Early detection of AMD risk

MPS II
Macular Pigment Screener from Elektron Eye Technology

“I believe that the MPS II is the quickest, most affordable, and most clinically relevant ophthalmic device in the world. It provides an efficient method for determining macular pigment optical density in everyday optometric and ophthalmological practice. I believe it will revolutionize the practice of eye care.”

Stuart Richer, OD, PhD, FAAO
Director, Ocular Preventive Medicine
Captain James A Lovell Federal Healthcare Facility, USA
A PROACTIVE APPROACH TO A GLOBAL PROBLEM

PREVENTION BEATS INTERVENTION

In 2010 AMD accounted for $255bn in direct healthcare costs

By 2020 196 million people are forecast to be sufferers.

Source: http://www.brightfocus.org/macular/article/age-related-macular-facts-figures
Mitigating the impact of AMD

Age-related macular degeneration (AMD) is the leading cause of vision loss in people over 50. The MPS II is a portable screening device that enables early identification of AMD risk by measuring Macular Pigment Optical Density (MPOD). Low MPOD is a significant but modifiable risk factor for AMD. Once identified it can be monitored and corrected over time, enabling a proactive, preventative approach to AMD.
In 2010, AMD was responsible for $255bn in direct healthcare costs worldwide, despite the condition having a number of modifiable risk factors. Smoking, diet and macular pigment optical density (MPOD) are all elements that can be controlled to reduce the risk of developing the most advanced ('wet') form of the disease.

Significantly, over the last 20 years, the AREDS and AREDS 2 longitudinal research studies have discovered that lutein (L) and zeaxanthin (Z) have a key role to play in boosting MPOD and reducing AMD risk. L and Z can be found in foods like spinach and kale but are also available in much higher, more effective concentrations in nutritional supplements.

Eye care specialists now have the opportunity to identify patients with low MPOD via screening initiatives, in conjunction with the recommendation of lifestyle changes and L and Z supplementation. This proactive, preventative approach will help to mitigate the impact of AMD on an ageing global population.

The MPS II currently offers the quickest, most accurate and cost-effective way of identifying low macular pigment and monitoring its optical density over time. It provides a powerful alternative to the reactive treatment models currently in place, empowering specialists to confront the global problem of AMD head on.

Enabled by the MPS II, and supported by a growing body of clinical evidence, such a programme of screening and monitoring can:

- Diversify the services of practitioners globally
- Lower AMD-related healthcare treatment costs
- Prevent/reduce the impact of AMD on patients

**Prevention beats intervention**

By the time a patient has wet AMD, reactive, costly treatment is the only option. An alternative, proactive approach would look like this:

1. Screen early to detect those at risk
2. Recommend preventative lifestyle changes
3. Reduce the risk of AMD progression

**Supporting clinical evidence highlights**

*For a full and comprehensive list of supporting clinical evidence visit: www.elektron-eye-technology.com/products/mps-ii/*

**Case for MPOD**


**Lutein/Zeaxanthin supplementation**


**Research using MPS II**

(Branded as QuantifEye MPS II in U.S.)

MPS II
The business case

Detect: Screen to detect low MPOD and risk of AMD
Manage: Educate on lifestyle changes and L+Z supplementation
Monitor: Ongoing screenings to determine effect on MPOD

PREVENT

Stage 1. No AMD
- **Strategy:** Assess children of AMD patients, as well as ‘worried well’
  to detect risk of developing AMD
- **Tactics:** MPS II screening along with analysis of other risk factors
- **Results:** Delay early onset of AMD through preventative management strategy

Stage 2. Dry AMD
- **Strategy:** Manage, monitor and mitigate likelihood of disease progression
- **Tactics:** Lifestyle changes; supplementation to increase MPOD; monitor six monthly
- **Results:** Reduce disease progression and improve visual acuity

Stage 3. Wet AMD
- **Strategy:** Stabilise and improve rapidly deteriorating vision
- **Tactics:** Anti-VEGF medication; laser eye surgery
- **Result:** <35% improvement rate; surgery available to minority of sufferers

MITIGATE

INTERVENE

Added value
for practitioners and patients

DIVERSIFY YOUR SERVICES

The MPS II is extremely good value and we have already made our money back on the device several times over through initial consultation and follow-up fees. It’s a cost-effective piece of equipment, adding value to the patient and the practice – we screen a notable percentage of patients with risk factors.

Dr Scott W Mackie
Consultant Optometrist, Mackie Eyecare Ltd.
Glasgow, Scotland

REDUCE RISK FOR PATIENTS

As a patient with only one functional eye with central vision, I was advised by Dr Mackie to get my macular pigment checked which, in addition to another risk factor, revealed that I needed to start taking nutritional [L+Z] supplements. I am delighted that further testing of my macular pigment with the MPS II revealed that my MPOD had increased and my risk of developing AMD had reduced. I hope other patients like me are offered this enhanced technology.

Patient
Mackie Eyecare Ltd.
MPS II:
a proactive approach to a global problem

Measuring macular pigment levels to support a proactive, preventative approach to the growing global problem of AMD, the MPS II is

**Reliable:** scientifically validated through use in multiple studies

**Repeatable:** has accurately measured more than 4 million eyes

**Intuitive:** easy-to-use user interface with icon-driven menus

**Fast:** screen in 90 seconds per eye for efficient patient care

**Cost-effective:** clear ROI through test fees and supplement sales

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**Device type**
Computerised device capable of assessing macular pigment optical density (MPOD)
Target viewing distance set to infinity
Background luminance set at 250 cd/m²

**Central stimulus**
Integrated output from blue, green and white LEDs
Stimulus target angular subtense 1°

**Peripheral fixation**
Integrated output from red LEDs
Angular subtense ~2°
Peripheral target offsets minimum +/- 6°

**Patient unit inputs/outputs**
USB type B connector
C13 mains
Patient response button

**Patient unit dimensions**
270-350 x 230 x 300-350 (length/height adjustable)

**Patient unit weight (kg)**
4.26

**Electrical specification**
Mains input 85-263v Ac / 50-60Hz universal input

**Classification**
Class 1
Mains operated
Type B applied part
Continuous operation

**Software specification**
Supported on MS Windows® Professional, v. 7, and above

**Device model**
MPS9000