**Randomized Clinical Trial of Treatments for Symptomatic Convergence Insufficiency in Children**

Convergence Insufficiency Treatment Trial Study Group


**Objective**  To compare home-based pencil push-ups (HBPP), home-based computer vergence/accommodative therapy and pencil push-ups (HBCVAT+), office-based vergence/accommodative therapy with home reinforcement (OBVAT), and office-based placebo therapy with home reinforcement (OBPT) as treatments for symptomatic convergence insufficiency.

**Methods**  In a randomized clinical trial, 221 children aged 9 to 17 years with symptomatic convergence insufficiency were assigned to 1 of 4 treatments.

**Main Outcome Measures**  Convergence Insufficiency Symptom Survey score after 12 weeks of treatment. Secondary outcomes were near point of convergence and positive fusional vergence at near.

**Results**  After 12 weeks of treatment, the OBVAT group’s mean Convergence Insufficiency Symptom Survey score (15.1) was statistically significantly lower than those of 21.3, 24.7, and 21.9 in the HBCVAT+, HBPP, and OBPT groups, respectively ($P < .001$). The OBVAT group also demonstrated a significantly improved near point of convergence and positive fusional vergence at near compared with the other groups ($P \leq .005$ for all comparisons). A successful or improved outcome was found in 73%, 43%, 33%, and 35% of patients in the OBVAT, HBPP, HBCVAT+, and OBPT groups, respectively.

**Conclusions**  Twelve weeks of OBVAT results in a significantly greater improvement in symptoms and clinical measures of near point of convergence and positive fusional vergence and a greater percentage of patients reaching the predetermined criteria of success compared with HBPP, HBCVAT+, and OBPT.

**Application to Clinical Practice**  Office-based vergence accommodative therapy is an effective treatment for children with symptomatic convergence insufficiency.