

# Information

From the LowVision Specialist



Special filter lenses for people with  
age-related macular degeneration

Dispensing guidelines

# Diagnosed „AMD“ : age-related macular degeneration

Age-related macular degeneration (AMD) is a medical condition that nowadays affects a lot of elderly people in today's increasingly ageing population. About 20% of people aged 65-74 and approx. 35% aged 75 and above are affected by at least an early form of AMD. According to the World Health Organization, age-related macular degeneration ranks third among the global causes of visual impairment with a low prevalence of blindness.

It is characterised by the formation of blind or blank spots in the central field of vision that grow bigger and cover an increasingly larger portion of the image. In addition to visual acuity, colour and contrast vision are also impaired, especially in bright daylight with a high proportion of harmful UV radiation.



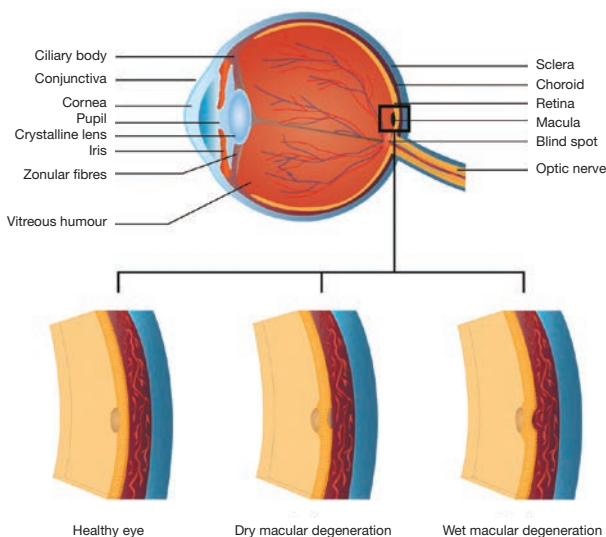


# Clinical features of AMD

Age-related macular degeneration (AMD) is a retinal disease that affects the area of sharpest vision (macula) and, as the name suggests, depends on age. With increasing age – from the age of about 50 years - drusen start to form in the macula. Drusen are focal deposits of extracellular material that build up in the inner layer of the retina, also known as Bruch's membrane. The formation of drusen and hence the degeneration of the macula usually affects both eyes. There are two types of age-related macular degeneration:

- Dry macular degeneration
- Wet macular degeneration

Macular degeneration



## Common visual impairments:

The main causes of visual impairment have changed very little in recent years in the western industrialised nations.

- **Age-related macular degeneration** is the most common eye disorder in these countries, increasing in prevalence slowly but continuously. This is mainly due to the rising life expectancy of people, which accounts for **30 to 40%** of all visual impairments.
- Other major causes of visual impairment or blindness include **glaucoma**, eye involvement in **diabetes mellitus**, and **damage to the optic nerve** accounting for **10 to 15%** of cases.
- **Retinitis pigmentosa** is one of a group of inherited retinal diseases that also lead to a gradual reduction in vision.

# Dry macular degeneration

The dry variant of macular degeneration is the most common type of AMD. In its early stage, pigment anomalies occur in the posterior segment of the eye, resulting in clearly defined, atrophic areas. The wasting away of the retinal pigment epithelium makes the large vessels of the choroid clearly visible. Dry macular degeneration leads slowly and gradually to a deterioration of visual acuity.

Healthy vision



Vision with early AMD



Vision with advanced AMD



# Wet macular degeneration

The wet form of macular degeneration, also known as exudative macular degeneration, is less frequent and characterised by the growth of abnormal blood vessels (choroidal neovascularisation) under the retina and macula. These new blood vessels may then bleed and leak fluid, causing the pigment epithelium to lift up. The area where the retinal pigment epithelium becomes detached appears as a round or oval, yellow-to orange-coloured section in the macula.

This type of macular degeneration results in acute vision loss, severely impairing the reading ability.

## Functional impairments:

- Central visual acuity and reading ability lessens
- Blind spots (central scotoma) may form
- Contrast sensitivity decreases
- Glare sensitivity increases
- Colour vision lessens
- Adaptability to the dark deteriorates

# AMD prognosis and visual rehabilitation

## ■ Prognosis

The prognosis for central visual acuity is unfavourable since AMD is a gradually progressive disease. However, it rarely leads to complete blindness due to the fact that it only affects the centre of the retina, leaving the peripheral areas intact. In wet AMD, the loss of central visual acuity may be delayed by laser treatment or injections of anti-growth factors directly into the eyeball (intravitreal injections).

## ■ Visual rehabilitation

Visual rehabilitation of AMD patients is based on three main pillars:

- Providing good lighting
- Ensuring best possible contrast
- Optimal use of the residual visual acuity



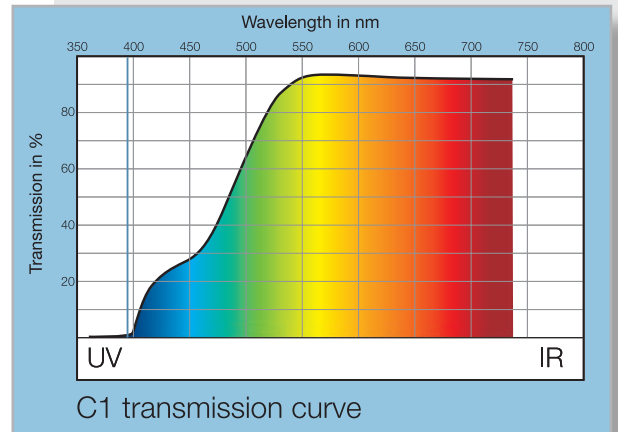
# Special filter lenses for AMD patients

Today, there are a lot of options available to rehabilitate AMD patients. Special filter lenses offered by ImproVision provide significant relief and greater visual comfort for AMD patients.

