MotionWatch 8 Data Proccesing Protocol

*A) Identifying Sleep Windows*

* The consensus SD should be used in conjunction with the actogram to appropriately identify the sleep window (specifically, question #2 and #7 from the sleep diary regarding when the individual ‘**began trying** to go to sleep’ and when they ‘**finished trying** to sleep’).
* Click on MW icon at the bottom of the screen.
* Click on ‘Browse for Motion File’ and find desired subject file. Open subject file by double clicking the file.
* Adjust the activity scale to 1,000 counts and adjust the light scale to 35 lux.
* In the MW window, choose the period of data for analysis. Place cursor at the start of the sleep period, hold down the left mouse button, drag it to the desired end of the sleep period, and release the button. The selected period will become enlarged and automatically displayed. This enlarged time period is called the ‘Analysis Window’.
* Within the ‘Analysis Window’, again adjust the activity scale to 1,000 counts and the light scale to 35 lux. This will have to be done for each ‘Analysis Window.’
* Examine each individual’s ‘Analysis Window’ and SD concurrently, and look for atypical days (or nights) that can serve to establish a reference point (in situations where diary and actogram disagree).

**ESTABLISHING SLEEP WINDOWS**

* For optimal accuracy, the following four major sleep indices should agree:

1. **Event Markers** (manual button presses).
2. **Answers from Q#2 and Q#7 of the consensus SD** (the times listed)
3. **Light** (light = 35 lux)
4. **Activity** (activity = 1,000 counts)

* **In the event that the SD and the Event Markers correspond to one another, an appropriate sleep window has likely been established. Save this sleep period.**
* In cases in which the indices agreement is less clear, follow instructions below to decipher the best-fitting sleep window:
  + **4/4 Indices Match:**
    - The Event Markers are located within 30 minutes of the SD indices and they match the cessation and onset of light and activity. Save this sleep period.
  + **3/4 Indices Match:**
    - If Event Markers exist without a SD, use them as an anchor and match the sleep window with the cessation and onset of light and activity. Save this sleep period.
    - If no Event Markers exist (or are placed nonsensically), use the SD as an anchor and match the sleep window with the cessation and onset of light and activity. Save this sleep period.
  + **2/4 Indices Match:**
    - If no Event Markers or SD exists, match the sleep window as closely as possible with the cessation and onset of light and activity. Save this sleep period.
  + **1/4 Indices Match:**
    - If none of the above situations fit, attempt to align the sleep window with the cessation and onset of light, as activity throughout the night is likely a sign of sleep fragmentation. Save this sleep period.

*B) Performing Sleep Analysis*

* Create a new sheet within the SC-Sleep Analysis Workbook.
* Title the sheet tab with the subject’s ID.
* ‘Select All’ and ‘Copy’ an appropriately formatted template from an existing subject and ‘Paste Formatting’ into the newly created sheet.
* Return to the subject’s MW window.
* Click on ‘Tools’ dropdown menu.
* Choose ‘Report’.
* Make sure to check: ‘Include Sleep Analysis’, ‘Transpose Table’, and ‘Copy with rounded’.
* Choose ‘Copy Results Tables (for Spreadsheet)’.
* Click ‘Ok’ on the MW message.
* Return to the newly created spreadsheet.
* ‘Select All’ again and ‘Paste’ data into the new sheet.
* In the blue cell labeled ‘Sleep Analysis,’ append the subjects ID (e.g. Sleep Analysis: SC-###).
* Make sure to freeze the first column by clicking on the first row and first column, clicking on the ‘View’ tab at the top, and choosing ‘Freeze First Column’.