



Accommodative training to reduce nearwork-induced transient myopia.

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Abstract

PURPOSE: To assess changes in the nearwork-induced transient myopia parameters of initial magnitude and its decay duration, as well as accuracy of the near accommodative steady-state response and clinically based accommodative facility, after 6 weeks of home-based accommodative training in asymptomatic myopes.

METHODS: Ten young adult, progressing myopes participated in the study. The experimental paradigm consisted of a baseline session and two follow-up sessions at the end of the third and sixth weeks of training. At the first session, baseline refractive state and selected accommodative functions were assessed. Measurements were repeated at the two follow-up sessions. Home-based vision training included accommodative flippers (+/-2 D) at near, Hart chart at distance (6 m) and near (40 cm), and prism flipper (6 pd) training at near (40 cm), for a total of 20 minutes a day performed 5 days a week for 6 weeks.

RESULTS: Several dynamic accommodative response functions improved significantly with training. Lens flipper rate increased significantly from 11 to 16 cpm in the OD ($p = 0.04$), 11 to 19 cpm in the OS ($p = 0.03$), and 8 to 11 cpm in the OU ($p = 0.03$). Hart chart rate increased significantly from 22 to 33 cpm in the OD ($p = 0.01$) and from 22 to 31 cpm in the OS ($p = 0.02$). There was a significant negative correlation between lens flipper rate and nearwork-induced transient myopia decay duration after training ($p = 0.02$) with binocular viewing.

CONCLUSIONS: Training of the accommodative system in these progressing myopes resulted in improved dynamics in both laboratory and clinical measures. This is consistent with earlier reports in the literature of improvement in symptomatic myopic subjects.

Publication type, MeSH terms 

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