

Retinal Imaging Techniques

Several retinal imaging techniques may be used by your Eye Care Professional to diagnose and monitor patients with AMD in clinical practice. These non-invasive imaging techniques include:

- **Colour fundus photography (CFP):** A non-invasive photograph of the retina that can be used to detect abnormalities in the retinal cells.¹
- **Fundus autofluorescence (FAF):** A non-invasive imaging technique uses the fluorescent properties of lipofuscin, a naturally occurring compound found within the cells of the retinal pigment epithelium (RPE), to generate high-contrast retinal images which can be used to detect areas of atrophy. FAF provides superior contrast to fundus photography, and more accurately detects areas of retinal cell loss.²
- **Fluorescein angiography:** This imaging technique is the gold-standard technique for the diagnosis of neovascular AMD. A fluorescent dye (fluorescein) is injected into a vein in the arm. Once the dye reaches the eyes it allows visualisation of blood vessels and flow in the choroidal layer of the retina; this technique can be used to detect choroidal neovascularization (CNV) and leakage, characteristic of neovascular AMD.³
- **Optical coherence tomography (OCT):** Non-invasive method that uses light to capture detailed cross-sectional images of the retina. OCT can capture information on retinal thickness, pigmentary changes, presence of drusen, and degradation of the neurosensory retina and RPE. It is the mainstay for the initial detection of AMD and assessment of progression of late AMD.^{2,4}

¹ Holz FG, Sadda SR, Staurengi G, Lindner M, Bird AC, Blodi BA, *et al.* Imaging Protocols in Clinical Studies in Advanced Age-Related Macular Degeneration: Recommendations from Classification of Atrophy Consensus Meetings. *Ophthalmology*. 2017;124(4): 464-478.

² Sadda SR, Chakravarthy U, Birch DG, Staurengi G, Henry EC, Brittain C. Clinical Endpoints for the Study of Geographic Atrophy Secondary to Age-Related Macular Degeneration. *Retina*. 2016;36(10): 1806-1822.

³ Chakravarthy U, Williams M, Group AMDG. The Royal College of Ophthalmologists Guidelines on AMD: Executive Summary. *Eye*. 2013;27(12): 1429-1431.

⁴ Schwartz R, Loewenstein A. Early detection of age related macular degeneration: current status. *International journal of retina and vitreous*. 2015;1: 20.