

## 28. SWACSM Abstract

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### Effect of Exercise in Sync with Circadian Preference on Migraine Load in Migraineurs

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#### ABSTRACT

Migraines are the most common cause of chronic pain. Effective, non-pharmacological strategies to reduce migraine load are needed. Exercise is an effective strategy, but it is unclear how exercise timing and temporal preference (chronotype) factors modulate the laudatory effects of exercise. **Purpose:** The purpose of this study was to determine the effects of exercising in-sync or out-of-sync with one's chronotype on migraine load. **Methods:** Participants were 7 sedentary individuals who experienced migraines 8+ times per month (age =  $34 \pm 11$  yrs,  $167 \pm 8$  cm,  $99 \pm 26$  kg). Participants were categorized into morning- or evening-types based on the Morning/Eveningness Questionnaire (MEQ). Exercise consisted of 1 month of self-selected exercise in the morning and 1 month in the evening, 3 x per week of 30-min/session at 60-70% of estimated HRmax. In-sync (IS) refers to a morning-type exercising in the morning and an evening-type exercising in the evening. Out-of-sync (OOS) refers to a morning-type exercising in the evening and vice-versa. Before and after each month of exercise, participants completed questionnaires (Headache Impact Test [HIT-6], Migraine Disability Assessment Test [MIDAS]). We analyzed the data using a 2 (in sync, out of sync) x 2 (pre, post) repeated measures ANOVA with significance accepted at  $p < 0.05$ . **Results:** We observed a trend towards an interaction effect in HIT-6 scores suggesting IS exercise produced a decrease in HIT-6 scores while no reduction was seen in OOS exercise ( $p = 0.11$ ). The the number of migraine days experienced tended to increase in the month exercise was performed OOS ( $p = 0.12$ ), and this is reflected in increasing MIDAS scores obtained OOS ( $p = 0.63$ ). **Conclusion:** While no statistical changes were observed, trends in the data show that prescribing exercise in sync with migraineurs chronotype may be an accessible, non-pharmacological option to decreasing migraine load.