Figure 1: **Study flow diagram.** The study will recruit 99 participants with Post Concussion Syndrome from Alberta Children’s Hospital and surrounding sports medicine and paediatric centres. Participants are randomized after baseline data collection to Melatonin 3mg, Melatonin 10mg, or placebo in a 1:1:1 ratio. There is a 4-week treatment phase. Baseline assessments (Day 30+/−10 days) include standard history and clinical assessment, neurocognitive assessment, CHQ, BASC-2, BRIEF and Actigraphy. During treatment the participant will keep daily sleep and treatment logs. Actigraphy will continue through treatment. Weekly telephone calls will be made to monitor adverse effects. Post-treatment assessments occur during days 59-70 and a final telephone follow-up will occur at day 90(+/-7d).