

**POLICIES & PROCEDURES****SLEEP RESEARCH LAB**Date: 5/2009

Approved: \_\_\_\_\_

## SLEEP DATA MANAGEMENT PROCEDURES

### NPSG data

1. Unscored, raw data is initially saved to the recorder hard drive. The unscored raw data is transferred from the data recorder to C (UWCTRC server administered by biostat). Unscored, raw data is saved to CD at the completion of the recording in multi-session format.
2. Raw data CDs are labeled and kept in the Sleep Lab.
3. The study is copied to the hard drive of the Reviewer computer and scored. After the report is generated, the technician runs a program to check for errors. All errors are corrected and the report is generated again with the corrections.
4. At the completion of scoring and report generation, the event scoring file, staging file and database variables file generated in the Excel report are saved as tab delimited text files and copied to a preliminary folder. The program to calculate 4% AHI data is performed on the files in the preliminary folder (Grassprelim) and the result is manually entered into the printed report. These files are deleted from the preliminary folder after the AHI program is run and recorded in the report.
5. The corrected scored study is transferred to C – Unreviewed NPSG Data folder.
6. Scorer enters his/her initials into Scoring Logsheet upon completion of Step 4.
7. A review of scoring is completed on a randomly selected group of 20% of the studies. In addition, studies are reviewed that are rated as problematic to score by the scorer (i.e. that contained excessive artifact), those whose AHI was near one of the three cutoffs (5, 15, 30), those studies in which the sleep architecture appears to be outside the expected percentages for each sleep stage, and those studies in which there was less than 4 hours of total sleep time. (see “Criteria for Editing Grass Data”)
8. If the study requires editing, the edited database files are regenerated and replace those in the Unreviewed NPSG Data. The reviewer moves the edited study on C (CTRC biostat server) from the “Unreviewed NPSG Data” to the “NPSG Data” folder when complete. The reviewer also moves the studies determined not to need editing to the “NPSG Data” folder.
9. After the reviewer moves the finalized studies into the “NPSG Data” folder, the reviewer enters the study ID and date into the database logsheet entitled, “database\_toload.” When the studies are loaded into the database, the DBA enters his/her initials into the “database\_toload” document. If it is later found that a study that had been loaded has to be reloaded, the study will again be added to the database\_toload.txt list (with a note that it had to be changed.)
10. Reviewer enters his/her initials into the Scoring Logsheet upon completion of step nine. The database administrator is notified by email when the transfer has been made. The email will include the date through which the studies are complete. (Ex. All studies are reviewed through 2/10/2009)

11. A CD of scored studies is made when there are enough studies to fill a CD. Entry is made in the Scoring Logsheet of the CD number for each study.
12. The unscored, raw data is deleted from the recorder computer after the scored study is reviewed and saved to CD.
13. Scored data CDs are labeled and kept at Medical Sciences Center in a locked office closet. The "NPSG Data" and "reclassified\_studies" folders will solely contain this data: a subdirectory for each subject visit that has the most up to date and best quality data for that study. This will be the only place required to look to find the best data for a study. No combined subdirectories of any type will be created in the NPSG Data and reclassified\_studies directories for any purpose.

#### CRITERIA FOR EDITING GRASS DATA

Staging – Changes in >2 consecutive epochs between wake and sleep, REM and non-REM, SWS and Stage 1 or 2

Events – Changes are made based on percentage of mis-scored events to the total number of events, and whether the AHI borders on one of the statistical groups. The following types of scoring errors are edited:

- Misclassifications (apnea vs. hypopnea)
- Incorrectly marked durations
- Incorrect associations (desat does not match respiratory event)
- Missing events
- Incomplete events (respiratory or desat event missing)
- Non-events (no clear indication of change in SUM and artifact in SaO<sub>2</sub>)
- Two events scored as one and visa versa.

#### MSLT data

1. Following the recording, the MSLT data is moved to the MSLT folder on the recorder's hard drive and also copied to the MSLT folder on the Reviewer hard drive for scoring.
2. MSLT studies are scored weekly.
3. At the end of each month, all MSLT studies for that month are stored on CD.