Physical activity in childhood and the association with myopia in adolescence – The CHAMPS Eye Study

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Axial length

Results are calculated at follow.

Moderate (M)
50%

Light (L)

Mean spherical equivalent (SE):

A prospective cohort study with 198 school children.

Baseline - August to October 2010

PA assessed with GT3X-accelerometer (ActiGraph) worn at least 10 hours/day, minimum 4 days and 1 weekend day

PA measure: mean counts/min

Cut off-points for the PA intensity levels:

• Sedentary (SED) ≤ 100 counts/min
• Light (L) > 100 counts/min
• Moderate (M) ≥ 2296 counts/min
• Vigorous (V) ≥ 4012 counts/min

Follow-up - March to May 2015

Examination at Department of Ophthalmology, Odense, Denmark, including:

• Autorefractin in cycloplegia and
• Keratometry (Tonoref II, Nidek)
• Biometri (axial length (AL)) (Lenstar LS 900, Haag Streit)

Age- and sex-adjusted linear regression was performed to evaluate the effect of PA on the development of myopia

Increased level of physical activity was associated with refractive error and a shorter axial length for sedentary and moderate physical activity, consistent with theory.