



Age-related macular degeneration (ARMD)

Age-related macular degeneration (ARMD) is the commonest cause of blindness in the Western World.

Dry ARMD

Dry ARMD causes progressive wear and tear of the area of the retina that has the best vision and is untreatable. Patients often complain of difficulty in reading newspapers and books, although reading can be easier with a magnifying glass and improved lighting. Sufferers find it difficult to recognise people's faces or see the number on an approaching bus.

Treatment of Dry ARMD

For Dry ARMD, the treatment options are limited but include change of lifestyle, improved lighting, training to use a nondamaged area for vision, low vision / magnifying aids, registration as visually impaired, and the implantation of an intra-ocular telescope system (the Intra-Ocular Lens for Visually Impaired People – the IOL-VIP).

Although the proof is not conclusive, the AREDS study seems to show that there may be some benefit in taking oral vitamin supplements as these may slow the progression of ARMD. There are several commercially available products, and some of these may be prescribed on an FP10. The vitamins need to be taken indefinitely.

A change with spectacles often does not improve the vision, either for distance or near. It can be useful to undergo an assessment for a low visual aid however. Low Visual Aids (LVAs) are the mainstay for helping patients with ARMD. Although some high street opticians provide LVAs, they are invariably available as loans from the Hospital Ophthalmic / Optometry department. A number of different powers are trialled by a trained optician, although not all patients are suitable. Patients need to be well motivated as it takes a lot of training to use an LVA effectively. Patience is required as only a small part of the reading area is magnified (the size depends on the power of the LVA – the stronger the power, then the smaller the area that can be read), and the LVA needs to be moved across the printed words. Inbuilt lights make the LVA more useful. An overhead reading lamp is also useful for such patients. Some



Dry ARMD affecting the left eye. There are degenerative changes at the centre with surrounding drusen.

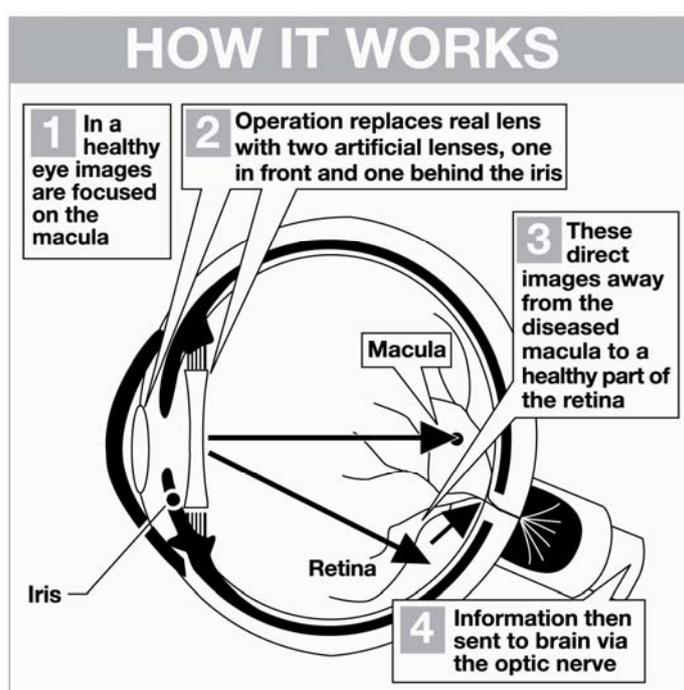
patients may benefit from a CCTV system – a hand held camera is passed over the reading material and the magnified image is seen on a TV screen. As Dry ARMD may slowly deteriorate, reassessment may be required in the future. Patients do not become completely blind as they have residual peripheral vision. Training can help to utilise this peripheral vision.



A spectacle mounted telescope.

Even if a cataract is present, patients need to be counselled about the guarded prognosis for visual improvement with cataract surgery in view of the ARMD.

The IOLVIP is a new procedure involving the implantation of an intraocular telescope which provides magnification for near tasks in one eye. This acts by magnifying the image and projecting it via a prismatic lens onto normal retina in another area. Patients undergo testing for suitability initially, and then training in using the new system.



How the IOLVIP procedure works.

