

Center for Human Phenomic Science

Sleep Core Facilities

The Center for Human Phenomic Science (CHPS) Sleep Core will support this study through [providing resources for research quality polysomnography; providing resources for actigraphy; providing consultation to the study team regarding the interpretation of sleep core study results].

For studies involving the provision of polysomnography, add: The 2295 sq. ft., state-of-the-art pediatric sleep laboratory at CHOP has 6 beds, with 2 beds dedicated to research. An additional 8 beds are available in the satellite sleep labs. The main lab comprises a central control room and six individual patient rooms, each with private bathroom and shower, and a bed for a parent/caregiver to spend the night. The laboratories are staffed by 24 overnight and nine daytime pediatric sleep technologists, of whom 31 are certified polysomnographers, and 10 are dually credentialed as respiratory therapists. The sleep laboratories are open 7 nights a week and performs more than 3,000 studies per year. Equipment includes bedside and 2 full portable polysomnography systems (Polysmith, Tokyo, Japan) as well as a Powerlab system with 6 bioamplifiers (ADInstruments, Colorado Springs, CO). Additional equipment includes digital infrared video, pneumotachometers, transducers, nonrebreathing respiratory valves, respiratory inductance plethysmography equipment, Massimo oximeters, continuous positive airway pressure (CPAP) and bilevel positive pressure (BPAP) equipment (Respironic, Murrysville, PA), capnometers and transcutaneous O₂/CO₂ analyzers. Ventilatory response circuits are present for testing hypercapnic rebreathing responses as well as the occlusion pressure in 100 milliseconds (P_{0.1}). For investigator-initiated studies, the cost for overnight polysomnography is approximately 20% of the fee for comparable clinical studies. The discounted fee for the performance and technologist's scoring of the studies allows the polysomnograms to be provided at a substantially lower cost than would be otherwise possible.

Add if appropriate: Following overnight polysomnography, multiple sleep latency testing is available for objective assessment of daytime sleepiness.

For studies involving actigraphy: The Sleep Core has actigraphy watches (Actiwatch 2, Phillips Healthcare Bend, OR) available for research use. The Sleep Core will assist researchers who perform actigraphy by providing sleep diaries, downloading data from actigraphy watches, and re-charging watches for subsequent distribution. For investigator-initiated studies, the hourly rate for these services is less than 25% of the fee for comparable clinical services. The discounted fee for the services allows actigraphy studies to be provided at a substantially lower cost than would be otherwise possible.



**Children's Hospital
of Philadelphia**

RESEARCH INSTITUTE

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For studies involving the interpretation of sleep-related testing by the Core Director: The Sleep Core will provide interpretation of sleep-related assessments in the context of overall study questions and hypotheses. The hourly rate for these services is approximately 25% of the fee for comparable clinical services. The discounted professional fees allow for study interpretation to be provided at a substantially lower cost than would be otherwise possible.

For all studies, add: The CHOP Sleep Center is accredited by the American Academy of Sleep Medicine. The CHOP sleep laboratory has a large staff of both night-time technologists and daytime sleep technologists, under the supervision of the Sleep Core's Technical Supervisor, Brian Shultz, RPSGT. CHOP Sleep Core Director Christopher Cielo, DO is experienced in both clinical and research aspects of sleep medicine. Dr. Cielo is board certified in sleep medicine and in pediatric pulmonology.

