Changes in ocular structure and visual function with "normal" aging

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1. Skin changes (loose, baggy lids) and loss of muscle tone around the eyes leads to ectropion/entropion/senile ptosis/enophthalmos.

2. Tear film changes/ dry eyes common/ tearing.

3. Sclera: fat deposits-yellowing; thinning- "blueing"

3. Corneal diameter does not change after age one.

4. Corneal shape changes with age resulting in a different axis of astigmatism.

5. The average refractive error becomes more hyperopic with age (myopia with incipient cataract).

6. Corneal sensitivity decreases with age (important for contact lens wearers).

7. Transmission of light decreases with age (relatively small effect).

8. Scatter by the cornea increases after 75 years of age.


10. Pupil size decreases with age particularly for dim light conditions.

11. The ocular lens grows throughout life.

12. The lens becomes more yellow with age and absorbs more light, significantly changing the amount and quality of light reaching the retina.

13. The yellowing of the lens may accelerate after the age of 60.

14. The amount of lens fluorescence increases with age.

15. Amplitude of accommodation (expressed in diopters) decreases linearly with age (caused by the lens).

16. Presbyopia (loss of accommodative ability) occurs earlier in people who live in warm climates.

17. The vitreous (a gel in youth) becomes liquefied with age making "floaters" more visible.

18. The vitreous commonly detaches from the retina after the age of 60 (same symptoms as retinal detachment).

19. Lipofuscin (aging pigment) accumulates in the retina with age.

20. Photoreceptor density decreases with age; other retinal cell layers become disordered.