



Mini Review

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Having Consider, the Factors which have a Preclinical Influence of Myopia of School Children



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In the era of great availability of smart phones and computers, disturbing is the fact that younger children use these devices frequently without adult supervision. Prolonged accommodative spasm may occur among individuals who do a lot of near visual work and who do not employ adequate prophylaxis to prevent eye fatigue. The result of this in the first place will be school myopia, in time irreversibly progressing with all its consequences. We have noted in our study (examined 300 children, 6-9years) a large number of children who use these devices for at least two hours daily. As the term "spasm of accommodation" is frequently used by ophthalmologists. In some young hypermetropes the ciliary muscle is maintained in a condition of partial contraction which may compensate partly or fully the amount of hypermetropia. It is a physiological adaptation in the interests of clear vision and in all probability is attained by the action of the circular ciliary muscle alone, which, like other sphincter muscles in the body, easily lends itself to the maintenance of a state of tonic contraction. Small degree of spasm of the ciliary muscle undoubtedly exists in a definite proportion of myopes, especially among uncorrected myopic school children. It may only be a phenomenon associated with the increased convergence that uncorrected myopes and astigmatics adopt to get clearer vision. The spasm maybe either continuous or clonic, or may pass from a clonic to a continuous condition, and may be associated with spasm of other ocular muscles. Unbalanced tonicity of extraocular muscles may lead to abnormal eyeball position and as well as to accommodative spasm [1-3]. Schor and Cuffredy suggested the existence of mechanisms which leading to orthophorization in the visual system [4]. The norm for dissociated horizontal phoria to far are values from 0 (orthophoria) to 2 DP (exophoria), for dissociated vertical phoria to far the norm ranges from 0 (orthophoria) to 0,5 DP vertical deviation in the upward or downward direction. We observed in our study, that among 80% of the examined children aged 6 to 9 years with exophoria to near a weakened or a lack of convergence was present. Children 6-9 years and even older may not understand symptoms occurring to

them (fatigue, periodic headaches, vision disturbances, difficulty reading, a version to learning) and may not associate them with prolonged visual near work. In the examined group of children despite such a young age, we have observed disturbing symptoms, which in the future may lead to vision problems during the education period, as well as in adulthood. Based on our research we can assert that preventive screening of school children which are often limited to only visual acuity and refractive error examinations are insufficient in predicting the quality of vision in adulthood. The level of education and near visual work lead to a higher occurrence of myopia. We emphasize the value of phoria examination especially in school children. Long-term observation of objects up close is associated with an enormous effort linked with directing both eyes on the viewed image and with appropriate accommodation tension which allows receiving a clear image. Weakened convergence additionally increases this effort. Richler and Bear [5] after examining people aged 5 years and above showed that the level of education and near visual work lead to a higher occurrence of myopia. In the prevention of myopia starting from the earliest age attention should be paid to proper habits during visual work, taking breaks and ensuring adequate oxygenation of the eyes even by being outdoors or playing sports.

Conclusion

Complaints in the form of headaches, ocular pain was provided by children among whom dissociated horizontal phoria were different from the assumed norms. Difficulties concentrating while reading, symptoms of asthenopic character were reported most frequently by children with abnormal values of dissociated phoria, which may predispose to accommodative spasm.

References

1. Goldstein JH, Schneekloth BB (1996) Spasm of the near reflex: a spectrum of anomalies. *Surv Ophthalmol* 40(4): 269-278.
2. Seaber JH (1966) Pseudomyopia in exodeviations. *Am Orthoptic J* 16 (1): 67-72.

3. Rutstein RP, Daum KM, Amos JF (1988) Accommodative spasm: a study of 17 cases. J Americ Optom Assoc 59(7): 527-538.
4. Schor CM, Maxwell J, McCandless J, Graf E (2002) Adaptive control of vergence in humans. Ann N Y Acad Sci 956: 297-230.
5. Richler A, Bear JC (1980) Refraction, nearwork and education. A population study in Newfoundland. Acta Ophthalmol 58(3): 468 -478.



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