grid format (fig. 3) for tracking of changes over time making evaluation consistent, repeatable, and accurate to objectively measure changes.

A word from Dr John Gelles, O.D., F.I.A.O., F.C.L.S.A., F.S.L.S:

These images were captured via iPadPro 9.7 utilizing an EyephotoDoc slit lamp adapter to attach to the oculars of a Nikon FS-3 slit lamp and an Optovue Avanti OCT.
A word from Dr John Gelles, O.D., F.I.A.O., F.C.L.S.A., F.S.L.S:

The second case utilizes the ruler function on a scleral lens to measure vault and corneal thickness, by placing an optic section at 45 degrees and using the known center thickness of the lens (350 microns) to calibrate the ruler, then calculate the corneal clearance and corneal thickness (fig.5). An OCT image of the same lens was then loaded and measured yielding nearly identical results. (fig.4)

The final case is a 15.4mm scleral lens, the original image (fig. 6) shows a relatively well aligned haptic, use of the bulbar injection function highlights vessel compression at the inferior nasal lens edge. (fig.7)
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AOS has created a product hub for AOS Anterior and their other software releases offering unrivaled support and service to its members.

AOS will release a new version of the anterior analysis platform, AOS Anterior, on an annual basis. Each version will be a life time purchase with 1 yrs full technical support from the date of purchase.

AOS will release additional features as purchasable bolt-on products in between new version releases.

AOS Anterior gives you access to AOS Hub our members area. Becoming a member of AOS Hub means our clients can receive information on all the latest features, as well as training images, support documentation and upcoming events.

Our product hub members area also features online tools to support our clients and enable them to get the best from our service.

Through our partners Keeler, AOS Anterior is also available in various options offering even more choice to our clients.

Go to [AOS-hub.com](https://AOS-hub.com) to find your nearest distributor and empower your practices diagnostic capabilities by using AOS Anterior.
Bulbar Redness mode provides an objective grading scale for bulbar redness and also highlights all the vessels which would not be clearly visible in the original image and the human eye.

Bulbar Redness mode:

- Presents grading results showing the Conjunctival Total Redness on a 0-4 scale and the Vessel coverage for the selected area.
- Results are shown in the Control Panel.
- There are three features in Bulbar Redness mode:

1. Area
2. Comparison
3. Draw
Bulbar Redness

Our UI has been designed to be intuitive and easy to use. Simply select an area to be analysed and click to view the results in the control panel, these are displayed as Total Redness (0-4) and vessels extracted (%).

In Area mode you can also select 2 further options:

Grid Redness - The user is presented with a grid over the area to be analysed. Any single square in the grid can be selected and the redness scale value is displayed on the control panel.

Redness map - Simply select this option in the control bar to translate the selected area into a visually striking heat map. Instantly visualise conditions often not seen by the human eye.

In Comparison mode two separate areas are simultaneously displayed over the image to analyse two separate areas at the same time. Furthermore, the user can easily adjust the size and shapes of the two comparing areas.

Draw mode allows the user to draw over the image and illustrate the patients’ possible irregularities or conditions. For instance the clinician might want to draw over the edge of the cornea to show the patient how the level of neo-vascularization is progressing.
Corneal Staining

Staining mode examines images of the conjunctiva and cornea which have been subjected to staining and conjunctival folding. The user can select specific areas to analyse or it can use the 5 zones corneal grid which clinicians are accustomed to. The staining result is provided in the control panel showing the number of punctuates.

Corneal Staining mode analyses the staining present on the cornea. Results can be given for an area drawn by the user or by utilizing the Corneal Grid function.
Our UI has been designed to be intuitive and easy to use. Simply select the area icon and draw carefully around the area to be analysed.

Then simply click the Detect Staining icon to have the results displayed in the control panel.

Alternatively select the Corneal Grid icon to display the recognisable grid, which can then be placed over the cornea and adjusted to suit.

To display results click the Detect Staining icon to receive the results in the control panel as a percentage of that grid area.
Lid Redness

Lid Redness mode divides the lid in the 5 zones (central, upper, lower, left and right), which clinicians are accustomed to, analyses palpebral conjunctival redness for each of the zones.

The Lid Redness tool detects Palpebral Conjunctival Redness, again using the 0 - 4 scale. It presents results in the industry standard 5 sector grid. Lid Redness mode is activated in the Control Panel, shown in orange.

Our UI has been designed to be intuitive and easy to use. Simply select the area icon and draw carefully around the lid area to be analysed.

Then simply click the Detect Palpebral Conjunctival Redness icon to have the results displayed within your selected area.