Due to the fact that a high proportion of blue in daylight increases light scattering in the eye's optical media, which results in a veil of stray light over the retina and thus reduces the contrast of the retinal image, the C1 comfort filter with blue-attenuating properties has been developed.

It selectively filters out the blue portion of sunlight to an ideal level (thus complying with traffic signal recognition requirements). In addition, this AMD filter also features the typical properties of a blue blocking filter. By improving the contrast of objects in diffused or dim lighting, the C1 comfort filter provides a more natural visual experience. Glare is minimised without giving users the impression they are in the dark once they move into the shade.

This AMD filter maintains all spectral colours while reducing the amount of blue light. Since blue receptors are extremely sensitive, we only need a small amount of blue light to perceive it. Yellow and green light is allowed to pass fully. This is why the C1 comfort filter offers natural colour vision while enhancing contrast.



## More information

about light protection spectacles with filter lenses can be found in ImproVision's catalogue.





# C1 comfort filters

## ■ Benefits

- Significant reduction of the blue part of the visible light spectrum to an ideal level
- Full transmission of all other spectral colours
- Natural colour vision – extremely important for AMD patients!

## ■ Enhanced visual performance

- Better perception of details
- Improved contrast vision
- Increased depth of field

This combination substantially improves the visual performance of AMD patients, alleviating eye stress and fatigue while allowing patients to maintain a natural posture. As a result, details are better perceived and patients experience improved contrast vision and a greater depth of field.

## ■ Improved quality of life

- Better perception of steps and kerbs
- More safety at home and on the go
- Better recognition of faces

Patients experience a significant improvement of their quality of life within their radius of action. They are better able to recognize faces, kerbs and steps, which ultimately helps improve safety at home and on the go.

## ■ C1 comfort filter with 60% grey tint

An additional tint for C1 comfort filters further reduces light transmission across the entire light spectrum and minimises glare outdoors, which results in undisturbed vision.



# The frame is key

Light also enters the eye from above and from the side. Studies have shown that about 30 to 60% of unfiltered and scattered light enters the eye around standard sunglass frames. This reduces the protective benefits of even the best sunglass lenses, all the more so since the pupils widen behind dark lenses.

A **SOPHISTICATED FRAME DESIGN** that provides protection both from the top and the sides is as important for the AMD patient as the filter lens.

IV PROSHIELD light protection spectacles from ImproVision offer good protection against glare and UV light. Since the C1 filter lenses are made from lightweight, shatterproof polycarbonate, they are comfortable to wear. IV PROSHIELD spectacles are available in two different frame designs.

## ■ IV PROSHIELD Wrap-Around

Made of PC polymer, the frame fits snugly to the forehead and temples, wrapping perfectly around the face. The slightly larger lens shape provides an extra wide, glare-free field of view. Elegant, classic spectacles – not only for visually impaired people.

## ■ IV PROSHIELD Fit-Over

As the name suggests, these spectacles are worn over prescription glasses and ensure unhindered vision while offering maximum protection against light and wind. Additional side windows (tinted in grey) help improve orientation.



**IV PROSHIELD Wrap-Around**

For use without corrective spectacles



**IV PROSHIELD Fit-Over**

For use over corrective spectacles

# Conclusion:

Patients diagnosed with AMD often experience a break in their lives. They become worried and fearful. Their loss of vision affects their entire identity, sometimes also their mental health.

Although it is not possible to cure AMD despite many new ophthalmic developments, it is possible to offer patients a chance of rehabilitation. The C1 comfort filter plays a major role here.

**In order to test the effectiveness of the C1 comfort filter, it is important to wear it over a longer period of time. The C1 comfort filter may also provide relief in cases of impaired vision due to cataract or diabetic retinopathy.**

## About the Author



Andreas Schaufler is an experienced optician educated in Germany and has been working for SCHWEIZER since 1997. He has played a major role in developing the

company and brand image. Through his work, he has made a significant contribution to the acceptance and increased interest in low vision.

Andreas Schaufler completed an extra-occupational course of studies at the Bavarian Academy for Advertising and Marketing in 2001 and is now head of marketing at SCHWEIZER. He is the author of various technical low vision papers.

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### Contact

OptAk GmbH  
Hans-Böckler-Straße 7  
91301 Forchheim, Germany

Phone: +49 - 9191 - 34 09 12  
Fax: +49 - 9191 - 34 09 19  
E-mail: [info@optik-akademie.com](mailto:info@optik-akademie.com)

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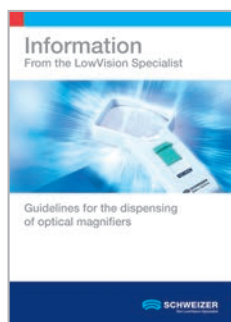
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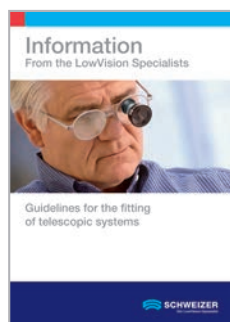




## Further publications in English



Guidelines for the dispensing of optical magnifiers  
Order no. 313468



Guidelines for the fitting of telescopic systems  
Order no. 410128-EN

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Phone

+49 - 9191 - 72 10 56

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+49 - 9191 - 72 10 73

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