

# The Photopic Electroretinography Luminance–Response Function in Normal Dogs

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**Purpose:** To investigate the relationship between b–wave amplitude and luminance under photopic adaptation in dogs.

**Materials and Methods:** Both eyes of 9 clinically normal Miniature Schnauzers aged 3–4 years were included in the study. Photopic light–intensity series were performed using mini–Ganzfeld electroretinography (ERG) under general anesthesia. Following 10 min of light adaptation using white background light of 30 cd/m<sup>2</sup>, light stimulus was increased in intervals of 0.5 log units from –2.0 to 1.4 log cd s/m<sup>2</sup> under the background light. Naka–Rushton function (NR) was fitted to the photopic b–wave amplitudes obtained.

**Results:** The mean amplitudes of a–wave continued to increase significantly with increasing flash intensity. The mean implicit times of a–wave obtained from 1.0 log cd s/m<sup>2</sup> was significant longer than those of other light intensities. The mean amplitude of the b–wave continued to increase significantly up to the 1.0 log cd s/m<sup>2</sup> of light intensity; however, no significant increase in the b–wave amplitude was observed between 1.0 and 1.4 log cd s/m<sup>2</sup>. The mean implicit time of b–wave continued to increase significantly from 0.0 log cd s/m<sup>2</sup> up to the highest light intensity used (1.4 log cd s/m<sup>2</sup>). The NR parameters, Vmax, n, and Log K, were 49.59  $\mu$ V, 1.54, and 2.40, respectively.

**Conclusion:** The study reports change in the photopic ERG under light adaptation in dogs. The results provide imperative information to identify properties of cone system in dogs.

**Key words:** photopic electroretinography, luminance–response function, cone system, dog,

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