(NICE GUIDANCE about IOLVIP - <http://www.nice.org.uk/nicemedia/pdf/IPG272Guidance.pdf>)

The new nomenclature for blind registration is the Certificate of Visual Impairment with 2 levels, sight impaired and severely sight impaired. Although there is some flexibility on the part of the ophthalmologist, both the level of vision and amount of central or peripheral visual field loss is taken into account when assessing eligibility for registration. As a rough guide, patients with vision of 6/60 or worse are eligible for registration. Where there is extensive field loss e.g. the posterior pole is scarred from degeneration, or the patient has a

reduced side vision defect following a stroke, registration can be performed in the presence of reasonable vision if the patient chooses to be registered.

Wet ARMD

Wet ARMD accounts for 10% of the disease but 90% of those patients who are registered as blind.

Wet ARMD causes a more sudden visual loss. The symptoms include loss of vision, visual blur and distortion (e.g. straight lines / door edges appear kinked).

Wet ARMD occurs due to abnormal blood vessels under the retina (subretinal neovascular membrane) causing leakage and build up of fluid and haemorrhage under the retina, and the retina being lifted off. Ultimately there is scarring of this area of the retina.

Further investigations (flourescein angiography and optical coherence tomography) are required to demonstrate these features and the underlying abnormal vessels or membrane. Certain types of membrane are treatable (photodynamic therapy, anti-VEGF injections) depending on the visual level.

Vision testing, flourescein angiography and optical coherence tomography are repeated to assess response to treatment, and the need for repeat treatments.



Wet ARMD - there is a large haemorrhage at the macular area with swelling (oedema) at the fovea.

Treatment of Wet ARMD

Photodynamic therapy (PDT) is an established treatment for wet AMD. This involves an intravenous injection of a drug called verteporfin, a photosensitizer which accumulates in the membrane. Stimulation by non-thermal red light (laser) causes a reaction which results in damage to the lining of the abnormal blood vessels and blockage of the leakage. PDT can be supplemented in some cases with an injection of steroid (triamcinolone) into the eye.

New treatments are targeted towards inhibition of vascular endothelial growth factor (VEGF) to prevent growth and promote regression of the membrane. Three agents are in use : Macugen (pegaptanib), Lucentis (ranibizumab) and Avastin (bevacizumab).

All are administered in the form of an intravitreal injection and are suitable for treating all types of wet ARMD. (NICE GUIDANCE about treatment for Wet ARMD:

<http://www.nice.org.uk/guidance/TA155>).

For further information about ARMD:

<http://www.maculardisease.org/>



Ahmed's career

Ahmed qualified from the University of London in 1987, and started training in Ophthalmology in London in 1989. He was a registrar and a fellow in Nottingham, and was appointed as Consultant Ophthalmic Surgeon specialising in phacoemulsification and oculoplastics at the Manchester Royal Eye Hospital in December 1998. He has over 40 publications, more than 40 presentations, and a DM (thesis on endonasal laser DCR).

Ahmed's roles at the Manchester Royal Infirmary & University

Ahmed interviews for the Medical School, and teaches medical and optometry students. He examines medical students, and for the MOptom. He is a member of the Local Negotiating Committee on behalf of the Manchester Royal Eye Hospital, and is a North West Representative of the Hospital Consultants and Specialists Association. He has raised money for the New Children's Hospital by arranging sponsored events. Ahmed has drafted a new mobile telephone use policy for the Trust which will become part of the hospital's policies.

Ahmed's roles outside CMMC

Ahmed is a nominated representative of the Royal College of Ophthalmologists (RCOphth) on the General Optical Council (GOC). He is a Member of The RCOphth and a Founder Member of The British Oculoplastic Surgery Society. He is an examiner for the RCOphth as well as part of the Training The Trainers and Microsurgical Skills faculties. He has an interest in facial palsy management and is a medical adviser to the British Acoustic Neuroma association. He used to work as an Ophthalmic Medical Practitioner whilst a registrar, is a member of the Ophthalmic Qualifications Committee of the British Medical Association, and is involved with the Education Visitor Panel of the GOC.

He is active in research, a journal editor and reviewer. He is a committee member of the British International Doctors Association. He is a medical member of the Appeal Panel of The Postgraduate Medical Training and Education Board. As well as a journal reviewer, he is a reviewer for Research for Patient Benefit and Map of Medicine.

Outside medicine, Ahmed is a school governor, is involved with medical charities and community finance initiatives, and is co-chair of the Manchester Christian-Muslim Forum.

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