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A New Factor (time constant) to Specify Class I and Class II Photochemical Damage

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***Abstract*:** Photochemical injury to the retina involves at the central part (mainly in outer layers) of the retina. There are two classes of photochemical damage i.e. Class I and Class II. Class I damage is generally occurred in photoreceptors while Class II is in Retinal Pigment Epithelium (RPE). Occasionally, the Class II damage is found in photoreceptors also. Factors which play crucial role in the determination of the class of damage include animal species/ model, exposed retinal area, concentration of visual pigment. Here we include the relationship between the irradiance and the time constant (the time at which the retinal damage increases or decreases exponentially) and how the irradiance of the retina (a crucial component for photochemical damage) is governed by the directionality of cone photoreceptors which is the site for Class I damage. The relationship between irradiance (E) and the rate of change of time constant (t) with respect to E ($\frac{dt}{dE}$) has also been studied to distinguish between class I & II.