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## Delivery strategies for treatment of age-related ocular diseases: from a biological understanding to biomaterial solutions.

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### Abstract:

Age-related ocular diseases, such as age-related macular degeneration (AMD), diabetic retinopathy, and glaucoma, result in life-long functional deficits and enormous global health care costs. As the worldwide population ages, vision loss has become a major concern for both economic and human health reasons. Due to recent research into biomaterials and nanotechnology major advances have been gained in the field of ocular delivery. This review provides a summary and discussion of the most recent strategies employed for the delivery of both drugs and cells to the eye to treat a variety of age-related diseases. It emphasizes the current challenges and limitations to ocular delivery and how the use of innovative materials can overcome these issues and ultimately provide treatment for age-related degeneration and regeneration of lost tissues. This review also provides critical considerations and an outlook for future studies in the field of ophthalmic delivery.

**Keywords:** age-related ocular diseases, age-related macular degeneration, diabetic retinopathy, glaucoma, biomaterials, drug delivery, cell delivery.

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