

1. Br J Pharmacol. 2021 Mar 26. doi: 10.1111/bph.15459. Online ahead of print.

Emerging therapies and their delivery for treating age-related macular degeneration.

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Age-related macular degeneration (AMD) is the most common cause of blindness in the Western world and is characterised in its latter stages by retinal cell death and neovascularisation and earlier stages with the loss of parainflammatory homeostasis. Patients with neovascular AMD (nAMD) are treated with frequent intraocular injections of anti-vascular endothelial growth factor (VEGF) therapies, which are not only unpopular with patients, but carry risks of sight-threatening complications. A minority of patients are unresponsive with no alternative treatment available and some patients who respond initially eventually develop a tolerance to treatment. New therapeutics with improved delivery methods and sustainability of clinical effects are required, in particular for non-neovascular AMD (90% of cases and no current approved treatments). There are age-related and disease-related changes that occur which can affect ocular drug delivery. Here, we review the latest emerging therapies for AMD, their delivery routes, and implications for translating to clinical practice.

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DOI: 10.1111/bph.15459 PMID: 33769566