



Studies Involving AYO's Circadian Light Technology

AYO's technology is informed by over three decades of circadian and light research carried out at leading institutions such as Harvard University, Oxford University, and NASA. Since 2018, AYO has collaborated with academic, clinical, and research partners worldwide to support the scientific exploration of light exposure, biological rhythm, sleep timing, fatigue, and daily performance.

Rather than positioning itself as a medical solution, AYO contributes as a technology partner in ongoing studies investigating how blue–turquoise light may influence circadian alignment, alertness, and well-being. Below is a curated list of notable independent studies and institutional collaborations where AYO devices have been used as research tools.

- **Aarhus University & Reykjavik University (Denmark / Iceland)**

Double-blind randomized controlled trial examining cognitive function and stress in women with breast cancer after surgery and before systemic treatment.

Completed and published in a peer-reviewed journal.

Aspelund et al. (2025). Cancer Medicine, 14, e71412. DOI: 10.1002/cam4.71412. [View publication](#)

- **City of Hope National Medical Center (USA)**

Research examining circadian light exposure in relation to sleep timing and cancer-related fatigue across multiple campuses and patient groups.

- **Chrono@Work & Royal Netherlands Navy (Netherlands)**

Study led by Dr. Marijke Gordijn on circadian adjustment, fatigue, and performance in naval personnel, using the AYO wearable as part of a timed light protocol.

- **European Space Agency (ESA) (Europe)**

Collaboration reported by AYO concerning fatigue and circadian performance.

- **German Olympic Men's Swimming Team (Germany)**

Collaboration reported by AYO concerning circadian timing and elite athletic performance.

- **Hackensack Meridian Health (USA)**

Research collaboration reported by AYO concerning cancer-related fatigue.

- **Harvard-affiliated Researchers (USA)**

AYO has been referenced in fatigue and energy management research discussions as part of broader exploration into circadian-aligned light interventions.

- **M.D. Anderson Cancer Center (USA)**

Investigation into the role of light exposure on fatigue management in oncology recovery settings, where the AYO wearable is included among light tools studied.

- **Michigan State University (USA)**

Research on blue light exposure and its potential influence on alertness, concentration, and daily performance in university students.

- **Mount Sinai Health System & Memorial Sloan Kettering Cancer Center (USA)**

Study exploring the impact of circadian light timing on sleep patterns and fatigue in patients undergoing intensive treatment and recovery.

- **Northwell Health & Feinstein Institutes for Medical Research (USA)**

Randomized crossover feasibility study of personalized, remotely delivered N-of-1 light interventions for fatigue in 60 participants.

Completed and published in a peer-reviewed journal.

Butler et al. (2023). JMIR Formative Research, 7, e45510. DOI: 10.2196/45510. [View publication](#)

- **Oxford University & National Institute for Health Research (UK)**

Pilot study investigating circadian light use in shift work populations to assess feasibility and impact on daily rhythm alignment.

- **Queensland Academy of Sport (Australia)**

Study exploring the relationship between light exposure, physical performance, and recovery in elite athletes.

- **Reykjavik University (Iceland)**

Completed research examining user-reported sleep timing and subjective sleep quality in young adults using wearable circadian light.

Completed; thesis/report available. Not yet published in a peer-reviewed journal.

Hauksson. Bright light therapy and the circadian rhythms. Thesis/report supplied by AYO. [View thesis/report](#)

- **St. Jude Children's Research Hospital (USA)**

Pilot project assessing the feasibility of light-based circadian support in pediatric inpatient settings during recovery routines.

- **University at Buffalo (USA)**

Study of light exposure patterns, sleep timing, and fatigue dynamics in individuals recovering from cancer, with the AYO wearable as an exposure device.

- **University of Alabama at Birmingham (USA)**

Clinical trial investigating circadian light exposure in adults with metabolic risk factors, focusing on rest-activity timing.

- **University of Arizona / U.S. Air Force / Walter Reed Army Institute of Research (USA)**

Six-week placebo-controlled crossover trial in 36 military participants examining morning blue light and sleep architecture.

Conference abstract published; preliminary data. Full peer-reviewed paper pending.

Killgore et al. (2025). Sleep, 48 (Supplement 1), A385. DOI: 10.1093/sleep/zsaf090.0887. [View publication](#)

- **University of California, Irvine (USA)**

Pilot study examining light exposure and circadian rhythm regulation in adults at elevated risk of cognitive impairment.

- **University of Rochester & Dana-Farber Consortium (USA)**

Collaborative research exploring circadian light exposure and fatigue in cancer patients, focusing on non-pharmacological support tools.

- **Ohio State University / University of Washington / Johns Hopkins University (USA)**

Research on morning blue light exposure, sleep and work, including a randomized controlled trial with 182 participants.

Completed and published in a peer-reviewed journal.

Keeler et al. (2026). Rise and shine: Morning blue light exposure, sleep, and work. Journal of Applied Psychology. DOI: 10.1037/apl0001418. [View publication](#)

- **Washington University in St. Louis (USA)**

Research collaboration concerning light and daily functioning, as listed in AYO's master list.

- **West Virginia University (USA)**

Study evaluating the feasibility of circadian light wearables among hospital-based shift workers to support alertness and well-being during irregular schedules.

- **U.S. Department of Defense / Naval Health Research Center / U.S. Navy (USA)**

Completed study of personal light treatment devices as a countermeasure for sleep, fatigue and circadian misalignment in an operational submarine setting.

Completed and published in a peer-reviewed journal.

Chabal et al. (2025; online December 2024). Sleep Advances, 6(1), zpae097. DOI: 10.1093/sleepadvances/zpae097. [View publication](#)

Closing Note

AYO serves solely as a wearable light device within these research contexts. All studies are independently designed and conducted by institutional investigators. AYO does not conduct clinical trials and does not claim to diagnose, treat, or cure any condition.