

ISCTM Working Group „Sleep Methodology in Clinical Trials“

Meeting, Feb 18, 2026, Washington, DC

Chairs: Margaret Moline (MM), Georg Dorffner (GD)

Major contributor: David McLaughlin (DM)

Participants: Nathan Alvarado, Jeffrey Cochran, Igor Korolev, Clement Popovici, Timothy Sheehan, Amy Wegener, Svenja Wacker, Michaela Gold, Ibrahim Turkoz, Katrina Thompson, Samantha Friend, Sean Mitchell

MM, DM and GD presented an overview of the main work that has been performed thus far towards

Deliverable 1: Review paper on the current evidence for objective sleep endpoints as biomarkers for neurological or psychiatric disorders in CNS trials

The following volunteers had performed a literature research on the following respective disorders:

- Michaela Gold: AD (Alzheimer's)
- Benjamin Nelson: MDD (Major depressive disorder)
- Bridget Kajs: PTSD (Post-traumatic stress disorder)
- Igor Korolev: SZ (Schizophrenia)
- Daniel Smith: MS (Multiple sclerosis)
- Gary Zammit: BD (Bipolar)
- Marge Moline: PD (Parkinson's)
- Georg Dorffner: GAD (General anxiety disorder)

The respective papers can be found on the share server in directory “References” (with the exception of MDD, for which we are still missing the original pdf manuscripts). Sofie Mesens had also volunteered to cover pediatric disorders, but we have yet to decide how that best fits in.

For all these disorders (except MDD) an AI-based analysis was performed, resulting in tabular overviews for each disorder particularly focusing on the main sleep variables for which the respective disorder was shown to have an influence. These overviews can be found as Excel tables in the directory “Draft Manuscript/TabularOverviews”.

Here is a summary of the main materials analyzed thus far:

Disorder	Papers on comparison	Papers on treatment
Alzheimer's	5	6
PTSD	17	
Schizophrenia	10	5
MDD	23	16
Bipolar	21	
Parkinson's	4	
General Anxiety	18	1
Multiple Sclerosis	7	

Most volunteers also wrote textual summaries as Word files as potential contributions to the final manuscript. These can be found in directory "Draft Manuscript/TextContributions".

The following aspects were discussed:

- All entries in the tabular overviews have yet to be checked for correctness (for potential "confabulations" from the AI). An example can be found on the share server for PTSD, where MG has already performed the check.
- For some of the disorders, the analysis led to the identification of two groups: (1) comparisons between patients and controls, (2) papers highlighting the changes due to therapy (ideally leading to opposite effect than shown in the previous category):
- There are still quite some differences in terms of number of papers found and whether both categories have been addressed
- Also, the text contributions are quite heterogeneous – while originally we aimed at 1-2 pages for each disorder, some volunteers contributed much more – which could be the basis for separate papers if we cannot include all of it in the review
- It was mentioned that, in order to publish the review paper, we will need to report a formal search strategy for each disorder, otherwise we would be criticized. GD mentioned that there had been instructions for each volunteer, but no unique formal search term was used in each case.

Next steps:

After the discussion the following steps were agreed.

1. We form a sub-committee of participants to define a formal search string, on the basis of which the literature research can be repeated for each disorder
2. We are looking for more volunteers to then
 - a. Go over one of the tabular overviews for content check with the respective article pdfs
 - b. Re-perform a search in Pubmed based on the agreed search string (eg., total sleep time, sleep latency, wake after sleep onset) and complement the list of papers with newly found ones
 - c. Extend the overview by explicitly distinguishing between the 2 categories (patient-control comparisons and before-after therapy comparisons)

Everybody who has performed work as a volunteer so far can of course sign up for these tasks, as well, but preferably for a different disorder than previously.

Deadlines:

- Until March 20: Tell us if you want to be part of the “literature search subcommittee”
- Until March 31: Please write to us to sign up to perform tasks 1-3 for each disorder

Deliverable 2: A consensus paper on criteria and validation strategies for measurement instruments, as compared to gold standard (PSG)

Not much discussion happened on the second deliverable, but the main goals were presented again. It was mentioned that all participants who do not feel comfortable in contributing to deliverable 1 are welcome to perform a first literature search on

- Papers presenting validations of alternative objective sleep measurements (e.g. PPG, actigraphy, reduced-montage EEG) in comparison to PSG
- Papers presenting data on inter-rater variability in sleep scoring, as a potential basis for estimating tolerance intervals for equivalence tests or minimum requirements for correlation tests.